cutwel

Performance. Delivered.



The UK's leading independent engineering tool supplier

2024

cutwel

Performance. Delivered.

We've built our reputation on supplying high quality cutting tools and solutions for over 25 years in the UK & Ireland, that maximise your productivity and profitability to help you stay ahead of the competition.

95+
Trained Employees

14,000,000+
Tools Sold

40+
Tooling Suppliers

35,000+
Satisfied Customers

We supply to all corners of the manufacturing industry

Aerospace | Oil & Gas | Automotive | Sub-Contract | Defence

Medical | Food | Rail | Marine

Trustpilot

Trustscore **4.6** | 2000+ Reviews

Superb Supplier
Great website with lots of info, details & choices. Simple online ordering process. Free delivery & items delivered the next day.

Great Customer Service
Great customer service. Friendly people & very easy to get the information required. All in all highly recommended.

Excellent Technical Support
Thank you very much for your technical support, great to speak to someone that spares the time to help resolve a problem.

Quick & accurate solutions when you need them

We invest in rigorous training so that our customer care team and time-served technical engineers can answer your queries and provide tailored solutions quickly and accurately, to save you time.

Whether you need over the phone recommendations, in-depth drawings, advice on how you can improve productivity or face to face support, we will give you independent advice on what is right for you and your project.





Our team is focused on providing tools and solutions that improve your productivity

Whilst at the same time getting to know you and the requirements of your business.

As we hold our own training and development to such high esteem, we have formed our own in-house Cutwel academy for both new recruits and existing team members to ensure a consistently high level of knowledge, innovation and service.

We have partnered with some of the world leaders in tooling technology

Ths includes **YG-1, Korloy, Gerardi, WTO, Benz, Bison, Mitutoyo, Insize, Vargus** and much more to bring you a comprehensive range of tooling at competitive prices.

Fun fact, milling tools were the first products we ever sold and over 20 years later our range has grown to one of the best in the UK today!

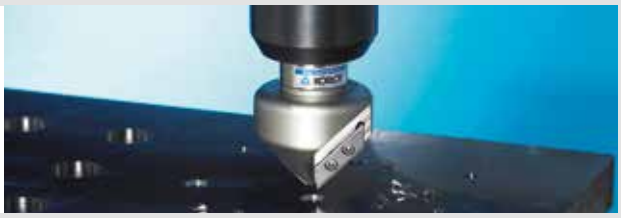


Cutwel 2024

Milling Cutters
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Form Milling
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Indexable Milling
Page 322



Lathe Tools
Page 458



Hole Making
Page 620



Taps & Dies
Page 828



Thread & Groove Milling
Page 946



Icon Key

Substrate: MG SC, HSS, CBN

Number of Flutes: 3-5, 3, 1

Helix Angle: 25°, 37°, 25°

Shank Type & Tolerance: DIN 6535HAK, PLAIN, WELDON

Diameter/Thread Tolerance: m7, h7, 6H

Machining Application

Chamfer Angle: C x 45°, 15°, E TAPERED

Point Angle: 140°, 118°, 180°

Finish/Coating: K2 COATED, DLC COATED, POLISHED

Through Coolant

Self Centering

Contents

Toolholding
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Workholding
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Abrasives & Deburring
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GM General Machining
Suitable for a wide range of materials in general cutting conditions

HFM High Feed Milling
Machining at extremely high feed rates with small depths of cut

HSC High Speed Cutting
Machining at high RPM with small depths of cut

HPC High Performance Cutting
Machining with large depths of cut & aggressive feed rates

UHP Ultra High Precision Milling
Ball nose & corner radius with ultra high tolerance diameters

TM Trochoidal Milling
High metal removal, using 6-8 flute high helix cutters

Milling Cutters



YG KORLOY Karnasch ATORN® LMT Garryson

The UK's Leading Milling Cutter Range

With tools from YG-1, Korloy, Karnasch, Atorn, LMT, & ATA Garryson, the Cutwel milling range has tools for every application, material, size & performance requirement.



General Purpose HSS & Powder Metal Milling Cutters 8
For economic machining of carbon steel, alloy steel up-to HRC40, copper, brass, aluminium & cast iron



NC Mill Milling Cutters 38
Premium quality general purpose carbide milling cutters



K2 Carbide Milling Cutters 44
General purpose carbide offering consistent & reliable performance across a range of applications



V7 Plus HPC Milling Cutters 70
The ultimate high performance all-rounder milling cutters



V7 Plus TRP Milling Cutters 76
Ultra high feed TRP series & ultra deep cut chip splitter series



V7 Inox Milling Cutters 86
Higher speeds, deeper cuts & higher metal removal in stainless steel milling



Titanox Milling Cutters 90
Superior stainless steel & titanium milling with extreme reliability



4G Mills Milling Cutters 102
The most comprehensive milling cutter range for dedicated HSC steel milling



X-Power Pro Milling Cutters 154
For the highest tool life in high speed machining on steel <55HRC, stainless steel & cast iron



X-Speed Rougher Milling Cutters 174
Extreme & silent metal removal in steel & cast iron rough milling



Jet Power Milling Cutters 178
High performance milling on low power or older CNC machines



X5070 Blue Milling Cutters 190
Nothing cuts hardened steel <70 HRC faster or longer



Aluminium Milling Cutters 220
For general and precision non-ferrous machining with maximum chip control



Alu-Power HPC Milling Cutters 244
Ultimate high metal removal on aluminium & aluminium alloys



Plastic-Cut Milling Cutters 256
High performance routing & milling tools for plastic & aluminium



D-Power Milling Cutters 266
First choice for high performance machining of graphite



CRX-S Milling Cutters 278
Extreme wear resistance in copper & abrasive non-ferrous machining



Composite Milling Cutters 288
For high performance machining of composite materials



Chamfer Mills 304
Available in 30° or 45° angles for chamfering, deburring, v-grooves & countersinking



T-Slot, Woodruff & Dovetail Cutters 312
Wide range of tools for creating T-slots & machining dovetail joints



Corner Rounding Cutters 316
Solid & indexable corner rounding cutters for a wide range of different radii

Milling Cutters

KEY

General Machining
For machining of steel, pre-hardened steel <HRC50, stainless steel, cast iron and non-ferrous materials. Our range covers varying performance levels to suit different requirements.

High Performance Machining (HPC)
Best suited for high performance machining low hardness steel, pre-hardened steel, stainless steel, cast iron and heat resistant materials such as titanium, inconel & hastelloy.

Non-Ferrous Machining
High performance milling cutters for machining aluminium, aluminium alloys, copper, brass, plastic, graphite and other non-ferrous materials.

YG

P M K N

General Purpose HSS & Powder Metal Milling Cutters

For economic machining of carbon steel, alloy steel up-to HRC40, copper, brass, aluminium & cast iron.

PAGE 8 ★★★ Performance



YG

P M K

NC Mill Milling Cutters

Premium quality general purpose coated carbide milling cutters for machining <HRC50.

PAGE 38 ★★★ Performance



YG

P M K N

K2 Carbide Milling Cutters

K2 coated carbide for general machining of steel <HRC45, stainless steel and cast iron. multiple helix option for slotting and profiling.

PAGE 44 ★★★ Performance



YG

P M S K

V7 Plus HPC Milling Cutters

First choice for cutting a wide range of materials with high metal removal rates & exceptional tool life.

PAGE 70 ★★★★★ Performance



YG

P M S K

V7 Plus TRP Milling Cutters

Ultra high feed TRP series & ultra deep cut chip splitter series. Phenomenal performance & surface finish.

PAGE 76 ★★★★★ Performance



YG

P M S

V7 Inox Milling Cutters

Higher speeds, deeper cuts & higher metal removal in stainless steel milling.

PAGE 86 ★★★★ Performance



YG

P M S

Titanox Milling Cutters

For high value titanium, stainless steel, duplex & nickel alloy work pieces which require the highest levels of tool reliability.

PAGE 90 ★★★★★ Performance



YG

P H M K

4G Mills Milling Cutters

Huge range of tool diameters, lengths & geometries, the most comprehensive milling cutter range for dedicated steel milling.

PAGE 102 ★★★★★ Performance



Product Introduction

YG

P H M K

X-Power Pro Milling Cutters

For high speed machining of steel, pre-hardened steel <HRC55 & stainless steels with exceptional tool life.

PAGE 154

★★★★★ Performance



YG

P K

X-Speed Rougher Milling Cutters

Extreme & silent metal removal in steel & cast iron rough milling.

PAGE 174

★★★★★ Performance



YG

P M S

Jet Power Milling Cutters

High performance milling of steel <40HRC, stainless steel, titanium and HRSA's for low power or older CNC machines.

PAGE 178

★★★★ Performance



YG

P H

X5070 Blue Milling Cutters

Nanograin carbide substrate designed for ultra-performance high speed cutting & dry cutting of hardened steel <HRC70.

PAGE 190

★★★★★ Performance



YG KORLOY

N

Aluminium Milling Cutters

For high speed machining of aluminium, copper, brass & non-ferrous materials.

PAGE 220

★★★★ Performance



YG

N

Alu-Power HPC Milling Cutters

Ultimate high metal removal on aluminium & aluminium alloys.

PAGE 244

★★★★★ Performance



YG Karnasch PROFESSIONAL TOOLS Garryson

N

Plastic-Cut Milling Cutters

High performance routing and milling tools for machining of plastic and soft aluminium.

PAGE 256

★★★★★ Performance



YG

N

D-Power Milling Cutters

First choice for high performance machining of graphite. Diamond coating with high lubricity and low friction.

PAGE 266

★★★★★ Performance



YG

N

CRX-S Milling Cutters

Extreme wear resistance in copper & abrasive non-ferrous machining.

PAGE 278

★★★★★ Performance



YG

N

Composite Milling Cutters

High performance machining of composite materials such as carbon fibre, kevlar & highly abrasive plastic.

PAGE 288

★★★★★ Performance



Milling Cutters

KEY

- GM — General Machining
- HSC — High Speed Cutting
- TM — Trochoidal Milling
- HPC — High Performance Cutting
- HFM — High Feed Machining
- UHP — Ultra High Performance

	Product		Performance	Coating or Finish	GM	HPC	HSC	HFM	TM	UHP
GENERAL MACHINING	GENERAL PURPOSE HSS & POWDER METAL		★★★	TiAlN 850 Y1200	●					
	NC MILL		★★★	X Coating	●					
	K2 CARBIDE		★★★	K2	●					
HIGH PERFORMANCE MACHINING	V7 PLUS HPC		★★★★★	Y1200		●			○	
	V7 PLUS TRP		★★★★★	Y1200		●			●	
	V7 INOX		★★★★	TiAlN 850		●				
	TITANOX		★★★★★	Y1200		●				
	4G MILLS		★★★★★	Y1200			●		○	●
	X-POWER PRO		★★★★★	Y Coating			●	○		○
	X-SPEED ROUGHER		★★★★★	X1100		●				
	JET POWER		★★★★	TiAlN 850			●			
	X5070 BLUE		★★★★★	X5070 (Silicon Based)			●	○	○	●
NON-FERROUS MACHINING	ALUMINIUM MILLING		★★★★	Uncoated (Lapped)		○	●			○
	ALU POWER HPC		★★★★★	Uncoated & DLC Coated		●	●			
	PLASTIC-CUT		★★★★★	Uncoated (Lapped)			●			●
	D-POWER		★★★★★	Diamond			●			●
	CRX-S		★★★★★	DLC			●			●
	COMPOSITE MILLING		★★★★★	Diamond, NHC700 Coated & Polished			●			●

FOR ENQUIRIES PLEASE CALL **01924 869610** OR EMAIL **SALES@CUTWEL.NET**

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MATERIAL APPLICATION

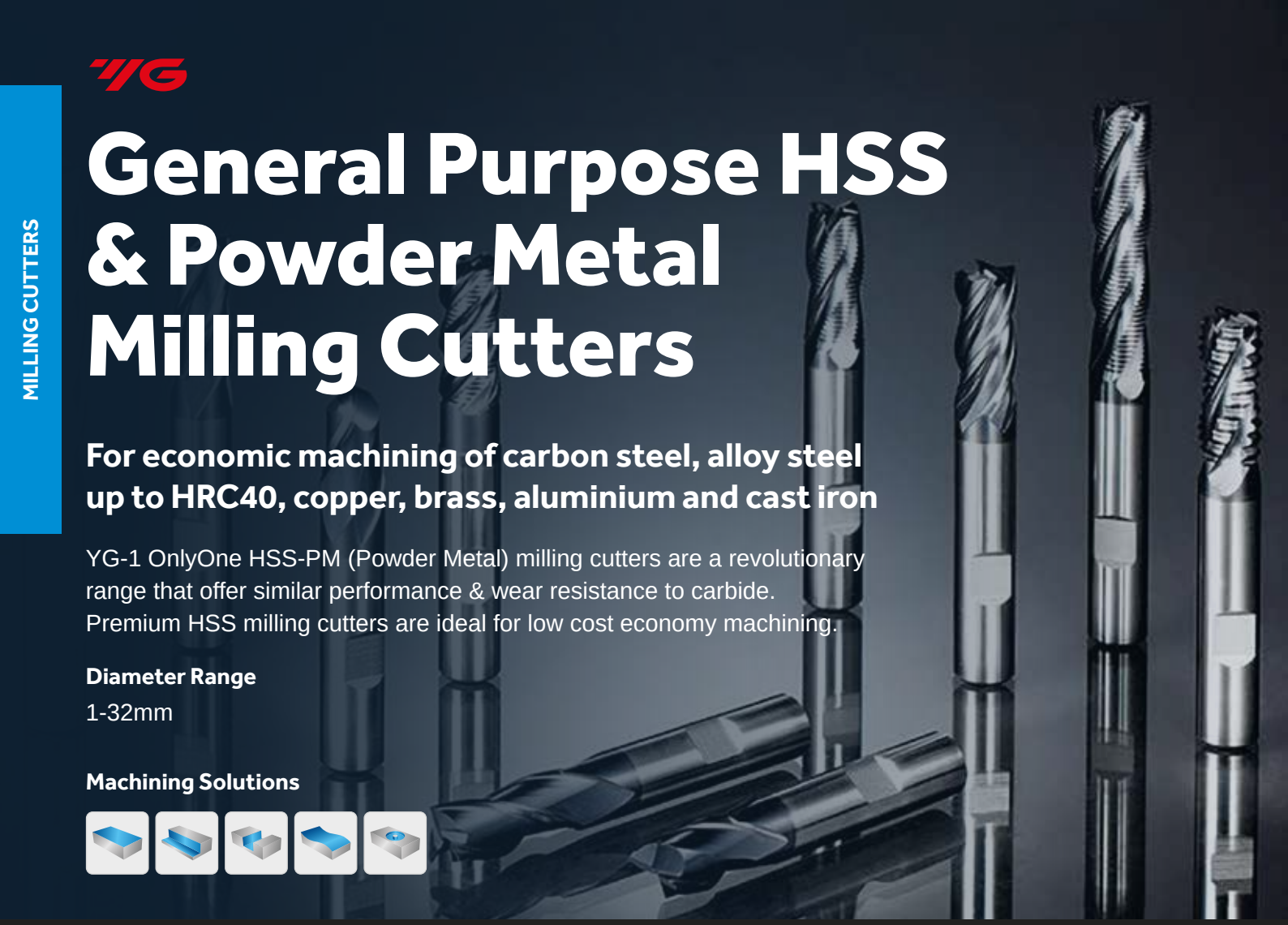
Application within a range may vary, please check the table on each product page

● **EXCELLENT** - for this material or application ○ **GOOD** - for this material or application

◎ **SELECTED** - some tools in the range are suitable for this material or application

Carbon Steels	Alloy Steels	Pre Hard. Steels	Hardened Steels		High Hard. Steels	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
~HB225	HB225~325	HRC30~40	HRC40~45	HRC45~55	HRC55~70									
●	●	●				○			○	○	○			
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										●	●	○	●	○
													◎	●

General Purpose HSS & Powder Metal Milling Cutters



For economic machining of carbon steel, alloy steel up to HRC40, copper, brass, aluminium and cast iron

YG-1 OnlyOne HSS-PM (Powder Metal) milling cutters are a revolutionary range that offer similar performance & wear resistance to carbide. Premium HSS milling cutters are ideal for low cost economy machining.

Diameter Range

1-32mm

Machining Solutions

Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Square Shoulder Milling	Chip Control
★★★	★★★	★★★	★★★	★★★	★★★★★	★★★

Advantages

HSS

Cost Effective Machining
Ideal for low cost economic machining of steel up to HRC40, copper, brass, aluminium, and cast iron.

Enhanced Performance
Super-hardened premium HSS range from YG-1 offers a step up in performance and tool life over standard HSS.

Powder Metal

Exceptional Tool Durability
Ideal for manual machines or unstable cutting conditons without the tool chipping.

High Efficiency
Multiple helix geometry allows you to take larger depths of cut with higher feed rates.

Features

HSS

Versatile Selection
Includes coated and uncoated YG-1 superhard HSS milling cutters.

Throwaways Available
Selection of throwaway HSS 8% cobalt cutters are also available.

Powder Metal

Enhanced Performance
Powder metal YG-1 OnlyOne milling cutters for increased performance over standard HSS.

Optimized Cutting
PM60 substrate with Y1200 coating HSS.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE UNCOATED & COATED • WELDON SHANK		ESH570 ESH571 EHC570 EHC571 GYF99	1-32	30°	**11**
3 FLUTE THROWAWAY UNCOATED & COATED • WELDON SHANK		E2553 E2554	1-10	30°	**12**
3 FLUTE UNCOATED & COATED • WELDON SHANK		ESH573 ESH516 EHC573 EHC516 GYG01	1-32	30°	**13**
4 & 6 FLUTE UNCOATED & COATED • WELDON SHANK		ESH595/6 ESH597/8 EHC595/6 EHC597/8 GYF96/6 GYG52	2-32	30°	**15**
2 FLUTE BALL NOSE UNCOATED & COATED • WELDON SHANK		ESH535 EHC535 E2492 GYF97 E2492	2-30	30°	**18**
3-6 FLUTE COARSE PITCH ROUGHER UNCOATED & COATED • WELDON SHANK		ESH751 ESH752 EHC751 EHC752 GYG03	6-25	30°	**20**
3-6 FLUTE FINE PITCH ROUGHER UNCOATED & COATED • WELDON SHANK		ESH753 ESH762 EHC753 EHC762 GYF94	6-25	30°	**21**
3 FLUTE ROUGHER, 37° HELIX ALU-CUT WELDON SHANK		E2755 E2756	6-25	37°	**23**
2 FLUTE 42° HELIX ALU-CUT WELDON SHANK		E2464 E2509	1-32	42°	**24**

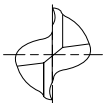
2 FLUTE SHORT LENGTH HSS / POWDER METAL

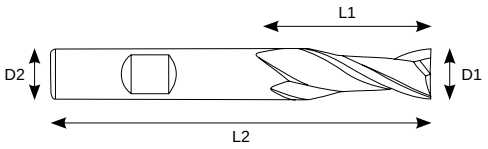
Super Hardened Premium HSS & OnlyOne Powder Metal

- Super hardened premium HSS for economic milling
- Available uncoated or coated
- OnlyOne Powder Metal (Y1200 Coated PM60) for applications where carbide is too brittle and HSS wears too fast

Series			Cutting Data
ESH570 YG-1	EHC570 YG-1	GYF99 YG-1	**P25 (Coated, Uncoated, & PM Coated)**







ONLY ONE COATED PM60 END MILLS

PREMIUM HSS | PM 60 | DIN 6527 | 2 | ≈30° | WELDON | TiAlN 850 | Y COATED

D1	D2	L1	L2	ESH570 Series Uncoated Premium HSS ★★★ Performance		EHC570 Series TiAlN Coated Premium HSS ★★★ Performance		GYF99 Series OnlyOne Powder Metal ★★★ Performance	
				Order Code	Price	Order Code	Price	Order Code	Price
1	6	2.5	47	-	-	-	-	GYF99010	£10.47
2	6	4	48	ESH570020	£5.85	EHC570020	£8.37	GYF99020	£10.47
3	6	5	49	ESH570030	£5.85	EHC570030	£8.37	GYF99030	£10.47
4	6	7	51	ESH570040	£5.85	EHC570040	£8.37	GYF99040	£10.47
5	6	8	52	ESH570050	£5.85	EHC570050	£8.37	GYF99050	£10.47
6	6	8	52	ESH570060	£5.85	EHC570060	£8.37	GYF99060	£10.47
7	10	10	60	ESH570070	£8.39	EHC570070	£12.60	GYF99070	£18.31
8	10	11	61	ESH570080	£8.39	EHC570080	£12.60	GYF99080	£18.31
9	10	11	61	ESH570090	£8.39	EHC570090	£12.99	GYF99090	£18.97
10	10	13	63	ESH570100	£8.39	EHC570100	£12.99	GYF99100	£18.97
11	12	13	70	ESH570110	£11.25	EHC570110	£15.70	-	-
12	12	16	73	ESH570120	£11.25	EHC570120	£16.22	GYF99120	£24.07
13	12	16	73	ESH570130	£12.39	EHC570130	£17.25	-	-
14	12	16	73	ESH570140	£12.39	EHC570140	£17.69	GYF99140	£31.32
15	12	16	73	ESH570150	£14.33	EHC570150	£19.58	-	-
16	16	19	79	ESH570160	£15.01	EHC570160	£21.18	GYF99160	£37.87
17	16	19	79	ESH570170	£18.57	EHC570170	£25.15	-	-
18	16	19	79	ESH570180	£18.57	EHC570180	£25.98	GYF99180	£47.36
19	16	19	79	ESH570190	£22.20	EHC570190	£31.20	-	-
20	20	22	88	ESH570200	£22.20	EHC570200	£33.37	GYF99200	£62.05
21	20	22	88	ESH570210	£24.74	EHC570210	£34.81	-	-
22	20	22	88	ESH570220	£24.74	EHC570220	£36.57	GYF99220	£69.94
23	25	22	88	ESH570230	£33.57	-	-	-	-
24	25	26	102	-	-	EHC570240	£46.38	-	-
25	25	26	102	ESH570250	£35.61	EHC570250	£49.53	GYF99250	£91.59
28	25	26	102	-	-	EHC570280	£69.91	-	-
30	25	26	102	ESH570300	£60.05	EHC570300	£75.59	-	-
32	32	32	112	ESH570320	£67.74	EHC570320	£82.44	-	-

Material Applications

● Excellent ○ Good

Substrate	Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
HSS	●	●	○								○	○			
Powder Metal	●	●	○				●			●	○				

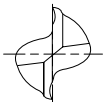
2 FLUTE SHORT LENGTH HSS

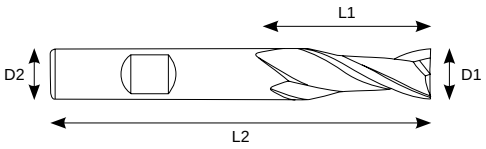
Super Hardened Premium HSS

- Super hardened premium HSS substrate gives great performance in general machining
- Wide range of geometries and sizes available for a variety of milling applications
- Available either uncoated or TiAlN coated

Series		Cutting Data
ESH571 YG-1	EHC571 YG-1	P25 (Coated & Uncoated)







PREMIUM HSS | DIN 844 | 2 | 30° | WELDON | TiAlN 850

D1	D2	L1	L2	ESH571 Series Uncoated Premium HSS ★★★ Performance		EHC571 Series TiAlN Coated Premium HSS ★★★ Performance	
				Order Code	Price	Order Code	Price
2	6	7	51	ESH571020	£7.29	EHC571020	£9.68
3	6	8	52	ESH571030	£7.29	EHC571030	£9.68
4	6	11	55	ESH571040	£7.29	EHC571040	£9.68
5	6	13	57	ESH571050	£7.29	EHC571050	£9.68
6	6	13	57	ESH571060	£7.29	EHC571060	£9.68
7	10	16	66	ESH571070	£9.88	EHC571070	£14.36
8	10	19	69	ESH571080	£9.88	EHC571080	£14.36
9	10	19	69	ESH571090	£9.88	EHC571090	£14.10
10	10	22	72	ESH571100	£9.88	EHC571100	£14.95
11	12	22	79	ESH571110	£13.17	EHC571110	£18.21
12	12	26	83	ESH571120	£13.17	EHC571120	£18.44
13	12	26	83	ESH571130	£14.48	EHC571130	£19.73
14	12	26	83	ESH571140	£14.48	EHC571140	£20.45
15	12	26	83	ESH571150	£17.62	EHC571150	£23.37
16	16	32	92	ESH571160	£17.62	EHC571160	£23.86
17	16	32	92	ESH571170	£21.90	EHC571170	£28.77
18	16	32	92	ESH571180	£21.85	EHC571180	£29.16
19	16	32	92	ESH571190	£26.06	EHC571190	£35.64
20	20	38	104	ESH571200	£26.16	EHC571200	£38.56
21	20	38	104	-	-	EHC571210	£42.30
22	20	38	104	ESH571220	£29.17	EHC571220	£42.33
23	25	38	104	-	-	EHC571230	£52.74
24	25	45	121	ESH571240	£41.93	EHC571240	£51.24
25	25	45	121	ESH571250	£41.93	EHC571250	£54.91
28	25	45	121	ESH571280	£66.22	-	-
30	25	45	121	ESH571300	£70.85	EHC571300	£84.74
32	32	53	133	ESH571320	£79.84	EHC571320	£100.08

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	○								○	○			

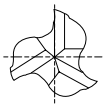
3 FLUTE THROWAWAY SHORT LENGTH HSS

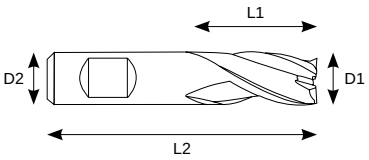
HSS 8% Cobalt - For Carbon Steel, Alloy Steel, Pre-Hardened Steel <HRC40 & Aluminium

- HSS 8% cobalt content ideal for tougher steels or where longer tool life is required

Series	Cutting Data
E2553/554 YG-1	P26







HSS Co8 | YG STD | 3 | 30° | WELDON

D1	D2	L1	L2	★★★ Performance Order Code	Price
Short Length					
1	6	2	34	E2553010	**£6.58**
1.5	6	3	34	E2553015	**£6.58**
2	6	4	35	E2553020	**£5.87**
2.5	6	5	36	E2553025	**£5.87**
3	6	5	36	E2553030	**£5.87**
3.5	6	6	37	E2553035	**£5.87**
4	6	7	38	E2553040	**£5.87**
4.5	6	7	38	E2553045	**£5.87**
5	6	8	39	E2553050	**£5.87**
5.5	6	8	39	E2553055	**£5.87**
6	6	8	39	E2553060	**£5.87**
6.5	8	10	42	E2553065	**£7.33**
7	8	10	42	E2553070	**£7.33**
7.5	8	10	42	E2553075	**£7.33**
8	8	11	43	E2553080	**£7.33**
8.5	10	11	48	E2553085	**£8.53**
9	10	11	48	E2553090	**£8.53**
9.5	10	11	48	E2553095	**£8.53**
10	10	13	50	E2553100	**£8.53**
Long Length					
2	6	7	38	E2554020	**£5.93**
2.5	6	8	39	E2554025	**£5.93**
3	6	8	39	E2554030	**£5.93**
3.5	6	10	41	E2554035	**£5.93**
4	6	11	42	E2554040	**£5.93**
4.5	6	11	42	E2554045	**£5.93**
5	6	13	44	E2554050	**£5.93**
5.5	6	13	44	E2554055	**£5.93**
6	6	13	44	E2554060	**£5.93**
6.5	8	16	48	E2554065	**£8.51**
7	8	16	48	E2554070	**£8.51**
7.5	8	16	48	E2554075	**£8.51**
8	8	19	51	E2554080	**£8.51**
8.5	10	19	56	E2554085	**£11.01**
9	10	19	56	E2554090	**£11.01**
10	10	22	59	E2554100	**£11.01**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	○									○			

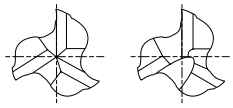
3 FLUTE STANDARD LENGTH HSS / POWDER METAL

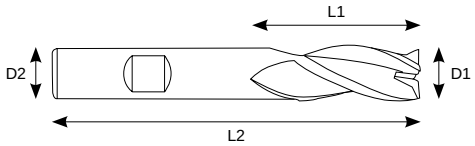
Super Hardened Premium HSS & OnlyOne Powder Metal

- Super hardened premium HSS for economic milling
- Available uncoated or coated
- OnlyOne Powder Metal (Y1200 Coated PM60) for applications where carbide is too brittle and HSS wears too fast

Series			Cutting Data
ESH573 YG-1	EHC573 YG-1	GYG01 YG-1	**P26 (Uncoated) P27 (Coated)**







ONLY ONE COATED PM60 END MILLS

PREMIUM HSS | PM 60 | DIN 844 | 3 | ≈30° | WELDON | TiAlN 850 | Y COATED

D1	D2	L1	L2	ESH573 Series Uncoated Premium HSS ★★★ Performance		EHC573 Series TiAlN Coated Premium HSS ★★★ Performance		GYG01 Series OnlyOne Powder Metal ★★★ Performance	
				Order Code	Price	Order Code	Price	Order Code	Price
1	6	3	47	-	-	-	-	GYG01010	£12.09
2	6	7	51	ESH573020	£7.29	EHC573020	£9.81	GYG01020	£12.09
3	6	8	52	ESH573030	£7.29	EHC573030	£9.81	GYG01030	£12.09
4	6	11	55	ESH573040	£7.29	EHC573040	£9.81	GYG01040	£12.09
5	6	13	57	ESH573050	£7.29	EHC573050	£9.81	GYG01050	£12.09
6	6	13	57	ESH573060	£7.29	EHC573060	£9.81	GYG01060	£12.09
7	10	16	66	ESH573070	£9.88	EHC573070	£14.18	GYG01070	£20.26
8	10	19	69	ESH573080	£9.88	EHC573080	£14.18	GYG01080	£20.26
9	10	19	69	ESH573090	£9.88	EHC573090	£14.77	GYG01090	£20.92
10	10	22	72	ESH573100	£9.88	EHC573100	£14.44	GYG01100	£20.92
11	12	22	79	ESH573110	£13.17	EHC573110	£18.18	-	-
12	12	26	83	ESH573120	£13.17	EHC573120	£18.31	GYG01120	£27.82
13	12	26	83	ESH573130	£14.48	EHC573130	£20.38	-	-
14	12	26	83	ESH573140	£14.48	EHC573140	£20.38	GYG01140	£37.19
15	12	26	83	ESH573150	£16.95	EHC573150	£22.57	-	-
16	16	32	92	ESH573160	£17.62	EHC573160	£24.10	GYG01160	£44.16
17	16	32	92	ESH573170	£21.85	EHC573170	£29.08	-	-
18	16	32	92	ESH573180	£21.85	EHC573180	£29.65	GYG01180	£55.29
19	16	32	92	ESH573190	£26.16	EHC573190	£36.26	-	-
20	20	38	104	ESH573200	£26.16	EHC573200	£37.81	GYG01200	£71.94
21	20	38	104	-	-	EHC573210	£41.48	-	-
22	20	38	104	ESH573220	£27.48	EHC573220	£41.61	GYG01220	£79.71
23	20	38	104	ESH573230	£42.03	EHC573230	£54.93	-	-
24	25	45	121	ESH573240	£41.93	EHC573240	£53.31	-	-
25	25	45	121	ESH573250	£41.93	EHC573250	£56.07	GYG01250	£106.40
28	25	45	121	ESH573280	£66.22	EHC573280	£80.27	-	-
30	25	45	121	-	-	EHC573300	£86.65	-	-
32	32	53	133	ESH573320	£75.26	EHC573320	£89.33	-	-

Material Applications

● Excellent ○ Good

Substrate	Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
HSS	●	●	○								○	○			
Powder Metal	●	●	○				●			●	○				

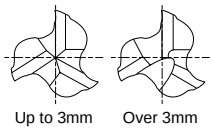
3 FLUTE LONG LENGTH HSS

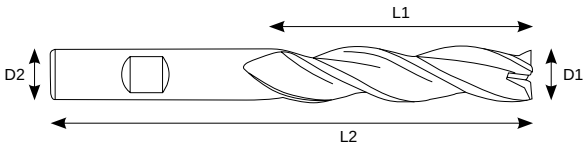
Super Hardened Premium HSS

- Super hardened premium HSS for economic milling
- Available uncoated or coated

Series		Cutting Data
ESH516 YG-1	EHC516 YG-1	**P26 (Uncoated)** **P27 (Coated)**







PREMIUM HSS | DIN 844 | 3 | 30° | WELDON | TiAlN 850

D1	D2	L1	L2	ESH516 Series Uncoated Premium HSS ★★★ Performance		EHC516 Series TiAlN Coated Premium HSS ★★★ Performance	
				Order Code	Price	Order Code	Price
2	6	10	54	ESH516020	**£9.51**	EHC516020	**£12.11**
3	6	12	56	ESH516030	**£9.51**	EHC516030	**£12.11**
4	6	19	63	ESH516040	**£9.51**	EHC516040	**£12.11**
5	6	24	68	ESH516050	**£9.51**	EHC516050	**£12.11**
6	6	24	68	ESH516060	**£9.51**	EHC516060	**£12.11**
7	10	30	80	ESH516070	**£13.41**	EHC516070	**£18.21**
8	10	38	88	ESH516080	**£13.41**	EHC516080	**£18.08**
9	10	38	88	ESH516090	**£13.41**	EHC516090	**£18.18**
10	10	45	95	ESH516100	**£13.41**	EHC516100	**£18.13**
11	12	45	102	ESH516110	**£17.67**	EHC516110	**£22.65**
12	12	53	110	ESH516120	**£17.67**	EHC516120	**£23.76**
13	12	53	110	ESH516130	**£20.36**	EHC516130	**£25.98**
14	12	53	110	ESH516140	**£20.36**	EHC516140	**£26.32**
15	12	53	110	ESH516150	**£23.57**	EHC516150	**£29.42**
16	16	63	123	ESH516160	**£24.76**	EHC516160	**£32.21**
17	16	63	123	ESH516170	**£30.69**	EHC516170	**£37.84**
18	16	63	123	ESH516180	**£30.69**	EHC516180	**£39.98**
19	16	63	123	ESH516190	**£34.49**	EHC516190	**£47.11**
20	20	75	141	ESH516200	**£36.58**	EHC516200	**£50.88**
22	20	75	141	ESH516220	**£40.79**	EHC516220	**£54.62**
24	25	90	166	ESH516240	**£55.35**	EHC516240	**£80.84**
25	25	90	166	ESH516250	**£58.73**	EHC516250	**£81.27**
26	25	90	166	ESH516260	**£62.57**	EHC516260	**£85.87**
28	25	90	166	ESH516280	**£79.46**	EHC516280	**£102.14**
30	25	90	166	-	-	EHC516300	**£109.79**
32	32	106	186	ESH516320	**£95.94**	EHC516320	**£129.21**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	○								○	○			

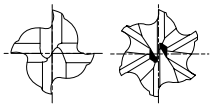
4 & 6 FLUTE STANDARD LENGTH HSS / POWDER METAL

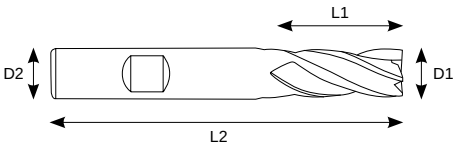
Super Hardened Premium HSS & OnlyOne Powder Metal

- Super hardened Premium HSS for economic milling
- Available uncoated or coated
- OnlyOne Powder Metal (Y1200 Coated PM60) for applications where carbide is too brittle and HSS wears too fast

Series			Cutting Data
ESH595/596 YG-1	EHC595/596 YG-1	GYF96 YG-1	**P28 (Uncoated) P29 (Coated)**







ONLY ONE COATED PM60 END MILLS

PREMIUM HSS | PM 60 | DIN 844 | 4&6 | ≈30° | WELDON | TiAlN 850 | Y COATED

D1	D2	L1	L2	ESH595 / 596 Series Uncoated Premium HSS ★★★ Performance		EHC595 / 596 Series TiAlN Coated Premium HSS ★★★ Performance		GYF96 Series OnlyOne Powder Metal ★★★ Performance	
				Order Code	Price	Order Code	Price	Order Code	Price
4 Flute									
2	6	7	51	ESH595020	**£7.29**	EHC595020	**£9.81**	GYF96020	**£12.09**
3	6	8	52	ESH595030	**£7.29**	EHC595030	**£9.81**	GYF96030	**£12.09**
4	6	11	55	ESH595040	**£7.29**	EHC595040	**£9.81**	GYF96040	**£12.09**
5	6	13	57	ESH595050	**£7.29**	EHC595050	**£9.81**	GYF96050	**£12.09**
6	6	13	57	ESH595060	**£7.29**	EHC595060	**£9.81**	GYF96060	**£12.09**
7	10	16	66	ESH595070	**£9.88**	EHC595070	**£14.59**	GYF96070	**£20.26**
8	10	19	69	ESH595080	**£9.88**	EHC595080	**£14.18**	GYF96080	**£20.26**
9	10	19	69	ESH595090	**£9.88**	EHC595090	**£14.77**	GYF96090	**£20.92**
10	10	22	72	ESH595100	**£9.88**	EHC595100	**£14.44**	GYF96100	**£20.92**
11	12	22	79	ESH595110	**£13.81**	EHC595110	**£18.44**	-	**-**
12	12	26	83	ESH595120	**£13.81**	EHC595120	**£19.06**	GYF96120	**£27.82**
13	12	26	83	ESH595130	**£15.23**	EHC595130	**£20.58**	-	**-**
14	12	26	83	ESH595140	**£15.23**	EHC595140	**£21.13**	GYF96140	**£37.19**
15	12	26	83	ESH595150	**£17.62**	EHC595150	**£23.37**	-	**-**
16	16	32	92	ESH595160	**£18.57**	EHC595160	**£25.03**	GYF96160	**£44.16**
17	16	32	92	ESH595170	**£23.00**	EHC595170	**£29.88**	-	**-**
18	16	32	92	ESH595180	**£23.00**	EHC595180	**£30.84**	GYF96180	**£55.29**
19	16	32	92	-	**-**	EHC595190	**£37.96**	-	**-**
20	20	38	104	ESH595200	**£27.40**	EHC595200	**£39.10**	GYF96200	**£71.94**
22	20	38	104	-	**-**	-	**-**	GYF96220	**£79.71**
25	25	45	121	ESH595250	**£44.05**	EHC595250	**£55.97**	GYF96250	**£106.40**
30	25	45	121	ESH595300	**£74.46**	EHC595300	**£89.18**	-	**-**
6 Flute									
25	25	45	121	ESH596250	**£44.05**	EHC596250	**£58.34**	-	**-**
32	32	53	133	ESH596320	**£83.87**	EHC596320	**£103.43**	-	**-**

Material Applications

● Excellent ○ Good

Substrate	Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
HSS	●	●	○								○	○			
Powder Metal	●	●	○				●			●	○				

4 FLUTE MULTIPLE HELIX, CHAMFER PREP POWDER METAL

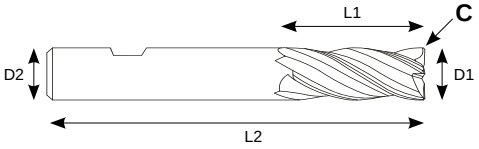
Excellent Performance on Steels <HRC40, Stainless Steel, Pre-Hardened Steel & Cast Iron

Series	Cutting Data
GYG52 YG-1	P36

- OnlyOne Powder Metal (Y1200 Coated PM60) for applications where carbide is too brittle and HSS wears too fast
- Exceptional tool life and performance on CNC, and conventional milling machines in general machining
- No tool failure due to vibration of the tool holder or machine tools
- The most cost effective milling cutters from YG-1 in unstable machining conditions
- Multiple helix makes these milling cutters excellent for slotting and also dramatically reduces vibration, especially in large depth of cut and semi roughing operations

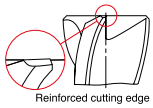




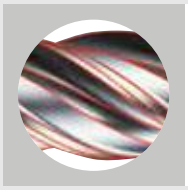


ONLY ONE COATED PM60 END MILLS

PM 60 | 4 | M-Helix | WELDON | C x 45° | Y COATED


Reinforced cutting edge

D1	D2	L1	L2	C	★★★ Performance Order Code	Price
3	6	8	52	0.1	GYG52030	£13.43
4		11	55		GYG52040	£13.43
5		13	57		GYG52050	£13.43
6		13	57		GYG52060	£13.43
7	8	16	66		GYG52070	£22.52
8		19	69		GYG52080	£22.52
9	10	19	69		GYG52090	£23.27
10		22	72		GYG52100	£23.27
12	12	26	83		GYG52120	£30.90
14	12	26	83	0.2	GYG52140	£41.35
16	16	32	92		GYG52160	£49.12
18		32	92		GYG52180	£61.44
20	20	38	104		GYG52200	£79.92
22		38	104		GYG52220	£88.58
25	25	45	121		GYG52250	£118.19



MULTIPLE HELIX DESIGN – FOR A STRONGER CUTTER WHICH IS SUITABLE FOR SLOTTING

The multiple helix design gives the end mill extra strength in both semi-roughing and finishing conditions, enabling much larger cut depths and reducing vibration. For example, in side cutting operations a radial depth of cut of up to 0.3xD can be taken compared to 0.1xD with a traditional geometry 4 flute end mill. Multiple helix 4 flute end mills are also suitable for slotting operations, conventional 4 flute end mills are not recommended for this operation.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	○				●			●					

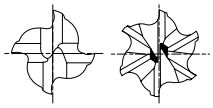
4 & 6 FLUTE LONG LENGTH HSS / POWDER METAL

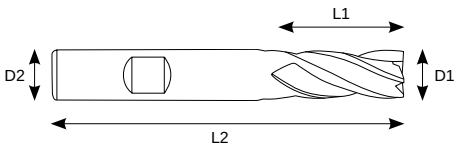
Super Hardened Premium HSS & OnlyOne Powder Metal

- Super hardened premium HSS for economic milling
- Available uncoated or coated
- OnlyOne Powder Metal (Y1200 Coated PM60) for applications where carbide is too brittle and HSS wears too fast

Series			Cutting Data
ESH597/598 YG-1	EHC597/598 YG-1	GYG02 YG-1	P28 (Uncoated) P29 (Coated) P35 (PM Coated)







ONLY ONE COATED PM60 END MILLS

PREMIUM HSS | PM 60 | DIN 844 | 4&6 | ≈30° | WELDON | TiAlN 850 | Y COATED

D1	D2	L1	L2	ESH597 / 598 Series Uncoated Premium HSS ★★★ Performance		EHC597 / 598 Series TiAlN Coated Premium HSS ★★★ Performance		GYG02 Series OnlyOne Powder Metal ★★★ Performance	
				Order Code	Price	Order Code	Price	Order Code	Price
4 Flute									
2	6	10	54	ESH597020	**£9.51**	EHC597020	**£12.42**	GYG02020	**£14.86**
3	6	12	56	ESH597030	**£9.51**	-	**-**	GYG02030	**£14.86**
4	6	19	63	ESH597040	**£8.96**	EHC597040	**£12.42**	GYG02040	**£14.86**
5	6	24	68	ESH597050	**£9.51**	EHC597050	**£12.42**	GYG02050	**£14.86**
6	6	24	68	ESH597060	**£9.51**	EHC597060	**£12.42**	GYG02060	**£14.86**
7	10	30	80	ESH597070	**£12.64**	EHC597070	**£18.72**	GYG02070	**£25.99**
8	10	38	88	ESH597080	**£13.41**	EHC597080	**£19.11**	GYG02080	**£25.99**
9	10	38	88	ESH597090	**£13.41**	EHC597090	**£19.24**	GYG02090	**£26.20**
10	10	45	95	ESH597100	**£13.41**	EHC597100	**£19.24**	GYG02100	**£26.20**
11	12	45	102	ESH597110	**£18.62**	EHC597110	**£24.90**	-	**-**
12	12	53	110	ESH597120	**£18.62**	EHC597120	**£25.67**	GYG02120	**£36.39**
13	12	53	110	-	**-**	EHC597130	**£28.28**	-	**-**
14	12	53	110	ESH597140	**£21.28**	EHC597140	**£28.51**	GYG02140	**£49.16**
15	12	53	110	ESH597150	**£24.76**	EHC597150	**£32.02**	-	**-**
16	16	63	123	ESH597160	**£26.01**	EHC597160	**£34.50**	GYG02160	**£60.29**
17	16	63	123	-	**-**	EHC597170	**£40.62**	-	**-**
18	16	63	123	ESH597180	**£32.20**	EHC597180	**£42.92**	GYG02180	**£76.73**
19	16	63	123	-	**-**	EHC597190	**£50.54**	-	**-**
20	20	75	141	ESH597200	**£38.48**	EHC597200	**£56.43**	GYG02200	**£100.23**
6 Flute									
25	25	90	168	ESH598250	**£61.60**	EHC598250	**£90.13**	-	**-**
32	32	106	186	ESH598320	**£100.64**	EHC598320	**£143.23**	-	**-**

Material Applications

● Excellent ○ Good

Substrate	Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
HSS	●	●	○								○	○			
Powder Metal	●	●	○				●			●	○				

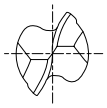
2 FLUTE BALL NOSE

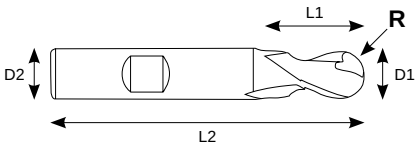
Super Hardened Premium HSS & OnlyOne Coated Powder Metal

- Super hardened premium HSS for economic milling
- Available uncoated or coated
- OnlyOne Powder Metal (Y1200 Coated PM60) for applications where carbide is too brittle and HSS wears too fast

Series			Cutting Data
ESH535 YG-1	EHC535 YG-1	GYF97 YG-1	**P28 (Uncoated) P29 (Coated)**







ONLY ONE COATED PM60 END MILLS

PREMIUM HSS | PM 60 | DIN 327 | 2 | ≈30° | R ±0.02 | WELDON | TiAlN 850 | Y COATED

D1	R	D2	L1	L2	ESH535 Series Uncoated Premium HSS ★★★ Performance		EHC535 Series TiAlN Coated Premium HSS ★★★ Performance		GYF97 Series OnlyOne Powder Metal ★★★ Performance	
					Order Code	Price	Order Code	Price	Order Code	Price
2	1	6	4	48	ESH535020	**£9.28**	EHC535020	**£11.93**	GYF97020	**£13.90**
3	1.5	6	5	49	ESH535030	**£9.28**	EHC535030	**£11.93**	GYF97030	**£13.90**
4	2	6	7	51	ESH535040	**£9.28**	EHC535040	**£11.93**	GYF97040	**£13.90**
5	2.5	6	8	52	ESH535050	**£9.28**	EHC535050	**£11.93**	GYF97050	**£13.90**
6	3	6	8	52	ESH535060	**£9.28**	EHC535060	**£11.93**	GYF97060	**£13.90**
7	3.5	10	10	60	ESH535070	**£11.85**	EHC535070	**£16.22**	GYF97070	**£22.09**
8	4	10	11	61	ESH535080	**£11.85**	EHC535080	**£16.22**	GYF97080	**£22.09**
9	4.5	10	11	61	ESH535090	**£11.85**	EHC535090	**£16.61**	-	-
10	5	10	13	63	ESH535100	**£11.85**	EHC535100	**£16.61**	GYF97100	**£22.73**
11	5.5	12	13	70	-	-	EHC535110	**£20.69**	-	-
12	6	12	16	73	ESH535120	**£15.53**	EHC535120	**£20.69**	GYF97120	**£28.97**
13	6.5	12	16	73	ESH535130	**£17.50**	EHC535130	**£22.83**	-	-
14	7	12	16	73	ESH535140	**£17.50**	EHC535140	**£22.91**	GYF97140	**£38.50**
15	7.5	12	16	73	ESH535150	**£19.54**	EHC535150	**£24.92**	-	-
16	8	16	19	79	ESH535160	**£20.18**	EHC535160	**£26.58**	GYF97160	**£44.91**
17	8.5	16	19	79	-	-	EHC535170	**£30.60**	-	-
18	9	16	19	79	ESH535180	**£24.89**	EHC535180	**£38.51**	GYF97180	**£69.33**
19	9.5	16	19	79	ESH535190	**£28.55**	EHC535190	**£36.54**	-	-
20	10	20	22	88	ESH535200	**£28.55**	EHC535200	**£39.98**	GYF97200	**£70.95**
22	11	20	22	88	ESH535220	**£31.98**	EHC535220	**£44.60**	-	-
24	12	25	26	102	ESH535240	**£42.78**	EHC535240	**£54.93**	-	-
25	12.5	25	26	102	ESH535250	**£42.78**	EHC535250	**£55.55**	GYF97250	**£103.12**

Material Applications

● Excellent ○ Good

Substrate	Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
HSS	●	●	○								○	○			
Powder Metal	●	●	○				●			●	○				

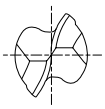
2 FLUTE BALL NOSE LONG LENGTH

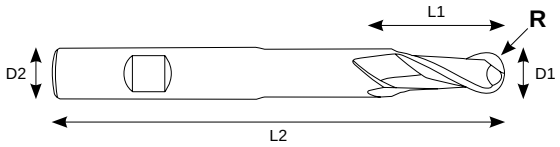
HSS 8% Cobalt - For Carbon Steel, Alloy Steel, Pre-Hardened Steel <HRC40 & Aluminium

- HSS 8% cobalt content ideal for tougher steels or where longer tool life is required

Series	Cutting Data
E2492 YG-1	P28







HSS Co8 | DIN 1889 | 2 | 30° | R ±0.02 | WELDON

D1	R	D2	L1	L2	★★★ Performance Order Code	Price
2	1.0	6	7	54	E2492020	£15.47
3	1.5	6	8	56	E2492030	£15.47
4	2.0	6	11	63	E2492040	£15.47
5	2.5	6	13	68	E2492050	£15.47
6	3.0	6	13	68	E2492060	£15.47
7	3.5	10	16	80	E2492070	£19.76
8	4.0	10	19	88	E2492080	£19.76
9	4.5	10	19	88	E2492090	£19.76
10	5.0	10	22	95	E2492100	£19.76
11	5.5	12	22	102	E2492110	£25.98
12	6.0	12	26	110	E2492120	£25.98
13	6.5	12	26	110	E2492130	£29.97
14	7.0	12	26	110	E2492140	£29.97
15	7.5	12	26	110	E2492150	£33.78
16	8.0	16	32	123	E2492160	£35.18
17	8.5	16	32	123	E2492170	£43.34
18	9.0	16	32	123	E2492180	£43.34
19	9.5	16	32	123	E2492190	£50.12
20	10.0	20	38	141	E2492200	£50.12
22	11.0	20	38	141	E2492220	£56.04
24	12.0	25	45	166	E2492240	£76.36
25	12.5	25	45	166	E2492250	£76.36
26	13.0	25	45	166	E2492260	£88.80
28	14.0	25	45	166	E2492280	£109.14
30	15.0	25	45	166	E2492300	£115.85

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	○									○			

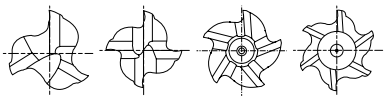
3-6 FLUTE COARSE PITCH ROUGHER

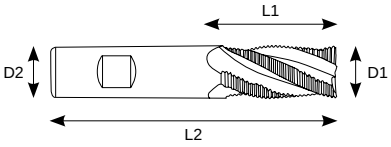
Super Hardened Premium HSS & OnlyOne Coated Powder Metal

- Super hardened premium HSS for economic milling
- Available coated or uncoated
- Coarse roughing profile
- OnlyOne Powder Metal (Y1200 Coated PM60) for applications where carbide is too brittle and HSS wears too fast

Series			Cutting Data
ESH751/752 YG-1	EHC751/752 YG-1	GYG03 YG-1	**P30 (Uncoated & Coated) P37 (Coated PM)**







ONLY ONE COATED PM60 END MILLS

PREMIUM HSS | PM 60 | DIN 844 | 3-6 | 30° | COARSE | WELDON | TiAlN 850 | Y COATED

D1	D2	L1	L2	No. of Flutes	ESH751/752 Series Uncoated Premium HSS ★★★ Performance		EHC751/752 Series TiAlN Coated Premium HSS ★★★ Performance		GYG03 Series OnlyOne Powder Metal ★★★ Performance	
					Order Code	Price	Order Code	Price	Order Code	Price
Standard Length										
6	6	13	57	3	ESH751060	**£15.73**	EHC751060	**£18.75**	GYG03060	**£18.74**
7	10	16	66	3	-	-	EHC751070	**£22.47**	GYG03070	**£21.39**
8	10	19	69	3	ESH751080	**£16.72**	EHC751080	**£22.47**	GYG03080	**£21.39**
9	10	19	69	3	ESH751090	**£15.75**	EHC751090	**£23.11**	GYG03090	**£24.21**
10	10	22	72	4	ESH751100	**£16.72**	EHC751100	**£23.11**	GYG03100	**£24.21**
11	12	22	79	4	-	-	EHC751110	**£25.67**	-	-
12	12	26	83	4	ESH751120	**£18.57**	EHC751120	**£25.67**	GYG03120	**£28.31**
13	12	26	83	4	-	-	EHC751130	**£30.71**	-	-
14	12	26	83	4	ESH751140	**£23.57**	EHC751140	**£31.35**	GYG03140	**£34.89**
15	12	26	83	4	-	-	EHC751150	**£33.24**	-	-
16	16	32	92	4	ESH751160	**£26.53**	EHC751160	**£34.87**	GYG03160	**£42.66**
17	16	32	92	4	-	-	EHC751170	**£37.24**	-	-
18	16	32	92	4	ESH751180	**£27.85**	EHC751180	**£38.09**	GYG03180	**£48.08**
19	16	32	92	4	-	-	EHC751190	**£45.66**	-	-
20	20	38	104	4	ESH751200	**£32.08**	EHC751200	**£48.48**	GYG03200	**£63.23**
24	25	45	121	5	-	-	EHC751240	**£67.10**	-	-
25	25	45	121	5	ESH751250	**£48.93**	EHC751250	**£67.77**	GYG03250	**£95.04**
Long Length										
6	6	24	68	3	ESH752060	**£19.04**	EHC752060	**£23.01**	-	-
8	10	38	88	3	ESH752080	**£21.88**	EHC752080	**£27.84**	-	-
10	10	45	95	4	ESH752100	**£21.88**	EHC752100	**£28.07**	-	-
12	12	53	110	4	ESH752120	**£25.41**	EHC752120	**£32.90**	-	-
14	12	53	110	4	ESH752140	**£33.40**	EHC752140	**£42.92**	-	-
16	16	63	123	4	ESH752160	**£37.16**	EHC752160	**£46.13**	-	-
18	16	63	123	4	ESH752180	**£42.11**	EHC752180	**£53.74**	-	-
20	20	75	141	4	ESH752200	**£46.36**	EHC752200	**£65.83**	-	-
25	25	90	166	5	ESH752250	**£66.77**	EHC752250	**£101.91**	-	-

Material Applications

● Excellent ○ Good

Substrate	Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
HSS	●	●	○								○	○			
Powder Metal	●	●	○				●			●	○				

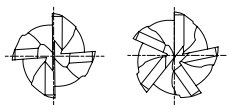
4 & 5 FLUTE CORNER RADIUS FINE PITCH ROUGHER, MULTIPLE HELIX

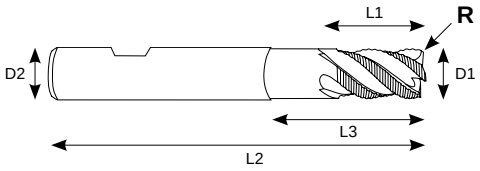
Excellent for Stainless Steel, Pre-Hardened Steel, Carbon Steel, Alloy Steel & Cast Iron

Series	Cutting Data
GYF95 YG-1	P37

- Y1200 coated PM60
- Exceptional tool life and performance on CNC, and conventional milling machines in general machining
- No tool failure due to vibration of the tool holder or machine tools
- The most cost effective milling cutters from YG-1 in unstable machining conditions
- Multiple helix dramatically reduces vibration, especially in large depth of cut and semi roughing operations



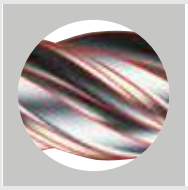




ONLY ONE COATED PM60 END MILLS

PM 60 | 4&5 | M-Helix | FINE | WELDON | Y COATED

D1	R	D2	L1	L2	L3	★★★ Performance Order Code	Price
4 Flute							
6	0.5	6	13	57	-	GYF95060	**£22.99**
7		10	16	66	-	GYF95070	**£26.04**
8		10	19	69	-	GYF95080	**£26.04**
9		10	19	69	-	GYF95090	**£29.56**
10		10	22	72	31	GYF95100	**£29.56**
12		12	26	83	37	GYF95120	**£36.27**
5 Flute							
14	1	12	26	83	-	GYF95140	**£43.39**
16		16	32	92	44	GYF95160	**£54.33**
18		16	32	92	-	GYF95180	**£58.77**
20		20	38	104	54	GYF95200	**£77.90**
25		25	45	121	63	GYF95250	**£116.69**



MULTIPLE HELIX DESIGN – FOR A STRONGER CUTTER WHICH IS SUITABLE FOR SLOTTING

The multiple helix design gives the end mill extra strength in both semi-roughing and finishing conditions, enabling much larger cut depths and reducing vibration. For example, in side cutting operations a radial depth of cut of up to 0.3xD can be taken compared to 0.1xD with a traditional geometry 4 flute end mill. Multiple helix 4 flute end mills are also suitable for slotting operations, conventional 4 flute end mills are not recommended for this operation.

FREE next day delivery on orders above £59* placed before 6pm.

*Exclusions apply.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	○				●			●					

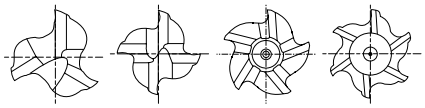
3-6 FLUTE FINE PITCH ROUGHER

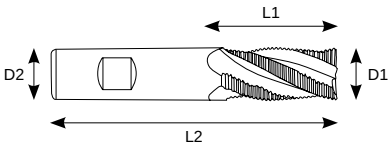
Super Hardened Premium HSS & OnlyOne Coated Powder Metal

- Super hardened premium HSS for economic milling
- OnlyOne Powder Metal for applications where carbide is too brittle and HSS wears too fast
- Available coated or uncoated
- Fine roughing profile

Series			Cutting Data
ESH753/762 YG-1	EHC753/762 YG-1	GYF94 YG-1	**P30 (Uncoated & Coated) P37 (PM Coated)**







ONLY ONE COATED PM60 END MILLS

PREMIUM HSS | PM 60 | DIN 844 | 3-6 | 30° | FINE | WELDON | TiAlN 850 | Y COATED

D1	D2	L1	L2	No. of Flutes	ESH753/762 Series Uncoated Premium HSS ★★★ Performance		EHC753/762 Series TiAlN Coated Premium HSS ★★★ Performance		GYF94 Series OnlyOne Powder Metal ★★★ Performance	
					Order Code	Price	Order Code	Price	Order Code	Price
Standard Length										
6	6	13	57	3	ESH753060	**£17.25**	EHC753060	**£20.20**	GYF94060	**£19.18**
7	10	16	66	3	ESH753070	**£18.39**	EHC753070	**£23.01**	GYF94070	**£21.88**
8	10	19	69	3	ESH753080	**£18.39**	EHC753080	**£23.01**	GYF94080	**£21.88**
9	10	19	69	3	ESH753090	**£17.32**	EHC753090	**£23.55**	GYF94090	**£24.79**
10	10	22	72	4	ESH753100	**£18.39**	EHC753100	**£23.32**	GYF94100	**£24.79**
11	12	22	79	4	ESH753110	**£20.48**	EHC753110	**£25.96**	-	**-**
12	12	26	83	4	ESH753120	**£20.48**	EHC753120	**£25.96**	GYF94120	**£29.70**
13	12	26	83	4	-	**-**	EHC753130	**£31.90**	-	**-**
14	12	26	83	4	ESH753140	**£25.96**	EHC753140	**£32.31**	GYF94140	**£36.58**
15	12	26	83	4	-	**-**	EHC753150	**£34.48**	-	**-**
16	16	32	92	4	ESH753160	**£30.24**	EHC753160	**£35.98**	GYF94160	**£44.56**
17	16	32	92	4	-	**-**	EHC753170	**£38.17**	-	**-**
18	16	32	92	4	-	**-**	EHC753180	**£38.71**	GYF94180	**£49.80**
19	16	32	92	4	ESH753190	**£36.72**	EHC753190	**£45.82**	-	**-**
20	20	38	104	4	ESH753200	**£36.57**	EHC753200	**£47.26**	GYF94200	**£64.82**
22	20	38	104	5	-	**-**	EHC753220	**£57.57**	-	**-**
25	25	45	121	5	ESH753250	**£52.63**	EHC753250	**£68.49**	GYF94250	**£97.25**
Long Length										
6	6	24	68	3	ESH762060	**£21.77**	EHC762060	**£23.32**	-	-
8	10	38	88	3	ESH762080	**£23.55**	EHC762080	**£28.07**	-	-
10	10	45	95	4	ESH762100	**£25.00**	EHC762100	**£29.34**	-	-
12	12	53	110	4	ESH762120	**£28.90**	EHC762120	**£34.12**	-	-
14	12	53	110	4	ESH762140	**£38.12**	EHC762140	**£46.00**	-	-
16	16	63	123	4	ESH762160	**£42.33**	EHC762160	**£48.91**	-	-
18	16	63	123	4	ESH762180	**£48.11**	EHC762180	**£56.25**	-	-
20	20	75	141	4	ESH762200	**£52.89**	EHC762200	**£65.93**	-	-
25	25	90	166	5	ESH762250	**£80.81**	EHC762250	**£101.34**	-	-

Material Applications

● Excellent ○ Good

Substrate	Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
HSS	●	●	○								○	○			
Powder Metal	●	●	○				●			●	○				

3 FLUTE 37° HELIX ROUGHER ALU-CUT

HSS 8% Cobalt - For Aluminium & Carbon Steel <HB225

- Uncoated HSS 8% cobalt
- Aluminium profile ripper
- The chamfer prep protects the tool on first contact with the workpiece
- HSS 8% cobalt content ideal for tougher steels or where longer tool life is required

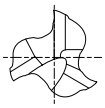
Series	Cutting Data
E2755/756 YG-1	P31

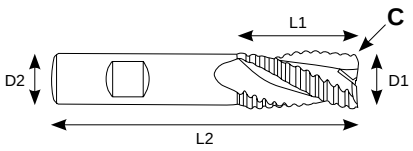
E2755



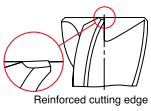
E2756







HSS Co8 | DIN 844 | 3 | 37° | ALU | DIN 1835B | C x 45°



D1	D2	L1	L2	C	★★★ Performance Order Code	Price
6	6	13	57	0.51	E2755060	**£25.76**
8	10	19	69	0.51	E2755080	**£27.42**
10	10	22	72	0.6	E2755100	**£27.42**
12	12	26	83	0.74	E2755120	**£30.57**
14	12	26	83	0.94	E2755140	**£38.79**
16	16	32	92	0.94	E2755160	**£43.46**
18	16	32	92	0.94	E2755180	**£45.69**
20	20	38	104	0.94	E2755200	**£52.59**
22	20	38	104	0.94	E2755220	**£66.49**
25	25	45	121	0.94	E2755250	**£80.34**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	○										●			

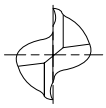
2 FLUTE 42° HELIX ALU-CUT

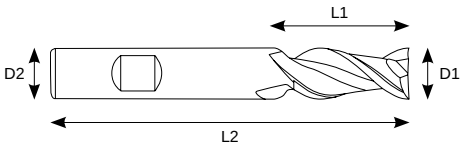
HSS 8% Cobalt - For Aluminium & Carbon Steel <HB225

- Uncoated HSS 8% cobalt
- Deep flute pockets for quick chip clearance and to prevent flutes clogging
- HSS 8% cobalt content ideal for tougher steels or where longer tool life is required

Series		Cutting Data
E2464 YG-1	E2509 YG-1	P31







HSS Co8 | DIN 844 | 2 | 42° | DIN 1835B

D1	D2	L1	L2	★★★ Performance Order Code	Price
1	6	3	49	E2464010	£12.14
1.5	6	5	49	E2464015	£12.14
2	6	7	51	E2464020	£12.14
		10	54	E2509020	£15.86
2.5	6	8	52	E2464025	£12.14
3	6	8	52	E2464030	£12.14
		12	56	E2509030	£15.86
3.5	6	10	54	E2464035	£12.14
4	6	11	55	E2464040	£12.14
		19	63	E2509040	£15.86
4.5	6	11	55	E2464045	£12.14
5	6	13	57	E2464050	£12.14
		24	68	E2509050	£15.86
5.5	6	13	57	E2464055	£12.14
6	6	13	57	E2464060	£12.14
		24	68	E2509060	£15.86
6.5	10	16	66	E2464065	£16.47
7	10	16	66	E2464070	£16.47
		30	80	E2509070	£22.13
7.5	10	16	66	E2464075	£16.47
8	10	19	69	E2464080	£16.47
		38	88	E2509080	£22.13
8.5	10	19	69	E2464085	£16.47
9	10	19	69	E2464090	£16.47
		38	88	E2509090	£22.13
10	10	22	72	E2464100	£16.47
		45	95	E2509100	£22.13

D1	D2	L1	L2	★★★ Performance Order Code	Price
11	12	22	79	E2464110	£21.81
		45	102	E2509110	£29.39
12	12	26	83	E2464120	£21.81
		53	110	E2509120	£29.39
13	12	26	83	E2464130	£24.06
		53	110	E2509130	£33.61
14	12	26	83	E2464140	£24.06
		53	110	E2509140	£33.61
15	12	26	83	E2464150	£29.33
		53	110	E2509150	£38.68
16	16	32	92	E2464160	£29.33
		63	123	E2509160	£41.11
17	16	32	92	E2464170	£36.33
18	16	32	92	E2464180	£36.33
		63	123	E2509180	£50.85
19	16	32	92	E2464190	£43.43
20	20	38	104	E2464200	£43.43
		75	141	E2509200	£60.70
21	20	38	104	E2464210	£69.46
22	20	38	104	E2464220	£69.46
23	20	38	104	E2464230	£69.46
24	25	45	121	E2464240	£69.46
25	25	45	121	E2464250	£69.46
26	25	45	121	E2464260	£92.42
28	25	45	121	E2464280	£109.71
30	25	45	121	E2464300	£117.41
32	32	53	133	E2464320	£132.47

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	○										●			

2 FLUTE UNCOATED

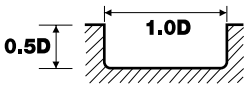
ESH570 & ESH571 Series

CUTTING DATA

Slotting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	5600	40	35	0.004	4500	30	30	0.003	4000	30	25	0.004	2200	15	15	0.003	12000	160	75	0.007
3	3500	55	35	0.008	3200	45	30	0.007	2500	40	25	0.008	1600	20	15	0.006	11000	250	105	0.011
4	2800	70	35	0.013	2200	55	30	0.013	1800	45	25	0.013	1100	30	15	0.014	8000	290	100	0.018
5	2200	90	35	0.02	1800	70	30	0.019	1600	60	25	0.019	900	35	15	0.019	6300	310	100	0.025
6	1800	90	35	0.025	1600	80	30	0.025	1200	60	25	0.025	800	40	15	0.025	5600	310	105	0.028
8	1400	100	35	0.036	1100	90	30	0.041	900	70	25	0.039	560	45	15	0.04	4000	390	100	0.049
10	1100	100	35	0.045	900	90	30	0.05	800	80	25	0.05	450	45	15	0.05	3100	400	95	0.065
12	900	110	35	0.061	800	100	30	0.063	630	80	25	0.063	400	50	15	0.063	2500	380	95	0.076
14	800	110	35	0.069	700	90	30	0.064	560	80	25	0.071	350	50	15	0.071	2200	350	95	0.08
16	700	110	35	0.079	560	90	30	0.08	450	70	25	0.078	280	45	15	0.08	2000	350	100	0.088
18	630	100	35	0.079	500	90	30	0.09	400	70	25	0.088	250	45	15	0.09	1800	350	100	0.097
20	560	100	35	0.089	450	90	30	0.1	400	70	25	0.088	220	45	15	0.102	1600	320	100	0.1
22	500	100	35	0.1	450	90	30	0.1	350	70	25	0.1	220	45	15	0.102	1400	300	95	0.107
25	450	90	35	0.1	400	80	30	0.1	310	60	25	0.097	180	35	15	0.097	1200	280	95	0.117
28	400	80	35	0.1	350	70	30	0.1	280	55	25	0.098	160	30	15	0.094	1100	270	95	0.123
30	350	70	35	0.1	310	60	30	0.097	250	50	25	0.1	160	30	15	0.094	1100	270	105	0.123
32	350	70	35	0.1	280	55	30	0.098	220	45	20	0.102	140	30	15	0.107	1000	240	100	0.12

NOTE: For long & extra long types
the feed should be reduced by around 50%.



2 FLUTE COATED

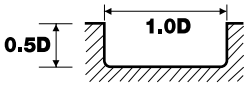
EHC570, EHC571 & GYF99 Series

CUTTING DATA

Slotting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	7850	55	50	0.004	6300	40	40	0.003	5600	40	35	0.004	3100	20	20	0.003	16800	225	105	0.007
3	4900	75	45	0.008	4500	65	40	0.007	3500	55	35	0.008	2250	30	20	0.007	15400	350	145	0.011
4	3900	100	50	0.013	3100	75	40	0.012	2500	65	30	0.013	1550	40	20	0.013	11200	405	140	0.018
5	3100	125	50	0.02	2500	100	40	0.02	2250	85	35	0.019	1250	50	20	0.02	8800	435	140	0.025
6	2500	125	45	0.025	2250	110	40	0.024	1700	85	30	0.025	1100	55	20	0.025	7850	435	150	0.028
8	1950	140	50	0.036	1550	125	40	0.04	1250	100	30	0.04	800	65	20	0.041	5600	545	140	0.049
10	1550	140	50	0.045	1250	125	40	0.05	1100	110	35	0.05	650	65	20	0.05	4350	560	135	0.064
12	1250	155	45	0.062	1100	140	40	0.064	900	110	35	0.061	550	70	20	0.064	3500	530	130	0.076
14	1100	155	50	0.07	1000	125	45	0.063	800	110	35	0.069	500	70	20	0.07	3100	490	135	0.079
16	1000	155	50	0.078	800	125	40	0.078	650	100	35	0.077	400	65	20	0.081	2800	490	140	0.088
18	900	140	50	0.078	700	125	40	0.089	550	100	30	0.091	350	65	20	0.093	2500	490	140	0.098
20	800	140	50	0.088	650	125	40	0.096	550	100	35	0.091	300	65	20	0.108	2250	450	140	0.1
22	700	140	50	0.1	650	125	45	0.096	500	100	35	0.1	300	65	20	0.108	1950	420	135	0.108
25	650	125	50	0.096	550	110	45	0.1	450	85	35	0.094	250	50	20	0.1	1700	390	135	0.115
28	550	110	50	0.1	500	100	45	0.1	400	75	35	0.094	200	40	20	0.1	1550	380	135	0.123
30	500	100	45	0.1	450	85	40	0.094	350	70	35	0.1	200	40	20	0.1	1550	380	145	0.123
32	500	100	50	0.1	400	75	40	0.094	300	65	30	0.108	200	40	20	0.1	1400	335	140	0.12

NOTE: For long & extra long types
the feed should be reduced by around 50%.



3 FLUTE UNCOATED

E2553, ESH573 & ESH516 Series

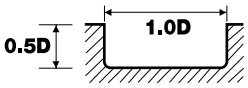
CUTTING DATA

Slotting & Side Cutting

Slotting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	5600	35	35	0.002	4500	25	30	0.002	4000	20	25	0.002	2200	10	15	0.002	12000	110	75	0.003
3	3500	50	35	0.005	3200	35	30	0.004	2500	25	25	0.003	1600	15	15	0.003	11000	170	105	0.005
4	2800	60	35	0.007	2200	45	30	0.007	1800	30	25	0.006	1100	20	15	0.006	8000	200	100	0.008
5	2200	80	35	0.012	1800	55	30	0.01	1600	40	25	0.008	900	20	15	0.007	6300	210	100	0.011
6	1800	80	35	0.015	1600	65	30	0.014	1200	40	25	0.011	800	25	15	0.01	5600	210	105	0.013
8	1400	90	35	0.021	1100	70	30	0.021	900	50	25	0.019	560	30	15	0.018	4000	260	100	0.022
10	1100	90	35	0.027	900	70	30	0.026	800	55	25	0.023	450	30	15	0.022	3100	270	95	0.029
12	900	100	35	0.037	800	80	30	0.033	630	55	25	0.029	400	35	15	0.029	2500	260	95	0.035
14	800	100	35	0.042	700	70	30	0.033	560	55	25	0.033	350	35	15	0.033	2200	240	95	0.036
16	700	100	35	0.048	560	70	30	0.042	450	50	25	0.037	280	30	15	0.036	2000	240	100	0.04
18	630	90	35	0.048	500	70	30	0.047	400	50	25	0.042	250	30	15	0.04	1800	240	100	0.044
20	560	90	35	0.054	450	70	30	0.052	400	50	25	0.042	220	30	15	0.045	1600	220	100	0.046
22	500	90	35	0.06	450	70	30	0.052	350	50	25	0.048	220	30	15	0.045	1400	200	95	0.048
25	450	80	35	0.059	400	65	30	0.054	310	40	25	0.043	180	20	15	0.037	1200	190	95	0.053
28	400	70	35	0.058	350	55	30	0.052	280	35	25	0.042	160	20	15	0.042	1100	180	95	0.055
30	350	60	35	0.057	310	50	30	0.054	250	30	25	0.04	160	20	15	0.042	1100	180	105	0.055
32	350	60	35	0.057	280	45	30	0.054	220	30	20	0.045	140	20	15	0.048	1000	160	100	0.053

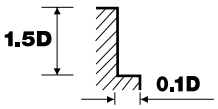
NOTE: For long & extra long types the feed should be reduced by around 50%.



Side Cutting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	5600	60	35	0.004	4500	40	30	0.003	4000	35	25	0.003	2200	15	15	0.002	12000	180	75	0.005
3	3500	80	35	0.008	3200	60	30	0.006	2500	45	25	0.006	1600	20	15	0.004	11000	280	105	0.008
4	2800	105	35	0.013	2200	75	30	0.011	1800	50	25	0.009	1100	30	15	0.009	8000	330	100	0.014
5	2200	135	35	0.02	1800	95	30	0.018	1600	65	25	0.014	900	35	15	0.013	6300	350	100	0.019
6	1800	135	35	0.025	1600	110	30	0.023	1200	65	25	0.018	800	45	15	0.019	5600	350	105	0.021
8	1400	150	35	0.036	1100	120	30	0.036	900	80	25	0.03	560	50	15	0.03	4000	440	100	0.037
10	1100	150	35	0.045	900	120	30	0.044	800	90	25	0.038	450	50	15	0.037	3100	450	95	0.048
12	900	165	35	0.061	800	135	30	0.056	630	90	25	0.048	400	55	15	0.046	2500	430	95	0.057
14	800	165	35	0.069	700	120	30	0.057	560	90	25	0.054	350	55	15	0.052	2200	400	95	0.061
16	700	165	35	0.079	560	120	30	0.071	450	80	25	0.059	280	50	15	0.06	2000	400	100	0.067
18	630	150	35	0.079	500	120	30	0.08	400	80	25	0.067	250	50	15	0.067	1800	400	100	0.074
20	560	150	35	0.089	450	120	30	0.089	400	80	25	0.067	220	50	15	0.076	1600	360	100	0.075
22	500	150	35	0.1	450	120	30	0.089	350	80	25	0.076	220	50	15	0.076	1400	340	95	0.081
25	450	135	35	0.1	400	110	30	0.092	310	65	25	0.07	180	35	15	0.065	1200	320	95	0.089
28	400	120	35	0.1	350	95	30	0.09	280	60	25	0.071	160	30	15	0.063	1100	300	95	0.091
30	350	105	35	0.1	310	80	30	0.086	250	55	25	0.073	160	30	15	0.063	1100	300	105	0.091
32	350	105	35	0.1	280	75	30	0.089	220	50	20	0.076	140	30	15	0.071	1000	270	100	0.09

NOTE: For long & extra long types the feed should be reduced by around 50%.



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

3 FLUTE COATED

GB553, GB554, EHC573, EHC516, GYG01 & GB516 Series

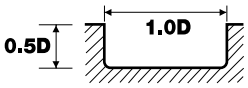
CUTTING DATA

Slotting & Side Cutting

Slotting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	7900	50	50	0.002	6300	35	40	0.002	5600	30	35	0.002	3100	15	20	0.002	16800	150	105	0.003
3	4900	70	45	0.005	4500	50	40	0.004	3500	35	35	0.003	2200	20	20	0.003	15400	240	145	0.005
4	3900	85	50	0.007	3100	60	40	0.006	2500	40	30	0.005	1500	30	20	0.007	11200	280	140	0.008
5	3100	110	50	0.012	2500	75	40	0.01	2200	55	35	0.008	1300	30	20	0.008	8800	290	140	0.011
6	2500	110	45	0.015	2200	90	40	0.014	1700	55	30	0.011	1100	35	20	0.011	7800	290	145	0.012
8	2000	125	50	0.021	1500	100	40	0.022	1300	70	35	0.018	780	40	20	0.017	5600	360	140	0.021
10	1500	125	45	0.028	1300	110	40	0.028	1100	75	35	0.023	630	40	20	0.021	4300	380	135	0.029
12	1300	140	50	0.036	1100	110	40	0.033	880	75	35	0.028	560	50	20	0.03	3500	360	130	0.034
14	1100	140	50	0.042	980	100	45	0.034	780	75	35	0.032	490	50	20	0.034	3100	340	135	0.037
16	980	140	50	0.048	780	100	40	0.043	630	70	30	0.037	390	40	20	0.034	2800	340	140	0.04
18	880	125	50	0.047	700	100	40	0.048	560	70	30	0.042	350	40	20	0.038	2500	340	140	0.045
20	780	125	50	0.053	630	100	40	0.053	560	70	35	0.042	310	40	20	0.043	2200	310	140	0.047
22	700	125	50	0.06	630	100	45	0.053	490	70	35	0.048	310	40	20	0.043	1950	280	135	0.048
25	630	110	50	0.058	560	90	45	0.054	430	55	35	0.043	250	30	20	0.04	1700	270	135	0.053
28	560	100	50	0.06	490	75	45	0.051	390	50	35	0.043	220	30	20	0.045	1500	250	130	0.056
30	490	85	45	0.058	430	70	40	0.054	350	40	35	0.038	220	30	20	0.045	1500	250	140	0.056
32	490	85	50	0.058	390	65	40	0.056	310	40	30	0.043	200	30	20	0.05	1400	225	140	0.054

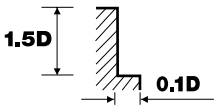
NOTE: For long & extra long types the feed should be reduced by around 50%.



Side Cutting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	7900	85	50	0.004	6300	55	40	0.003	5600	50	35	0.003	3100	20	20	0.002	16800	250	105	0.005
3	4900	110	45	0.007	4500	85	40	0.006	3500	60	35	0.006	2200	30	20	0.005	15400	390	145	0.008
4	3900	145	50	0.012	3100	105	40	0.011	2500	70	30	0.009	1500	40	20	0.009	11200	460	140	0.014
5	3100	190	50	0.02	2500	130	40	0.017	2200	90	35	0.014	1300	50	20	0.013	8800	490	140	0.019
6	2500	190	45	0.025	2200	155	40	0.023	1700	90	30	0.018	1100	60	20	0.018	7800	490	145	0.021
8	2000	210	50	0.035	1500	170	40	0.038	1300	110	35	0.028	780	70	20	0.03	5600	620	140	0.037
10	1500	210	45	0.047	1300	170	40	0.044	1100	125	35	0.038	630	70	20	0.037	4300	630	135	0.049
12	1300	230	50	0.059	1100	190	40	0.058	880	125	35	0.047	560	75	20	0.045	3500	600	130	0.057
14	1100	230	50	0.07	980	170	45	0.058	780	125	35	0.053	490	75	20	0.051	3100	560	135	0.06
16	980	230	50	0.078	780	170	40	0.073	630	110	30	0.058	390	70	20	0.06	2800	560	140	0.067
18	880	210	50	0.08	700	170	40	0.081	560	110	30	0.065	350	70	20	0.067	2500	560	140	0.075
20	780	210	50	0.09	630	170	40	0.09	560	110	35	0.065	310	70	20	0.075	2200	500	140	0.076
22	700	210	50	0.1	630	170	45	0.09	490	110	35	0.075	310	70	20	0.075	1950	480	135	0.082
25	630	190	50	0.101	560	155	45	0.092	430	90	35	0.07	250	50	20	0.067	1700	450	135	0.088
28	560	170	50	0.101	490	130	45	0.088	390	85	35	0.073	220	40	20	0.061	1500	420	130	0.093
30	490	145	45	0.099	430	110	40	0.085	350	75	35	0.071	220	40	20	0.061	1500	420	140	0.093
32	490	145	50	0.099	390	105	40	0.09	310	70	30	0.075	200	40	20	0.067	1400	380	140	0.09

NOTE: For long & extra long types the feed should be reduced by around 50%.



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

4 & 6 FLUTE UNCOATED

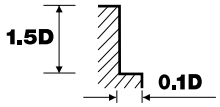
ESH595, ESH596, ESH597 & ESH598 Series

CUTTING DATA

Side Cutting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	5600	80	35	0.004	4500	55	30	0.003	4000	45	25	0.003	2200	20	15	0.002	12000	240	75	0.005
3	3500	110	35	0.008	3200	80	30	0.006	2500	60	25	0.006	1600	30	15	0.005	11000	380	105	0.009
4	2800	140	35	0.013	2200	100	30	0.011	1800	65	25	0.009	1100	45	15	0.01	8000	440	100	0.014
5	2200	180	35	0.02	1800	125	30	0.017	1600	90	25	0.014	900	50	15	0.014	6300	470	100	0.019
6	1800	180	35	0.025	1600	145	30	0.023	1200	90	25	0.019	800	60	15	0.019	5600	470	105	0.021
8	1400	200	35	0.036	1100	160	30	0.036	900	105	25	0.029	560	65	15	0.029	4000	580	100	0.036
10	1100	200	35	0.045	900	160	30	0.044	800	120	25	0.038	450	65	15	0.036	3100	600	95	0.048
12	900	220	35	0.061	800	180	30	0.056	630	120	25	0.048	400	75	15	0.047	2500	570	95	0.057
14	800	220	35	0.069	700	160	30	0.057	560	120	25	0.054	350	75	15	0.054	2200	530	95	0.06
16	700	220	35	0.079	560	160	30	0.071	450	105	25	0.058	280	65	15	0.058	2000	530	100	0.066
18	630	200	35	0.079	500	160	30	0.08	400	105	25	0.066	250	65	15	0.065	1800	530	100	0.074
20	560	200	35	0.089	450	160	30	0.089	400	105	25	0.066	220	65	15	0.074	1600	480	100	0.075
22 (4F)	500	200	35	0.1	450	160	30	0.089	350	105	25	0.075	220	65	15	0.074	1400	450	95	0.08
25 (4F)	450	180	35	0.1	400	145	30	0.091	310	90	25	0.073	180	50	15	0.069	1200	420	95	0.088
28 (4F)	400	160	35	0.1	350	125	30	0.089	280	80	25	0.071	160	45	15	0.07	1100	400	95	0.091
30 (4F)	350	140	35	0.1	310	110	30	0.089	250	75	25	0.075	160	45	15	0.07	1100	400	105	0.091
22 (6F)	500	200	35	0.067	450	160	30	0.089	350	105	25	0.075	220	65	15	0.074	1400	450	95	0.08
25 (6F)	450	180	35	0.067	400	145	30	0.091	310	90	25	0.073	180	50	15	0.069	1200	420	95	0.088
28 (6F)	400	160	35	0.067	350	125	30	0.089	280	80	25	0.071	160	45	15	0.07	1100	400	95	0.091
30 (6F)	350	140	35	0.067	310	110	30	0.089	250	75	25	0.075	160	45	15	0.07	1100	400	105	0.091
32	350	140	35	0.067	280	100	30	0.089	220	65	25	0.074	140	45	15	0.08	1000	360	100	0.09

NOTE: For long & extra long types
the feed should be reduced by around 50%.



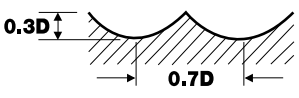
2 FLUTE BALL NOSE UNCOATED

ESH535 & E2492 Series

CUTTING DATA

Stepover Cutting

MATERIAL		CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness		-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength		~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	1.5	4500	95	40	0.011	3400	70	30	0.01	2000	30	20	0.008	1400	20	15	0.007	11000	230	105	0.01
4	2	3200	115	40	0.018	2400	80	30	0.017	1400	35	20	0.013	1000	25	15	0.013	8000	260	100	0.016
6	3	2200	135	40	0.031	1700	90	30	0.026	1000	45	20	0.023	700	25	15	0.018	5600	280	105	0.025
8	4	1600	160	40	0.05	1200	105	30	0.044	700	50	20	0.036	500	30	15	0.03	4000	350	100	0.044
10	5	1300	180	40	0.069	1000	120	30	0.06	560	60	20	0.054	400	35	15	0.044	3200	360	100	0.056
12	6	1000	170	40	0.085	800	105	30	0.066	450	55	15	0.061	320	35	10	0.055	2500	340	95	0.068
16	8	800	150	40	0.094	600	100	30	0.083	350	55	20	0.079	250	35	15	0.07	2000	300	100	0.075
20	10	600	140	40	0.117	500	85	30	0.085	300	50	20	0.083	200	35	15	0.088	1600	280	100	0.088
25	12.5	500	130	40	0.13	400	70	30	0.088	220	40	15	0.091	160	30	15	0.094	1300	250	100	0.096



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

4 & 6 FLUTE COATED

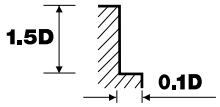
EHC595, EHC596, EHC597, EHC598 GYF96 & GB596 Series

CUTTING DATA

Side Cutting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	7850	110	50	0.004	6300	75	40	0.003	5600	65	35	0.003	3100	30	20	0.002	16800	335	105	0.005
3	4900	155	50	0.008	4500	110	40	0.006	3500	85	35	0.006	2250	40	20	0.004	15400	530	145	0.009
4	3900	195	50	0.013	3100	140	40	0.011	2500	90	30	0.009	1550	65	20	0.01	11200	615	140	0.014
5	3100	250	50	0.02	2500	175	40	0.018	2250	125	35	0.014	1250	70	20	0.014	8800	660	140	0.019
6	2500	250	45	0.025	2250	205	40	0.023	1700	125	30	0.018	1100	85	20	0.019	7850	660	150	0.021
8	1950	280	50	0.036	1550	225	40	0.036	1250	145	30	0.029	800	90	20	0.028	5600	810	140	0.036
10	1550	280	50	0.045	1250	225	40	0.045	1100	170	35	0.039	650	90	20	0.035	4350	840	135	0.048
12	1250	310	45	0.062	1100	250	40	0.057	900	170	35	0.047	550	105	20	0.048	3500	800	130	0.057
14	1100	310	50	0.07	1000	225	45	0.056	800	170	35	0.053	500	105	20	0.053	3100	740	135	0.06
16	1000	310	50	0.078	800	225	40	0.07	650	145	35	0.056	400	90	20	0.056	2800	740	140	0.066
18	900	280	50	0.078	700	225	40	0.08	550	145	30	0.066	350	90	20	0.064	2500	740	140	0.074
20	800	280	50	0.088	650	225	40	0.087	550	145	35	0.066	300	90	20	0.075	2250	670	140	0.074
22 (4F)	700	280	50	0.1	650	225	45	0.087	500	145	35	0.073	300	90	20	0.075	1950	630	135	0.081
25 (4F)	650	250	50	0.096	550	205	45	0.093	450	125	35	0.069	250	70	20	0.07	1700	590	135	0.087
28 (4F)	550	225	50	0.102	500	175	45	0.088	400	110	35	0.069	200	65	20	0.081	1550	560	135	0.09
30 (4F)	500	195	45	0.098	450	155	40	0.086	350	105	35	0.075	200	65	20	0.081	1550	560	145	0.09
22 (6F)	700	280	50	0.067	650	225	45	0.058	500	145	35	0.048	300	90	20	0.05	1950	630	135	0.054
25 (6F)	650	250	50	0.064	550	205	45	0.062	450	125	35	0.046	250	70	20	0.047	1700	590	135	0.058
28 (6F)	550	225	50	0.068	500	175	45	0.058	400	110	35	0.046	200	65	20	0.054	1550	560	135	0.06
30 (6F)	500	195	45	0.065	450	155	40	0.057	350	105	35	0.05	200	65	20	0.054	1550	560	145	0.06
32	500	195	50	0.065	400	140	40	0.058	300	90	30	0.05	200	65	20	0.054	1400	505	140	0.06

NOTE: For long & extra long types
the feed should be reduced by around 50%.



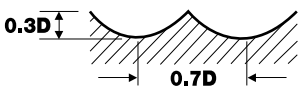
2 FLUTE BALL NOSE COATED

EHC535 & GB535 Series

CUTTING DATA

Stepover Cutting

MATERIAL		CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness		-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength		~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	1.5	6300	135	60	0.011	4750	100	45	0.011	2800	40	25	0.007	1950	30	20	0.008	15400	320	145	0.01
4	2	4500	160	55	0.018	3350	110	40	0.016	1950	50	25	0.013	1400	35	20	0.013	11200	365	140	0.016
6	3	3100	190	60	0.031	2400	125	45	0.026	1400	65	25	0.023	1000	35	20	0.018	7850	390	150	0.025
8	4	2250	225	55	0.05	1700	145	45	0.043	1000	70	25	0.035	700	40	20	0.029	5600	490	140	0.044
10	5	1800	250	55	0.069	1400	170	45	0.061	800	85	25	0.053	550	50	15	0.045	4500	505	140	0.056
12	6	1400	240	55	0.086	1100	145	40	0.066	650	75	25	0.058	450	50	15	0.056	3500	475	130	0.068
16	8	1100	210	55	0.095	850	140	45	0.082	500	75	25	0.075	350	50	20	0.071	2800	420	140	0.075
20	10	850	195	55	0.115	700	120	45	0.086	400	70	25	0.088	300	50	20	0.083	2250	390	140	0.087
25	12.5	700	180	55	0.129	550	100	45	0.091	300	55	25	0.092	200	40	15	0.1	1800	350	140	0.097



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

3-6 FLUTE ROUGHER UNCOATED

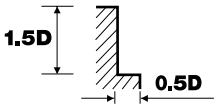
ESH751, ESH752, ESH753 & ESH762 Series

CUTTING DATA

Side Cutting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	1800	80	35	0.015	1600	60	30	0.013	1200	55	25	0.015	800	30	15	0.013	4500	200	85	0.015
8	1400	105	35	0.025	1100	75	30	0.023	900	65	25	0.024	560	35	15	0.021	3100	230	80	0.025
10	1100	150	35	0.034	900	120	30	0.033	800	110	25	0.034	450	60	15	0.033	2500	350	80	0.035
12	900	180	35	0.05	800	140	30	0.044	630	110	25	0.044	400	70	15	0.044	2000	400	75	0.05
14	800	180	35	0.056	700	140	30	0.05	560	110	25	0.049	350	70	15	0.05	1800	420	80	0.058
16	700	180	35	0.064	560	140	30	0.063	450	110	25	0.061	280	70	15	0.063	1600	450	80	0.07
18	630	180	35	0.071	500	140	30	0.07	400	110	25	0.069	250	70	15	0.07	1400	470	80	0.084
20	560	180	35	0.08	450	140	30	0.078	400	110	25	0.069	220	70	15	0.08	1200	500	75	0.104
22	500	220	35	0.088	450	170	30	0.076	350	140	25	0.08	220	85	15	0.077	1100	470	75	0.085
25	450	220	35	0.098	400	170	30	0.085	310	140	25	0.09	180	85	15	0.094	1000	450	80	0.09
28	400	210	35	0.088	350	160	30	0.076	280	130	25	0.077	160	85	15	0.089	900	510	80	0.094
30	350	210	35	0.1	310	160	30	0.086	250	130	25	0.087	160	85	15	0.089	900	530	85	0.098
32	350	210	35	0.1	280	160	30	0.095	220	130	20	0.098	140	85	15	0.101	800	500	80	0.104

NOTE: For long & extra long types
the feed should be reduced by around 50%.



3-6 FLUTE ROUGHER COATED

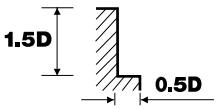
EHC751, EHC752, GB751, EHC753, EHC762 & GB753 Series

CUTTING DATA

Side Cutting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	2500	110	45	0.015	2250	85	40	0.013	1700	75	30	0.015	1100	40	20	0.012	6300	280	120	0.015
8	1950	145	50	0.025	1550	105	40	0.023	1250	90	30	0.024	800	50	20	0.021	4350	320	110	0.025
10	1550	210	50	0.034	1250	170	40	0.034	1100	155	35	0.035	650	85	20	0.033	3500	490	110	0.035
12	1250	250	45	0.05	1100	195	40	0.044	900	155	35	0.043	550	100	20	0.045	2800	560	105	0.05
14	1100	250	50	0.057	1000	195	45	0.049	800	155	35	0.048	500	100	20	0.05	2500	590	110	0.059
16	1000	250	50	0.063	800	195	40	0.061	650	155	35	0.06	400	100	20	0.063	2250	630	115	0.07
18	900	250	50	0.069	700	195	40	0.07	550	155	30	0.07	350	100	20	0.071	1950	660	110	0.085
20	800	250	50	0.078	650	195	40	0.075	550	155	35	0.07	300	100	20	0.083	1700	700	105	0.103
22	700	310	50	0.089	650	240	45	0.074	500	195	35	0.078	300	120	20	0.08	1550	660	105	0.085
25	650	310	50	0.095	550	240	45	0.087	450	195	35	0.087	250	120	20	0.096	1400	630	110	0.09
28	550	295	50	0.089	500	225	45	0.075	400	180	35	0.075	220	120	20	0.091	1250	715	110	0.095
30	500	295	45	0.098	450	225	40	0.083	350	180	35	0.086	220	120	20	0.091	1250	740	120	0.099
32	500	295	50	0.098	400	225	40	0.094	300	180	30	0.1	200	120	20	0.1	1100	700	110	0.106

NOTE: For long & extra long types
the feed should be reduced by around 50%.



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

2 FLUTE 42° HELIX

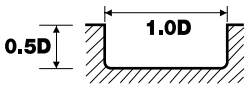
E2464 & E2509 Series

CUTTING DATA

Slotting & Side Cutting

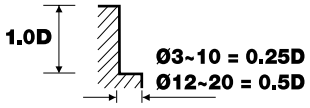
Slotting

MATERIAL	ALUMINIUM & ALUMINIUM ALLOYS			
Dia.	RPM	Feed	Vc	Fz
3	8000	560	75	0.035
6	7000	700	130	0.050
8	6000	850	150	0.071
10	5000	1200	155	0.120
12	5000	1200	190	0.120
14	3500	1240	155	0.177
16	3500	1240	175	0.177
18	2300	1300	130	0.283
20	2300	1300	145	0.283



Side Cutting

MATERIAL	ALUMINIUM & ALUMINIUM ALLOYS			
Dia.	RPM	Feed	Vc	Fz
3	8000	730	75	0.046
6	7000	900	130	0.0064
8	6000	1100	150	0.0092
10	5000	1500	155	0.150
12	5000	1500	190	0.150
14	3500	1600	155	0.229
16	3500	1600	175	0.229
18	2300	1700	130	0.370
20	2300	1700	145	0.370



3 FLUTE ROUGHER 37° HELIX

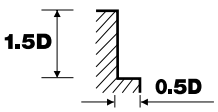
E2755 & E2756 Series

CUTTING DATA

Side Cutting

MATERIAL	CARBON STEELS, ALLOY STEELS & TOOL STEELS																ALUMINIUM & ALUMINIUM ALLOYS			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 40				-			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	1800	80	35	0.015	1600	60	30	0.013	1200	55	25	0.015	800	30	15	0.013	4500	200	85	0.015
8	1400	105	35	0.025	1100	75	30	0.023	900	65	25	0.024	560	35	15	0.021	3100	230	80	0.025
10	1100	150	35	0.045	900	120	30	0.044	800	110	25	0.046	450	60	15	0.044	2500	350	80	0.047
12	900	180	35	0.067	800	140	30	0.058	630	110	25	0.058	400	70	15	0.058	2000	400	75	0.067
14	800	180	35	0.075	700	140	30	0.067	560	110	25	0.065	350	70	15	0.067	1800	420	80	0.078
16	700	180	35	0.086	560	140	30	0.083	450	110	25	0.081	280	70	15	0.083	1600	450	80	0.094
18	630	180	35	0.095	500	140	30	0.093	400	110	25	0.092	250	70	15	0.093	1400	470	80	0.112
20	560	180	35	0.107	450	140	30	0.104	400	110	25	0.092	220	70	15	0.106	1200	500	75	0.139
22	500	220	35	0.147	450	170	30	0.126	350	140	25	0.133	220	85	15	0.129	1100	470	75	0.142
25	450	220	35	0.163	400	170	30	0.142	310	140	25	0.151	180	85	15	0.157	1000	450	80	0.150
30	350	210	35	0.200	310	160	30	0.172	250	130	25	0.173	160	85	15	0.177	900	530	85	0.196

NOTE: For long & extra long types
the feed should be reduced by around 50%.



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

2 FLUTE

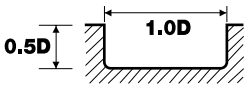
GYF99 Series

ONLY ONE COATED PM60 END MILLS

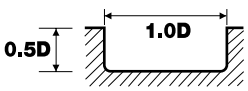
CUTTING DATA

Slotting

MATERIAL	STRUCTURAL STEEL & CARBON STEEL				STRUCTURAL STEEL & CARBON STEEL / CAST IRON				CARBON STEEL, ALLOY STEEL & TOOL STEEL			
Hardness					~ HRC 20				HRC 20 ~ HRC 30			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	8400	140	53	0.008	7080	110	44	0.008	5880	95	37	0.008
3	6000	190	57	0.016	4920	160	46	0.016	4020	140	38	0.017
4	5160	275	65	0.027	4320	210	54	0.024	3780	190	48	0.025
5	4680	305	74	0.033	3900	240	61	0.031	3120	220	49	0.035
6	4200	320	79	0.038	3480	250	66	0.036	2760	230	52	0.042
8	3120	330	78	0.053	2640	290	66	0.055	2160	240	54	0.056
10	2520	360	79	0.071	2160	320	68	0.074	1740	275	55	0.079
12	2160	330	81	0.076	1740	290	66	0.083	1380	250	52	0.091
14	1920	320	84	0.083	1500	250	66	0.083	1200	235	53	0.098
16	1620	320	81	0.099	1380	235	69	0.085	1070	215	54	0.1
18	1380	290	78	0.105	1140	235	64	0.103	950	190	54	0.1
20	1140	265	72	0.116	940	200	59	0.106	840	180	53	0.107
22	1010	220	70	0.109	850	180	59	0.106	720	150	50	0.104
25	900	185	71	0.103	760	170	60	0.112	590	140	46	0.119



MATERIAL	Pre-Hardened STEEL, ALLOY STEEL & TOOL STEELS				ALLOY STEEL & TOOL STEEL				STAINLESS STEEL			
Hardness	HRC 30 ~ HRC 35				HRC 35 ~ HRC 40				-			
Strength	1000 ~ 1100N/mm²				1100 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	3780	80	24	0.011	2400	50	15	0.01	2640	55	17	0.01
3	2760	95	26	0.017	2160	75	20	0.017	2380	85	22	0.018
4	2400	110	30	0.023	1920	90	24	0.023	2110	100	27	0.024
5	2040	120	32	0.029	1620	90	25	0.028	1780	100	28	0.028
6	1740	130	33	0.037	1380	100	26	0.036	1520	110	29	0.036
8	1380	140	35	0.051	1070	100	27	0.047	1180	110	30	0.047
10	1080	150	34	0.069	840	120	26	0.071	920	130	29	0.071
12	890	140	34	0.079	700	100	26	0.071	770	110	29	0.071
14	760	130	33	0.086	600	95	26	0.079	660	105	29	0.08
16	670	120	34	0.09	530	95	27	0.09	580	105	29	0.091
18	600	120	34	0.1	480	90	27	0.094	530	100	30	0.094
20	530	110	33	0.104	430	85	27	0.099	470	95	30	0.101
22	480	95	33	0.099	380	65	26	0.086	420	70	29	0.083
25	430	90	34	0.105	300	60	24	0.1	330	65	26	0.098



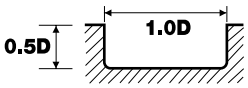
RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

3 FLUTE
GYG01 Series

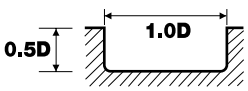
ONLY ONE COATED PM60 END MILLS

CUTTING DATA
Slotting

MATERIAL	STRUCTURAL STEEL & CARBON STEEL				STRUCTURAL STEEL & CARBON STEEL / CAST IRON				CARBON STEEL, ALLOY STEEL & TOOL STEEL			
Hardness					~ HRC 20				HRC 20 ~ HRC 30			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	7800	85	49	0.004	6600	65	41	0.003	5760	55	36	0.003
3	5520	120	52	0.007	4680	100	44	0.007	4020	60	38	0.005
4	5160	170	65	0.011	4320	140	54	0.011	3600	95	45	0.009
5	4560	190	72	0.014	3840	155	60	0.013	3120	110	49	0.012
6	4020	275	76	0.023	3360	230	63	0.023	2760	170	52	0.021
8	3120	290	78	0.031	2640	250	66	0.032	2160	180	54	0.028
10	2520	300	79	0.04	2160	250	68	0.039	1680	190	53	0.038
12	2160	330	81	0.051	1740	275	66	0.053	1440	205	54	0.047
14	1920	300	84	0.052	1620	265	71	0.055	1200	190	53	0.053
16	1620	290	81	0.06	1380	250	69	0.06	1070	180	54	0.056
18	1380	290	78	0.07	1070	230	61	0.072	950	180	54	0.063
20	1140	275	72	0.08	950	230	60	0.081	840	170	53	0.067
22	1010	275	70	0.091	880	235	61	0.089	720	180	50	0.083
25	900	290	71	0.107	760	250	60	0.11	590	190	46	0.107



MATERIAL	Pre-Hardened STEEL, ALLOY STEEL & TOOL STEELS				ALLOY STEEL & TOOL STEEL				STAINLESS STEEL			
Hardness	HRC 30 ~ HRC 35				HRC 35 ~ HRC 40				-			
Strength	1000 ~ 1100N/mm²				1100 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	3600	40	23	0.004	2280	35	14	0.005	2510	40	16	0.005
3	2640	55	25	0.007	2160	55	20	0.008	2380	60	22	0.008
4	2280	60	29	0.009	1800	65	23	0.012	1980	70	25	0.012
5	2040	75	32	0.012	1560	65	25	0.014	1720	70	27	0.014
6	1740	110	33	0.021	1320	90	25	0.023	1450	100	27	0.023
8	1380	120	35	0.029	1070	100	27	0.031	1180	110	30	0.031
10	1070	140	34	0.044	820	110	26	0.045	900	120	28	0.044
12	890	140	34	0.052	700	110	26	0.052	770	120	29	0.052
14	790	130	35	0.055	600	100	26	0.056	660	110	29	0.056
16	670	120	34	0.06	530	100	27	0.063	580	110	29	0.063
18	600	115	34	0.064	480	95	27	0.066	530	105	30	0.066
20	530	110	33	0.069	430	95	27	0.074	470	105	30	0.074
22	480	115	33	0.08	380	100	26	0.088	420	110	29	0.087
25	430	120	34	0.093	300	100	24	0.111	330	110	26	0.111



Side cutting data overleaf...

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

3 FLUTE

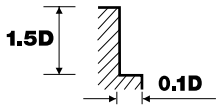
GYG01 Series

ONLY ONE COATED PM60 END MILLS

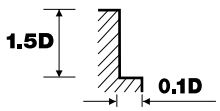
CUTTING DATA

Side Cutting

MATERIAL	STRUCTURAL STEEL & CARBON STEEL				STRUCTURAL STEEL & CARBON STEEL / CAST IRON				CARBON STEEL, ALLOY STEEL & TOOL STEEL			
Hardness					~ HRC 20				HRC 20 ~ HRC 30			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	9840	120	62	0.004	8160	95	51	0.004	6600	80	41	0.004
3	6960	175	66	0.008	5760	145	54	0.008	4560	90	43	0.007
4	6240	220	78	0.012	5280	185	66	0.012	4200	130	53	0.01
5	5640	250	89	0.015	4800	210	75	0.015	3480	150	55	0.014
6	5040	360	95	0.024	4320	300	81	0.023	3120	230	59	0.025
8	3840	395	97	0.034	3120	325	78	0.035	2400	240	60	0.033
10	3000	420	94	0.047	2520	350	79	0.046	1920	250	60	0.043
12	2520	420	95	0.056	2160	360	81	0.056	1680	275	63	0.055
14	2160	420	95	0.065	1800	340	79	0.063	1380	250	61	0.06
16	1920	395	97	0.069	1560	330	78	0.071	1200	240	60	0.067
18	1620	370	92	0.076	1380	320	78	0.077	1070	235	61	0.073
20	1500	360	94	0.08	1260	305	79	0.081	940	230	59	0.082
22	1380	370	95	0.089	1140	320	79	0.094	890	235	62	0.088
25	1200	395	94	0.11	1010	330	79	0.109	760	250	60	0.11



MATERIAL	Pre-Hardened STEEL, ALLOY STEEL & TOOL STEELS				ALLOY STEEL & TOOL STEEL				STAINLESS STEEL			
Hardness	HRC 30 ~ HRC 35				HRC 35 ~ HRC 40				-			
Strength	1000 ~ 1100N/mm²				1100 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	4560	60	29	0.004	2880	50	18	0.006	3170	55	20	0.006
3	3240	80	31	0.008	2640	80	25	0.01	2900	90	27	0.01
4	2760	90	35	0.011	2280	90	29	0.013	2510	100	32	0.013
5	2400	100	38	0.014	2040	90	32	0.015	2240	100	35	0.015
6	2160	150	41	0.023	1800	120	34	0.022	1980	130	37	0.022
8	1560	170	39	0.036	1320	140	33	0.035	1450	155	36	0.036
10	1200	180	38	0.05	1070	150	34	0.047	1180	165	37	0.047
12	1080	180	41	0.056	890	150	34	0.056	980	165	37	0.056
14	940	170	41	0.06	760	145	33	0.064	840	160	37	0.063
16	790	170	40	0.072	660	140	33	0.071	730	155	37	0.071
18	700	155	40	0.074	600	130	34	0.072	660	145	37	0.073
20	620	150	39	0.081	530	130	33	0.082	580	145	36	0.083
22	560	155	39	0.092	480	130	33	0.09	530	145	37	0.091
25	500	160	39	0.107	430	145	34	0.112	470	160	37	0.113



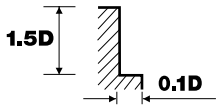
RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

4 FLUTE
GYF96 & GYG02 Series

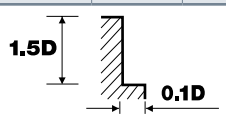
ONLY ONE COATED PM60 END MILLS

CUTTING DATA
Side Cutting

MATERIAL	STRUCTURAL STEEL & CARBON STEEL				STRUCTURAL STEEL & CARBON STEEL / CAST IRON				CARBON STEEL, ALLOY STEEL & TOOL STEEL			
Hardness					~ HRC 20				HRC 20 ~ HRC 30			
Strength	~ 500N/mm²				500 ~ 800N/mm²				800 ~ 1000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	11040	350	69	0.008	10080	290	63	0.007	7320	205	46	0.007
3	7920	490	75	0.015	7200	420	68	0.015	5280	300	50	0.014
4	6360	575	80	0.023	5640	480	71	0.021	4320	360	54	0.021
5	5280	610	83	0.029	4800	505	75	0.026	3480	385	55	0.028
6	4680	650	88	0.035	4320	540	81	0.031	3120	395	59	0.032
8	3720	685	93	0.046	3120	575	78	0.046	2400	445	60	0.046
10	2760	755	87	0.068	2520	635	79	0.063	1920	455	60	0.059
12	2400	685	90	0.071	2160	575	81	0.067	1680	445	63	0.066
14	2160	660	95	0.076	1920	550	84	0.072	1320	420	58	0.08
16	1920	610	97	0.079	1680	515	84	0.077	1200	410	60	0.085
18	1800	550	102	0.076	1500	480	85	0.08	1070	370	61	0.086
20	1500	530	94	0.088	1260	445	79	0.088	940	330	59	0.088
22	1260	490	87	0.097	1140	385	79	0.084	820	305	57	0.093
25	1200	445	94	0.093	1010	365	79	0.09	760	275	60	0.09



MATERIAL	Pre-Hardened STEEL, ALLOY STEEL & TOOL STEELS				ALLOY STEEL & TOOL STEEL				STAINLESS STEEL			
Hardness	HRC 30 ~ HRC 35				HRC 35 ~ HRC 40				-			
Strength	1000 ~ 1100N/mm²				1100 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	4920	150	31	0.008	3960	100	25	0.006	4360	110	27	0.006
3	3240	215	31	0.017	2880	150	27	0.013	3170	165	30	0.013
4	2760	240	35	0.022	2400	180	30	0.019	2640	200	33	0.019
5	2400	265	38	0.028	2040	190	32	0.023	2240	210	35	0.023
6	2160	275	41	0.032	1740	215	33	0.031	1910	235	36	0.031
8	1680	290	42	0.043	1380	220	35	0.04	1520	240	38	0.039
10	1200	320	38	0.067	1070	240	34	0.056	1180	265	37	0.056
12	1070	290	40	0.068	860	220	32	0.064	950	240	36	0.063
14	950	275	42	0.072	760	205	33	0.067	840	225	37	0.067
16	820	265	41	0.081	660	200	33	0.076	730	220	37	0.075
18	760	235	43	0.077	600	180	34	0.075	660	200	37	0.076
20	640	210	40	0.082	530	170	33	0.08	580	185	36	0.08
22	560	190	39	0.085	480	155	33	0.081	530	170	37	0.08
25	500	180	39	0.09	430	150	34	0.087	470	165	37	0.088



NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

4 FLUTE MULTIPLE HELIX

GYG52 Series

ONLY ONE COATED PM60 END MILLS

CUTTING DATA

Slotting & Side Cutting

MATERIAL	STRUCTURAL STEEL & CARBON STEEL / CAST IRON				CARBON STEEL, ALLOY STEEL & TOOL STEEL				Pre-Hardened STEEL, ALLOY STEEL & TOOL STEEL				STAINLESS STEEL 300 SERIES			
Hardness	~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 35				-			
Strength	~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	7410	155	70	0.005	6740	140	64	0.005	4720	95	44	0.005	5090	100	48	0.005
4	5560	180	70	0.008	5050	165	63	0.008	3540	115	44	0.008	3800	125	48	0.008
5	4440	205	70	0.012	4040	185	63	0.011	2830	130	44	0.011	3060	155	48	0.013
6	3710	240	70	0.016	3370	220	64	0.016	2360	155	44	0.016	2550	180	48	0.018
8	2780	310	70	0.028	2530	280	64	0.028	1770	195	44	0.028	1910	220	48	0.029
10	2450	380	77	0.039	2230	345	70	0.039	1560	240	49	0.038	1530	295	48	0.048
12	2050	385	77	0.047	1860	350	70	0.047	1300	245	49	0.047	1270	285	48	0.056
14	1750	340	77	0.049	1590	310	70	0.049	1110	220	49	0.05	1090	260	48	0.06
16	1530	325	77	0.053	1390	295	70	0.053	980	205	49	0.052	960	240	48	0.063
18	1360	320	77	0.059	1240	295	70	0.059	870	205	49	0.059	850	240	48	0.071
20	1220	320	77	0.065	1110	290	70	0.065	780	205	49	0.066	760	235	48	0.077
25	980	245	77	0.063	890	225	70	0.063	620	160	49	0.065	610	190	48	0.078



2 FLUTE BALL NOSE

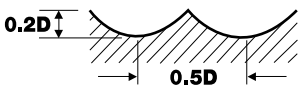
GYF97 Series

ONLY ONE COATED PM60 END MILLS

CUTTING DATA

Slotting

MATERIAL		STRUCTURAL STEEL & CARBON STEEL				STRUCTURAL STEEL & CARBON STEEL / CAST IRON				CARBON STEEL, ALLOY STEEL & TOOL STEEL				Pre-Hardened STEEL, ALLOY STEEL & TOOL STEEL				STAINLESS STEEL			
Hardness		-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 35				-			
Strength		~ 500N/mm²				~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	1.5	8760	410	83	0.023	6960	275	66	0.02	4680	150	44	0.016	2400	65	23	0.014	2640	70	25	0.013
4	2	7200	515	90	0.036	5540	350	70	0.032	3600	190	45	0.026	1920	90	24	0.023	2110	95	27	0.023
6	3	5280	575	100	0.054	4200	385	79	0.046	2760	215	52	0.039	1440	100	27	0.035	1580	115	30	0.036
8	4	4020	635	101	0.079	3120	420	78	0.067	2160	240	54	0.056	1070	100	27	0.047	1180	115	30	0.049
10	5	3300	720	104	0.109	2520	480	79	0.095	1680	275	53	0.082	820	120	26	0.073	900	130	28	0.072
12	6	2760	635	104	0.115	2160	420	81	0.097	1440	240	54	0.083	700	100	26	0.071	770	115	29	0.075
16	8	2040	575	103	0.141	1560	385	78	0.123	1070	215	54	0.1	530	95	27	0.09	590	110	30	0.093
20	10	1620	505	102	0.156	1200	335	75	0.14	820	180	52	0.11	430	85	27	0.099	480	95	30	0.099
25	12.5	1140	370	90	0.162	890	250	70	0.14	560	140	44	0.125	300	60	24	0.1	330	65	26	0.098



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

3-5 FLUTE ROUGHER

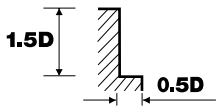
GYF94, GYF98 & GYG03 Series

ONLY ONE COATED PM60 END MILLS

CUTTING DATA

Slotting & Side Cutting

MATERIAL	STRUCTURAL STEEL & CARBON STEEL				STRUCTURAL STEEL & CARBON STEEL / CAST IRON				CARBON STEEL, ALLOY STEEL & TOOL STEEL				Pre-Hardened STEEL, ALLOY STEEL & TOOL STEEL				STAINLESS STEEL			
Hardness	-				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 35				-			
Strength	~ 500N/mm²				~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	3360	275	63	0.027	2640	215	50	0.027	1920	140	36	0.024	1560	125	29	0.027	1740	130	33	0.025
8	2880	350	72	0.041	2280	275	57	0.04	1680	190	42	0.038	1260	150	32	0.04	1440	170	36	0.039
10	2280	500	72	0.055	1800	380	57	0.053	1260	235	40	0.047	1070	190	34	0.044	1140	205	36	0.045
12	1920	500	72	0.065	1440	395	54	0.069	1080	275	41	0.064	890	215	34	0.06	960	245	36	0.064
14	1680	500	74	0.074	1260	395	55	0.078	910	275	40	0.076	760	215	33	0.071	830	245	37	0.074
16	1440	500	72	0.087	1140	395	57	0.087	790	275	40	0.087	660	215	33	0.081	720	245	36	0.085
18	1260	500	71	0.099	1070	395	61	0.092	730	275	41	0.094	590	215	33	0.091	660	245	37	0.093
20	1150	510	72	0.111	910	395	57	0.109	640	275	40	0.107	530	215	33	0.101	580	245	36	0.106
22	1070	510	74	0.095	780	395	54	0.101	560	275	39	0.098	480	215	33	0.09	520	245	36	0.094
25	950	500	75	0.105	720	380	57	0.106	500	265	39	0.106	430	215	34	0.1	470	240	37	0.102



PLEASE NOTE: The FEED should be reduced by around 50% for long & extra long types.

4 & 5 FLUTE FINE PITCH ROUGHER, MULTIPLE HELIX

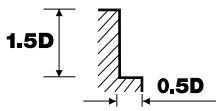
GYF95 Series

ONLY ONE COATED PM60 END MILLS

CUTTING DATA

Side Cutting

MATERIAL	STRUCTURAL STEEL & CARBON STEEL				STRUCTURAL STEEL & CARBON STEEL / CAST IRON				CARBON STEEL, ALLOY STEEL & TOOL STEEL				Pre-Hardened STEEL, ALLOY STEEL & TOOL STEEL				STAINLESS STEEL			
Hardness	~ HRC 20				~ HRC 20				HRC 20 ~ HRC 30				HRC 30 ~ HRC 35				-			
Strength	~ 800N/mm²				~ 800N/mm²				800 ~ 1000N/mm²				1000 ~ 1300N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	4030	330	76	0.02	3170	260	60	0.021	2300	170	43	0.018	1870	150	35	0.02	2090	155	39	0.019
8	3460	420	87	0.03	2740	330	69	0.03	2020	230	51	0.028	1510	180	38	0.03	1730	205	43	0.03
10	2740	600	86	0.055	2160	455	68	0.053	1510	280	47	0.046	1280	230	40	0.045	1370	245	43	0.045
12	2300	600	87	0.065	1730	475	65	0.069	1300	330	49	0.063	1070	260	40	0.061	1150	295	43	0.064
14	2020	600	89	0.059	1510	475	66	0.063	1090	330	48	0.061	910	260	40	0.057	1000	295	44	0.059
16	1730	600	87	0.069	1370	475	69	0.069	950	330	48	0.069	790	260	40	0.066	860	295	43	0.069
18	1510	600	85	0.079	1280	475	72	0.074	880	330	50	0.075	710	260	40	0.073	790	295	45	0.075
20	1380	610	87	0.088	1090	475	68	0.087	770	330	48	0.086	640	260	40	0.081	700	295	44	0.084
25	1140	600	90	0.105	860	455	68	0.106	600	320	47	0.107	520	260	41	0.1	560	290	44	0.104



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

NC Mill Milling Cutters

Performance
★★★

P H M K

Premium quality general purpose carbide milling cutters

Excellent performance in general machining applications, suitable for steel <50HRC, stainless steel and cast iron.



Diameter Range
1-20mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★	★★★	★★★	★★★	★★★	★★★	★★★★★

Advantages

Tool Life
Benefit from a high-quality micrograin substrate that improves tool life.

Wet or Dry
Suitable for wet or dry machining on steel, dry cutting can increase tool life up to 40%.

Reliable
Consistent and reliable performance in general machining conditions on CNC machines.

Best Seller
The NC Mill range is the ultimate choice for general purpose carbide milling.

Features

X-Coating
The unique X-coating provides excellent heat & wear resistance.

Hardened Steel
Designed for machining steels with a hardness of less than 50HRC.

Market Leader
Manufactured by global market leader of solid milling tools YG-1.

Cutter Geometry
A wide range of tool geometries are available in 2, 3, 4 flute and ball nose.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE SLOT DRILL PLAIN SHANK		G9F41	1-20	30°	**40**
3 FLUTE SLOT DRILL PLAIN SHANK		G9F43	1-20	30°	**40**
4 FLUTE END MILL PLAIN SHANK		G9F42	1-20	30°	**40**
2 FLUTE BALL NOSE PLAIN SHANK		G9F44	2-20	30°	**41**

2, 3 & 4 FLUTE, STANDARD LENGTH

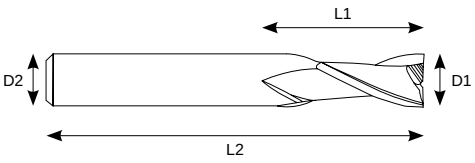
General Purpose Milling of Steel <HRC50, Stainless Steel & Cast Iron

- General purpose machining
- Wet or dry cutting on steel
- Plain shank

Series	Cutting Data
G9F41/43/42 YG-1	**P42** **P43**







MG HM | 2 | 3 | 4 | 30° | X COATED

D1	D2	L1	L2	★★★ Performance Order Code			Price
				2 Flute	3 Flute	4 Flute	
1	4	3	50	G9F41010N	G9F43010N	G9F42010N	**£7.05**
2	4	6	50	G9F41020N	G9F43020N	G9F42020N	**£5.80**
3	4	8	50	G9F41030N	G9F43030N	G9F42030N	**£5.80**
4	4	11	50	G9F41040N	G9F43040N	G9F42040N	**£6.51**
5	6	13	50	G9F41050N	G9F43050N	G9F42050N	**£8.66**
6	6	16	50	G9F41060N	G9F43060N	G9F42060N	**£8.66**
8	8	20	60	G9F41080N	G9F43080N	G9F42080N	**£13.07**
10	10	25	75	G9F41100N	G9F43100N	G9F42100N	**£19.69**
12	12	32	75	G9F41120N	G9F43120N	G9F42120N	**£26.87**
14	14	32	75	G9F41140N	G9F43140N	G9F42140N	**£35.86**
16	16	32	75	G9F41160N	G9F43160N	G9F42160N	**£47.17**
20	20	32	100	G9F41200N	G9F43200N	G9F42200N	**£79.89**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE, BALL NOSE

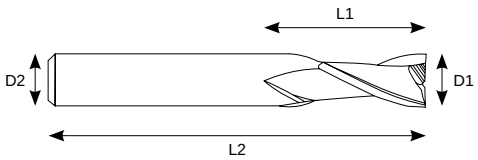
General Purpose Milling of Steel <HRC50, Stainless Steel & Cast Iron

- General purpose machining
- Wet or dry cutting on steel
- Plain shank

Series	Cutting Data
G9F44 YG-1	P43







MG HM | 2 | 30° | X COATED

D1	D2	L1	L2	★★★ Performance Order Code	Price
2	4	5	50	G9F44020N	£7.79
3	4	6	50	G9F44030N	£7.79
4	6	8	50	G9F44040N	£9.63
5	6	10	50	G9F44050N	£9.63
6	6	12	50	G9F44060N	£9.22
8	8	14	60	G9F44080N	£15.20
10	10	20	75	G9F44100N	£24.36
12	12	24	75	G9F44120N	£31.24
16	16	32	75	G9F44160N	£49.21
20	20	32	75	G9F44200N	£75.85

Material Applications

● Excellent ○ Good

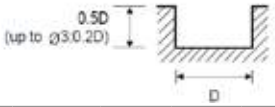
Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

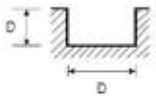
CARBIDE, 2 FLUTE SHORT END MILL

CUTTING DATA

G9F41 Series

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS PRE-HARDENED STEELS				STAINLESS STEEL				CAST IRON			
Hardness	~ HRC30				HRC30 ~ HRC50				-				-			
Strength	~ 1000N/mm2				1000 ~ 1500N/mm2				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1.0	15450	115	49	0.004	9200	70	29	0.004	7700	55	24	0.004	20200	220	63	0.005
2.0	8500	170	53	0.010	5550	110	35	0.010	4650	85	29	0.009	10100	240	63	0.012
3.0	6600	190	62	0.014	4100	130	39	0.016	3400	110	32	0.016	6550	240	62	0.018
4.0	5550	275	70	0.025	3400	165	43	0.024	2850	140	36	0.025	4950	240	62	0.024
5.0	4650	290	73	0.031	2750	170	43	0.031	2300	145	36	0.032	3950	240	62	0.030
6.0	4100	325	77	0.040	2500	205	47	0.041	2100	165	40	0.039	3200	275	60	0.043
8.0	3100	350	78	0.056	1850	185	46	0.050	1550	165	39	0.053	2400	295	60	0.061
10.0	2350	300	74	0.064	1450	145	46	0.050	1250	145	39	0.058	2000	310	63	0.078
12.0	2000	260	75	0.065	1250	120	47	0.048	1050	120	40	0.057	1550	320	58	0.103
14.0	1850	230	81	0.062	1150	110	51	0.048	900	110	40	0.061	1400	335	62	0.120
16.0	1600	200	80	0.063	1000	100	50	0.050	750	100	38	0.067	1200	345	60	0.144
20.0	1250	155	79	0.062	750	75	47	0.050	600	75	38	0.063	950	365	60	0.192



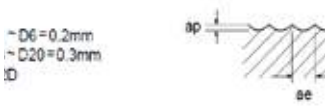


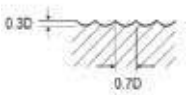
CARBIDE, 2 FLUTE SHORT BALL END MILL

CUTTING DATA

G9F44 Series

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS PRE-HARDENED STEELS				STAINLESS STEEL				CAST IRON			
Hardness	~ HRC30				HRC30 ~ HRC50				-				-			
Strength	~ 1000N/mm2				1000 ~ 1500N/mm2				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2.0	13350	690	84	0.026	9900	450	62	0.023	4300	135	27	0.016	11350	240	71	0.011
3.0	12300	620	116	0.025	9250	420	87	0.023	4100	135	39	0.016	7600	250	72	0.016
4.0	9650	680	121	0.035	7700	485	97	0.031	3900	160	49	0.021	5550	310	70	0.028
5.0	8400	755	132	0.045	6700	530	105	0.040	3350	160	53	0.024	4500	355	71	0.039
6.0	7850	940	148	0.060	6350	760	120	0.060	2900	170	55	0.029	3650	390	69	0.053
8.0	6600	1180	166	0.089	5300	850	133	0.080	2200	205	55	0.047	2700	495	68	0.092
10.0	5900	1435	185	0.122	4700	940	148	0.100	1900	205	60	0.054	2200	495	69	0.113
12.0	5400	1620	204	0.150	4250	1026	160	0.121	1600	225	60	0.070	1900	495	72	0.130
16.0	4400	1590	221	0.181	3450	975	173	0.141	1250	225	63	0.090	1400	495	70	0.177
20.0	3850	1540	242	0.200	3000	955	188	0.159	1050	225	66	0.107	1150	450	72	0.196

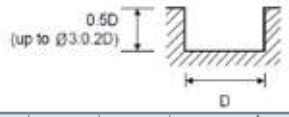
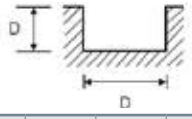




CARBIDE, 3 FLUTE SHORT END MILL

G9F43 Series

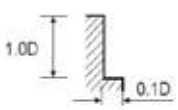
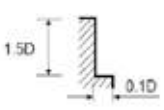
CUTTING DATA

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS PRE-HARDENED STEELS				STAINLESS STEEL				CAST IRON			
Hardness	~ HRC30				HRC30 ~ HRC50				-				-			
Strength	~ 1000N/mm2				1000 ~ 1500N/mm2				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1.0	15450	175	49	0.004	9200	105	29	0.004	7700	85	24	0.004	20200	330	63	0.005
2.0	8500	255	53	0.010	5550	165	35	0.010	4650	130	29	0.009	10100	360	63	0.012
3.0	6600	285	62	0.014	4100	195	39	0.016	3400	165	32	0.016	6550	360	62	0.018
4.0	5550	415	70	0.025	3400	250	43	0.024	2850	210	36	0.025	4950	360	62	0.024
5.0	4650	435	73	0.031	2750	255	43	0.031	2300	220	36	0.032	3950	360	62	0.030
6.0	4100	490	77	0.040	2500	310	47	0.041	2100	220	40	0.039	3200	415	60	0.043
8.0	3100	525	78	0.056	1850	280	46	0.050	1550	220	39	0.053	2400	445	60	0.061
10.0	2350	450	74	0.064	1450	220	46	0.050	1250	220	39	0.058	2000	465	63	0.078
12.0	2000	390	75	0.065	1250	180	47	0.048	1050	180	40	0.057	1550	480	58	0.103
14.0	1850	345	81	0.062	1150	165	51	0.048	900	165	40	0.061	1400	505	62	0.120
16.0	1600	300	80	0.063	1000	150	50	0.050	750	150	38	0.067	1200	520	60	0.144
20.0	1250	235	79	0.062	750	115	47	0.050	600	115	38	0.063	950	550	60	0.192
																
1.0	15450	210	49	0.005	9200	125	29	0.005	7700	100	24	0.004	20200	365	63	0.006
2.0	8500	305	53	0.012	5550	200	35	0.012	4650	155	29	0.011	10100	395	63	0.013
3.0	6600	340	62	0.017	4100	235	39	0.019	3400	200	32	0.020	6550	395	62	0.020
4.0	5550	500	70	0.030	3400	300	43	0.029	2850	250	36	0.029	4950	395	62	0.027
5.0	4650	520	73	0.037	2750	305	43	0.037	2300	265	36	0.038	3950	395	62	0.033
6.0	4100	590	77	0.048	2500	370	47	0.049	2100	265	40	0.042	3200	455	60	0.047
8.0	3100	630	78	0.068	1850	335	46	0.060	1550	265	39	0.057	2400	490	60	0.068
10.0	2350	540	74	0.077	1450	265	46	0.061	1250	265	39	0.071	2000	510	63	0.085
12.0	2000	470	75	0.078	1250	215	47	0.057	1050	215	40	0.068	1550	530	58	0.114
14.0	1850	415	81	0.075	1150	200	51	0.058	900	200	40	0.074	1400	555	62	0.132
16.0	1600	360	80	0.075	1000	180	50	0.060	750	180	38	0.080	1200	570	60	0.158
20.0	1250	280	79	0.075	750	140	47	0.062	600	140	38	0.078	950	605	60	0.212

CARBIDE, 4 FLUTE SHORT END MILL

G9F42 Series

CUTTING DATA

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS				ALLOY STEELS PRE-HARDENED STEELS				STAINLESS STEEL				CAST IRON			
Hardness	~ HRC30				HRC30 ~ HRC50				-				-			
Strength	~ 1000N/mm2				1000 ~ 1500N/mm2				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1.0	19000	160	60	0.002	11050	90	35	0.002	9350	80	29	0.002	20200	670	63	0.008
2.0	10650	260	67	0.006	6950	155	44	0.006	5800	130	36	0.006	10100	690	63	0.017
3.0	8200	290	77	0.009	5150	185	49	0.009	4250	155	40	0.009	6550	690	62	0.026
4.0	6950	525	87	0.019	4250	325	53	0.019	3550	260	45	0.018	4950	690	62	0.035
5.0	5800	550	91	0.024	3450	330	54	0.024	2900	275	46	0.024	3950	690	62	0.044
6.0	5100	605	96	0.030	3100	380	58	0.031	2600	300	49	0.029	3200	830	60	0.065
8.0	3850	655	97	0.043	2300	350	58	0.038	1950	325	49	0.042	2400	880	60	0.092
10.0	2950	560	93	0.047	1850	275	58	0.037	1500	275	47	0.046	2000	930	63	0.116
12.0	2550	475	96	0.047	1550	230	58	0.037	1250	220	47	0.044	1550	970	58	0.156
14.0	2250	425	99	0.047	1400	210	62	0.038	1150	205	51	0.045	1400	1020	62	0.182
16.0	2000	380	101	0.048	1250	185	63	0.037	1050	185	53	0.044	1200	1050	60	0.219
20.0	1550	290	97	0.047	950	145	60	0.038	750	140	47	0.047	950	1120	60	0.295
																

K2 Carbide Milling Cutters

Performance
★★★

P M K N

General purpose carbide offering consistent & reliable performance across a range of applications

Huge range of geometries including multiple helix for vibration free machining & double the tool life.

Diameter Range
0.4-25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★★	★★★★	★★★★	★★★	★★★★	★★★★★

Advantages

Tool Choice
Huge choice of geometries including slot drill, end mill, ball nose, rib-processing, rippers, and multiple helix.

Dry cutting
Dry cutting on steel can increase tool life by up to 40%.

General Machining
Consistent and reliable performance in general machining conditions.

Material range
Suitable for machining a range of materials including steel up to 45HRC, stainless steel and cast iron.

Features

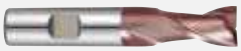
Coating
K2 coating with high heat and wear resistance across a range of metals.

Micrograin Carbide
Manufactured from high quality carbide for improved tool life.

Multiple Helix
4 flute multiple helix geometry can be used for slotting and profiling applications (G9H74/H76 series only) .

Chamfer Preparation
Corner chamfers prevent premature tool failure when cutting difficult materials like stainless steel.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE PLAIN SHANK • SHARP OR CHAMFER PREP		G9424	1-20	30°	**46**
2 FLUTE LONG LENGTH PLAIN SHANK		G9452	3-20	30°	**46**
3 FLUTE PLAIN SHANK • SHARP OR CHAMFER PREP		G9425	1-20	30°	**46**
4 FLUTE PLAIN SHANK • SHARP OR CHAMFER PREP		G9432	1-20	30°	**46**
4 FLUTE LONG LENGTH PLAIN SHANK		G9453	3-20	30°	**46**
2 FLUTE WELDON SHANK • SHARP OR CHAMFER PREP		G9445 G9G45	2-20	≈30°	**47**
3 FLUTE 45° HELIX WELDON SHANK • SHARP OR CHAMFER PREP		G9447 G9G49	3-20	45°	**47**
4 FLUTE WELDON SHANK • SHARP OR CHAMFER PREP		G9449 G9G51	2-20	30°	**47**
2 FLUTE LONG NECK (Rib Processing) PLAIN SHANK		G9B80	0.4-4	30°	**49**
3 FLUTE THROWAWAY WELDON SHANK • SHARP OR CHAMFER PREP		G9553 G9410 G9G46	0.5-20	30°	**50**
4 & 6 FLUTE 45° HELIX PLAIN SHANK		G9F45 G9F46	3-20	45°	**51**
4 FLUTE MULTIPLE HELIX WELDON SHANK		G9H74 G9H76	3-20	M-Helix	**52**
3-5 FLUTE COARSE PITCH ROUGHER WELDON SHANK		G9A42	6-25	30°	**53**
2 & 4 FLUTE CORNER RADIUS PLAIN SHANK		G9B82 G9D84	2-12	30°	**54**
2 & 4 FLUTE CORNER RADIUS LONG REACH PLAIN SHANK		G9B83 G9B85	3-12	30°	**54**
2 FLUTE BALL NOSE SHORT LENGTH PLAIN SHANK		G9624	2-20	30°	**55**
2 FLUTE BALL NOSE LONG LENGTH PLAIN SHANK		G9455	3-20	30°	**55**
2 FLUTE BALL NOSE LONG REACH PLAIN SHANK		G9454	3-20	30°	**55**
4 FLUTE BALL NOSE PLAIN SHANK		G9634	2-20	30°	**55**
2 FLUTE BALL NOSE STANDARD LENGTH WELDON SHANK		G9438	2-20	≈30°	**56**
2 FLUTE BALL NOSE LONG NECK PLAIN SHANK		G9B81	0.4-4	30°	**57**

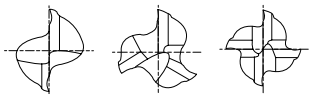
2, 3 & 4 FLUTE K2 COATED CARBIDE

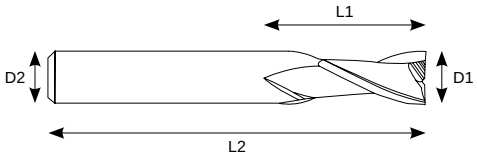
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

- K2 coated micrograin carbide, 1st choice for general machining where the best quality is required
- Suitable for dry milling applications at high temperatures (steel only)
- Centre cutting
- Plain shank

Series	Cutting Data
G9432/424/452/453 YG-1	P58 P60 P62







MG SC | 2 | 3 | 4 | 30° | DIN 6535HA | K2 COATED

D1	D2	L1	L2	★★★ Performance Order Code 2 Flute	3 Flute	4 Flute	Price
Standard Length							
1	4	3	50	G9424010	G9425010	G9432010	**£12.61**
1.5	4	4	50	G9424015	G9425015	G9432015	**£12.61**
2	4	6	50	G9424020	G9425020	G9432020	**£11.39**
2.5	4	8	50	G9424025	G9425025	G9432025	**£11.39**
3	3	8	50	G9424030	G9425030	G9432030	**£11.39**
3.5	4	10	50	G9424035	G9425035	G9432035	**£12.36**
4	4	10	50	G9424040	G9425040	G9432040	**£12.36**
4.5	4.5	12	50	G9424045	G9425045	G9432045	**£12.36**
5	5	13	50	G9424050	G9425050	G9432050	**£12.36**
5.5	5.5	15	50	G9424055	G9425055	G9432055	**£14.10**
6	6	15	50	G9424060	G9425060	G9432060	**£14.10**
7	7	20	60	G9424070	G9425070	G9432070	**£19.67**
8	8	20	60	G9424080	G9425080	G9432080	**£22.36**
9	9	20	60	G9424090	G9425090	G9432090	**£30.29**
10	10	25	75	G9424100	G9425100	G9432100	**£33.71**
12	12	30	75	G9424120	G9425120	G9432120	**£46.10**
14	14	40	100	G9424140	G9425140	G9432140	**£61.56**
16	16	40	100	G9424160	G9425160	G9432160	**£80.83**
20	20	40	100	G9424200	G9425200	G9432200	**£136.94**
Long Length							
3	3	20	60	G9452903	-	G9453903	**£20.20**
4	4	20	60	G9452904	-	G9453904	**£21.46**
5	5	25	75	G9452905	-	G9453905	**£24.97**
6	6	30	75	G9452906	-	G9453906	**£25.24**
8	8	30	75	G9452908	-	G9453908	**£40.37**
10	10	40	100	G9452910	-	G9453910	**£50.47**
12	12	45	100	G9452912	-	G9453912	**£75.68**
14	14	45	100	G9452914	-	G9453914	**£102.78**
16	16	45	100	G9452916	-	G9453916	**£140.41**
18	18	45	100	G9452918	-	G9453918	**£155.48**
20	20	45	100	G9452920	-	G9453920	**£247.38**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○			○	○	○			

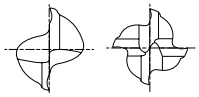
2 & 4 FLUTE K2 COATED CARBIDE (WELDON)

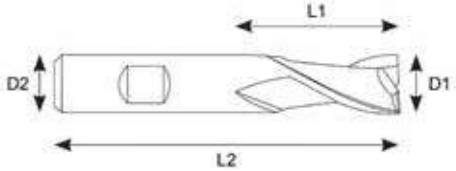
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

- K2 coated micrograin carbide, 1st choice for general machining where the best quality is required
- Suitable for dry milling applications at high temperatures (steel only)
- Centre cutting
- Weldon shank

Series	Cutting Data
G9445/449 YG-1	P58 P62







MG SC | 2 | 4 | 30° | DIN 6535HB | K2 COATED

D1	D2	L1	L2	★★★ Performance Order Code 2 Flute	★★★ Performance Order Code 4 Flute	Price
3	6	7	57	G9445030	G9449030	£20.93
4	6	8	57	G9445040	G9449040	£21.65
5	6	10	57	G9445050	G9449050	£21.65
6	6	10	57	G9445060	G9449060	£21.65
8	8	16	63	G9445080	G9449080	£26.25
10	10	19	72	G9445100	G9449100	£40.05
12	12	22	83	G9445120	G9449120	£58.05
14	14	22	83	G9445140	G9449140	£75.89
16	16	26	92	G9445160	G9449160	£102.98
20	20	32	104	G9445200	G9449200	£164.32

3 FLUTE 45° HELIX K2 COATED CARBIDE (WELDON)

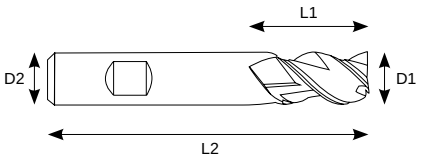
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

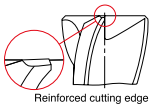
- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Available with chamfer corner prep to prevent tool from chipping
- 45° helix and deep flute pockets improve chip control on stainless steel, soft steels, aluminium & copper
- Weldon shank

Series		Cutting Data
G9447 YG-1	G9G49 YG-1	P60









MG SC | DIN 6527 | 3 | 45° | DIN 6535HB | C x 45° | K2 COATED | P218

D1	D2	L1	L2	Chamfer Prep*	★★★ Performance Order Code 3 Flute Sharp Corner	★★★ Performance Order Code 3 Flute Chamfer Prep	Price
3	6	7	57	0.1	G9447030	G9G49030	£24.61
3.5	6	7	57	-	G9447035	-	£24.61
4	6	8	57	0.1	G9447040	G9G49040	£24.61
5	6	10	57	0.1	G9447050	G9G49050	£24.61
6	6	10	57	0.1	G9447060	G9G49060	£24.61
8	8	16	63	0.13	G9447080	G9G49080	£30.19
9	10	16	72	-	G9447090	-	£47.39
10	10	19	72	0.13	G9447100	G9G49100	£47.39
12	12	22	83	0.18	G9447120	G9G49120	£68.43
14	14	22	83	0.18	G9447140	G9G49140	£87.34
16	16	26	92	0.18	G9447160	G9G49160	£115.75
18	18	26	92	-	G9447180	-	£151.62
20	20	32	104	0.23	G9447200	G9G49200	£182.65

*G9G49 3 Flute Chamfer Prep Cutter Only

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○			○	○	○			

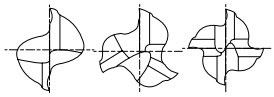
2, 3 & 4 FLUTE K2 COATED CARBIDE CHAMFER EDGE PREP

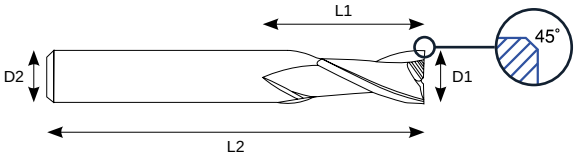
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

- K2 coated micrograin carbide, 1st choice for general machining where the best quality is required
- Suitable for dry milling applications at high temperatures (steel only)
- Centre cutting with chamfer edge preparation, ideal to protect cutting edge against vibration
- Plain shank

Series	Cutting Data
G9G44/47/50 YG-1	**P58 P60 P62**







MG SC | 2 | 3 | 4 | 30° | DIN 6535HA | K2 COATED | C x 45°



D1	D2	L1	L2	Chamfer Prep	★★★ Performance Order Code			Price
					2 Flute	3 Flute	4 Flute	
3	3	8	50	0.1	G9G44030	G9G47030	G9G50030	**£11.39**
4	4	10	50	0.1	G9G44040	G9G47040	G9G50040	**£12.36**
5	5	13	50	0.1	G9G44050	G9G47050	G9G50050	**£12.36**
6	6	15	50	0.1	G9G44060	G9G47060	G9G50060	**£14.10**
8	8	20	60	0.13	G9G44080	G9G47080	G9G50080	**£22.36**
10	10	25	75	0.13	G9G44100	G9G47100	G9G50100	**£33.71**
12	12	30	75	0.18	G9G44120	G9G47120	G9G50120	**£46.10**
14	14	40	100	0.18	G9G44140	G9G47140	G9G50140	**£61.56**
16	16	40	100	0.18	G9G44160	G9G47160	G9G50160	**£80.83**
20	20	40	100	0.23	G9G44200	G9G47200	G9G50200	**£136.94**

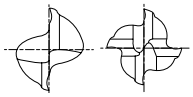
2 & 4 FLUTE K2 COATED CARBIDE CHAMFER EDGE PREP (WELDON)

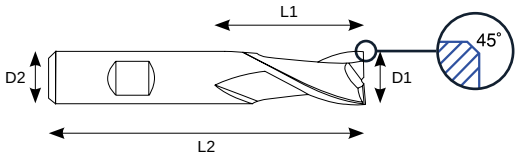
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

- K2 coated micrograin carbide, 1st choice for general machining where the best quality is required
- Suitable for dry milling applications at high temperatures (steel only)
- Centre cutting with chamfer edge preparation, ideal to protect cutting edge against vibration
- Weldon shank

Series	Cutting Data
G9G45/51 YG-1	**P58 P62**







MG SC | 2 | 4 | 30° | DIN 6535HB | K2 COATED | C x 45°



D1	D2	L1	L2	Chamfer Prep	★★★ Performance Order Code		Price
					2 Flute	4 Flute	
3	3	8	50	0.1	G9G45030	G9G51030	**£20.93**
4	4	10	50	0.1	G9G45040	G9G51040	**£21.65**
5	5	13	50	0.1	G9G45050	G9G51050	**£21.65**
6	6	15	50	0.1	G9G45060	G9G51060	**£21.65**
8	8	20	60	0.13	G9G45080	G9G51080	**£26.25**
10	10	25	75	0.13	G9G45100	G9G51100	**£40.05**
12	12	30	75	0.18	G9G45120	G9G51120	**£58.05**
14	14	40	100	0.18	G9G45140	G9G51140	**£75.89**
16	16	40	100	0.18	G9G45160	G9G51160	**£102.98**
20	20	40	100	0.23	G9G45200	G9G51200	**£164.32**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○			○	○	○			

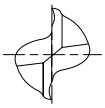
2 FLUTE LONG NECK K2 COATED CARBIDE

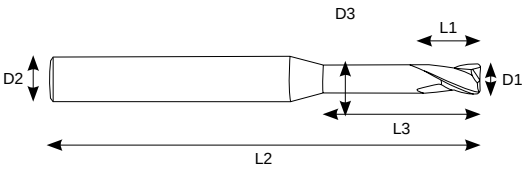
General Purpose Milling of Steel <HRC40

- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Long neck for deep pocket milling

Series	Cutting Data
G9B80 YG-1	P59







MG SC | 2 | 30° | DIN 6535HA | K2 COATED

D1	D2	D3	L1	L2	L3	★★★ Performance Order Code	Price
0.4	4	0.37	0.7	50	2	G9B80004	£33.90
					4	G9B80901	£33.90
0.5	4	0.45	0.75	50	2	G9B80005	£31.02
					4	G9B80902	£31.02
					6	G9B80903	£31.02
0.6	4	0.55	0.9	50	2	G9B80006	£31.02
					4	G9B80904	£31.02
					6	G9B80905	£31.02
0.7	4	0.65	1.1	50	4	G9B80007	£28.16
					6	G9B80906	£28.16
0.8	4	0.75	1.2	50	4	G9B80008	£28.16
					6	G9B80907	£28.16
					8	G9B80908	£28.16
0.9	4	0.85	1.4	50	6	G9B80009	£28.16
					8	G9B80909	£28.16
					10	G9B80910	£28.16
1	4	0.95	1.5	50	6	G9B80010	£25.10
					8	G9B80911	£25.10
					10	G9B80912	£25.10
					12	G9B80913	£26.59
1.2	4	1.15	1.8	50	6	G9B80012	£25.10
					8	G9B80914	£25.10
					10	G9B80915	£25.84
					12	G9B80916	£26.59
1.5	4	1.45	2.3	50	6	G9B80015	£25.10
					8	G9B80917	£25.10
					10	G9B80918	£25.10
					12	G9B80919	£26.59
					14	G9B80920	£26.59
					16	G9B80921	£27.67
					18	G9B80922	£27.67
					20	G9B80923	£27.67
2	4	1.95	3	50	6	G9B80020	£23.94
					8	G9B80924	£23.94
					10	G9B80925	£23.94
					12	G9B80926	£23.94
					14	G9B80927	£24.86
					16	G9B80928	£24.86
					18	G9B80929	£24.86
					20	G9B80930	£24.86
2.5	4	2.40	3.7	50	8	G9B80025	£23.94
					12	G9B80931	£23.94
					16	G9B80932	£24.86
					20	G9B80933	£24.86
3	6	2.85	4.5	50	8	G9B80030	£35.92
				50	12	G9B80934	£35.92
				60	16	G9B80935	£36.83
				60	20	G9B80936	£36.83
				75	25	G9B80937	£36.83
4	6	3.85	6	50	12	G9B80040	£35.92
				60	16	G9B80938	£36.83
				75	20	G9B80939	£36.83
				75	25	G9B80940	£36.83
				75	30	G9B80941	£42.54
				75	35	G9B80942	£46.39

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●												

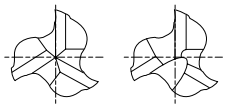
3 FLUTE K2 COATED CARBIDE THROWAWAY

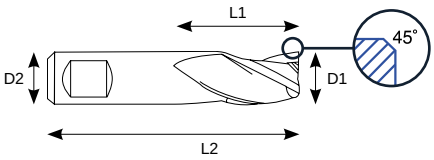
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Available with chamfer corner prep to prevent tool from chipping
- Short length throwaway style

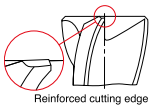
Series	Cutting Data
G955/941/9G4 YG-1	P61





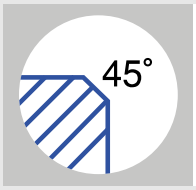


MG SC | 3 | 30° | WELDON | PLAIN | C x 45° | K2 COATED



D1	D2	L1	L2	Chamfer Prep*	★★★ Performance Order Code		Price
					3 Flute Sharp Corner	3 Flute Chamfer Prep	
0.5	3 ▶	1.5	38	-	G9553005	-	£13.38
0.6	3 ▶	1.5	38	-	G9553006	-	£13.38
0.8	3 ▶	2	38	-	G9553008	-	£11.81
1	3 ▶	2	38	-	G9553010	-	£10.72
1.2	3 ▶	2	38	-	G9553012	-	£13.94
1.5	3 ▶	2	38	-	G9553015	-	£10.72
2	6	4	35	-	G9410020	-	£12.90
2.5	6	5	36	-	G9410025	-	£13.38
3	6	5	36	0.1	G9410030	G9G46030	£12.90
3.5	6	6	37	-	G9410035	-	£13.94
4	6	7	38	0.1	G9410040	G9G46040	£12.90
4.5	6	8	38	-	G9410045	-	£13.94
5	6	8	39	0.1	G9410050	G9G46050	£12.90
5.5	6	8	39	-	G9410055	-	£13.94
6	6	8	39	0.1	G9410060	G9G46060	£12.90
7	8	10	42	-	G9410070	-	£17.55
8	8	11	43	0.13	G9410080	G9G46080	£18.75
9	10	11	48	-	G9410090	-	£26.90
10	10	13	50	0.13	G9410100	G9G46100	£28.08
12	12	15	55	0.18	G9410120	G9G46120	£33.34
14	14	15	58	0.18	G9410140	G9G46140	£49.38
16	16	18	62	0.18	G9410160	G9G46160	£58.37
18	18	20	70	-	G9410180	-	£71.92
20	20	22	75	0.23	G9410200	G9G46200	£94.80

*G9G46 3 Flute Chamfer Prep Cutter Only ▶ Plain Shank only



CHAMFER PREP CORNER

45 degree chamfer edge preparation helps prevent the cutting edge from chipping during the first impact with the workpiece.

This geometry is highly recommended for less stable machines or when machining stainless steel.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○			○	○	○			

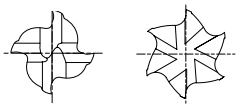
4 & 6 FLUTE 45° HELIX K2 COATED CARBIDE

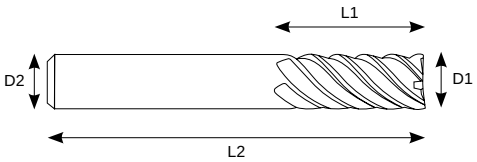
For General Purpose Milling of Steels <HRC55 & Cast Iron

- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Suitable for machining at high feed rates for finishing operations
- Exceptional performance in finishing operations due to 45° helix and sharp cutting edges

Series	Cutting Data
G9F45/F46 YG-1	P59







MG SC | 4&6 | 45° | DIN 6535HA | K2 COATED

D1	D2	L1	L2	★★★ Performance Order Code	Price
4 Flutes					
3	4	6	50	G9F45030	**£16.34**
4	4	11	50	G9F45040	**£16.34**
6 Flutes					
5	6	13	50	G9F45050	**£25.50**
6	6	16	50	G9F45060	**£25.50**
8	8	19	60	G9F45080	**£31.15**
10	10	22	75	G9F45100	**£47.47**
12	12	26	75	G9F45120	**£58.97**
		50	100	G9F46120	**£97.10**
14	14	30	90	G9F45140	**£85.52**
16	16	32	100	G9F45160	**£116.54**
		65	150	G9F46160	**£202.38**
18	18	38	100	G9F45180	**£150.17**
20	20	38	100	G9F45200	**£185.76**
		75	150	G9F46200	**£296.72**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
	●	●	●	○					○					

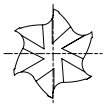
4 FLUTE MULTIPLE HELIX K2 COATED CARBIDE (WELDON)

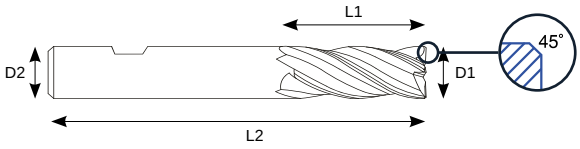
For Vibration Free Roughing in General Purpose Milling

Series	Cutting Data
G9H74/H76 YG-1	P67

- Designed for vibration free roughing in general purpose milling
- Multiple helix gives optimal chip formation and evacuation
- Faster and heavier cutting which leads to higher productivity
- Unique unequal index geometry reduces vibration which allows for excellent surface finish
- Special x-coating provides excellent heat and oxidation resistance
- Weldon shank
- Suitable for slotting and profiling
- Chamfer corner prep prevents tool chipping



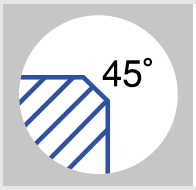




MG SC | 4 | M-Helix | WELDON | K2 COATED

YG

D1	D2	L1	L2	Chamfer Prep	★★★ Performance Order Code	Price
Standard Length						
3	6	5	50	0.1	G9H74030N	**£13.22**
4	6	8	54	0.15	G9H74040N	**£13.22**
5	6	9	54	0.15	G9H74050N	**£13.22**
6	6	10	54	0.2	G9H74060N	**£13.22**
8	8	12	58	0.2	G9H74080N	**£18.92**
10	10	14	66	0.3	G9H74100N	**£29.29**
12	12	16	73	0.35	G9H74120N	**£40.24**
16	16	22	82	0.4	G9H74160N	**£77.28**
20	20	26	92	0.5	G9H74200N	**£124.10**
Long Length						
3	6	8	57	0.1	G9H76030N	**£13.79**
4	6	11	57	0.15	G9H76040N	**£13.79**
5	6	13	57	0.15	G9H76050N	**£13.79**
6	6	13	57	0.2	G9H76060N	**£13.79**
8	8	19	63	0.2	G9H76080N	**£19.78**
10	10	22	72	0.3	G9H76100N	**£32.91**
12	12	26	83	0.35	G9H76120N	**£42.10**
16	16	32	92	0.4	G9H76160N	**£79.54**
20	20	38	104	0.5	G9H76200N	**£153.45**



CHAMFER PREP CORNER

45 degree chamfer edge preparation helps prevent the cutting edge from chipping during the first impact with the workpiece.

This geometry is highly recommended for less stable machines.

Material Applications

● Excellent ○ Good

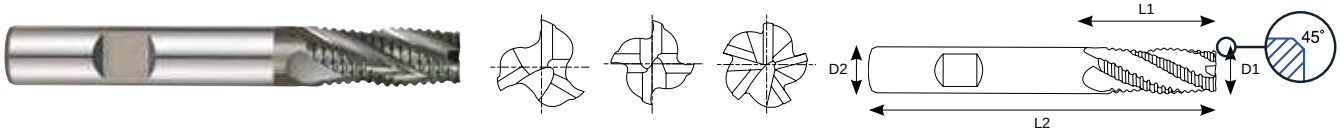
Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○			○					

K2 COATED CARBIDE COARSE PITCH ROUGHER

For General Purpose Milling of Steel <HRC45, Titanium & HRSA's

- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Suitable for roughing applications
- Chamfer corner prep prevents tool chipping

Series	Cutting Data
G9A42 YG-1	P65





D1	D2	L1	L2	Chamfer Prep	★★★ Performance Order Code	Price
3 Flutes						
6	6	16	57	0.6	G9A42060	**£23.76**
8	8	16	63	0.6	G9A42080	**£26.24**
4 Flutes						
10	10	22	72	0.6	G9A42100	**£42.22**
12	12	26	83	0.74	G9A42120	**£57.39**
14	14	26	83	0.94	G9A42140	**£70.05**
16	16	32	92	0.94	G9A42160	**£74.43**
18	18	32	92	0.94	G9A42180	**£102.74**
20	20	38	104	0.94	G9A42200	**£113.01**
5 Flutes						
25	25	45	121	0.94	G9A42250	**£229.94**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○	○	○	○	○	○			

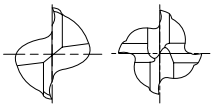
2 & 4 FLUTE CORNER RADIUS K2 COATED CARBIDE

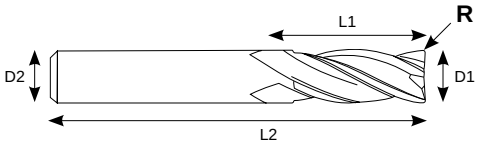
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Designed for milling of radius bottom slots, fillets and special contours

Series	Cutting Data
G9B82/B84 YG-1	**P63 (2 Flute)** **P64 (4 Flute)**







MG SC | 2&4 | 30° | DIN 6535HA | K2 COATED

D1	R	D2	L1	L2	★★★ Performance Order Code 2 Flute	★★★ Performance Order Code 4 Flute	Price
2	0.2	4	4	50	G9B82020	G9B84020	**£14.04**
	0.3	4	4	50	G9B82901	G9B84901	**£14.04**
	0.5	4	4	50	G9B82902	G9B84902	**£14.04**
2.5	0.2	4	5	50	G9B82025	G9B84025	**£14.04**
	0.3	4	5	50	G9B82903	G9B84903	**£14.04**
	0.5	4	5	50	G9B82904	G9B84904	**£14.04**
3	0.2	4	6	50	G9B82030	G9B84030	**£14.04**
	0.3	4	6	50	G9B82905	G9B84905	**£14.04**
	0.5	4	6	50	G9B82906	G9B84906	**£14.04**
	1	4	6	50	G9B82907	G9B84907	**£14.04**
	0.5	4	6	75	G9B83030	G9B85030	**£15.99**
	1	4	6	75	G9B83901	G9B85901	**£15.99**
4	0.2	4	8	50	G9B82040	G9B84040	**£14.04**
	0.3	4	8	50	G9B82908	G9B84908	**£14.04**
	0.5	4	8	50	G9B82909	G9B84909	**£14.04**
	1	4	8	50	G9B82910	G9B84910	**£14.04**
	0.5	4	8	75	G9B83040	G9B85040	**£15.99**
	1	4	8	75	G9B83902	G9B85902	**£15.99**
5	0.2	6	10	50	G9B82050	G9B84050	**£20.87**
	0.3	6	10	50	G9B82911	G9B84911	**£20.87**
	0.5	6	10	50	G9B82912	G9B84912	**£20.87**
	1	6	10	50	G9B82913	G9B84913	**£20.87**
	0.5	6	10	75	G9B83050	G9B85050	**£23.28**
	1	6	10	75	G9B83903	G9B85903	**£23.28**
6	0.2	6	12	50	G9B82060	G9B84060	**£20.87**
	0.3	6	12	50	G9B82914	G9B84914	**£20.87**
	0.5	6	12	50	G9B82915	G9B84915	**£20.87**
	1	6	12	50	G9B82916	G9B84916	**£20.87**
	0.5	6	12	75	G9B83060	G9B85060	**£23.28**
	1	6	12	75	G9B83904	G9B85904	**£23.28**

D1	R	D2	L1	L2	★★★ Performance Order Code 2 Flute	★★★ Performance Order Code 4 Flute	Price
8	0.5	8	16	60	G9B82080	G9B84080	**£25.44**
	1	8	16	60	G9B82917	G9B84917	**£25.44**
	1.5	8	16	60	G9B82918	G9B84918	**£26.69**
	2	8	16	60	G9B82919	G9B84919	**£26.69**
	2.5	8	16	60	G9B82920	G9B84920	**£26.69**
	0.5	8	16	100	G9B83080	G9B85080	**£30.17**
	1	8	16	100	G9B83905	G9B85905	**£30.17**
	1.5	8	16	100	G9B83906	G9B85906	**£30.17**
	2	8	16	100	G9B83907	G9B85907	**£30.17**
	2.5	8	16	100	G9B83908	G9B85908	**£30.17**
10	0.5	10	20	75	G9B82100	G9B84100	**£38.78**
	1	10	20	75	G9B82921	G9B84921	**£38.78**
	1.5	10	20	75	G9B82922	G9B84922	**£40.64**
	2	10	20	75	G9B82923	G9B84923	**£40.64**
	2.5	10	20	75	G9B82924	G9B84924	**£40.64**
	0.5	10	20	100	G9B83100	G9B85100	**£45.91**
	1	10	20	100	G9B83909	G9B85909	**£45.91**
	1.5	10	20	100	G9B83910	G9B85910	**£45.91**
	2	10	20	100	G9B83911	G9B85911	**£45.91**
	2.5	10	20	100	G9B83912	G9B85912	**£45.91**
12	0.5	12	24	75	G9B82120	G9B84120	**£54.28**
	1	12	24	75	G9B82925	G9B84925	**£54.28**
	1.5	12	24	75	G9B82926	G9B84926	**£56.89**
	2	12	24	75	G9B82927	G9B84927	**£56.89**
	2.5	12	24	75	G9B82928	G9B84928	**£56.89**
	0.5	12	24	100	G9B83120	G9B85120	**£58.61**
	1	12	24	100	G9B83913	G9B85913	**£58.61**
	1.5	12	24	100	G9B83914	G9B85914	**£58.61**
	2	12	24	100	G9B83915	G9B85915	**£58.61**
	2.5	12	24	100	G9B83916	G9B85916	**£58.61**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○			○	○	○			

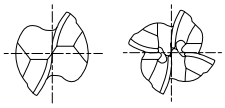
2 & 4 FLUTE BALL NOSE K2 COATED CARBIDE

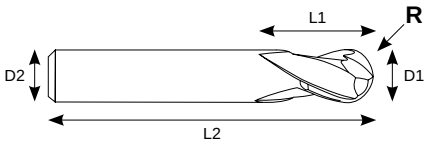
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Designed for milling of radius bottom slots, fillets and special contours
- Ball nosed

Series	Cutting Data
G9624/634/455/454 YG-1	**P65** **P66**







MG SC | 2&4 | 30° | R ±0.02 | DIN 6535HA | K2 COATED | P223

D1	R	D2	L1	L2	★★★ Performance Order Code		Price
					2 Flute	4 Flute	
Standard Length							
2	1	6	4	48	G9624020	G9634020	**£15.71**
3	1.5	6	4	48	G9624030	G9634030	**£15.71**
4	2	6	6	50	G9624040	G9634040	**£17.32**
5	2.5	6	7	51	G9624050	G9634050	**£17.32**
6	3	6	7	51	G9624060	G9634060	**£17.98**
8	4	8	9	59	G9624080	G9634080	**£29.30**
10	5	10	10	60	G9624100	G9634100	**£45.26**
12	6	12	14	71	G9624120	G9634120	**£58.55**
14	7	14	14	71	G9624140	G9634140	**£68.50**
16	8	16	16	76	G9624160	G9634160	**£93.18**
18	9	18	18	76	G9624180	G9634180	**£99.60**
20	10	20	20	82	G9624200	G9634200	**£141.07**
Long Length							
3	1.5	3	20	60	G9455903	-	**£25.12**
4	2	4	20	60	G9455904	-	**£26.30**
5	2.5	5	25	75	G9455905	-	**£32.67**
6	3	6	30	75	G9455906	-	**£35.25**
8	4	8	30	75	G9455908	-	**£51.75**
10	5	10	40	100	G9455910	-	**£72.41**
12	6	12	45	100	G9455912	-	**£108.03**
14	7	14	45	100	G9455914	-	**£138.52**
16	8	16	45	100	G9455916	-	**£182.80**
18	9	18	45	100	G9455918	-	**£206.08**
20	10	20	45	100	G9455920	-	**£244.48**
Long Reach							
3	1.5	3	5	75	G9454030	-	**£22.24**
4	2	4	8	75	G9454040	-	**£22.24**
5	2.5	5	9	75	G9454050	-	**£24.98**
6	3	6	10	100	G9454060	-	**£24.98**
8	4	8	12	100	G9454080	-	**£41.69**
10	5	10	14	100	G9454100	-	**£66.64**
12	6	12	16	100	G9454120	-	**£80.55**
14	7	14	18	100	G9454140	-	**£106.33**
16	8	16	22	150	G9454160	-	**£145.17**
20	10	20	26	150	G9454200	-	**£223.24**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○			○		○			

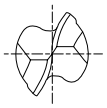
2 FLUTE BALL NOSE K2 COATED CARBIDE

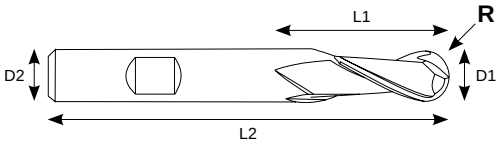
General Purpose Milling of Steel <HRC45, Stainless Steel, Cast Iron, Copper & Aluminium

- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Designed for milling of radius, bottom slots, fillets and special contours

Series	Cutting Data
G9438 YG-1	**P66**







MG SC | DIN 6527 | 2 | 30° | R ±0.02 | DIN 6535HA | DIN 6535HB | K2 COATED

D1	R	D2	L1	L2	★★★ Performance Order Code	Price
3	1.5	6	7	57	G9438030	**£22.36**
4	2	6	8	57	G9438040	**£22.36**
5	2.5	6	10	57	G9438050	**£23.29**
6	3	6	10	57	G9438060	**£25.30**
8	4	8	16	63	G9438080	**£42.65**
10	5	10	19	72	G9438100	**£69.00**
12	6	12	22	83	G9438120	**£88.84**
16	8	16	26	92	G9438160	**£123.24**
20	10	20	32	104	G9438200	**£188.96**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○			○			○		○			

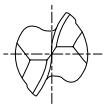
2 FLUTE BALL NOSE LONG NECK

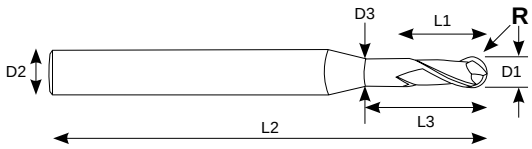
General Purpose Milling of Steel <HRC40

- K2 coated micrograin carbide, 1st choice for general machining
- Suitable for dry milling applications at high temperatures (steel only)
- Long neck ball nosed for deep pocket milling

Series	Cutting Data
G9B81 YG-1	P66









D1	R	D2	D3	L1	L2	L3	★★★ Performance Order Code	Price
0.4	0.2	4	0.37	0.7	50	2	G9B81004	£54.08
0.5	0.25	4	0.45	0.75	50	2	G9B81005	£46.89
						4	G9B81901	£46.89
						6	G9B81902	£54.10
0.6	0.3	4	0.55	0.9	50	2	G9B81006	£46.89
						4	G9B81903	£46.89
						6	G9B81904	£46.89
0.8	0.4	4	0.75	1.2	50	4	G9B81008	£36.30
						6	G9B81905	£36.30
						8	G9B81906	£36.30
1	0.5	4	0.95	1.5	50	6	G9B81010	£33.42
						8	G9B81907	£33.42
						10	G9B81908	£33.42
						12	G9B81909	£35.65
1.2	0.6	4	1.15	1.8	50	8	G9B81012	£33.42
						12	G9B81910	£35.65
1.5	0.75	4	1.45	2.3	50	6	G9B81015	£33.42
						8	G9B81911	£33.42
						10	G9B81912	£33.42
						12	G9B81913	£35.65
1.5	0.75	4	1.45	2.3	50	16	G9B81914	£37.71
						20	G9B81915	£37.71
1.6	0.8	4	1.55	2.4	50	8	G9B81016	£33.42
						12	G9B81916	£35.65
						16	G9B81917	£37.71
2	1	4	1.95	3	50	8	G9B81020	£31.24
						10	G9B81919	£31.24
						12	G9B81920	£31.24
						16	G9B81922	£33.13
						20	G9B81923	£34.57
3	1.5	6	2.85	4.5	50	10	G9B81030	£37.54
					50	12	G9B81924	£37.54
					60	16	G9B81925	£45.50
					60	20	G9B81926	£48.93
					75	25	G9B81927	£50.58
4	2	6	3.85	6	50	12	G9B81040	£36.41
					60	16	G9B81928	£45.50
					75	20	G9B81929	£50.58
					75	25	G9B81930	£50.58
					75	30	G9B81931	£52.54

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●												

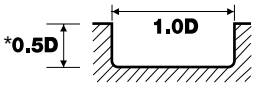
2 FLUTE

G9424, G9G44, G9445, G9G45 & G9452 Series

CUTTING DATA

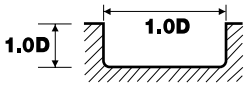
Slotting

MATERIAL	NON-ALLOYED STEEL ALLOY STEEL & TOOL STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	14300	105	45	0.004	8500	65	25	0.004	7150	50	20	0.003
1.5	9350	150	45	0.008	5550	85	25	0.008	5600	80	25	0.007
2	7850	160	50	0.010	5150	100	30	0.010	4300	80	25	0.009
3	6100	180	55	0.015	3800	120	35	0.016	3150	100	30	0.016
4	5150	255	65	0.025	3150	155	40	0.025	2650	130	35	0.025
5	4300	270	70	0.031	2550	160	40	0.031	2150	135	35	0.031
6	3800	300	70	0.039	2300	190	45	0.041	1950	155	35	0.040
8	2850	325	70	0.057	1700	170	45	0.050	1450	155	35	0.053
10	2200	280	70	0.064	1350	135	40	0.050	1150	135	35	0.059
12	1850	240	70	0.065	1150	110	45	0.048	950	110	35	0.058
14	1700	215	75	0.063	1050	100	45	0.048	850	100	35	0.059
16	1500	185	75	0.062	950	95	50	0.050	700	95	35	0.068
20	1150	145	70	0.063	700	70	45	0.050	550	70	35	0.064



*up to 3mm Diameter 0.2D

MATERIAL	CAST IRON				ALUMINIUM ALLOYS				COPPER. BRASS NON-FERROUS METALS			
Hardness	-				-				-			
Strength	-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	18700	205	60	0.005	44000	330	140	0.004	24700	200	80	0.004
1.5	12100	205	55	0.008	27500	385	130	0.007	20300	300	95	0.007
2	9350	220	60	0.012	22000	460	140	0.010	16500	340	105	0.010
3	6050	220	55	0.018	15400	460	145	0.015	11000	340	105	0.015
4	4600	220	60	0.024	11000	460	140	0.021	8800	340	110	0.019
5	3650	220	55	0.030	9150	460	145	0.025	6800	340	105	0.025
6	2950	255	55	0.043	7600	485	145	0.032	5700	375	105	0.033
8	2200	275	55	0.063	5700	485	145	0.043	4400	375	110	0.043
10	1850	285	60	0.077	4600	485	145	0.053	3400	375	105	0.055
12	1450	295	55	0.102	3750	485	140	0.065	2850	375	105	0.066
14	1300	310	55	0.119	3300	485	145	0.073	2400	375	105	0.078
16	1100	320	55	0.145	2850	485	145	0.085	2200	375	110	0.085
20	900	340	55	0.189	2200	485	140	0.110	1700	375	105	0.110



NOTE: For long & extra long types the feed should be reduced by around 50%.

2 FLUTE LONG NECK

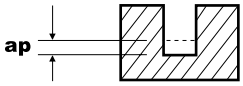
G9B80 Series

CUTTING DATA

Slotting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL					ALLOY STEEL & HEAT RESISTANT STEEL				
Hardness	~ HRC 30					HRC 30 ~ HRC 45				
Strength	~ 1000N/mm²					1000 ~ 1500N/mm²				
Dia.	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.4	26500~34000	170~370	33~43	0.003~0.005	0.007~0.018	19000~24000	72~290	24~30	0.002~0.006	0.007~0.018
0.5	26500~34000	170~370	42~53	0.003~0.005	0.009~0.022	19000~24000	72~290	30~38	0.002~0.006	0.009~0.022
0.6	26500~34000	210~485	50~64	0.004~0.007	0.011~0.026	19000~24000	95~365	36~45	0.003~0.008	0.011~0.026
0.7	26500~34000	210~485	58~75	0.004~0.007	0.012~0.031	19000~24000	95~365	42~53	0.003~0.008	0.012~0.031
0.8	23000~30000	240~535	58~75	0.005~0.009	0.014~0.035	16500~21000	100~410	41~53	0.003~0.010	0.014~0.035
0.9	21500~27000	240~610	61~76	0.006~0.011	0.030~0.060	15000~19000	135~460	42~54	0.005~0.012	0.030~0.060
1	19000~24000	240~690	60~75	0.006~0.014	0.045~0.090	13500~17000	160~510	42~53	0.006~0.015	0.045~0.090
1.2	15500~19000	240~765	58~72	0.008~0.020	0.055~0.100	11000~14000	160~510	41~53	0.007~0.018	0.055~0.100
1.4	13600~17000	240~765	60~75	0.009~0.023	0.062~0.125	9800~12000	160~510	43~53	0.008~0.021	0.062~0.125
1.5	12500~15500	240~765	59~73	0.010~0.025	0.070~0.135	8950~11500	160~510	42~54	0.009~0.022	0.070~0.135
1.6	12000~15000	240~765	60~75	0.010~0.026	0.075~0.145	8700~10900	160~510	44~55	0.009~0.023	0.075~0.145
1.8	11000~14000	240~765	62~79	0.011~0.027	0.080~0.160	7800~9800	160~510	44~55	0.010~0.026	0.080~0.160
2	10000~12500	240~765	63~79	0.012~0.031	0.090~0.180	7000~8950	160~510	44~56	0.011~0.028	0.090~0.180
2.5	8000~10000	240~765	63~79	0.015~0.038	0.112~0.235	5700~7200	160~510	45~57	0.014~0.035	0.112~0.235
3	6800~8500	240~765	64~80	0.018~0.045	0.135~0.270	4700~6000	160~510	44~57	0.017~0.043	0.135~0.270
4	5100~6500	240~765	64~82	0.024~0.059	0.180~0.360	3500~4500	160~510	44~57	0.023~0.057	0.180~0.360

ap = Depth of cut per pass



NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

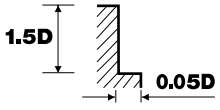
4 & 6 FLUTE 45° HELIX

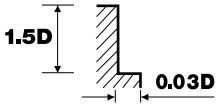
G9F45 & G9F46 Series

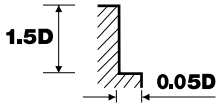
CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL, ALLOY STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL				CAST IRON			
Hardness	~ HRC30				HRC30 ~ HRC50				HRC50 ~ HRC60				~ HRC30			
Strength	~ 1000N/mm²				1000 ~ 1750N/mm²				1750 ~ 2080N/mm²				~ 1000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	8650	825	82	0.024	5750	555	54	0.024	4750	344	45	0.018	8650	825	82	0.024
4	6600	858	83	0.033	4400	581	55	0.033	3600	357	45	0.025	6600	858	83	0.033
5	6250	990	98	0.026	4150	660	65	0.027	3200	383	50	0.02	6250	990	98	0.026
6	5175	924	98	0.03	3450	627	65	0.03	2650	369	50	0.023	5175	924	98	0.03
8	3900	891	98	0.038	2600	594	65	0.038	2000	344	50	0.029	3900	891	98	0.038
10	3075	831	97	0.045	2050	555	64	0.045	1600	317	50	0.033	3075	831	97	0.045
12	2625	831	99	0.053	1750	555	66	0.053	1825	317	69	0.029	2625	831	99	0.053
14	2230	770	98	0.058	1500	515	66	0.057	1130	280	50	0.041	2230	770	98	0.058
16	1950	726	98	0.062	1300	482	65	0.062	1000	278	50	0.046	1950	726	98	0.062
18	1720	670	97	0.065	1150	455	65	0.066	880	265	50	0.05	1720	670	97	0.065
20	1550	641	97	0.069	1025	429	64	0.07	800	251	50	0.052	1550	641	97	0.069







RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

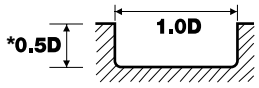
3 FLUTE

G9425, G9G47, G9447, G9G49, G9553, G9G46 & G9410 Series

CUTTING DATA

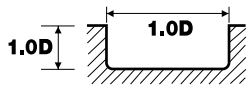
Slotting

MATERIAL	NON-ALLOYED STEEL ALLOY STEEL & TOOL STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	14300	75	45	0.002	8500	45	25	0.002	7150	35	20	0.002
1.5	12750	105	60	0.003	5550	60	25	0.004	5600	55	25	0.003
2	7850	110	50	0.005	5150	70	30	0.005	4300	55	25	0.004
3	6100	125	55	0.007	3800	85	35	0.007	3150	70	30	0.007
4	5150	180	65	0.012	3150	110	40	0.012	2650	90	35	0.011
5	4300	190	70	0.015	2550	110	40	0.014	2150	95	35	0.015
6	3800	210	70	0.018	2300	135	45	0.020	1950	110	35	0.019
8	2850	230	70	0.027	1700	120	45	0.024	1450	110	35	0.025
10	2200	195	70	0.030	1350	95	40	0.023	1150	95	35	0.028
12	1850	170	70	0.031	1150	75	45	0.022	950	75	35	0.026
14	1700	150	75	0.029	1050	70	45	0.022	850	70	35	0.027
16	1500	130	75	0.029	950	65	50	0.023	700	65	35	0.031
20	1150	100	70	0.029	700	50	45	0.024	550	50	35	0.030



*up to 3mm Diameter 0.2D

MATERIAL	CAST IRON				ALUMINIUM ALLOYS				COPPER. BRASS NON-FERROUS METALS			
Hardness	-				-				-			
Strength	-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	18700	185	60	0.003	44000	300	140	0.002	24700	180	80	0.002
1.5	12100	185	55	0.005	27500	345	130	0.004	20300	270	95	0.004
2	9350	200	60	0.007	22000	420	140	0.006	16500	310	105	0.006
3	6050	200	55	0.011	15400	430	145	0.009	11000	310	105	0.009
4	4600	185	60	0.013	11000	420	140	0.013	8800	310	110	0.012
5	3650	200	55	0.018	9150	420	145	0.015	6800	310	105	0.015
6	2950	230	55	0.026	7600	440	145	0.019	5700	340	105	0.020
8	2200	240	55	0.036	5700	440	145	0.026	4400	330	110	0.025
10	1850	255	60	0.046	4600	440	145	0.032	3400	330	105	0.032
12	1450	275	55	0.063	3750	430	140	0.038	2850	330	105	0.039
14	1300	285	55	0.073	3300	430	145	0.043	2400	330	105	0.046
16	1100	285	55	0.086	2850	430	145	0.050	2200	330	110	0.050
20	900	310	55	0.115	2200	430	140	0.065	1700	330	105	0.065



NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

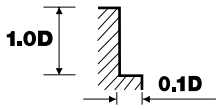
3 FLUTE

G9425, G9G47, G9447, G9G49, G9553, G9G46 & G9410 Series

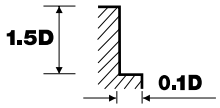
CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL ALLOY STEEL & TOOL STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	17600	110	55	0.002	10250	65	30	0.002	8650	55	25	0.002
1.5	11800	160	55	0.005	7050	85	35	0.004	7050	90	35	0.004
2	9850	180	60	0.006	6450	120	40	0.006	5350	100	35	0.006
3	7600	205	70	0.009	4750	130	45	0.009	3950	105	35	0.009
4	6450	365	80	0.019	3950	220	50	0.019	3300	180	40	0.018
5	5350	385	85	0.024	3200	230	50	0.024	2700	195	40	0.024
6	4750	425	90	0.030	2850	265	55	0.031	2400	215	45	0.030
8	3550	450	90	0.042	2150	245	55	0.038	1800	225	45	0.042
10	2750	390	85	0.047	1700	195	55	0.038	1450	195	45	0.045
12	2350	330	90	0.047	1450	160	55	0.037	1150	155	45	0.045
14	2100	465	90	0.074	1300	145	55	0.037	1050	140	45	0.044
16	1850	265	95	0.048	1150	130	60	0.038	900	130	45	0.048
20	1450	205	90	0.047	900	100	55	0.037	700	100	45	0.048



MATERIAL	CAST IRON				ALUMINIUM ALLOYS				COPPER. BRASS NON-FERROUS METALS			
Hardness	-				-				-			
Strength	-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	18700	460	60	0.008	44000	750	140	0.006	24700	450	80	0.006
1.5	12100	460	55	0.013	27500	860	130	0.010	20300	675	95	0.011
2	9350	475	60	0.017	22000	1035	140	0.016	16500	770	105	0.016
3	6050	475	55	0.026	15400	990	145	0.021	11000	760	105	0.023
4	4600	485	60	0.035	11000	1035	140	0.031	8800	770	110	0.029
5	3650	485	55	0.044	9150	1010	145	0.037	6800	760	105	0.037
6	2950	570	55	0.064	7600	1100	145	0.048	5700	825	105	0.048
8	2200	615	55	0.093	5700	1100	145	0.064	4400	825	110	0.063
10	1850	640	60	0.115	4600	1100	145	0.080	3400	825	105	0.081
12	1450	670	55	0.154	3750	1100	140	0.098	2850	825	105	0.096
14	1300	705	55	0.181	3300	1100	145	0.111	2400	825	105	0.115
16	1100	725	55	0.220	2850	1100	145	0.129	2200	825	110	0.125
20	900	770	55	0.285	2200	1100	140	0.167	1700	825	105	0.162



NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

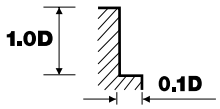
4 FLUTE

G9432, G9G50, G9449, G9G51 & G9453 Series

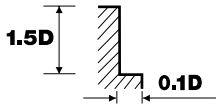
CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL, ALLOY STEEL & TOOL STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	17600	150	55	0.002	10250	85	30	0.002	8650	75	25	0.002
1.5	11800	215	55	0.005	7050	115	35	0.004	7050	120	35	0.004
2	9850	240	60	0.006	6450	145	40	0.006	5350	120	35	0.006
3	7600	270	70	0.009	4750	170	45	0.009	3950	145	35	0.009
4	6450	485	80	0.019	3950	300	50	0.019	3300	240	40	0.018
5	5350	510	85	0.024	3200	305	50	0.024	2700	255	40	0.024
6	4750	560	90	0.029	2850	350	55	0.031	2400	280	45	0.029
8	3550	605	90	0.043	2150	325	55	0.038	1800	300	45	0.042
10	2750	520	85	0.047	1700	255	55	0.038	1450	255	45	0.044
12	2350	440	90	0.047	1450	215	55	0.037	1150	205	45	0.045
14	2100	395	90	0.047	1300	195	55	0.038	1050	190	45	0.045
16	1850	350	95	0.047	1150	170	60	0.037	950	170	50	0.045
20	1450	270	90	0.047	900	135	55	0.038	700	130	45	0.046



MATERIAL	CAST IRON				ALUMINIUM ALLOYS				COPPER. BRASS NON-FERROUS METALS			
Hardness	-				-				-			
Strength	-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	18700	620	60	0.008	44000	1050	140	0.006	24700	605	80	0.006
1.5	12100	620	55	0.013	27500	1160	130	0.011	20300	910	95	0.011
2	9350	640	60	0.017	22000	1320	140	0.015	16500	1035	105	0.016
3	6050	640	55	0.026	15400	1320	145	0.021	11000	1035	105	0.024
4	4600	640	60	0.035	11000	1320	140	0.030	8800	1035	110	0.029
5	3650	640	55	0.044	9150	1320	145	0.036	6800	1035	105	0.038
6	2950	770	55	0.065	7600	1430	145	0.047	5700	1100	105	0.048
8	2200	815	55	0.093	5700	1430	145	0.063	4400	1100	110	0.063
10	1850	860	60	0.116	4600	1430	145	0.078	3400	1100	105	0.081
12	1450	900	55	0.155	3750	1430	140	0.095	2850	1100	105	0.096
14	1300	945	55	0.182	3300	1430	145	0.108	2400	1100	105	0.115
16	1100	970	55	0.220	2850	1430	145	0.125	2200	1100	110	0.125
20	900	1035	55	0.288	2200	1430	140	0.163	1700	1100	105	0.162



NOTE: For long & extra long types the feed should be reduced by around 50%.

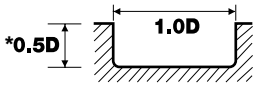
2 FLUTE CORNER RADIUS

G9B82 & G9B83 Series

CUTTING DATA

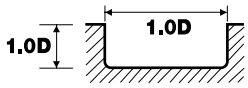
Slotting

MATERIAL	NON-ALLOYED STEEL, ALLOY STEEL & TOOL STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	7850	160	50	0.010	5150	100	30	0.010	4300	80	25	0.009
3	6100	180	55	0.015	3800	120	35	0.016	3150	100	30	0.016
4	5150	255	65	0.025	3150	155	40	0.025	2650	130	35	0.025
5	4300	270	70	0.031	2550	160	40	0.031	2150	135	35	0.031
6	3800	300	70	0.039	2300	190	45	0.041	1950	155	35	0.040
8	2850	325	70	0.057	1700	170	45	0.050	1450	155	35	0.053
10	2200	280	70	0.064	1350	135	40	0.050	1150	135	35	0.059
12	1850	240	70	0.065	1150	110	45	0.048	950	110	35	0.058



*up to 3mm Diameter 0.2D

MATERIAL	CAST IRON				ALUMINIUM ALLOYS				COPPER. BRASS NON-FERROUS METALS			
Hardness	-				-				-			
Strength	-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	9350	220	60	0.012	22000	460	140	0.010	16500	340	105	0.010
3	6050	220	55	0.018	15400	460	145	0.015	11000	340	105	0.015
4	4600	220	60	0.024	11000	460	140	0.021	8800	340	110	0.019
5	3650	220	55	0.030	9150	460	145	0.025	6800	340	105	0.025
6	2950	255	55	0.043	7600	485	145	0.032	5700	375	105	0.033
8	2200	275	55	0.063	5700	485	145	0.043	4400	375	110	0.043
10	1850	285	60	0.077	4600	485	145	0.053	3400	375	105	0.055
12	1450	295	55	0.102	3750	485	140	0.065	2850	375	105	0.066



NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

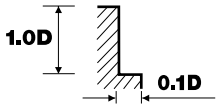
4 FLUTE CORNER RADIUS

G9B84 & G9B85 Series

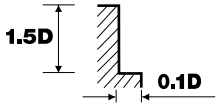
CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL, ALLOY STEEL & TOOL STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	17600	150	55	0.002	10250	85	30	0.002	8650	75	25	0.002
1.5	11800	215	55	0.005	7050	115	35	0.004	7050	120	35	0.004
2	9850	240	60	0.006	6450	145	40	0.006	5350	120	35	0.006
3	7600	270	70	0.009	4750	170	45	0.009	3950	145	35	0.009
4	6450	485	80	0.019	3950	300	50	0.019	3300	240	40	0.018
5	5350	510	85	0.024	3200	305	50	0.024	2700	255	40	0.024
6	4750	560	90	0.029	2850	350	55	0.031	2400	280	45	0.029
8	3550	605	90	0.043	2150	325	55	0.038	1800	300	45	0.042
10	2750	520	85	0.047	1700	255	55	0.038	1450	255	45	0.044
12	2350	440	90	0.047	1450	215	55	0.037	1150	205	45	0.045



MATERIAL	CAST IRON				ALUMINIUM ALLOYS				COPPER. BRASS NON-FERROUS METALS			
Hardness	-				-				-			
Strength	-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	18700	620	60	0.008	44000	1050	140	0.006	24700	605	80	0.006
1.5	12100	620	55	0.013	27500	1160	130	0.011	20300	910	95	0.011
2	9350	640	60	0.017	22000	1320	140	0.015	16500	1035	105	0.016
3	6050	640	55	0.026	15400	1320	145	0.021	11000	1035	105	0.024
4	4600	640	60	0.035	11000	1320	140	0.030	8800	1035	110	0.029
5	3650	640	55	0.044	9150	1320	145	0.036	6800	1035	105	0.038
6	2950	770	55	0.065	7600	1430	145	0.047	5700	1100	105	0.048
8	2200	815	55	0.093	5700	1430	145	0.063	4400	1100	110	0.063
10	1850	860	60	0.116	4600	1430	145	0.078	3400	1100	105	0.081
12	1450	900	55	0.155	3750	1430	140	0.095	2850	1100	105	0.096



NOTE: For long & extra long types the feed should be reduced by around 50%.

Contact our expert technical team for advice on your milling applications.

Please call 01924 869 615

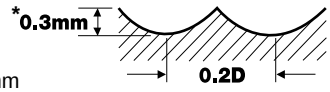
4 FLUTE BALL NOSE

G9634 Series

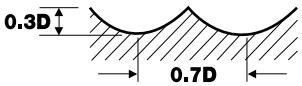
CUTTING DATA

Stepover Cutting

MATERIAL		CARBON STEEL, ALLOY STEEL& TOOL STEELS				CARBON STEEL, ALLOY STEEL& TOOL STEELS				HARDENED STEEL				CAST IRON				ALUMINIUM ALLOY			
Hardness		~ HRC30				HRC30 ~ HRC45				HRC45 ~ HRC50				~ HRC30				HRC30 ~ HRC45			
Strength		~ 1000N/mm²				1000 ~ 1500N/mm²				1500N/mm² ~				~ 1000N/mm²				1000 ~ 1500N/mm²			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	1	13300	680	85	0.013	10000	405	65	0.010	4100	135	25	0.008	10500	330	65	0.008	30800	605	195	0.005
3	1.5	11500	870	110	0.019	8550	585	80	0.017	3850	190	35	0.012	7050	340	65	0.012	20500	605	195	0.007
4	2	8950	950	110	0.027	7150	680	90	0.024	3600	230	45	0.016	5150	430	65	0.021	15400	605	195	0.010
5	2.5	7800	1045	125	0.033	6200	745	95	0.030	3100	230	50	0.019	4150	495	65	0.030	12100	715	190	0.015
6	3	7250	1330	135	0.046	5900	1090	110	0.046	2700	235	50	0.022	3400	540	65	0.040	10300	715	195	0.017
8	4	6100	1660	155	0.068	4900	1185	125	0.060	2100	285	55	0.034	2500	680	65	0.068	7900	820	200	0.026
10	5	5450	1950	170	0.089	4350	1330	135	0.076	1750	290	55	0.041	2050	680	65	0.083	6150	820	195	0.033
12	6	4985	2230	190	0.112	4000	1425	150	0.089	1500	320	55	0.053	1750	680	65	0.097	5150	945	195	0.046
14	7	4500	2230	200	0.124	3600	1425	160	0.099	1300	320	55	0.062	1400	700	60	0.125	4300	945	190	0.055
16	8	4085	2230	205	0.136	3200	1380	160	0.108	1100	320	55	0.073	1300	700	65	0.135	3850	820	195	0.053
18	9	3800	2135	215	0.140	3000	1330	170	0.111	1050	320	60	0.076	1100	700	60	0.159	3400	820	190	0.060
20	10	3550	2135	225	0.150	2800	1330	175	0.119	950	320	60	0.084	1050	630	65	0.150	2950	820	185	0.069



*up to 6mm Diameter 0.2mm



NOTE: For long & extra long types the feed should be reduced by around 50%.

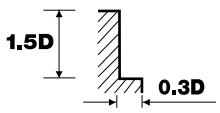
3-5 FLUTE ROUGHER

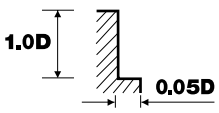
G9A42 Series

CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL ALLOY STEEL & TOOL STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL				HRSA's			
Hardness	~ HRC30				HRC30 ~ HRC38				HRC38 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1200N/mm²				1200 ~ 1400N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	13250	1970	250	0.050	10550	710	200	0.022	7150	480	135	0.022	2050	160	40	0.026
8	9850	1970	250	0.067	7800	710	195	0.023	5350	480	135	0.022	1550	150	40	0.024
10	7800	1970	245	0.063	6450	710	205	0.028	4350	480	135	0.028	1100	160	35	0.036
12	6800	2040	255	0.075	5100	680	190	0.033	3550	480	135	0.034	1000	160	40	0.040
14	5800	2040	255	0.088	4400	710	195	0.040	3050	480	135	0.039	750	110	35	0.037
16	5100	2040	255	0.100	4100	650	205	0.040	2800	430	140	0.038	700	90	35	0.032
18	4400	1970	250	0.112	3750	610	210	0.041	2300	360	130	0.039	600	90	35	0.038
20	4100	1840	260	0.112	3050	480	190	0.039	2050	310	130	0.038	550	90	35	0.041
25	3650	1830	285	0.100	2700	530	210	0.039	1850	350	145	0.038	500	90	40	0.060





NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

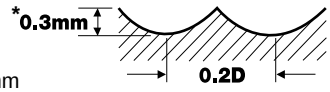
2 FLUTE BALL NOSE

G9438, G9624, G9455 & G9454 Series

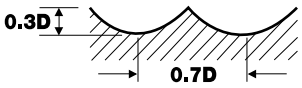
CUTTING DATA

Stepover Cutting

MATERIAL		CARBON STEEL, ALLOY STEEL& TOOL STEELS				CARBON STEEL, ALLOY STEEL& TOOL STEELS				HARDENED STEEL				CAST IRON				ALUMINIUM ALLOY			
Hardness		~ HRC30				HRC30 ~ HRC45				HRC45 ~ HRC50				-				-			
Strength		~ 1000N/mm²				1000 ~ 1500N/mm²				1500N/mm² ~				-				-			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	1	12350	640	80	0.026	9150	415	55	0.023	4000	125	25	0.016	10500	220	65	0.010	30800	395	195	0.006
3	1.5	11400	575	105	0.025	8550	390	80	0.023	3800	125	35	0.016	7050	230	65	0.016	20500	395	195	0.010
4	2	8950	630	110	0.035	7150	450	90	0.031	3600	150	45	0.021	5150	285	65	0.028	15400	395	195	0.013
5	2.5	7800	700	125	0.045	6200	490	95	0.040	3100	150	50	0.024	4150	330	65	0.040	12100	470	190	0.019
6	3	7250	870	135	0.060	5900	705	110	0.060	2700	160	50	0.030	3400	360	65	0.053	10300	470	195	0.023
8	4	6100	1090	155	0.089	4900	785	125	0.080	2050	190	50	0.046	2500	460	65	0.092	7900	540	200	0.034
10	5	5450	1330	170	0.122	4350	870	135	0.100	1750	190	55	0.054	2050	460	65	0.112	6150	540	195	0.044
12	6	4990	1500	190	0.150	3950	950	150	0.120	1500	210	55	0.070	1750	460	65	0.131	5150	630	195	0.061
14	7	4530	1495	200	0.165	3600	925	160	0.128	1300	210	55	0.081	1400	460	60	0.164	4300	630	190	0.073
16	8	4085	1470	205	0.180	3200	905	160	0.141	1150	210	60	0.091	1300	460	65	0.177	3850	540	195	0.070
18	9	3800	1425	215	0.188	3000	890	170	0.148	1050	210	60	0.100	1100	460	60	0.209	3400	540	190	0.079
20	10	3550	1425	225	0.201	2800	885	175	0.158	950	210	60	0.111	1050	420	65	0.200	2950	540	185	0.092



*up to 6mm Diameter 0.2mm



NOTE: For long & extra long types the feed should be reduced by around 50%.

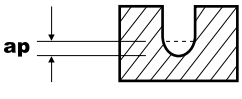
2 FLUTE BALL NOSE LONG NECK

G9B81 Series

CUTTING DATA

Slotting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL					ALLOY STEEL & HEAT RESISTANT STEEL				
Hardness	~ HRC30					HRC30 ~ HRC45				
Strength	~ 1000N/mm²					1000 ~ 1500N/mm²				
Dia.	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.4	26350~34000	150~415	33~43	0.003~0.006	0.018~0.036	19100~24200	75~230	24~30	0.002~0.005	0.018~0.036
0.5	26350~34000	150~415	41~53	0.003~0.006	0.023~0.045	19100~24200	75~230	30~38	0.002~0.005	0.023~0.045
0.6	26350~34000	190~535	50~64	0.004~0.008	0.027~0.054	19100~24200	95~300	36~46	0.002~0.006	0.027~0.054
0.8	26350~34000	190~535	66~85	0.004~0.008	0.036~0.072	19100~24200	95~300	48~61	0.002~0.006	0.036~0.072
1	24650~31000	210~595	77~97	0.004~0.010	0.045~0.090	17400~22100	105~330	55~69	0.003~0.007	0.045~0.090
1.2	20500~26000	210~665	77~98	0.005~0.013	0.055~0.100	14500~18300	105~330	55~69	0.004~0.009	0.055~0.100
1.4	18000~22000	210~665	79~97	0.006~0.015	0.062~0.125	12800~15300	105~330	56~67	0.004~0.011	0.062~0.125
1.5	16000~20500	210~665	75~97	0.007~0.016	0.070~0.135	11500~14900	105~330	54~70	0.005~0.011	0.070~0.135
1.6	15500~20000	210~665	78~101	0.007~0.017	0.075~0.145	11200~14000	105~330	56~70	0.005~0.012	0.075~0.145
1.8	14500~18200	210~665	82~103	0.007~0.018	0.080~0.160	10200~12800	105~330	58~72	0.005~0.013	0.080~0.160
2	13000~16000	210~665	82~101	0.008~0.021	0.090~0.180	9400~11500	105~330	59~72	0.006~0.014	0.090~0.180
3	9000~11000	210~665	85~104	0.012~0.030	0.135~0.270	6000~11500	105~330	57~108	0.009~0.014	0.135~0.270
4	7200~9350	210~665	90~117	0.015~0.036	0.180~0.360	5000~6600	105~330	63~83	0.011~0.025	0.180~0.360



NOTE: For long & extra long types the feed should be reduced by around 50%.

4 FLUTE MULTIPLE HELIX K2 COATED CARBIDE

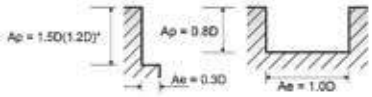
G9H74 & G9H76 Series

CUTTING DATA

Slotting & Side Cutting

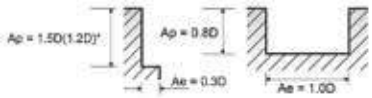
MATERIAL	CARBON & LOW ALLOY STEEL				MEDIUM ALLOY STEEL				HIGH ALLOYED STEEL AND TOOL STEEL			
Hardness	<28HRC				28-38HRC				<35HRC			
Strength	-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	11291	228	106	0.005	7945	158	75	0.005	4753	56	45	0.003
4	8470	270	106	0.008	5957	189	75	0.008	3563	84	45	0.006
5	6776	298	106	0.011	4767	210	75	0.011	2849	91	45	0.008
6	5642	361	106	0.016	3976	256	75	0.016	2380	105	45	0.011
8	4235	459	106	0.027	2982	322	75	0.027	1785	137	45	0.019
10	3745	571	118	0.038	2604	396	82	0.038	1561	168	49	0.027
12	3122	588	118	0.047	2170	410	82	0.047	1302	168	49	0.032
16	2338	497	118	0.053	1631	347	82	0.053	973	144	49	0.037
20	1869	487	118	0.065	1302	340	82	0.065	777	140	49	0.045

*Short Length



MATERIAL	GREY CAST IRON				STAINLESS STEEL (Ferritic / Martensitic)				STAINLESS STEEL (Austentic)				STAINLESS STEEL (Duplex + PH)			
Hardness	-				15-23HRC				10HRC				-			
Strength	-				-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	8316	200	78	0.006	10990	175	104	0.004	7875	158	74	0.005	7056	140	67	0.005
4	6237	249	78	0.01	8246	200	104	0.006	5908	189	74	0.008	5292	168	67	0.008
5	4991	280	78	0.014	6594	238	104	0.009	4725	245	74	0.013	4235	221	67	0.013
6	4158	333	78	0.02	5495	287	104	0.013	3934	284	74	0.018	3528	256	67	0.018
8	3122	424	78	0.034	4123	364	104	0.022	2954	329	74	0.028	2646	298	67	0.028
10	2744	525	86	0.048	3297	448	104	0.034	2359	455	74	0.048	2114	406	67	0.048
12	2282	529	86	0.058	2751	427	104	0.039	1967	434	74	0.055	1764	389	67	0.055
16	1715	445	86	0.065	2058	371	104	0.045	1477	368	74	0.062	1323	329	67	0.062
20	1372	445	86	0.081	1652	364	104	0.055	1183	364	74	0.077	1057	322	67	0.076

*Short Length



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

V7 Series

YG

P M S K

V7 Plus HPC Milling Cutters

First choice for cutting a wide range of materials with high metal removal rates & exceptional tool life.



PAGE 70

★★★★★ Performance

YG

P M S K

V7 Plus TRP Milling Cutters

Ultra high feed TRP series & ultra deep cut chip splitter series. Phenomenal performance & surface finish.



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★★★★★ Performance

YG

P M S

V7 Inox Milling Cutters

Higher speeds, deeper cuts & higher metal removal in stainless steel milling.



PAGE 86

★★★★ Performance

Tool Selection

Description		Series	Sizes ØD	Helix	Page
V7 PLUS HPC					
4 FLUTE CORNER RADIUS MULTIPLE HELIX PLAIN & WELDON SHANK		GMF54 GMF55 GMF58 GMF59	3-25	35°/37°	71
4 FLUTE CHAMFER PREP MULTIPLE HELIX PLAIN & WELDON SHANK		GMF52 GMF53 GMF56 GMF57	3-25	35°/37°	72
4 FLUTE CORNER RADIUS MULTIPLE HELIX, LONG NECK PLAIN & WELDON SHANK		GMF62 GMF63	3-20	35°/37°	73
4 FLUTE CHAMFER PREP MULTIPLE HELIX, LONG NECK PLAIN & WELDON SHANK		GMF60 GMF61	3-20	35°/37°	74
4 FLUTE BALL NOSE MULTIPLE HELIX PLAIN & WELDON SHANK		GMG55 GMG56	3-25	35°/37°	75
V7 PLUS TRP					
6 FLUTE 45° HELIX PLAIN & WELDON SHANK		GMG12 GMG13 GMG14 GMG15	6-25	45°	77
6 FLUTE CORNER RADIUS 45° HELIX PLAIN & WELDON SHANK		GMG16 GMG17 GMG18 GMG19	6-25	45°	78
6 FLUTE CORNER RADIUS 45° HELIX, LONG LENGTH PLAIN & WELDON SHANK		GMH58 GMH59 GMH56 GMH57	6-25	45°	79
V7 INOX					
4 FLUTE CORNER RADIUS VARIABLE HELIX PLAIN & WELDON SHANK		EMB43 EMB15	3-20	VAR	87
4 FLUTE CHAMFER PREP VARIABLE HELIX PLAIN & WELDON SHANK		EMB42 EMB39	3-20	VAR	88
5 FLUTE VARIABLE HELIX PLAIN & WELDON SHANK		EMB72	6-25	VAR	88

V7 Plus HPC Milling Cutters

Performance
★★★★★

P M S K

The ultimate high performance all-rounder milling cutters

1st choice for cutting a wide range of materials with high metal removal rates & exceptional tool life.

Diameter Range
3-25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★★	★★★★★	★★★★★	★★★★	★★★★★	★★★★★

Advantages

1 Tool - Many Applications
Removes the need for multiple tools for roughing, finishing, slotting or profiling.

Guaranteed Tool Life
Vibration free geometry & advanced coating ensures exceptional tool life.

High Metal Removal
Large depths of cut with agressive feed rates ensures excellent metal removal.

Multi Material
The best high performance all-rounder for steel, stainless, titanium, inconel and cast milling.

Features

Multiple Helix
Achieve vibration free milling and surface quality due to the multiple helix geometry.

Unequal Flute Spacing
Improved harmonics and stability reduce chatter for an excellent finish.

Heat Resistant Coating
Withstand extreme temperatures, providing exceptional heat resistance of up to 1,200°C.

Ultrafine Carbide
Improve your machining results with high performing ultrafine micrograin carbide.

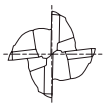
4 FLUTE CORNER RADIUS, MULTIPLE HELIX

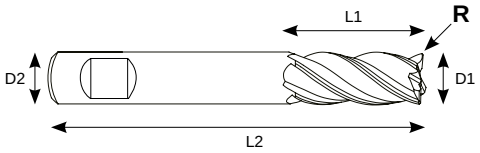
Excellent on Stainless Steel, HRSA's, Cast Iron & Mild Steel <HRC40

- Y1200 coated ultrafine micrograin carbide
- HPC = High performance cutting
- Special flute geometry and multiple helix eliminates vibration
- Unequal flute spacing reduces harmonics
- Recommended for use with high performance tool holders

Series		Cutting Data
GMF54/55 YG-1	GMF58/59 YG-1	P80







MG SC | 4 | 35°/37° | PLAIN | WELDON | Y1200 COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
3	0.3	6	7	54	GMF54030	GMF55030	£21.63
	0.5				GMF54901	GMF55901	£21.63
	0.3		8	57	GMF58030	GMF59030	£22.62
	0.5				GMF58901	GMF59901	£22.62
4	0.3		8	54	GMF54040	GMF55040	£21.63
	0.5				GMF54902	GMF55902	£21.63
	0.3		11	57	GMF58040	GMF59040	£22.62
	0.5				GMF58902	GMF59902	£22.62
5	0.3		10	54	GMF54050	GMF55050	£21.63
	0.5				GMF54903	GMF55903	£21.63
	0.3		13	57	GMF58050	GMF59050	£22.62
	0.5				GMF58903	GMF59903	£22.62
6	0.3		10	54	GMF54060	GMF55060	£21.63
	0.5				GMF54904	GMF55904	£21.63
	1				GMF54905	GMF55905	£21.63
	0.3		13	57	GMF58060	GMF59060	£22.62
	0.5				GMF58904	GMF59904	£22.62
	1				GMF58905	GMF59905	£22.62
8	0.5	8	12	58	GMF54080	GMF55080	£30.16
	1				GMF54906	GMF55906	£30.16
	0.5		19	63	GMF58080	GMF59080	£31.47
	1				GMF58906	GMF59906	£31.47
10	0.5	10	14	66	GMF54100	GMF55100	£44.19
	1				GMF54907	GMF55907	£44.19
	0.5		22	72	GMF58100	GMF59100	£49.59
	1				GMF58907	GMF59907	£49.59
12	0.5	12	16	73	GMF54120	GMF55120	£64.65
	1				GMF54908	GMF55908	£64.65
	2				GMF54909	GMF55909	£64.65
	0.5		26	83	GMF58120	GMF59120	£67.60
	1				GMF58908	GMF59908	£67.60
	2				GMF58909	GMF59909	£67.60
14	0.5	14	18	75	GMF54140	GMF55140	£90.45
			26	83	GMF58140	GMF59140	£98.45
16	1	16	22	82	GMF54160	GMF55160	£115.37
	2				GMF54912	GMF55912	£115.37
	3				GMF54913	GMF55913	£115.37
	1		32	92	GMF58160	GMF59160	£118.76
	2				GMF58912	GMF59912	£118.76
	3				GMF58913	GMF59913	£118.76
18	1	18	24	84	GMF54180	GMF55180	£170.41
			32	92	GMF58180	GMF59180	£172.72
20	1	20	26	92	GMF54200	GMF55200	£172.41
	2				GMF54916	GMF55916	£172.41
	3				GMF54917	GMF55917	£172.41
	1		38	104	GMF58200	GMF59200	£213.20
	2				GMF58916	GMF59916	£213.20
	3				GMF58917	GMF59917	£213.20
25	1	25	38	104	GMF58250	GMF59250	£299.98

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●					

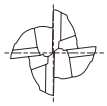
4 FLUTE CHAMFER PREP MULTIPLE HELIX

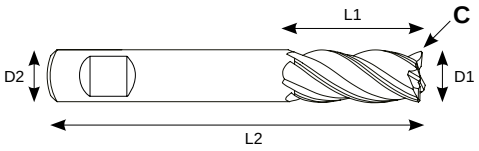
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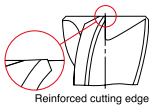
Series		Cutting Data
GMF52/53 YG-1	GMF56/57 YG-1	P80







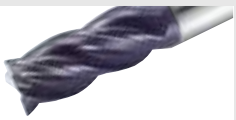
MG SC | 4 | 35°/37° | PLAIN | WELDON | C x 45° | Y1200 COATED | HPC


Reinforced cutting edge

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	C	★★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
3	6	7	54	0.10	GMF52030	GMF53030	£18.00
		8	57		GMF56030	GMF57030	£18.78
4		8	54	0.15	GMF52040	GMF53040	£18.00
		11	57		GMF56040	GMF57040	£18.78
5		10	54		GMF52050	GMF53050	£18.00
		13	57		GMF56050	GMF57050	£18.78
6		10	54	0.20	GMF52060	GMF53060	£18.00
		13	57		GMF56060	GMF57060	£18.78
8	8	12	58		GMF52080	GMF53080	£25.41
		19	63		GMF56080	GMF57080	£26.57
10	10	14	66	0.30	GMF52100	GMF53100	£37.79
		22	72		GMF56100	GMF57100	£42.46
12	12	16	73	0.35	GMF52120	GMF53120	£55.35
		26	83		GMF56120	GMF57120	£57.91
14	14	18	75	0.40	GMF52140	GMF53140	£77.44
		26	83		GMF56140	GMF57140	£84.30
16	16	22	82		GMF52160	GMF53160	£101.44
		32	92		GMF56160	GMF57160	£104.42
18	18	24	84	0.50	GMF52180	GMF53180	£146.65
		32	92		GMF56180	GMF57180	£148.57
20	20	26	92		GMF52200	GMF53200	£149.71
		38	104		GMF56200	GMF57200	£185.08
25	25	38	104		GMF56250	GMF57250	£260.43

V7 PLUS - 4 FLUTE CHAMFER PREP - HPC Milling Example Data



The V7 PLUS 4 flute range can be used for both end milling and side cutting with the most aggressive combination on large cut depths and feed rates. The chamfer corner preparation prevents the cutting edge from chipping.

LOW CARBON STEEL HRC20

Ø8mm, 4 Flute, GMF52080
SLOTTING

RPM	6,048
VC (m/min)	152
fz (mm/tooth)	0.027
Feed (mm/min)	653
Ap:	8mm
Ae:	8mm

STAINLESS STEEL 316

Ø8mm, 4 Flute, GMF52080
SLOTTING

RPM	4,576
VC (m/min)	115
fz (mm/tooth)	0.028
Feed (mm/min)	512
Ap:	8mm
Ae:	8mm

TITANIUM

Ø8mm, 4 Flute, GMF52080
SLOTTING

RPM	3,223
VC (m/min)	81
fz (mm/tooth)	0.025
Feed (mm/min)	322
Ap:	4mm
Ae:	8mm

INCONEL 718

Ø8mm, 4 Flute, GMF52080
SLOTTING

RPM	1,223
VC (m/min)	31
fz (mm/tooth)	0.031
Feed (mm/min)	118
Ap:	4mm
Ae:	8mm

RPM (Revolutions per minute), VC (surface speed in metres per minute), fz (feed rate in mm per tooth), Feed (Feed rate in mm per minute), Ap (depth of cut), Ae (width of cut)

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●					

4 FLUTE CORNER RADIUS MULTIPLE HELIX, EXTENDED NECK

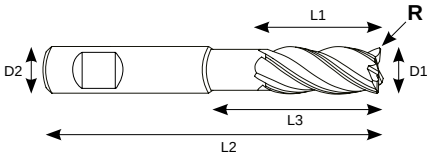
Excellent on Stainless Steel, HRSA's, Cast Iron & Mild Steel <HRC40

- Y1200 coated ultrafine micrograin carbide
- HPC = High performance cutting
- Special flute geometry and multiple helix eliminates vibration
- Unequal flute spacing reduces harmonics
- Recommended for use with high performance tool holders

Series	Cutting Data
GMF62/63 YG-1	P80







MG SC | 4 | 35°/37° | PLAIN | WELDON | Y1200 COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code		Price
						Plain Shank	Weldon Shank	
3	0.3	6	7	54	12	GMF62030	GMF63030	£22.62
	0.5			54	12	GMF62901	GMF63901	£22.62
	0.3			57	17	GMF62902	GMF63902	£22.62
	0.5			57	17	GMF62903	GMF63903	£22.62
4	0.3		8	57	15	GMF62040	GMF63040	£22.62
	0.5			57	15	GMF62904	GMF63904	£22.62
	0.3			63	22	GMF62905	GMF63905	£22.62
	0.5			63	22	GMF62906	GMF63906	£22.62
5	0.3		10	57	17	GMF62050	GMF63050	£22.62
	0.5			57	17	GMF62907	GMF63907	£22.62
	0.3			67	27	GMF62908	GMF63908	£22.62
	0.5			67	27	GMF62909	GMF63909	£22.62
6	0.3		10	57	15	GMF62060	GMF63060	£22.62
	0.5			57	15	GMF62910	GMF63910	£22.62
	1			57	15	GMF62911	GMF63911	£22.62
	0.3			62	20	GMF62912	GMF63912	£22.62
	0.5			62	20	GMF62913	GMF63913	£22.62
	1			62	20	GMF62914	GMF63914	£22.62
	0.3			74	32	GMF62915	GMF63915	£22.62
	0.5			74	32	GMF62916	GMF63916	£22.62
	1			74	32	GMF62917	GMF63917	£22.62
8	0.5	8	12	63	20	GMF62080	GMF63080	£31.47
	1			63	20	GMF62918	GMF63918	£31.47
	0.5			73	30	GMF62919	GMF63919	£34.73
	1			73	30	GMF62920	GMF63920	£34.73
	0.5			90	46	GMF62921	GMF63921	£37.42
	1			90	46	GMF62922	GMF63922	£37.42
10	0.5	10	14	72	25	GMF62100	GMF63100	£49.59
	1			72	25	GMF62923	GMF63923	£49.59
	0.5			82	35	GMF62924	GMF63924	£56.53
	1			82	35	GMF62925	GMF63925	£56.53
	0.5			102	55	GMF62926	GMF63926	£59.48
	1			102	55	GMF62927	GMF63927	£59.48
12	0.5	12	16	83	30	GMF62120	GMF63120	£67.60
	1			83	30	GMF62928	GMF63928	£67.60
	2			83	30	GMF62929	GMF63929	£67.60
	0.5			93	40	GMF62930	GMF63930	£70.89
	1			93	40	GMF62931	GMF63931	£70.89
	2			93	40	GMF62932	GMF63932	£70.89
	0.5			117	64	GMF62933	GMF63933	£90.64
	1			117	64	GMF62934	GMF63934	£90.64
	2			117	64	GMF62935	GMF63935	£90.64
16	1	16	22	92	38	GMF62160	GMF63160	£118.76
	2			92	38	GMF62936	GMF63936	£118.76
	3			92	38	GMF62937	GMF63937	£118.76
	1			109	55	GMF62938	GMF63938	£150.70
	2			109	55	GMF62939	GMF63939	£150.70
	3			109	55	GMF62940	GMF63940	£150.70
	1			141	87	GMF62941	GMF63941	£162.66
	2			141	87	GMF62942	GMF63942	£162.66
	3			141	87	GMF62943	GMF63943	£162.66
20	1	20	26	104	50	GMF62200	GMF63200	£213.20
	1			124	70	GMF62946	GMF63946	£271.59
	3			124	70	GMF62948	GMF63948	£271.59
	1			164	110	GMF62949	GMF63949	£315.20
	2			164	110	GMF62950	GMF63950	£315.20
	3			164	110	GMF62951	GMF63951	£315.20

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●					

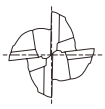
4 FLUTE CHAMFER PREP MULTIPLE HELIX, EXTENDED NECK

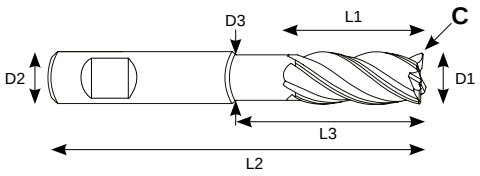
Excellent on Stainless Steel, HRSA's, Cast Iron & Mild Steel <HRC40

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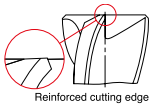
Series	Cutting Data
GMF60/61 YG-1	P80







MG SC | 4 | 35°/37° | PLAIN | WELDON | C x 45° | Y1200 COATED | HPC


Reinforced cutting edge

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	D3	L1	L2	L3	C	★★★★★ Performance Order Code		Price
							Plain Shank	Weldon Shank	
3	6	2.7	7	54	12	0.1	GMF60030	GMF61030	£18.78
			7	57	17		GMF60901	GMF61901	£18.78
			8	57	14		GMF60902	GMF61902	£18.78
4		3.7	8	57	15	0.15	GMF60040	GMF61040	£18.78
			8	63	22		GMF60903	GMF61903	£18.78
			11	57	16		GMF60904	GMF61904	£18.78
5		4.7	10	57	17		GMF60050	GMF61050	£18.78
			10	67	27		GMF60905	GMF61905	£18.78
			13	57	18		GMF60906	GMF61906	£18.78
6		5.5	10	57	15	0.2	GMF60060	GMF61060	£18.78
			10	62	20		GMF60907	GMF61907	£18.78
			10	74	32		GMF60908	GMF61908	£18.78
			13	57	21		GMF60909	GMF61909	£18.78
8	8	7.5	12	63	20		GMF60080	GMF61080	£26.57
			12	73	30		GMF60910	GMF61910	£26.57
			12	90	46		GMF60911	GMF61911	£28.84
			19	63	27		GMF60912	GMF61912	£26.57
10	10	9.2	14	72	25	0.3	GMF60100	GMF61100	£42.46
			14	82	35		GMF60913	GMF61913	£42.46
			14	102	55		GMF60914	GMF61914	£44.59
			22	72	32		GMF60915	GMF61915	£42.46
12	12	11	16	83	30	0.35	GMF60120	GMF61120	£57.91
			16	93	40		GMF60916	GMF61916	£57.91
			16	117	64		GMF60917	GMF61917	£74.81
			26	83	38		GMF60918	GMF61918	£57.91
16	16	15	22	92	38	0.4	GMF60160	GMF61160	£122.11
			22	109	55		GMF60919	GMF61919	£122.11
			22	141	87		GMF60920	GMF61920	£131.05
			32	92	44		GMF60921	GMF61921	£104.42
20	20	19	26	104	50	0.5	GMF60200	GMF61200	£160.70
			26	124	70		GMF60922	GMF61922	£207.44
			26	164	110		GMF60923	GMF61923	£243.22
			38	104	54		GMF60924	GMF61924	£185.08

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●					

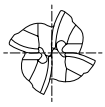
4 FLUTE BALL NOSE MULTIPLE HELIX

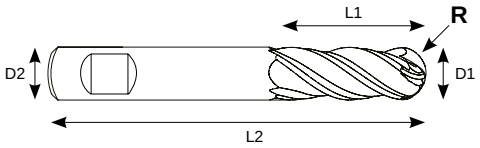
Excellent on Stainless Steel, HRSA's, Cast Iron & Mild Steel <HRC40

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- HPC = High performance cutting
- Special flute geometry and multiple helix eliminates vibration
- Recommended for use with high performance tool holders

Series	Cutting Data
GMG55/56 YG-1	P84







MG SC | 4 | 35°/37° | R ±0.02 | PLAIN | WELDON | Y1200 COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance		Price
					Order Code		
					Plain Shank	Weldon Shank	
3	1.5	6	8	57	GMG55030	GMG56030	£23.49
4	2	6	11	57	GMG55040	GMG56040	£23.49
5	2.5	6	13	57	GMG55050	GMG56050	£23.49
6	3	6	13	57	GMG55060	GMG56060	£23.49
8	4	8	19	63	GMG55080	GMG56080	£33.00
10	5	10	22	72	GMG55100	GMG56100	£51.82
12	6	12	26	83	GMG55120	GMG56120	£71.26
16	8	16	32	92	GMG55160	GMG56160	£124.73
20	10	20	38	104	GMG55200	GMG56200	£224.07
25	12.5	25	38	104	GMG55250	GMG56250	£316.75

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●					

V7 Plus TRP Milling Cutters

Performance
★★★★★

P M S K

Ultra high feed TRP series & ultra deep cut Chip Splitter series

Revolutionary 6 flute design for phenomenal performance and outstanding surface finish.

Diameter Range
6-25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★	★★★★★	★★★★★	★★★★	★★★★★	★★★★★

Advantages

Hyper Metal Removal
The fastest metal removal rates, even in deep slots or profiling up to 2xD (TRP range).

Up to 4xD Depth of Cut
Unique chip splitter geometry produces short chips to allow up to 4xD cut depths (TRP Chip Splitter Range).

Rough & Finish
Use for both finishing or high feed roughing across a range of materials.

High Heat Dissipation
Y1200 coating combined with unique geometry prolongs tool life.

Features

TRP Geometry
Designed to reduce vibration, boost machining accuracy, and significantly extend the lifespan of your tools.

Dynamic Milling
Exceptional for high-speed machining and trochoidal milling, ensuring optimal performance.

Heat Resistant Coating
Withstand extreme temperatures, providing exceptional heat resistance of up to 1,200°C.

Ultrafine Carbide
Improve your machining results with high performing ultrafine micrograin carbide.

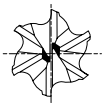
6 FLUTE 45° HELIX, LONG & EXTRA LONG LENGTH

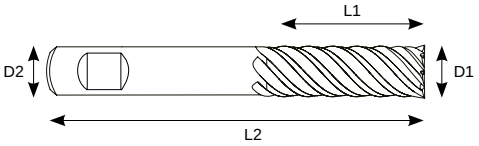
Excellent on Stainless Steel, HRSA's, Cast Iron & Mild Steel <HRC40

- Y1200 coated ultrafine micrograin carbide
- TRP = Trochoidal & profiling
- The unique geometry of the variable pitch reduces chatter for high speed and trochoidal milling
- Can be used for finishing or high feed roughing
- Recommended for use with high performance tool holders

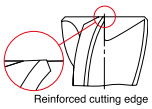
Series	Cutting Data
GMG12/13/14/15 YG-1	P82







MG SC | 6 | 45° | TROCHOIDAL | PLAIN | WELDON | Y1200 COATED | HPC



TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code		Price
				Plain Shank	Weldon Shank	
Long Length						
6	6	13	57	GMG12060	GMG13060	£22.71
8	8	19	63	GMG12080	GMG13080	£32.05
10	10	22	72	GMG12100	GMG13100	£51.28
12	12	26	83	GMG12120	GMG13120	£69.94
16	16	32	92	GMG12160	GMG13160	£131.57
20	20	38	104	GMG12200	GMG13200	£233.20
25	25	44	104	GMG12250	GMG13250	£328.18
Extra Long Length						
6	6	24	75	GMG14060	GMG15060	£29.52
8	8	32	75	GMG14080	GMG15080	£43.35
10	10	40	100	GMG14100	GMG15100	£71.92
12	12	48	120	GMG14120	GMG15120	£101.38
16	16	64	140	GMG14160	GMG15160	£197.35
20	20	80	150	GMG14200	GMG15200	£373.11
25	25	100	170	GMG14250	GMG15250	£557.91

V7 PLUS - 6 FLUTE 45° HELIX - Side Cutting or Trochoidal Milling Example Data



The V7 PLUS 6 flute range can be used for finishing applications or for high metal removal using trochoidal milling methods. Either process offers high feed rates and low cutting load.

LOW CARBON STEEL HRC20

Ø12mm, 6 Flute, GMG18120
SIDE CUTTING

RPM	7,985
VC (m/min)	300
fz (mm/tooth)	0.173
Feed (mm/min)	8,260
Ap:	24mm
Ae:	0.4mm

STAINLESS STEEL 316

Ø12mm, 6 Flute, GMG18120
SIDE CUTTING

RPM	3,899
VC (m/min)	147
fz (mm/tooth)	0.125
Feed (mm/min)	2,457
Ap:	24mm
Ae:	0.4mm

TITANIUM

Ø12mm, 6 Flute, GMG18120
SIDE CUTTING

RPM	3,077
VC (m/min)	116
fz (mm/tooth)	0.083
Feed (mm/min)	1,532
Ap:	24mm
Ae:	0.4mm

INCONEL 718

Ø12mm, 6 Flute, GMG18120
SIDE CUTTING

RPM	875
VC (m/min)	33
fz (mm/tooth)	0.082
Feed (mm/min)	432
Ap:	24mm
Ae:	0.4mm

RPM (Revolutions per minute), VC (surface speed in metres per minute), fz (feed rate in mm per tooth), Feed (Feed rate in mm per minute), Ap (depth of cut), Ae (width of cut)

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●					

6 FLUTE CORNER RADIUS 45° HELIX, LONG & EXTRA LONG LENGTH

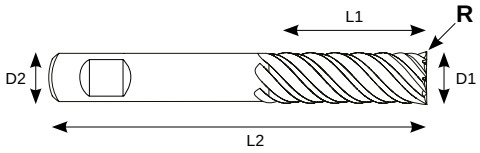
Excellent on Stainless Steel, HRSA's, Cast Iron & Mild Steel <HRC40

- Y1200 coated ultrafine micrograin carbide
- TRP = Trochoidal & profiling
- The unique geometry of the variable pitch reduces chatter for high speed and trochoidal milling
- Can be used for finishing or high feed roughing
- Recommended for use with high performance tool holders

Series	Cutting Data
GMG16/17/18/19 YG-1	P82







MG SC | 6 | 45° | TROCHOIDAL | PLAIN | WELDON | Y1200 COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
Long Length							
6	0.5	6	13	57	GMG16060	GMG17060	£27.31
	1				GMG16901	GMG17901	£27.31
8	0.5	8	19	63	GMG16080	GMG17080	£37.95
	1				GMG16902	GMG17902	£37.95
10	0.5	10	22	72	GMG16100	GMG17100	£59.92
	1				GMG16903	GMG17903	£59.92
	1.5				GMG16904	GMG17904	£59.92
	2				GMG16905	GMG17905	£59.92
12	0.5	12	26	83	GMG16120	GMG17120	£81.59
	1				GMG16906	GMG17906	£81.59
	1.5				GMG16907	GMG17907	£81.59
	2				GMG16908	GMG17908	£81.59
	3				GMG16909	GMG17909	£81.59
16	1	16	32	92	GMG16160	GMG17160	£149.65
	1.5				GMG16910	GMG17910	£149.65
	2				GMG16911	GMG17911	£149.65
	3				GMG16912	GMG17912	£149.65
20	1	20	38	104	GMG16200	GMG17200	£268.57
	1.5				GMG16913	GMG17913	£268.57
	2				GMG16914	GMG17914	£268.57
	3				GMG16915	GMG17915	£268.57
25	1	25	44	104	GMG16250	GMG17250	£377.99
	1.5				GMG16916	GMG17916	£377.99
	2				GMG16917	GMG17917	£377.99
	3				GMG16918	GMG17918	£377.99
Extra Long Length							
6	0.5	6	24	75	GMG18060	GMG19060	£35.54
	1				GMG18901	GMG19901	£35.54
8	0.5	8	32	75	GMG18080	GMG19080	£51.28
	1				GMG18902	GMG19902	£51.28
	2				GMG18903	GMG19903	£51.28
10	0.5	10	40	100	GMG18100	GMG19100	£84.01
	1				GMG18904	GMG19904	£84.01
	1.5				GMG18905	GMG19905	£84.01
	2				GMG18906	GMG19906	£84.01
12	0.5	12	48	120	GMG18120	GMG19120	£118.39
	1				GMG18907	GMG19907	£118.39
	1.5				GMG18908	GMG19908	£118.39
	2				GMG18909	GMG19909	£118.39
	3				GMG18910	GMG19910	£118.39
16	1	16	64	140	GMG18160	GMG19160	£224.44
	1.5				GMG18911	GMG19911	£224.44
	2				GMG18912	GMG19912	£224.44
	3				GMG18913	GMG19913	£224.44
20	1	20	80	150	GMG18200	GMG19200	£429.75
	1.5				GMG18914	GMG19914	£429.75
	2				GMG18915	GMG19915	£429.75
	3				GMG18916	GMG19916	£429.75
	4				GMG18917	GMG19917	£429.75
	5				GMG18918	GMG19918	£429.75

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●					

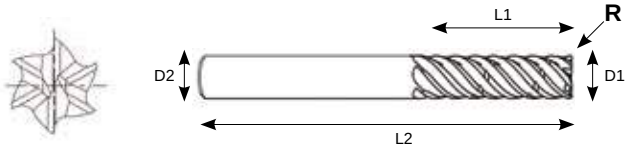
6 FLUTE LONG & EXTRA LONG LENGTH CHIP SPLITTER

Excellent on Stainless Steel, HRSA's, Cast Iron & Mild Steel <HRC40

- Y1200 coated ultrafine micrograin carbide
- TRP = Trochoidal & profiling
- Special chip splitter design for better chip removal shortened chip length at high axial machining (Up to 4xD)
- Can be used for finishing or high feed roughing
- Recommended for use with high performance tool holders

Series	Cutting Data
GMH58/59 YG-1	P83





MG SC | 6 | 45° | TROCHOIDAL | PLAIN | WELDON | Y1200 COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
Long Length Corner Radius							
6	R0.5	6	24	75	GMH58060	GMH59060	£39.09
	R1.0	6	24	75	GMH58901	GMH59901	£39.09
8	R0.5	8	32	75	GMH58080	GMH59080	£56.40
	R1.0	8	32	75	GMH58902	GMH59902	£56.40
	R2.0	8	32	75	GMH58903	GMH59903	£56.40
10	R0.5	10	40	100	GMH58100	GMH59100	£92.42
	R1.0	10	40	100	GMH58904	GMH59904	£92.42
	R1.5	10	40	100	GMH58905	GMH59905	£92.42
	R2.0	10	40	100	GMH58906	GMH59906	£92.42
12	R0.5	12	48	120	GMH58120	GMH59120	£130.23
	R1.0	12	48	120	GMH58907	GMH59907	£130.23
	R1.5	12	48	120	GMH58908	GMH59908	£130.23
	R2.0	12	48	120	GMH58909	GMH59909	£130.23
	R3.0	12	48	120	GMH58910	GMH59910	£130.23
16	R1.0	16	64	140	GMH58160	GMH59160	£246.88
	R1.5	16	64	140	GMH58911	GMH59911	£246.88
	R2.0	16	64	140	GMH58912	GMH59912	£246.88
	R3.0	16	64	140	GMH58913	GMH59913	£246.88
20	R1.0	20	80	150	GMH58200	GMH59200	£472.72
	R1.5	20	80	150	GMH58914	GMH59914	£472.72
	R2.0	20	80	150	GMH58915	GMH59915	£472.72
Extra Long Length							
6	-	6	24	75	GMH56060	GMH57060	£32.48
8	-	8	32	75	GMH56080	GMH57080	£47.66
10	-	10	40	100	GMH56100	GMH57100	£79.11
12	-	12	48	120	GMH56120	GMH57120	£111.51
16	-	16	64	140	GMH56160	GMH57160	£217.10
20	-	20	80	150	GMH56200	GMH57200	£410.43
25	-	25	100	170	GMH56250	GMH57250	£613.71

Material Applications

● Excellent ○ Good

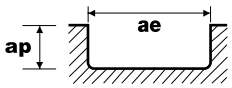
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●					

4 FLUTE CHAMFER PREP & CORNER RADIUS — CUTTING DATA

GMF52, GMF53, GMF56, GMF57, GMF54, GMF55, GMF58, GMF59, GMF60, GMF61, GMF62 & GMF63 Series

Slotting

Speed & Feed Recommendations					Diameter (mm)											
Hardness (Brinell)	Work Materials	ap x D	ae x D		3	4	5	6	8	10	12	14	16	18	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMN 28) 1.0718(9 SMNPB 28)	1*	1	Vc	152 (122-182)					168 (135-201)						
				RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139
				Fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064
				Feed	323	387	426	516	653	813	838	749	709	701	695	548
P > 300 P < 380	ALLOY STEEL 1.2330(35 CRMO 4) 1.6565(40NICRMO6) 1.7033(34CR4) 1.6523(21 NICRMO2)	1*	1	Vc	107 (86-128)					117 (94-140)						
				RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490
				Fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064
				Feed	227	272	300	363	460	566	583	521	493	488	484	381
P < 380	TOOL STEEL 1.2363(X100 CRMOV 5 1) 1.2379(X155 CRVMO 12 1) 1.2344(X40 CRMOV 5 1) 1.3243(S 6-5-2-5)	1*	1	Vc	64 (52-76)					70 (56-84)						
				RPM	6791	5093	4074	3395	2546	2228	1857	1592	1393	1238	1114	891
				Fz	0.003	0.006	0.008	0.011	0.019	0.027	0.032	0.034	0.037	0.041	0.045	0.045
				Feed	81	122	130	149	194	241	238	216	206	203	201	160
K < 260	CAST IRON 0.6020(GG20) 0.8145(GTS-45-06) 0.7060(GGG-60)	1*	1	Vc	112 (90-134)					123 (99-147)						
				RPM	11884	8913	7130	5942	4456	3915	3263	2797	2447	2175	1958	1566
				Fz	0.006	0.01	0.014	0.02	0.034	0.048	0.058	0.061	0.065	0.073	0.081	0.079
				Feed	285	357	399	475	606	752	757	682	636	635	634	495
M	STAINLESS STEELS 300 1.4301(X5 CRNI 18 10) 1.4436(X3 CRNIMO 17 13 3) 1.4306(X2 CRNI 19 11) 1.4435(X2 CRNIMO 18 14 3)	1*	1	Vc	115 (92-138)											
				RPM	12202	9151	7321	6101	4576	3661	3050	2615	2288	2034	1830	1464
				Fz	0.005	0.008	0.013	0.018	0.028	0.048	0.056	0.06	0.063	0.07	0.077	0.078
				Feed	244	293	381	439	512	703	683	628	577	569	564	457
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	1*	1	Vc	161 (129-193)											
				RPM	17083	12812	10250	8541	6406	5125	4271	3661	3203	2847	2562	2050
				Fz	0.004	0.006	0.009	0.013	0.022	0.034	0.04	0.043	0.045	0.05	0.055	0.055
				Feed	273	307	369	444	564	697	683	630	577	569	564	451
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	1*	1	Vc	104 (84-124)											
				RPM	11035	8276	6621	5517	4138	3310	2759	2365	2069	1839	1655	1324
				Fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.059	0.062	0.069	0.077	0.078
				Feed	221	265	344	397	463	636	607	558	513	508	510	413
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	0.5	1	Vc	81 (65-97)											
				RPM	8594	6446	5157	4297	3223	2578	2149	1842	1611	1432	1289	1031
				Fz	0.004	0.007	0.011	0.016	0.025	0.043	0.05	0.053	0.056	0.062	0.069	0.07
				Feed	138	180	227	275	322	443	430	390	361	355	356	289
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	0.5	1	Vc	31 (25-37)											
				RPM	3289	2467	1974	1645	1233	987	822	705	617	548	493	395
				Fz	0.005	0.007	0.012	0.018	0.031	0.047	0.055	0.061	0.064	0.069	0.077	0.079
				Feed	66	69	95	118	153	186	181	172	158	151	152	125



*** Cutting depth 0.8 x D (Slotting), 1.2 x D (Side Cutting) should be applied:**
for short length types GMF52, GMF53, GMF54, GMF55 series &
neck types GMF60, GMF61, GMF62, GMF63 series diameters over 8mm

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

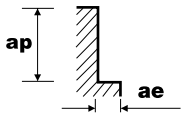
4 FLUTE CHAMFER PREP & CORNER RADIUS

CUTTING DATA

GMF52, GMF53, GMF56, GMF57, GMF54, GMF55, GMF58, GMF59, GMF60, GMF61, GMF62 & GMF63 Series

Side Cutting

Speed & Feed Recommendations					Diameter (mm)											
Hardness (Brinell)	Work Materials	ap x D	ae x D		3	4	5	6	8	10	12	14	16	18	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMN 28) 1.0718(9 SMNPB 28)	1.5*	0.5	Vc	152 (122-182)					168 (135-201)						
				RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139
				Fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064
				Feed	323	387	426	516	653	813	838	749	709	701	695	548
P > 300 P < 380	ALLOY STEEL 1.2330(35 CRMO 4) 1.6565(40NICRMO6) 1.7033(34CR4) 1.6523(21 NICRMO2)	1.5*	0.5	Vc	107 (86-128)					117 (94-140)						
				RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490
				Fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064
				Feed	227	272	300	363	460	566	583	521	493	488	484	381
P < 380	TOOL STEEL 1.2363(X100 CRMOV 5 1) 1.2379(X155 CRVMO 12 1) 1.2344(X40 CRMOV 5 1) 1.3243(S 6-5-2-5)	1.5*	0.5	Vc	64 (52-76)					70 (56-84)						
				RPM	6791	5093	4074	3395	2546	2228	1857	1592	1393	1238	1114	891
				Fz	0.003	0.006	0.008	0.011	0.019	0.027	0.032	0.034	0.037	0.041	0.045	0.045
				Feed	81	122	130	149	194	241	238	216	206	203	201	160
K < 260	CAST IRON 0.6020(GG20) 0.8145(GTS-45-06) 0.7060(GGG-60)	1.5*	0.5	Vc	112 (90-134)					123 (99-147)						
				RPM	11884	8913	7130	5942	4456	3915	3263	2797	2447	2175	1958	1566
				Fz	0.006	0.01	0.014	0.02	0.034	0.048	0.058	0.061	0.065	0.073	0.081	0.079
				Feed	285	357	399	475	606	752	757	682	636	635	634	495
M	STAINLESS STEELS 300 1.4301(X5 CRNI 18 10) 1.4436(X3 CRNIMO 17 13 3) 1.4306(X2 CRNI 19 11) 1.4435(X2 CRNIMO 18 14 3)	1.5*	0.5	Vc	115 (92-138)											
				RPM	12202	9151	7321	6101	4576	3661	3050	2615	2288	2034	1830	1464
				Fz	0.005	0.008	0.013	0.018	0.028	0.048	0.056	0.06	0.063	0.07	0.077	0.078
				Feed	244	293	381	439	512	703	683	628	577	569	564	457
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	1.5*	0.5	Vc	161 (129-193)											
				RPM	17083	12812	10250	8541	6406	5125	4271	3661	3203	2847	2562	2050
				Fz	0.004	0.006	0.009	0.013	0.022	0.034	0.04	0.043	0.045	0.05	0.055	0.055
				Feed	273	307	369	444	564	697	683	630	577	569	564	451
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	1.5*	0.5	Vc	104 (84-124)											
				RPM	11035	8276	6621	5517	4138	3310	2759	2365	2069	1839	1655	1324
				Fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.059	0.062	0.069	0.077	0.078
				Feed	221	265	344	397	463	636	607	558	513	508	510	413
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	1	0.35	Vc	81 (65-97)											
				RPM	8594	6446	5157	4297	3223	2578	2149	1842	1611	1432	1289	1031
				Fz	0.004	0.007	0.011	0.016	0.025	0.043	0.05	0.053	0.056	0.062	0.069	0.07
				Feed	138	180	227	275	322	443	430	390	361	355	356	289
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	1	0.25	Vc	31 (25-37)											
				RPM	3289	2467	1974	1645	1233	987	822	705	617	548	493	395
				Fz	0.005	0.007	0.012	0.018	0.031	0.047	0.055	0.061	0.064	0.069	0.077	0.079
				Feed	66	69	95	118	153	186	181	172	158	151	152	125



*** Cutting depth 0.8 x D (Slotting), 1.2 x D (Side Cutting) should be applied:**
for short length types GMF52, GMF53, GMF54, GMF55 series &
neck types GMF60, GMF61, GMF62, GMF63 series diameters over 8mm

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

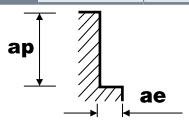
6 FLUTE & 6 FLUTE CORNER RADIUS

GMG12, GMG13, GMG14, GMG15, GMG16, GMG17, GMG18 & GMG19 Series

CUTTING DATA

Side Cutting

Speed & Feed Recommendations												
Hardness (Brinell)	Work Materials	ap x D	ae x D		6	8	10	12	16	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMN 28) 1.0718(9 SMNPB 28)	2*	0.05	Vc	300 (240-360)						
				RPM	15915	11937	9549	7958	5968	4775	3820
				Fz	0.068	0.116	0.144	0.173	0.202	0.225	0.232
				Feed	6494	8308	8251	8260	7234	6446	5317
P > 300 P < 380	ALLOY STEEL 1.2330(35 CRMO 4) 1.6565(40NICRMO6) 1.7033(34CR4) 1.6523(21 NICRMO2)	2*	0.05	Vc	203 (162-244)						
				RPM	10769	8077	6462	5385	4039	3231	2585
				Fz	0.05	0.085	0.106	0.128	0.149	0.167	0.174
				Feed	3231	4119	4110	4135	3610	3237	2698
P < 380	TOOL STEEL 1.2363(X100 CRMOV 5 1) 1.2379(X155 CRVMO 12 1) 1.2344(X40 CRMOV 5 1) 1.3243(S 6-5-2-5)	2*	0.05	Vc	100 (80-120)						
				RPM	5305	3979	3183	2653	1989	1592	1273
				Fz	0.041	0.071	0.088	0.105	0.123	0.137	0.144
				Feed	1305	1695	1681	1671	1468	1308	1100
K < 260	CAST IRON 0.6020(GG20) 0.8145(GTS-45-06) 0.7060(GGG-60)	2*	0.05	Vc	203 (162-244)						
				RPM	10769	8077	6462	5385	4039	3231	2585
				Fz	0.05	0.085	0.106	0.128	0.149	0.167	0.174
				Feed	3231	4119	4110	4135	3610	3237	2698
M	STAINLESS STEELS 300 1.4301(X5 CRNI 18 10) 1.4436(X3 CRNIMO 17 13 3) 1.4306(X2 CRNI 19 11) 1.4435(X2 CRNIMO 18 14 3)	2*	0.05	Vc	147 (118-176)						
				RPM	7799	5849	4679	3899	2924	2340	1872
				Fz	0.041	0.071	0.088	0.105	0.123	0.137	0.143
				Feed	1918	2492	2471	2457	2158	1923	1606
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	2*	0.05	Vc	213 (170-256)						
				RPM	11300	8475	6780	5650	4238	3390	2712
				Fz	0.049	0.084	0.104	0.125	0.146	0.162	0.168
				Feed	3322	4271	4231	4238	3712	3295	2734
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	2*	0.05	Vc	134 (107-161)						
				RPM	7109	5332	4265	3554	2666	2133	1706
				Fz	0.041	0.071	0.088	0.105	0.123	0.137	0.142
				Feed	1749	2271	2252	2239	1967	1753	1454
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	2*	0.05	Vc	116 (100-125)						
				RPM	6154	4615	3692	3077	2308	1846	1477
				Fz	0.033	0.055	0.07	0.083	0.097	0.113	0.117
				Feed	1218	1523	1551	1532	1343	1252	1037
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	2*	0.05	Vc	33 (30-36)						
				RPM	1751	1313	1050	875	657	525	420
				Fz	0.033	0.055	0.07	0.082	0.097	0.112	0.115
				Feed	347	433	441	431	382	353	290



*** If length of cut is below 2D, it must be reduced to 90%**

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

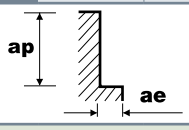
6 FLUTE CHIP SPLITTER

GMH58, GMH59, GMH56, GMH57 Series

CUTTING DATA

Side Cutting

Speed & Feed Recommendations												
Hardness (Brinell)	Work Materials	ap x D	ae x D		6	8	10	12	16	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMN 28) 1.0718(9 SMNPB 28)	<4	0.05	Vc	270 m/min						
				RPM	14324	10743	8594	7162	5371	4297	3438
				Fz	0.034	0.058	0.072	0.087	0.101	0.113	0.116
				Feed	2922	3739	3713	3717	3255	2901	2393
P > 300 P < 380	ALLOY STEEL 1.2330(35 CRMO 4) 1.6565(40NICRMO6) 1.7033(34CR4) 1.6523(21 NICRMO2)	<4	0.05	Vc	182.7 m/min						
				RPM	9693	7269	5816	4846	3635	2908	2326
				Fz	0.025	0.043	0.053	0.064	0.075	0.084	0.087
				Feed	1454	1854	1849	1861	1625	1457	1214
P < 380	TOOL STEEL 1.2363(X100 CRMOV 5 1) 1.2379(X155 CRVMO 12 1) 1.2344(X40 CRMOV 5 1) 1.3243(S 6-5-2-5)	<4	0.05	Vc	90 m/min						
				RPM	4775	3581	2865	2387	1790	1432	1146
				Fz	0.021	0.036	0.044	0.053	0.062	0.069	0.072
				Feed	587	763	756	752	661	589	495
M	STAINLESS STEELS 300 1.4301(X5 CRNI 18 10) 1.4436(X3 CRNIMO 17 13 3) 1.4306(X2 CRNI 19 11) 1.4435(X2 CRNIMO 18 14 3)	<4	0.05	Vc	132.3 m/min						
				RPM	7019	5264	4211	3509	2632	2106	1684
				Fz	0.021	0.036	0.044	0.053	0.062	0.069	0.072
				Feed	863	1121	1112	1105	971	865	723
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	<4	0.05	Vc	191.7 m/min						
				RPM	10170	7628	6102	5085	3814	3051	2441
				Fz	0.025	0.042	0.052	0.063	0.073	0.081	0.084
				Feed	1495	1922	1904	1907	1670	1483	1230
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	<4	0.05	Vc	120.6 m/min						
				RPM	6398	4799	3839	3199	2399	1919	1536
				Fz	0.021	0.036	0.044	0.053	0.062	0.069	0.071
				Feed	787	1022	1013	1008	885	789	654
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	<4	0.05	Vc	104.4 m/min						
				RPM	5539	4154	3323	2769	2077	1662	1329
				Fz	0.017	0.028	0.035	0.042	0.049	0.057	0.059
				Feed	548	685	698	690	604	563	467
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	<4	0.05	Vc	29.7 m/min						
				RPM	1576	1182	945	788	591	473	378
				Fz	0.017	0.028	0.035	0.041	0.049	0.056	0.058
				Feed	156	195	199	194	172	159	130



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

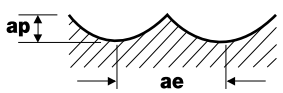
4 FLUTE BALL NOSE

GMG55 & GMG56 Series

CUTTING DATA

Stepover Cutting

Speed & Feed Recommendations					Diameter (mm)										
Hardness (Brinell)	Work Materials	ap x D	ae x D		3	4	5	6	8	10	12	16	18	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMN 28) 1.0718(9 SMNPB 28)	1	0.5	Vc	162 (130-194)										
				RPM	17189	12892	10313	8594	6446	5157	4297	3223	2865	2578	2063
				Fz	0.025	0.027	0.030	0.040	0.060	0.065	0.070	0.075	0.080	0.090	0.099
				Feed	1719	1392	1238	1375	1547	1341	1203	967	917	928	817
P > 300 P < 380	ALLOY STEEL 1.2330(35 CRMO 4) 1.6565(40NICRMO6) 1.7033(34CR4) 1.6523(21 NICRMO2)	1	0.5	Vc	113 (90-136)										
				RPM	11990	8992	7194	5995	4496	3597	2997	2248	1998	1798	1439
				Fz	0.025	0.027	0.030	0.040	0.060	0.065	0.070	0.074	0.079	0.090	0.099
				Feed	1199	971	863	959	1079	935	839	665	631	647	570
P < 380	TOOL STEEL 1.2363(X100 CRMOV 5 1) 1.2379(X155 CRVMO 12 1) 1.2344(X40 CRMOV 5 1) 1.3243(S 6-5-2-5)	1	0.5	Vc	68 (54-82)										
				RPM	7215	5411	4329	3608	2706	2165	1804	1353	1203	1082	866
				Fz	0.017	0.019	0.021	0.028	0.042	0.045	0.049	0.052	0.056	0.063	0.070
				Feed	491	411	364	404	455	390	354	281	269	273	242
K < 260	CAST IRON 0.6020(GG20) 0.8145(GTS-45-06) 0.7060(GGG-60)	1	0.5	Vc	119 (95-143)										
				RPM	12626	9470	7576	6313	4735	3788	3157	2367	2104	1894	1515
				Fz	0.031	0.033	0.037	0.050	0.074	0.081	0.087	0.093	0.099	0.112	0.124
				Feed	1566	1250	1121	1263	1402	1227	1098	881	833	848	752
M	STAINLESS STEELS 300 1.4301(X5 CRNI 18 10) 1.4436(X3 CRNIMO 17 13 3) 1.4306(X2 CRNI 19 11) 1.4435(X2 CRNIMO 18 14 3)	1	0.5	Vc	85 (68-102)										
				RPM	9019	6764	5411	4509	3382	2706	2255	1691	1503	1353	1082
				Fz	0.020	0.020	0.025	0.041	0.045	0.050	0.055	0.060	0.064	0.065	0.068
				Feed	722	541	541	740	609	541	496	406	385	352	294
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	1	0.5	Vc	77 (62-92)										
				RPM	8170	6127	4902	4085	3064	2451	2042	1532	1362	1225	980
				Fz	0.015	0.015	0.025	0.030	0.040	0.045	0.050	0.054	0.059	0.058	0.059
				Feed	490	368	490	490	490	441	408	331	321	284	231
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	1	0.5	Vc	77 (62-92)										
				RPM	8170	6127	4902	4085	3064	2451	2042	1532	1362	1225	980
				Fz	0.020	0.020	0.025	0.041	0.045	0.050	0.055	0.060	0.064	0.065	0.068
				Feed	654	490	490	670	551	490	449	368	349	319	267
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	0.3	0.5	Vc	47 (38-56)										
				RPM	4987	3740	2992	2493	1870	1496	1247	935	831	748	598
				Fz	0.018	0.018	0.022	0.037	0.040	0.045	0.049	0.054	0.058	0.058	0.061
				Feed	359	269	263	369	299	269	244	202	193	174	146
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	0.3	0.2	Vc	21 (17-25)										
				RPM	2228	1671	1337	1114	836	668	557	418	371	334	267
				Fz	0.014	0.014	0.017	0.028	0.031	0.035	0.038	0.042	0.045	0.045	0.048
				Feed	125	94	91	125	104	94	85	70	67	60	51



RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

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V7 Inox Milling Cutters

Performance ★★★★

P M S

Higher speeds, deeper cuts & higher metal removal in stainless steel milling

Variable helix design eliminates vibration to ensure longer tool life & improved surface finish.

Diameter Range
3-20mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★★	★★★★	★★★★	★★★★	★★★★★	★★★★★

Advantages

1 Tool to Rough & Finish
Save money on tool changeover times by roughing and finishing with 1 tool.

Vibration Free Milling
Variable helix geometry eliminates chatter for an excellent finish.

Higher Metal Removal
Higher speeds & feeds allow faster metal removal vs general purpose cutters.

Vibration Free
V7 Inox benefits from superior tool life compared to general purpose alternatives.

Features

Variable Helix Geometry
Enhances machining performance to ensure an excellent surface finish through silent machining.

<1.5xD Depth of Cut
Achieve larger depths of cut compared to general purpose milling.

Multi-Material
Suitable for steel <40HRC, stainless steel, cast iron & titanium alloy.

Chamfer Preparation
Optional chamfer prep to provide added corner edge protection, enhancing the overall durability.

4 FLUTE CORNER RADIUS VARIABLE HELIX

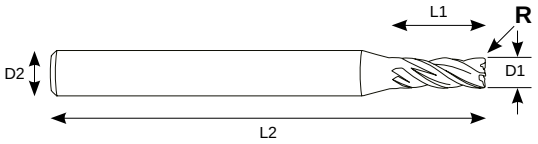
Excellent Performance and Tool Life on Stainless Steel, Titanium and Steel

- TiAlN coated premium grade carbide
- HPC = High performance cutting
- Special flute geometry and variable helix eliminates vibration
- Corner radius protects against the tool chipping

Series	Cutting Data
EMB43/15 YG-1	P89







MG SC | 4 | VAR | PLAIN | AlTiN COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★ Performance Order Code	Price
3	0.3	6	7	54	EMB43030	£21.53
			8	57	EMB15030	£23.91
4			11	57	EMB15040	£23.91
5			10	54	EMB43050	£21.53
			13	57	EMB15050	£23.91
6	0.5	6	10	54	EMB43060	£21.53
			13	57	EMB15060	£23.91
8		8	12	58	EMB43080	£30.03
			19	63	EMB15080	£32.90
10		10	14	66	EMB43100	£41.80
			22	72	EMB15100	£48.97
12	0.7	12	16	73	EMB43120	£54.88
			26	83	EMB15120	£69.35
14		14	18	75	EMB43140	£64.27
			26	83	EMB15140	£88.13
16	1	16	32	92	EMB15160	£122.36
20		20	26	92	EMB43200	£133.05
			38	104	EMB15200	£161.43

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	○	○				●	●	○						

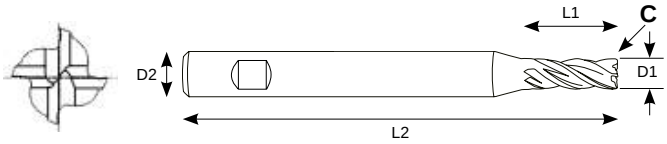
4 FLUTE CHAMFER PREP VARIABLE HELIX

Excellent Performance and Tool Life on Stainless Steel, Titanium and Steel

- TiAlN coated premium grade carbide
- HPC = High performance cutting
- Special flute geometry and variable helix eliminates vibration
- Higher speeds, deeper cuts, and higher metal removal rates than standard cutters

Series	Cutting Data
EMB42/39 YG-1	P89





MG SC | 4 | VAR | WELDON | C x 45° | AlTiN COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	C	★★★★ Performance Order Code	Price
3	6	7	54	0.1	EMB42030	£17.88
		8	57		EMB39030	£20.24
4		8	54		EMB42040	£17.88
		11	57		EMB39040	£20.24
5		10	54		EMB42050	£17.88
		13	57		EMB39050	£20.24
6		10	54		EMB42060	£17.88
		13	57		EMB39060	£20.24
8	8	12	58		EMB42080	£25.37
		19	63		EMB39080	£28.63
10	10	14	66		EMB42100	£35.75
		22	72		EMB39100	£42.36
12	12	16	73		EMB42120	£47.03
		26	83		EMB39120	£54.58
14	14	18	75	0.2	EMB42140	£58.38
16	16	22	82		EMB42160	£77.24
		32	92		EMB39160	£95.18
20	20	26	92		EMB42200	£117.62
		38	104		EMB39200	£147.00

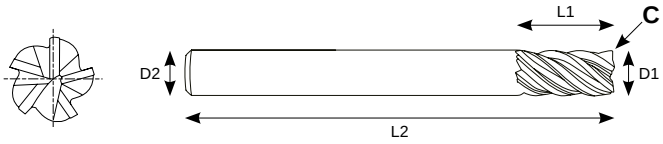
5 FLUTE VARIABLE HELIX

Excellent Performance and Tool Life on Stainless Steel, Titanium and Steel

- Excellent surface finish
- Special flute geometry eliminates vibrations
- Capable of higher speeds, deeper cuts and higher metal removal rates

Series	Cutting Data
EMB72 YG-1	P89





MG SC | 5 | VAR | PLAIN | C x 45° | AlTiN COATED | HPC

D1	D2	L1	L2	C	★★★★ Performance Order Code	Price
6	6	13	57	0.1	EMB72060	£24.50
8	8	19	63		EMB72080	£33.75
10	10	22	72		EMB72100	£50.24
12	12	26	83		EMB72120	£62.78
14	14	26	83	0.2	EMB72140	£84.68
16	16	32	92		EMB72160	£110.88
20	20	38	104		EMB72200	£170.56

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	○	○				●	●	○						

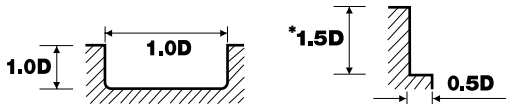
4 FLUTE VARIABLE HELIX

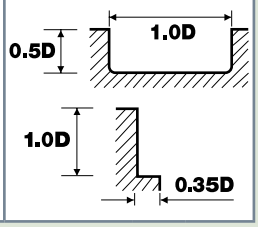
EMB15, 42, 43 & 39 Series

CUTTING DATA

Slotting & Side Cutting

MATERIAL	ALLOY STEEL				STAINLESS STEEL 300				STAINLESS STEEL 400				TITANIUM				INCONEL			
Hardness	~ HB230				HRC30 ~ HRC45				-				-				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	13475	275	125	0.005	10185	195	95	0.005	14260	205	135	0.004	10185	205	95	0.005	2715	55	25	0.005
4	10105	330	125	0.008	7600	250	95	0.008	14260	255	180	0.004	7600	255	95	0.008	2005	55	25	0.007
5	8085	370	125	0.011	6110	310	95	0.013	8655	310	135	0.009	6110	310	95	0.013	1630	80	25	0.012
6	6735	435	125	0.016	5095	360	95	0.018	7130	360	135	0.013	5095	360	95	0.018	1355	95	25	0.018
8	5050	555	125	0.027	3820	435	95	0.028	5345	465	135	0.022	3280	465	80	0.035	1015	125	25	0.031
10	4455	690	140	0.039	3055	590	95	0.048	4275	585	135	0.034	3055	585	95	0.048	815	155	25	0.048
12	3710	695	140	0.047	2545	565	95	0.056	3565	565	135	0.040	2545	565	95	0.056	675	150	25	0.056
14	3180	620	140	0.049	2180	520	95	0.060	3055	520	135	0.043	2180	520	95	0.060	580	140	25	0.060
16	2785	590	140	0.053	1910	480	95	0.063	2670	480	135	0.045	1910	480	95	0.063	505	130	25	0.064
18	2475	585	140	0.059	1695	475	95	0.070	2375	475	135	0.050	1695	475	95	0.070	450	125	25	0.069
20	2225	580	140	0.065	1525	470	95	0.077	2140	470	135	0.055	1525	470	95	0.077	405	125	25	0.077
25	1780	450	140	0.063	1215	380	95	0.078	1710	380	135	0.056	1215	380	95	0.078	320	110	25	0.086





***For short length series over 8mm dia. axial cutting depth should be 1.2 x D**

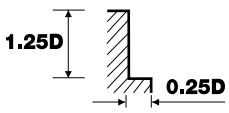
5 FLUTE VARIABLE HELIX

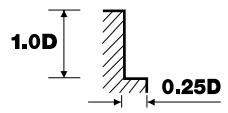
EMB72 Series

CUTTING DATA

Side Cutting

MATERIAL	ALLOY STEEL				STAINLESS STEEL 300				STAINLESS STEEL 400				TITANIUM				INCONEL			
Hardness	~ HB230				-				-				-				-			
Strength	~ 1000N/mm²				-				-				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	7270	1240	135	0.034	6060	920	115	0.030	5660	860	105	0.030	4440	670	85	0.030	1450	120	25	0.017
8	5450	1040	135	0.038	4540	720	115	0.032	4240	670	105	0.032	3330	520	85	0.031	1090	110	25	0.020
10	4360	1100	135	0.050	3630	690	115	0.038	3390	640	105	0.038	2660	500	85	0.038	870	110	25	0.025
12	3630	1150	135	0.063	3030	960	115	0.063	3830	820	145	0.043	2220	560	85	0.050	720	130	25	0.036
14	3110	1080	135	0.069	2600	850	115	0.065	2420	770	105	0.064	1900	540	85	0.057	620	140	25	0.045
16	2720	1040	135	0.076	2270	780	115	0.069	2120	720	105	0.068	1660	520	85	0.063	540	130	25	0.048
20	2180	970	135	0.089	1810	690	115	0.076	1690	640	105	0.076	1330	500	85	0.075	430	130	25	0.060





RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

Titanox Milling Cutters

P M S

Superior stainless steel & titanium milling with extreme reliability

For high value titanium, stainless steel, duplex & nickel alloy work pieces which require the highest levels of tool reliability.

Performance
★★★★★

Diameter Range
6-25mm

Machining Solutions



TitaNox

Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Versatile Machining
First choice for slotting and profiling with one tool in stainless steel, titanium and steel machining applications.

Double Core
The unique double core design promotes chip evacuation when slotting and improved stability when profiling.

Premium Carbide Performance
Maximum tool life and vibration free machining in roughing and finishing applications.

Product Scope
Extremely durable & reliable 4 & 5 flute end mills built to take on the toughest materials.

Features

Ultra Heat Resistant Coating
Advanced Y1200 coating offers protection against heat build up improving performance and tool life.

High Performance
First choice for high speed machining & high metal removal of stainless steel, titanium and soft steel.

Unique Flute Design
Variable flute design featuring multiple helix helps increase performance, reduce vibration and eliminate chatter.

Optimised Cutting Edge
Sharper cutting edges combined with optimised edge preparation provides excellent performance in sticky materials.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
4 FLUTE CORNER RADIUS DOUBLE CORE PLAIN SHANK		GMG40	6-25		**92**
4 FLUTE CORNER RADIUS DOUBLE CORE WELDON SHANK		GMG41	6-25		**92**
5 FLUTE CORNER RADIUS & CHAMFER PREP PLAIN & WELDON SHANK		EMI94 EMI96 EMI93 EMI95	6-25		**93**
5 FLUTE CHAMFER PREP PLAIN & WELDON SHANK		GMG24 GMG25 GMG26 GMG27	6-25		**94**
5 FLUTE CORNER RADIUS FINE PITCH ROUGHER PLAIN & WELDON SHANK		EHE54 EHE55	6-25		**95**

TITANOX 4 FLUTE CORNER RADIUS DOUBLE CORE

- Titanox double core end mill has a UNIQUE FLUTE DESIGN for excellent chip evacuation and higher rigidity.
- The double core adds stability, aids chip flow and prevents flute clogging in sticky metals such as stainless steel, titanium and soft steel.
- Minimizes chips clogging in the flute when slotting.





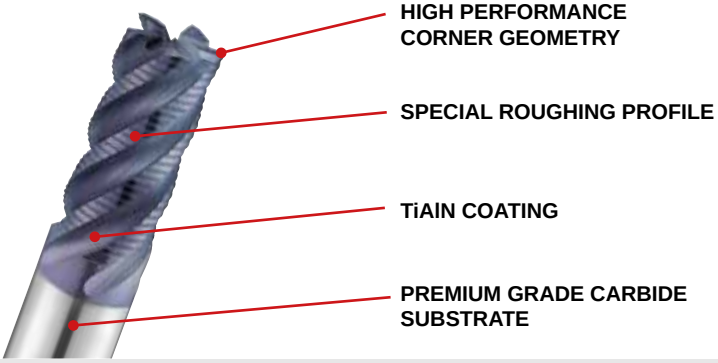
SECTION X
Deeper flutes for excellent chip evacuation



SECTION Y
Thicker core for higher rigidity

TITANOX 5 FLUTE CORNER RADIUS 40° HELIX FINE PITCH ROUGHER

- Suitable for titanium, titanium alloys, inconel & stainless steel.
- Optimised flute design for chip evacuation and rigidity when machining difficult-to-cut materials.
- Special roughing profile for machining titanium and titanium alloy.
- Longer tool life with special coating.



4 FLUTE CORNER RADIUS DOUBLE CORE

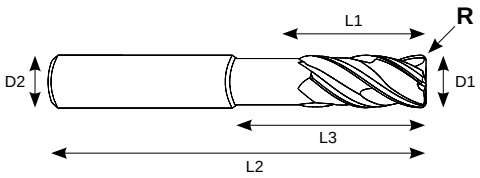
Excellent on Stainless Steel, HRSA's, Cast Iron & Mild Steel <HRC40

Series	Cutting Data
GMG40/41 YG-1	P96

- Y1200 coated micrograin carbide
- HPC = High performance cutting
- Unequal flute spacing and multiple helix reduces vibration in HPC machining
- The double core adds stability and aids chip flow, reducing tool deflection, improving dimensional stability and work piece accuracy
- Special design for sticky materials prevents flutes from clogging in slotting operations
- Best for slotting & profiling with one tool







MG SC | 4 | 43°/45° | PLAIN | WELDON | Y1200 COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code		Price
						Plain Shank	Weldon Shank	
6	0.5	6	13	57	20	GMG40060	GMG41060	£35.05
	1					GMG40901	GMG41901	£35.05
8	0.5	8	19	63	25	GMG40080	GMG41080	£48.65
	1					GMG40902	GMG41902	£48.65
	1.5					GMG40903	GMG41903	£48.65
	2					GMG40904	GMG41904	£48.65
10	0.5	10	22	72	30	GMG40100	GMG41100	£67.19
	1					GMG40905	GMG41905	£67.19
	1.5					GMG40906	GMG41906	£67.19
	2					GMG40907	GMG41907	£67.19
12	0.5	12	26	83	35	GMG40120	GMG41120	£104.63
	1					GMG40908	GMG41908	£104.63
	1.5					GMG40909	GMG41909	£104.63
	2					GMG40910	GMG41910	£104.63
	3					GMG40911	GMG41911	£104.63
14	1	14	26	83	35	GMG40140	GMG41140	£143.88
	2					GMG40912	GMG41912	£143.88
16	1	16	35	92	43	GMG40160	GMG41160	£164.65
	1.5					GMG40913	GMG41913	£164.65
	2					GMG40914	GMG41914	£164.65
	3					GMG40915	GMG41915	£164.65
	4					GMG40916	GMG41916	£164.65
20	1	20	44	110	56	GMG40200	GMG41200	£260.89
	1.5					GMG40917	GMG41917	£260.89
	2					GMG40918	GMG41918	£260.89
	3					GMG40919	GMG41919	£260.89
	3.5					GMG40920	GMG41920	£260.89
	4					GMG40921	GMG41921	£260.89
25	1	25	55	130	70	GMG40250	GMG41250	£378.80
	1.5					GMG40922	GMG41922	£378.80
	2					GMG40923	GMG41923	£378.80
	3					GMG40924	GMG41924	£378.80
	4					GMG40925	GMG41925	£378.80

Material Applications

● Excellent ○ Good

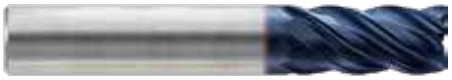
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	○	○				●	●	○						

5 FLUTE CORNER RADIUS & CHAMFER PREP

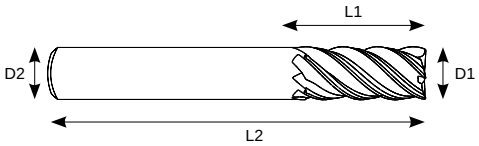
Exceptional Performance & Maximum Metal Removal Rates During Side Milling Applications

- High Performance milling of stainless steel, titanium, HRSA's and steel <HRc40
- Corner radius edge preparation to protect cutting edge from chipping
- Best for profiling
- 5 flute design ideal for medium to finish machining (up to 30% side cut) with high feed rates and high rigidity in profiling operations

Series		Cutting Data
EMI94/96 YG-1	EMI93/95 YG-1	P98







MG SC | 5 | 38° | PLAIN | WELDON | Y1200 COATED | HPC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
Corner Radius							
6	0.3	6	13	57	EMI94060	EMI96060	£31.47
	0.5				EMI94901	EMI96901	£31.47
	1				EMI94902	EMI96902	£31.47
8	0.5	8	19	63	EMI94080	EMI96080	£43.72
	1				EMI94903	EMI96903	£43.72
	1.5				EMI94904	EMI96904	£43.72
	2				EMI94905	EMI96905	£43.72
10	0.5	10	22	72	EMI94100	EMI96100	£68.97
	1				EMI94906	EMI96906	£68.97
	1.5				EMI94907	EMI96907	£68.97
	2				EMI94908	EMI96908	£68.97
	2.5				EMI94909	EMI96909	£68.97
12	0.5	12	26	83	EMI94120	EMI96120	£94.01
	1				EMI94910	EMI96910	£94.01
	1.5				EMI94911	EMI96911	£94.01
	2				EMI94912	EMI96912	£94.01
	2.5				EMI94913	EMI96913	£94.01
	3				EMI94914	EMI96914	£94.01
16	0.5	16	36	92	EMI94160	EMI96160	£162.77
	1				EMI94915	EMI96915	£162.77
	1.5				EMI94916	EMI96916	£162.77
	2				EMI94917	EMI96917	£162.77
	2.5				EMI94918	EMI96918	£162.77
	3				EMI94919	EMI96919	£162.77
	4				EMI94920	EMI96920	£162.77
20	1	20	44	104	EMI94200	EMI96200	£292.14
	1.5				EMI94921	EMI96921	£292.14
	2				EMI94922	EMI96922	£292.14
	2.5				EMI94923	EMI96923	£292.14
	3				EMI94924	EMI96924	£292.14
	4				EMI94925	EMI96925	£292.14
	5				EMI94926	EMI96926	£292.14
25	1	25	54	121	EMI94250	EMI96250	£411.09
	1.5				EMI94927	EMI96927	£411.09
	2				EMI94928	EMI96928	£411.09
	2.5				EMI94929	EMI96929	£411.09
	3				EMI94930	EMI96930	£411.09
	4				EMI94931	EMI96931	£411.09
	5				EMI94932	EMI96932	£411.09
Chamfer Prep							
6	-	6	13	57	EMI93060	EMI95060	£26.12
8		8	19	63	EMI93080	EMI95080	£36.92
10		10	22	72	EMI93100	EMI95100	£59.07
12		12	26	83	EMI93120	EMI95120	£80.52
16		16	36	92	EMI93160	EMI95160	£143.10
20		20	44	104	EMI93200	EMI95200	£253.65
25.0		25	54	121	EMI93250	EMI95250	£356.94

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	○	○				●	●	○						

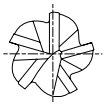
5 FLUTE CHAMFER PREP

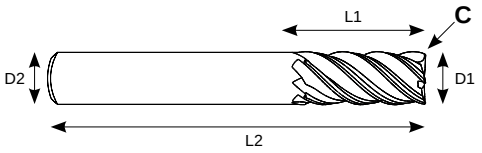
Exceptional Tool Life on Titanium, Hastelloy, Stainless Steel, Inconel & Steel <HRC40

Series		Cutting Data
GMG24/25 YG-1	GMG26/27 YG-1	P101

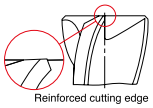
- Y1200 coated micrograin carbide
- HPC = High performance cutting
- Unequal flute spacing and multiple helix reduces vibration in HPC machining
- Chamfer edge preparation to protect cutting edge from chipping
- 5 flute design ideal for medium to finish machining (up to 30% side cut) with high feed rates and high rigidity in profiling operations
- Best for profling







MG SC | 5 | 43°/44°/45° | PLAIN | WELDON | C x 45° | Y1200 COATED | HPC


Reinforced cutting edge

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	C	★★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
6	6	10	54	0.2	GMG24060	GMG25060	£28.22
		13	57		GMG26060	GMG27060	£27.68
8	8	12	58	0.2	GMG24080	GMG25080	£37.48
		19	63		GMG26080	GMG27080	£39.15
10	10	14	66	0.3	GMG24100	GMG25100	£55.75
		22	72		GMG26100	GMG27100	£62.59
12	12	16	73	0.35	GMG24120	GMG25120	£81.62
		26	83		GMG26120	GMG27120	£65.01
16	16	22	82	0.4	GMG24160	GMG25160	£112.90
		36	92		GMG26160	GMG27160	£116.18
20	20	26	92	0.5	GMG24200	GMG25200	£166.53
		44	104		GMG26200	GMG27200	£205.92
25	25	29	100	0.5	GMG24250	GMG25250	£276.41
		54	121		GMG26250	GMG27250	£341.72

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	○	○				●	●	○						

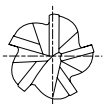
5 FLUTE CORNER RADIUS FINE PITCH ROUGHER, 40° HELIX

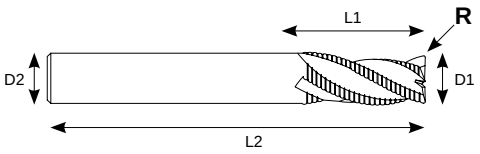
Exceptional Metal Removal Rates on Titanium, Hastelloy, Stainless Steel & Inconel

- TiAlN coated micrograin carbide
- HPC = High performance cutting
- Optimised flute design for chip evacuation and rigidity when machining difficult-to-cut materials
- Special roughing profile for stainless steel and titanium
- Corner protection from chipping

Series	Cutting Data
EHE54/55 YG-1	P101









D1	R	D2	L1	L2	★★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
6	0.2	6	16	57	EHE54060	EHE55060	**£53.32**
8	0.2	8	16	63	EHE54080	EHE55080	**£64.33**
10	0.3	10	22	72	EHE54100	EHE55100	**£91.16**
12	0.3	12	26	83	EHE54120	EHE55120	**£114.46**
14	0.3	14	26	83	EHE54140	EHE55140	**£119.02**
16	0.3	16	32	92	EHE54160	EHE55160	**£160.26**
20	0.3	20	38	104	EHE54200	EHE55200	**£229.49**
25	0.3	25	45	121	EHE54250	EHE55250	**£402.47**

Tolerances according to DIN 7160 & 7161

TOLERANCE RANGE IN µm					
NOMINAL-DIAMETER IN µm					
	Ø 1 to 3	Ø 4 to 6	Ø 7 to 10	Ø 11 to 18	Ø 19 to 30
h10	0 -40	0 -48	0 -58	0 -70	0 -84
h6	0 -6	0 -8	0 -9	0 -11	0 -13

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
						●	●	○						

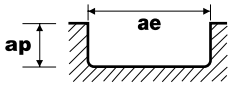
4 FLUTE CORNER RADIUS DOUBLE CORE

GMG40 & GMG41 Series

CUTTING DATA

Slotting

Speed & Feed Recommendations					Diameter (mm)							
Hardness (Brinell)	Work Materials	ap x D	ae x D		6	8	10	12	14	16	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMN 28) 1.0718(9 SMNPB 28)	1	1	Vc	125 (100-150)							
				RPM	6631	4974	3979	3316	2842	2487	1989	1592
				Fz	0.025	0.034	0.042	0.049	0.056	0.063	0.07	0.084
				Feed	663	676	668	650	637	627	557	535
P > 300 P < 380	ALLOY STEEL 1.2330(35 CRMO 4) 1.6565(40NICRMO6) 1.7033(34CR4) 1.6523(21 NICRMO2)	1	1	Vc	120 (96-144)							
				RPM	6366	4775	3820	3183	2728	2387	1910	1528
				Fz	0.025	0.034	0.042	0.049	0.056	0.063	0.07	0.077
				Feed	637	649	642	624	611	602	535	471
P < 380	TOOL STEEL 1.2363(X100 CRMOV 5 1) 1.2379(X155 CRVMO 12 1) 1.2344(X40 CRMOV 5 1) 1.3243(S 6-5-2-5)	1	1	Vc	120 (96-144)							
				RPM	6366	4775	3820	3183	2728	2387	1910	1528
				Fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084
				Feed	688	668	642	675	633	602	588	513
M	STAINLESS STEELS 300 1.4301(X5 CRNI 18 10) 1.4436(X3 CRNIMO 17 13 3) 1.4306(X2 CRNI 19 11) 1.4435(X2 CRNIMO 18 14 3)	1	1	Vc	85 (68-102)							
				RPM	4509	3382	2706	2255	1933	1691	1353	1082
				Fz	0.025	0.034	0.042	0.048	0.055	0.062	0.071	0.081
				Feed	446	463	452	428	425	418	386	350
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	1	1	Vc	125 (100-150)							
				RPM	6631	4974	3979	3316	2842	2487	1989	1592
				Fz	0.034	0.046	0.057	0.067	0.074	0.081	0.095	0.105
				Feed	907	907	907	882	841	803	756	665
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	0.5	1	Vc	36 (29-43)							
				RPM	1910	1432	1146	955	819	716	573	458
				Fz	0.016	0.021	0.027	0.032	0.036	0.04	0.046	0.052
				Feed	123	120	122	123	118	114	105	96
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	1	1	Vc	55 (44-66)							
				RPM	2918	2188	1751	1459	1251	1094	875	700
				Fz	0.034	0.046	0.057	0.067	0.076	0.086	0.095	0.105
				Feed	399	399	399	388	380	374	333	293
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	0.4	1	Vc	25 (20-30)							
				RPM	1326	995	796	663	568	497	398	318
				Fz	0.018	0.024	0.03	0.036	0.04	0.044	0.05	0.055
				Feed	95	95	95	95	91	88	80	70



*** Maximum recommended depth shown**

*** Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x D1 or less**

*** Reduce speed and feed recommendations for materials harder than listed**

*** Above recommendations are based on ideal conditions. Adjust parameters accordingly for smaller taper machining centres or less rigid conditions**

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

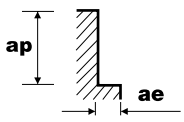
4 FLUTE CORNER RADIUS DOUBLE CORE

GMG40 & GMG41 Series

CUTTING DATA

Side Cutting

Speed & Feed Recommendations					Diameter (mm)							
Hardness (Brinell)	Work Materials	ap x D	ae x D		6	8	10	12	14	16	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMN 28) 1.0718(9 SMNPB 28)	1	0.4	Vc	160 (128-192)							
				RPM	8488	6366	5093	4244	3638	3183	2546	2037
				Fz	0.027	0.035	0.042	0.053	0.058	0.063	0.077	0.084
				Feed	917	891	856	900	844	802	784	684
P > 300 P < 380	ALLOY STEEL 1.2330(35 CRMO 4) 1.6565(40NICRMO6) 1.7033(34CR4) 1.6523(21 NICRMO2)	1	0.4	Vc	150 (120-180)							
				RPM	7958	5968	4775	3979	3410	2984	2387	1910
				Fz	0.025	0.035	0.042	0.049	0.056	0.063	0.07	0.084
				Feed	796	836	802	780	764	752	668	642
P < 380	TOOL STEEL 1.2363(X100 CRMOV 5 1) 1.2379(X155 CRVMO 12 1) 1.2344(X40 CRMOV 5 1) 1.3243(S 6-5-2-5)	1	0.4	Vc	150 (120-180)							
				RPM	7958	5968	4775	3979	3410	2984	2387	1910
				Fz	0.027	0.035	0.046	0.053	0.06	0.067	0.077	0.084
				Feed	859	836	879	844	819	800	735	642
M	STAINLESS STEELS 300 1.4301(X5 CRNI 18 10) 1.4436(X3 CRNIMO 17 13 3) 1.4306(X2 CRNI 19 11) 1.4435(X2 CRNIMO 18 14 3)	1	0.4	Vc	105 (84-126)							
				RPM	5570	4178	3342	2785	2387	2089	1671	1337
				Fz	0.025	0.034	0.042	0.048	0.055	0.062	0.071	0.081
				Feed	550	572	559	529	525	516	476	432
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	1	0.4	Vc	155 (124-186)							
				RPM	8223	6167	4934	4112	3524	3084	2467	1974
				Fz	0.034	0.046	0.057	0.067	0.076	0.086	0.095	0.114
				Feed	1125	1125	1125	1094	1071	1055	937	900
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	0.6	0.4	Vc	44 (35-53)							
				RPM	2334	1751	1401	1167	1000	875	700	560
				Fz	0.016	0.021	0.027	0.032	0.036	0.04	0.046	0.052
				Feed	151	146	149	151	144	140	128	117
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	1	0.4	Vc	70 (56-84)							
				RPM	3714	2785	2228	1857	1592	1393	1114	891
				Fz	0.034	0.048	0.057	0.067	0.076	0.086	0.095	0.114
				Feed	508	529	508	494	484	476	423	406
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	0.6	0.3	Vc	32 (26-38)							
				RPM	1698	1273	1019	849	728	637	509	407
				Fz	0.02	0.026	0.032	0.038	0.044	0.048	0.055	0.065
				Feed	136	132	130	129	128	122	112	106



*** Maximum recommended depth shown**

*** Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x D1 or less**

*** Reduce speed and feed recommendations for materials harder than listed**

*** Above recommendations are based on ideal conditions. Adjust parameters accordingly for smaller taper machining centres or less rigid conditions**

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

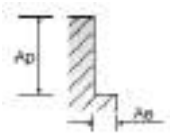
5 FLUTE TITANOX CORNER RADIUS & CHAMFER PREP

EMI93, EMI94, EMI95, & EMI96 Series

CUTTING DATA

Heavy Side Cutting

Speed & Feed Recommendations						Diameter (mm)						
ISO		Work Materials	ap x D	ae x D		6	8	10	12	16	20	25
P	1-5	Non-alloy steel	1.5	0.5	Vc	152						
					RPM	0.038	0.046	0.059	0.074	0.095	0.115	0.123
					Fz	8064	6048	4838	4032	3024	2419	1935
					Feed	1532	1391	1427	1492	1436	1391	1190
	6-8	Low alloy steel	1.5	0.5	Vc	152						
					RPM	0.038	0.046	0.059	0.074	0.095	0.115	0.123
					Fz	8064	6048	4838	4032	3024	2419	1935
					Feed	1532	1391	1427	1492	1436	1391	1190
	9		1.5	0.5	Vc	122						
					RPM	0.029	0.036	0.045	0.058	0.072	0.088	0.095
					Fz	6472	4854	3883	3236	2427	1942	1553
					Feed	938	874	874	938	874	854	738
	10	High alloyed steel and tool steel	1.5	0.5	Vc	137						
					RPM	0.038	0.046	0.059	0.074	0.095	0.115	0.123
					Fz	7268	5451	4361	3634	2726	2180	1744
					Feed	1381	1254	1286	1345	1295	1254	1073
	11.1		1.5	0.5	Vc	122						
					RPM	0.029	0.036	0.045	0.058	0.072	0.088	0.095
					Fz	6472	4854	3883	3236	2427	1942	1553
					Feed	938	874	874	938	874	854	738
M	12	Stainless Steel	1.5	0.5	Vc	76						
					RPM	0.024	0.031	0.040	0.050	0.061	0.075	0.080
					Fz	4032	3024	2419	2016	1512	1210	968
					Feed	484	469	484	504	461	454	387
M	14.1		1.5	0.5	Vc	91						
					RPM	0.031	0.036	0.048	0.062	0.072	0.083	0.090
					Fz	4828	3621	2897	2414	1810	1448	1159
					Feed	748	652	695	748	652	601	522
M	14.2		1.5	0.5	Vc	61						
					RPM	0.024	0.028	0.037	0.050	0.056	0.067	0.073
					Fz	3236	2427	1942	1618	1214	971	777
					Feed	388	340	359	405	340	325	284
S	33	Heat Resistant Super Alloys	1.5	0.2	Vc	27						
					RPM	0.024	0.031	0.037	0.046	0.054	0.061	0.068
					Fz	1432	1074	859	716	537	430	344
					Feed	172	166	159	165	145	131	117
	37	Titanium Alloys	1.5	0.5	Vc	49						
					RPM	0.024	0.031	0.037	0.046	0.054	0.061	0.068
					Fz	2600	1950	1560	1300	975	780	624
					Feed	312	302	289	299	263	238	212



FOR ENQUIRIES PLEASE CALL **01924 869610** OR EMAIL **SALES@CUTWEL.NET**

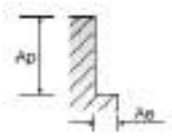
5 FLUTE TITANOX CORNER RADIUS & CHAMFER PREP

EMI93, EMI94, EMI95, & EMI96 Series

CUTTING DATA

Side Cutting (Peel Milling)

Speed & Feed Recommendations						Diameter (mm)						
ISO		Work Materials	ap x D	ae x D		6	8	10	12	16	20	25
P	1-5	Non-alloy steel	2	0.08	Vc	198						
					RPM	0.053	0.067	0.083	0.103	0.131	0.160	0.170
					Fz	10504	7878	6303	5252	3939	3151	2521
					Feed	2784	2639	2616	2705	2580	2521	2143
	6-8	Low alloy steel	2	0.08	Vc	198						
					RPM	0.053	0.067	0.083	0.103	0.131	0.160	0.170
					Fz	10504	7878	6303	5252	3939	3151	2521
					Feed	2784	2639	2616	2705	2580	2521	2143
	9		2	0.08	Vc	198						
					RPM	0.041	0.051	0.064	0.079	0.102	0.123	0.133
					Fz	10504	7878	6303	5252	3939	3151	2521
					Feed	2153	2009	2017	2075	2009	1938	1676
	10	High alloyed steel and tool steel	2	0.08	Vc	177						
					RPM	0.053	0.067	0.083	0.103	0.131	0.160	0.170
					Fz	9390	7043	5634	4695	3521	2817	2254
					Feed	2488	2359	2338	2418	2306	2254	1916
	11.1		2	0.08	Vc	168						
					RPM	0.041	0.051	0.064	0.079	0.102	0.123	0.133
					Fz	8913	6685	5348	4456	3342	2674	2139
					Feed	1827	1705	1711	1760	1704	1645	1422
M	12	Stainless Steel	2	0.06	Vc	107						
					RPM	0.036	0.041	0.056	0.070	0.087	0.104	0.113
					Fz	5677	4257	3406	2838	2129	1703	1362
					Feed	1022	873	954	993	926	886	770
M	14.1		2	0.06	Vc	130						
					RPM	0.043	0.049	0.067	0.086	0.100	0.117	0.128
					Fz	6897	5173	4138	3448	2586	2069	1655
					Feed	1483	1267	1386	1483	1293	1210	1059
M	14.2		2	0.06	Vc	91						
					RPM	0.034	0.038	0.053	0.070	0.079	0.093	0.103
					Fz	4828	3621	2897	2414	1810	1448	1159
					Feed	821	688	768	845	715	673	597
S	33	Heat Resistant Super Alloys	2	0.04	Vc	37						
					RPM	0.024	0.031	0.037	0.046	0.054	0.061	0.068
					Fz	1963	1472	1178	981	736	589	471
					Feed	236	228	218	226	199	180	160
	37	Titanium Alloys	2	0.05	Vc	91						
					RPM	0.024	0.031	0.037	0.046	0.054	0.061	0.068
					Fz	4828	3621	2897	2414	1810	1448	1159
						579	561	536	555	489	442	394



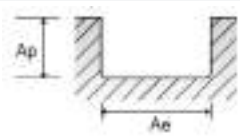
5 FLUTE TITANOX CORNER RADIUS & CHAMFER PREP

EMI93, EMI94, EMI95, & EMI96 Series

CUTTING DATA

Slotting

Speed & Feed Recommendations						Diameter (mm)						
ISO		Work Materials	ap x D	ae x D		6	8	10	12	16	20	25
P	1-5	Non-alloy steel	1	1	Vc	84						
					RPM	0.031	0.038	0.048	0.058	0.074	0.091	0.098
					Fz	4456	3342	2674	2228	1671	1337	1070
					Feed	691	635	642	646	618	608	524
	6-8	Low alloy steel	1	1	Vc	84						
					RPM	0.031	0.038	0.048	0.058	0.074	0.091	0.098
					Fz	4456	3342	2674	2228	1671	1337	1070
					Feed	691	635	642	646	618	608	524
	9		1	1	Vc	84						
					RPM	0.024	0.028	0.037	0.046	0.059	0.069	0.075
					Fz	4456	3342	2674	2228	1671	1337	1070
					Feed	535	468	495	512	493	461	401
	10	High alloyed steel and tool steel	0.75	1	Vc	70						
					RPM	0.031	0.038	0.048	0.058	0.074	0.091	0.098
					Fz	3714	2785	2228	1857	1393	1114	891
					Feed	576	529	535	539	515	507	437
	11.1		0.75	1	Vc	76						
					RPM	0.024	0.028	0.037	0.046	0.059	0.069	0.075
					Fz	4032	3024	2419	2016	1512	1210	968
					Feed	484	423	448	464	446	417	363
M	12	Stainless Steel	0.5	1	Vc	69						
					RPM	0.019	0.023	0.032	0.041	0.049	0.059	0.065
					Fz	3661	2745	2196	1830	1373	1098	879
					Feed	348	316	351	375	336	324	286
M	14.1		0.5	1	Vc	76						
					RPM	0.024	0.028	0.037	0.050	0.059	0.067	0.073
					Fz	4032	3024	2419	2016	1512	1210	968
					Feed	484	423	448	504	446	405	353
M	14.2		0.5	1	Vc	61						
					RPM	0.019	0.023	0.029	0.041	0.046	0.053	0.058
					Fz	3236	2427	1942	1618	1214	971	777
					Feed	307	279	282	332	279	257	225
S	33	Heat Resistant Super Alloys	0.4	1	Vc	20						
					RPM	0.019	0.026	0.029	0.036	0.044	0.051	0.053
					Fz	1061	796	637	531	398	318	255
					Feed	101	103	92	96	88	81	68
	37	Titanium Alloys	0.5	1	Vc	49						
					RPM	0.019	0.026	0.029	0.036	0.044	0.051	0.053
					Fz	2600	1950	1560	1300	975	780	624
						247	254	226	234	215	199	165



*** Maximum recommended depth shown**

*** Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x D1 or less**

*** Reduce speed and feed recommendations for materials harder than listed**

*** Above recommendations are based on ideal conditions. Adjust parameters accordingly for smaller taper machining centres or less rigid conditions**

RPM: revolutions per minute Feed: mm per minute Vc: surface speed (metres per minute) Fz: feed per tooth

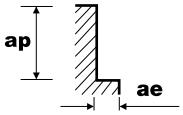
5 FLUTE CHAMFER PREP

GMG24, GMG25, GMG26, & GMG27 Series

CUTTING DATA

Side Cutting

Speed & Feed Recommendations					Diameter (mm)								
Hardness (Brinell)	Work Materials	ap x D	ae x D		6	8	10	12	14	16	18	20	25
P < 300	CARBON STEEL 1.1191(C45) 1.0726(35 S 20) 1.0715(9 SMN 28) 1.0718(9 SMNPB 28)	1.5	0.3	Vc	144 (115-173)								
				RPM	7639	5730	4584	3820	3274	2865	2546	2292	1833
				Fz	0.034	0.038	0.05	0.063	0.069	0.076	0.083	0.089	0.101
				Feed	1299	1089	1146	1203	1130	1089	1057	1020	926
P > 300 P < 380	ALLOY STEEL 1.2330(35 CRMO 4) 1.6565(40NICRMO6) 1.7033(34CR4) 1.6523(21 NICRMO2)	1.5	0.3	Vc	101 (81-121)								
				RPM	5358	4019	3215	2679	2296	2009	1786	1607	1286
				Fz	0.034	0.038	0.05	0.063	0.069	0.076	0.083	0.089	0.101
				Feed	911	764	804	844	792	764	741	715	649
P < 380	TOOL STEEL 1.2363(X100 CRMOV 5 1) 1.2379(X155 CRVMO 12 1) 1.2344(X40 CRMOV 5 1) 1.3243(S 6-5-2-5)	1.5	0.3	Vc	60 (48-72)								
				RPM	3183	2387	1910	1592	1364	1194	1061	955	764
				Fz	0.024	0.027	0.035	0.044	0.049	0.054	0.058	0.062	0.071
				Feed	382	322	334	350	334	322	308	296	271
M	STAINLESS STEELS 300 1.4301(X5 CRNI 18 10) 1.4436(X3 CRNIMO 17 13 3) 1.4306(X2 CRNI 19 11) 1.4435(X2 CRNIMO 18 14 3)	1.5	0.3	Vc	82 (66-98)								
				RPM	4350	3263	2610	2175	1864	1631	1450	1305	1044
				Fz	0.03	0.032	0.038	0.063	0.065	0.069	0.07	0.076	0.088
				Feed	653	522	496	685	606	563	508	496	459
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	1.5	0.3	Vc	117 (94-140)								
				RPM	6207	4655	3724	3104	2660	2328	2069	1862	1490
				Fz	0.024	0.025	0.03	0.046	0.051	0.054	0.057	0.061	0.071
				Feed	745	582	559	714	678	628	590	568	529
M	STAINLESS STEELS(PH) 1.4594(Z7 CNU 15.05)	1.5	0.3	Vc	59 (47-71)								
				RPM	3130	2348	1878	1565	1341	1174	1043	939	751
				Fz	0.03	0.032	0.038	0.063	0.065	0.069	0.07	0.076	0.088
				Feed	470	376	357	493	436	405	365	357	331
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	1.5	0.3	Vc	69 (55-83)								
				RPM	3661	2745	2196	1830	1569	1373	1220	1098	879
				Fz	0.027	0.029	0.034	0.057	0.059	0.062	0.063	0.069	0.079
				Feed	494	398	373	522	463	426	384	379	347
S	HIGH TEMPERATURE ALLOY INCONEL HASTELLOY, RENE	1.5	0.1	Vc	31 (25-37)								
				RPM	1645	1233	987	822	705	617	548	493	395
				Fz	0.021	0.022	0.027	0.044	0.046	0.048	0.049	0.053	0.062
				Feed	173	136	133	181	162	148	134	131	122



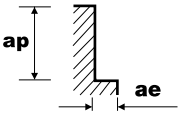
5 FLUTE CORNER RADIUS FINE PITCH ROUGHER

EHE54 & EHE55 Series

CUTTING DATA

Side Cutting

Speed & Feed Recommendations					Diameter (mm)							
Hardness (Brinell)	Work Materials	ap x D	ae x D		6	8	10	12	14	16	20	25
M	STAINLESS STEELS 400 1.4005(X12 CRS 13) 1.4104(X14 CRMOS 17)	1.5	6 -10mm 0.15 12-16mm 0.10 20-25mm 0.05	Vc	80 (64-96)							
				RPM	4244	3183	2546	2122	1819	1592	1273	1019
				Fz	0.025	0.034	0.041	0.051	0.057	0.063	0.081	0.091
				Feed	531	541	522	541	518	501	516	463
S	TITANIUM TI6AL4V TI5AL5V5MO TI7AL4MO	1.5	6 -10mm 0.15 12-16mm 0.10 20-25mm 0.05	Vc	65 (52-78)							
				RPM	3448	2586	2069	1724	1478	1293	1035	828
				Fz	0.022	0.031	0.038	0.046	0.052	0.058	0.074	0.084
				Feed	379	401	393	397	384	375	383	348
S	HIGH TEMPERATURE ALLOY INCONEL	1	0.05	Vc	40 (32-48)							
				RPM	2122	1592	1273	1061	909	796	637	509
				Fz	0.02	0.025	0.037	0.04	0.046	0.052	0.061	0.068
				Feed	212	199	236	212	209	207	194	173



4G Mills
Milling Cutters

Performance
★★★★★

P H M K

Performance HSC carbide milling. Speed, accuracy, durability & choice.

Huge range of tool diameters, lengths and geometries make 4G Mills the most comprehensive milling cutter range for dedicated steel milling.

Diameter Range
0.03-25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★	★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Durability
Advanced Y1200 coating combined with unique geometries and premium carbide offering maximum tool life.

Speed
Dedicated range for HSC (high speed cutting) of steel <55 HRC, stainless steel & cast iron.

Choice
Huge range of tool geometries and lengths with diameters ranging from Ø0.03mm - Ø25mm.

Accuracy
Manufactured to tight tolerances resulting in precision made components with mirror surface finish.

Features

Ultrafine Carbide
Superior performance levels that surpass standard micrograin carbide.

Nanograin Ball Nose
Nanograin carbide ball nose cutters with exceptional heat resistance.

High Speed Milling
For HSC (high speed cutting) on steel and hardened steel <55 HRC.

Optimal Multiple Helix
Extra strength in heavy cutting applications and reduce vibrations for enhanced machining performance.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE SHORT LENGTH PLAIN SHANK		SEME35	0.03-25	30°	**104**
2 FLUTE SHORT LENGTH, 3mm SHANKS PLAIN SHANK		SEME35	0.1-3	30°	**105**
2 FLUTE SHORT LENGTH, 4mm SHANKS 0.1mm INCREMENTS • PLAIN SHANK		SEME35	1-3	30°	**105**
2 FLUTE LONG NECK PLAIN SHANK		SEM845	0.5-12	30°	**106**
2 FLUTE LONG LENGTH PLAIN SHANK		SEME70	1-20	30°	**108**
4 FLUTE PLAIN SHANK		SEME72	1-20	30°	**109**
4 FLUTE LONG NECK PLAIN SHANK		SEME73	1-12	30°	**110**
4 FLUTE MULTIPLE HELIX PLAIN SHANK		SEME36	0.8-25	27°/30°	**111**
4 FLUTE MULTIPLE HELIX FOR HEAVY CUTTING PLAIN SHANK		SEME71	1-20	M-Helix	**112**
6 FLUTE 45° HELIX PLAIN SHANK		SEME75	6-20	45°	**113**
2 FLUTE CORNER RADIUS PLAIN SHANK		SEMD99	0.2-20	30°	**114**
2 FLUTE CORNER RADIUS LONG NECK PLAIN SHANK		SEME61	0.2-20	30°	**116**
4 FLUTE CORNER RADIUS MULTIPLE HELIX PLAIN SHANK		SEME01	1-20	M-Helix	**120**
4 FLUTE CORNER RAD. MULTIPLE HELIX, LONG NECK PLAIN SHANK		SEME64	1-20	M-Helix	**122**
2 FLUTE BALL NOSE PLAIN SHANK		SEMD98	0.1-25	30°	**124**
2 FLUTE BALL NOSE LONG NECK PLAIN SHANK		SEM846	0.1-12	30°	**126**

2 FLUTE SHORT LENGTH

Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME35 YG-1	P130

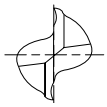
- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Cutting ability is increased due to sharp edge geometry

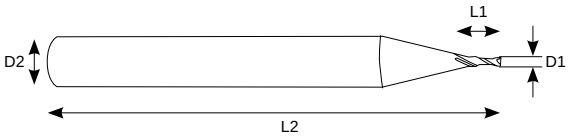
Up to Ø5mm



Over Ø5mm







MG SC | 2 | 30° | PLAIN | HSC | Y1200 COATED

Size	TOLERANCE	
	Mill Dia.	Shank Dia.
Up to Ø6	0~-0.012mm	h6
Over Ø6	0~-0.015mm	

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.03	4	0.04	40	SEME350003E	£263.23
0.04		0.06		SEME350004E	£263.23
0.05		0.07		SEME350005E	£202.58
0.06		0.09		SEME350006E	£202.58
0.07		0.1		SEME350007E	£155.51
0.08		0.12		SEME350008E	£155.51
0.09		0.13		SEME350009E	£119.50
0.1		0.2		SEME35001E	£58.85
0.15		0.3		SEME350015E	£58.85
0.2		0.4		SEME35002E	£46.08
0.25		0.5		SEME350025E	£46.08
0.3		0.6		SEME35003E	£40.61
0.35		0.7		SEME350035E	£40.61
0.4		0.8		SEME35004E	£35.81
0.45		0.9		SEME350045E	£35.81
0.5		1		SEME35005E	£31.38
0.55		1.1		SEME350055E	£31.38
0.6		1.2		SEME35006E	£29.54
0.65		1.3		SEME350065E	£29.54
0.7		1.4		SEME35007E	£28.62
0.75		1.5		SEME350075E	£28.62
0.8		1.6		SEME35008E	£26.82
0.85		1.7		SEME350085E	£26.82
0.9		1.8		SEME35009E	£26.82
1	6	2.5	50	SEME35010E	£36.73
1.2		3		SEME35012E	£36.73
1.5		4		SEME35015E	£36.73
2		6		SEME35020E	£33.49
2.5		7		SEME35025E	£33.49
3		8		SEME35030E	£33.49

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
3.5	6	10	50	SEME35035E	£33.49
4		10	50	SEME35040E	£33.49
4.5		14	50	SEME35045E	£33.49
5		15	60	SEME35050E	£33.49
5.5		15	60	SEME35055E	£33.49
6		15	60	SEME35060E	£33.49
6.5	8	18	60	SEME35065E	£41.82
7		20	60	SEME35070E	£41.82
7.5		20	60	SEME35075E	£41.82
8		20	70	SEME35080E	£41.82
8.5	10	22	70	SEME35085E	£61.91
9		22	70	SEME35090E	£61.91
9.5		24	70	SEME35095E	£61.91
10		25	75	SEME35100E	£61.91
10.5	12	26	75	SEME35105E	£84.90
11		30	75	SEME35110E	£84.90
11.5		30	80	SEME35115E	£84.90
12		30	80	SEME35120E	£84.90
13		35	100	SEME35130E	£112.89
14		35	100	SEME3514012SE	£112.89
14	14	35	100	SEME3514014SE	£112.89
14	16	35	100	SEME35140E	£147.19
15		30		SEME35150E	£147.19
16		40		SEME35160E	£147.19
17		42		SEME35170E	£196.82
18		45		SEME35180E	£196.82
18	18	45	100	SEME3518018SE	£195.73
19	20	45	100	SEME35190E	£244.23
20		45		SEME35200E	£244.23
25	25	50	120	SEME35250E	£407.01

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE SHORT LENGTH, 3MM & 4MM SHANKS

Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME35 YG-1	P130

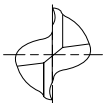
- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Cutting ability is increased due to sharp edge geometry

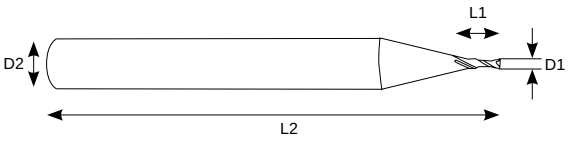
3mm Shank



4mm Shank







MG SC | 2 | 30° | PLAIN | HSC | Y1200 COATED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.012mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.1	3	0.2	40	SEME350013SE	£58.03
0.2		0.4		SEME350023SE	£45.26
0.3		0.6		SEME350033SE	£39.76
0.4		0.8		SEME350043SE	£35.04
0.5		1		SEME350053SE	£30.46
0.6		1.2		SEME350063SE	£28.64
0.7		1.4		SEME350073SE	£27.77
0.8		1.6		SEME350083SE	£25.97
0.9		1.8		SEME350093SE	£25.97
1	3	2.5	50	SEME350103SE	£24.28
1.2		3		SEME350123SE	£24.28
1.5		4		SEME350153SE	£24.28
2		6		SEME350203SE	£22.00
2.5		7		SEME350253SE	£22.00
3		8		SEME350303SE	£22.00
1	4	2.5	50	SEME350104SE	£25.27
1.1		3		SEME350114SE	£25.27
1.2		3		SEME350124SE	£25.27
1.3		3		SEME350134SE	£25.27
1.4		4		SEME350144SE	£25.27
1.5		4		SEME350154SE	£25.27
1.6		4		SEME350164SE	£25.27
1.7		4		SEME350174SE	£25.27
1.8		5		SEME350184SE	£25.27
1.9		5		SEME350194SE	£25.27
2		6		SEME350204SE	£23.07
2.1		6		SEME350214SE	£23.07
2.2		6		SEME350224SE	£23.07
2.3		6		SEME350234SE	£23.07
2.4		6		SEME350244SE	£23.07
2.5		8		SEME350254SE	£23.07
2.6		8		SEME350264SE	£23.07
2.7		8		SEME350274SE	£23.07
2.8		8		SEME350284SE	£23.07
2.9		8		SEME350294SE	£23.07
3		8		SEME350304SE	£23.07

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEM845 YG-1	P132

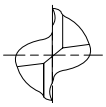
- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- For 1.0mm and below, designed with double neck for increasing tool rigidity and minimizing vibration
- Wide range of neck lengths for rib processing/pocket milling operations

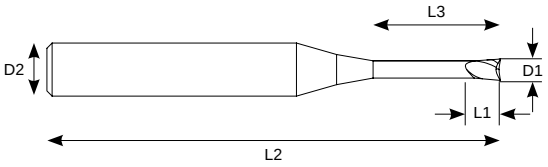
Up to Ø5mm



Over Ø5mm







MG SC | 2 | 30° | PLAIN | HSC | Y1200 COATED

Size	TOLERANCE	
	Mill Dia.	Shank Dia.
Up to Ø6	0~-0.012mm	h6
Over Ø6	0~-0.015mm	

D1	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.5	4	0.7	45	6	SEM84500506E	£34.48
				10	SEM84500510E	£39.88
				14	SEM84500514E	£46.28
				16	SEM84500516E	£46.28
0.6	4	0.9	45	2	SEM84500602E	£34.48
				3	SEM84500603E	£34.48
				4	SEM84500604E	£34.48
				5	SEM84500605E	£34.48
				6	SEM84500606E	£34.48
				8	SEM84500608E	£39.47
				10	SEM84500610E	£39.69
				12	SEM84500612E	£43.64
				14	SEM84500614E	£45.60
				16	SEM84500616E	£45.60
0.7	4	1.2	45	2	SEM84500702E	£31.40
				4	SEM84500704E	£31.40
				6	SEM84500706E	£31.40
				8	SEM84500708E	£31.40
				10	SEM84500710E	£36.03
				12	SEM84500712E	£39.69
0.8	4	1.2	45	2	SEM84500802E	£31.40
				3	SEM84500803E	£31.40
				4	SEM84500804E	£31.40
				5	SEM84500805E	£31.40
				6	SEM84500806E	£31.40
				8	SEM84500808E	£31.40
				10	SEM84500810E	£36.03
				12	SEM84500812E	£39.69
				14	SEM84500814E	£41.48
				16	SEM84500816E	£41.48

D1	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.9	4	1.3	45	6	SEM84500906E	£31.40
				10	SEM84500910E	£31.40
1	4	1.5	50	2	SEM84501002E	£28.54
				3	SEM84501003E	£28.54
				4	SEM84501004E	£28.54
				5	SEM84501005E	£28.54
				6	SEM84501006E	£28.54
				7	SEM84501007E	£28.54
				8	SEM84501008E	£28.54
				10	SEM84501010E	£28.54
				12	SEM84501012E	£30.14
				14	SEM84501014E	£31.40
				16	SEM84501016E	£31.40
				18	SEM84501018E	£31.74
				20	SEM84501020E	£31.74
			60	22	SEM84501022E	£34.89
				26	SEM84501026E	£34.89
			70	30	SEM84501030E	£34.89
			80	40	SEM84501040E	£38.14
			100	50	SEM84501050E	£43.86
1.2	4	1.8	50	4	SEM84501204E	£28.54
				6	SEM84501206E	£28.54
				8	SEM84501208E	£28.54
				10	SEM84501210E	£28.54
				12	SEM84501212E	£30.14
				14	SEM84501214E	£31.40
				16	SEM84501216E	£31.40
				20	SEM84501220E	£31.74
			60	26	SEM84501226E	£34.89
			70	30	SEM84501230E	£34.89

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEM845 YG-1	P132

Up to Ø5mm



Over Ø5mm



SEM845 continued

D1	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1.4	4	2.1	50	6	SEM84501406E	£28.54
				8	SEM84501408E	£28.54
				10	SEM84501410E	£28.54
				14	SEM84501414E	£29.78
				16	SEM84501416E	£31.40
				20	SEM84501420E	£32.30
1.5	4	2.3	50	4	SEM84501504E	£28.54
				5	SEM84501505E	£28.54
				6	SEM84501506E	£28.54
				7	SEM84501507E	£28.54
				8	SEM84501508E	£28.54
				10	SEM84501510E	£28.54
				12	SEM84501512E	£29.78
				14	SEM84501514E	£29.78
				16	SEM84501516E	£31.40
				18	SEM84501518E	£31.40
				20	SEM84501520E	£31.40
			60	22	SEM84501522E	£34.89
				26	SEM84501526E	£34.89
			70	30	SEM84501530E	£34.89
1.6	4	2.3	50	8	SEM84501608E	£28.54
				10	SEM84501610E	£28.54
				12	SEM84501612E	£30.14
				16	SEM84501616E	£31.40
				20	SEM84501620E	£30.77
1.8	4	2.7	50	8	SEM84501808E	£28.54
				10	SEM84501810E	£28.54
				12	SEM84501812E	£30.14
				16	SEM84501816E	£31.40
				20	SEM84501820E	£30.77
2	4	3	50	6	SEM84502006E	£27.23
				8	SEM84502008E	£27.23
				10	SEM84502010E	£27.23
				12	SEM84502012E	£27.23
				14	SEM84502014E	£27.23
				16	SEM84502016E	£29.00
				18	SEM84502018E	£29.00
				20	SEM84502020E	£29.00
			60	22	SEM84502022E	£30.75
				26	SEM84502026E	£30.75
			70	30	SEM84502030E	£30.75
				35	SEM84502035E	£30.75
			80	40	SEM84502040E	£33.56
			90	45	SEM84502045E	£38.14
			100	50	SEM84502050E	£41.63
			110	60	SEM84502060E	£48.27
2.5	4	4	50	8	SEM84502508E	£27.23
				10	SEM84502510E	£27.23
				12	SEM84502512E	£27.23
				14	SEM84502514E	£27.23
2.5	4	4	50	16	SEM84502516E	£29.00
				18	SEM84502518E	£29.00
				20	SEM84502520E	£29.00
3	6	4.5	50	8	SEM84503008E	£40.75
				10	SEM84503010E	£40.75
				12	SEM84503012E	£40.75
			60	14	SEM84503014E	£41.19
				16	SEM84503016E	£41.19
				18	SEM84503018E	£41.19
				20	SEM84503020E	£41.19
			65	22	SEM84503022E	£41.19
				26	SEM84503026E	£41.19
			70	35	SEM84503035E	£52.60
			90	45	SEM84503045E	£60.31
			100	60	SEM84503060E	£70.75
4	6	6	50	8	SEM84504008E	£40.75
				10	SEM84504010E	£40.75
				12	SEM84504012E	£40.75
			60	14	SEM84504014E	£41.19
				16	SEM84504016E	£41.19
				18	SEM84504018E	£41.19
				20	SEM84504020E	£41.19
			65	22	SEM84504022E	£41.19
				26	SEM84504026E	£41.19
			70	30	SEM84504030E	£52.60
				35	SEM84504035E	£52.60
			80	40	SEM84504040E	£53.09
			90	45	SEM84504045E	£60.31
			100	50	SEM84504050E	£65.86
			100	60	SEM84504060E	£70.75
5	6	8	60	16	SEM84505016E	£41.19
				20	SEM84505020E	£41.19
			65	26	SEM84505026E	£41.19
			70	30	SEM84505030E	£52.60
			75	35	SEM84505035E	£52.60
			80	40	SEM84505040E	£53.09
			90	50	SEM84505050E	£60.31
			100	60	SEM84505060E	£70.75
6	6	9	60	15	SEM84506015E	£41.19
				20	SEM84506020E	£41.19
			70	30	SEM84506030E	£52.60
			90	32	SEM84506032E	£60.31
8	8	12	70	25	SEM84508025E	£51.42
			80	30	SEM84508030E	£54.52
			100	42	SEM84508042E	£63.99
10	10	15	75	30	SEM84510030E	£76.13
			80	35	SEM84510035E	£80.90
			100	45	SEM84510045E	£94.13
12	12	20	80	35	SEM84512035E	£104.33
			110	50	SEM84512050E	£150.25

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE LONG LENGTH

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Cutting ability is increased due to sharp edge geometry

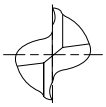
Series	Cutting Data
SEME70 YG-1	P136

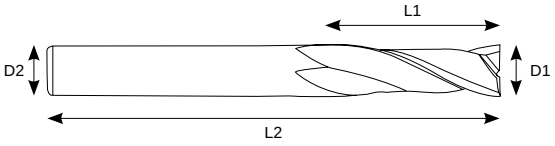
Up to Ø5mm



Over Ø5mm







MG SC | 2 | 30° | PLAIN | HSC | Y1200 COATED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1	6	3	60	SEME7001003E	£36.73
		4		SEME7001004E	£36.73
		6		SEME7001006E	£38.60
		8		SEME7001008E	£40.41
		10		SEME7001010E	£44.03
1.5	6	6	60	SEME7001506E	£36.73
		8		SEME7001508E	£38.60
		10		SEME7001510E	£40.41
		12		SEME7001512E	£44.03
		16		SEME7001516E	£49.50
2	6	8	60	SEME7002008E	£33.49
		10		SEME7002010E	£35.13
		12		SEME7002012E	£36.78
		16		SEME7002016E	£40.08
2.5	6	16	60	SEME7002516E	£36.78
3	6	10	70	SEME7003010E	£45.12
		12		SEME7003012E	£45.12
		16		SEME7003016E	£45.12
		20		SEME7003020E	£45.12
		26		SEME7003026E	£50.74
4	6	12	70	SEME7004012E	£45.12
		16		SEME7004016E	£45.12
		20		SEME7004020E	£45.12
		26		SEME7004026E	£50.74
		30		SEME7004030E	£54.59
5	6	20	70	SEME7005020E	£45.12
		25		SEME7005025E	£50.74
		30	80	SEME7005030E	£55.90
		40	100	SEME7005040E	£67.16
6	6	15	60	SEME7006015E	£33.49
		15	80	SEME7006015080E	£45.12
		20	70	SEME7006020E	£45.12
		20	90	SEME7006020090E	£48.73

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6	6	25	75	SEME7006025E	£50.74
		30	80	SEME7006030E	£54.98
		30	100	SEME7006030100E	£59.27
		30	150	SEME7006030150E	£71.07
		35	90	SEME7006035E	£61.91
		40		SEME7006040E	£62.92
		45	150	SEME7006045E	£84.32
8	8	25	80	SEME7008025E	£53.18
		30		SEME7008030E	£53.18
		35	90	SEME7008035E	£59.56
		40		SEME7008040E	£63.60
		40	120	SEME7008040120E	£71.28
		45	100	SEME7008045E	£70.36
		50		SEME7008050E	£71.89
10	10	30	80	SEME7010030E	£71.38
		30	100	SEME7010030100E	£77.05
		35	90	SEME7010035E	£74.26
		40		SEME7010040E	£79.72
		40	120	SEME7010040120E	£89.48
		45	100	SEME7010045E	£86.31
		50		SEME7010050E	£91.76
		60	110	SEME7010060E	£112.04
12	12	35	90	SEME7012035E	£101.89
		40	100	SEME7012040E	£105.88
		40	120	SEME7012040120E	£128.42
		45	130	SEME7012045E	£137.89
		50	100	SEME7012050E	£133.19
		55	110	SEME7012055E	£141.94
		60		SEME7012060E	£151.24
		60	150	SEME7012060150E	£175.18
16	16	40	150	SEME7016040E	£202.80
20	20	90	200	SEME7020090200E	£504.56
		110		SEME70200110E	£548.36

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

4 FLUTE

Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME72 YG-1	P138

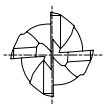
- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Wide range of flute lengths for optimum performance

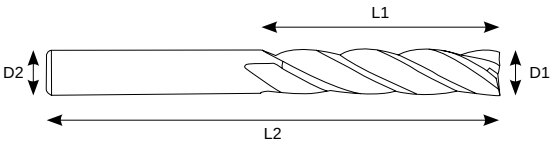
Up to Ø5mm



Over Ø5mm







MG SC | 4 | 30° | PLAIN | HSC | Y1200 COATED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1	6	3	60	SEME7201003E	£36.73
		4		SEME7201004E	£36.73
		5		SEME7201005E	£38.60
		6		SEME7201006E	£38.60
1.5	6	6	60	SEME7201506E	£36.73
2	6	8	60	SEME7202008E	£33.49
		10		SEME7202010E	£35.13
		12		SEME7202012E	£36.78
		14		SEME7202014E	£40.08
2.5	6	10	60	SEME7202510E	£33.49
		12		SEME7202512E	£33.49
3	6	10	70	SEME7203010E	£45.12
		12		SEME7203012E	£45.12
		16		SEME7203016E	£45.12
		20		SEME7203020E	£45.12
		26		SEME7203026E	£50.74
		30		SEME7203030E	£54.59
4	6	12	70	SEME7204012E	£45.12
		16		SEME7204016E	£45.12
		20		SEME7204020E	£45.12
		26		SEME7204026E	£50.74
		30		SEME7204030E	£54.59
5	6	20	70	SEME7205020E	£45.12
		25		SEME7205025E	£50.74
		30	80	SEME7205030E	£55.90
		40	100	SEME7205040E	£67.16
6	6	15	60	SEME7206015E	£33.49
		20	70	SEME7206020E	£45.12
		20	90	SEME7206020090E	£48.73
		25	75	SEME7206025E	£50.74
		30	80	SEME7206030E	£54.98
		30	100	SEME7206030100E	£59.27
		30	150	SEME7206030150E	£71.07

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6	6	35	90	SEME7206035E	£61.91
		40		SEME7206040E	£62.92
		40	120	SEME7206040120E	£70.58
		45	150	SEME7206045E	£84.32
8	8	25	80	SEME7208025E	£53.18
		30		SEME7208030E	£53.18
		35	90	SEME7208035E	£59.56
		40		SEME7208040E	£63.60
		45	100	SEME7208045E	£70.36
		50		SEME7208050E	£71.89
		50	150	SEME7208050150E	£86.23
10	10	30	80	SEME7210030E	£71.38
		30	100	SEME7210030100E	£77.05
		35	90	SEME7210035E	£74.26
		40		SEME7210040E	£79.72
		45	100	SEME7210045E	£86.31
		50		SEME7210050E	£91.76
		50	200	SEME7210050200E	£142.45
12	12	35	90	SEME7212035E	£101.89
		40	100	SEME7212040E	£105.88
		45	130	SEME7212045E	£122.87
		50	100	SEME7212050E	£118.63
		55	110	SEME7212055E	£126.48
		60		SEME7212060E	£134.72
		60	150	SEME7212060150E	£156.14
		60	200	SEME7212060200E	£187.73
14	16	50	110	SEME7214050E	£190.15
16	16	50	110	SEME7216050E	£190.15
		60	120	SEME7216060E	£198.46
		70	130	SEME7216070E	£219.25
		70	150	SEME7216070150E	£236.77
20	20	60	130	SEME7220060E	£338.46
		90	200	SEME7220090200E	£504.56
		120	250	SEME72200120E	£665.27

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

4 FLUTE LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME73 YG-1	P140

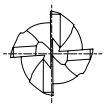
- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Wide range of neck lengths for rib processing/pocket milling operations

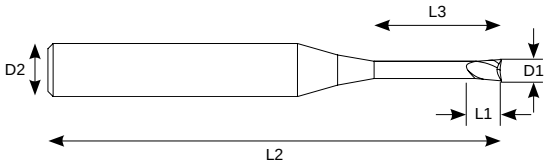
Up to Ø5mm



Over Ø5mm







MG SC | 4 | 30° | PLAIN | HSC | Y1200 COATED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1	4	1.5	50	4	SEME7301004E	£28.54
				5	SEME7301005E	£28.54
				6	SEME7301006E	£28.54
				8	SEME7301008E	£28.54
				12	SEME7301012E	£30.14
				16	SEME7301016E	£31.40
				20	SEME7301020E	£31.74
			70	30	SEME7301030E	£34.89
			80	40	SEME7301040E	£38.14
			100	50	SEME7301050E	£43.86
1.5	4	2.3	50	8	SEME7301508E	£28.54
				10	SEME7301510E	£28.54
				12	SEME7301512E	£30.14
				14	SEME7301514E	£29.78
				16	SEME7301516E	£31.40
				18	SEME7301518E	£31.40
			60	22	SEME7301522E	£34.89
			70	30	SEME7301530E	£34.89
2	4	3	50	8	SEME7302008E	£27.23
				10	SEME7302010E	£27.23
				12	SEME7302012E	£27.23
				14	SEME7302014E	£27.23
				16	SEME7302016E	£29.00
				20	SEME7302020E	£29.00
			60	26	SEME7302026E	£30.75
			70	35	SEME7302035E	£30.75
			90	45	SEME7302045E	£38.14
3	6	4.5	50	10	SEME7303010E	£40.75
				12	SEME7303012E	£40.75
3	6	4.5	60	16	SEME7303016E	£41.19
				20	SEME7303020E	£41.19
			65	22	SEME7303022E	£41.19
			70	30	SEME7303030E	£52.60
			80	40	SEME7303040E	£53.09
			100	60	SEME7303060E	£70.75
4	6	6	50	12	SEME7304012E	£40.75
			60	16	SEME7304016E	£41.19
				20	SEME7304020E	£41.19
			65	26	SEME7304026E	£41.19
			70	30	SEME7304030E	£52.60
				35	SEME7304035E	£52.60
			80	40	SEME7304040E	£53.09
			90	45	SEME7304045E	£60.31
			100	60	SEME7304060E	£70.75
5	6	8	60	16	SEME7305016E	£41.19
				20	SEME7305020E	£41.19
			65	26	SEME7305026E	£41.19
			75	35	SEME7305035E	£52.60
			80	40	SEME7305040E	£53.09
			100	60	SEME7305060E	£70.75
6	6	9	60	15	SEME7306015E	£41.19
			70	30	SEME7306030E	£52.60
8	8	12	70	25	SEME7308025E	£51.42
			100	42	SEME7308042E	£63.99
10	10	15	75	30	SEME7310030E	£76.13
			100	45	SEME7310045E	£94.13
12	12	20	80	35	SEME7312035E	£104.33
			110	50	SEME7312050E	£150.25

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

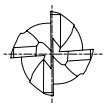
4 FLUTE MULTIPLE HELIX

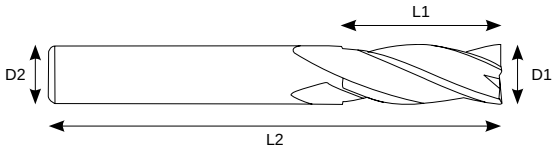
Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Multiple helix reduces vibration

Series	Cutting Data
SEME36 YG-1	P131







MG SC | 4 | 27°/30° | PLAIN | HPC | Y1200 COATED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.8	4	1.6	40	SEME36008E	£26.82
0.9		1.8		SEME36009E	£26.82
1	6	2.5	50	SEME36010E	£36.73
1.2		3		SEME36012E	£36.73
1.5		4		SEME36015E	£36.73
2		6		SEME36020E	£33.49
2.5		7		SEME36025E	£33.49
3		8		SEME36030E	£33.49
3.5		10		SEME36035E	£33.49
4		10		SEME36040E	£33.49
4.5		14		SEME36045E	£33.49
5		15	60	SEME36050E	£33.49
5.5		15		SEME36055E	£33.49
6		15		SEME36060E	£33.49
6.5	8	18	60	SEME36065E	£41.82
7		20		SEME36070E	£41.82
7.5				SEME36075E	£41.82
8		20	70	SEME36080E	£41.82
8.5	10	22	70	SEME36085E	£61.91
9				SEME36090E	£61.91
9.5		24		SEME36095E	£61.91
10	10	25	75	SEME36100E	£61.91
10.5	12	26	75	SEME36105E	£84.90
11		30		SEME36110E	£84.90
11.5		30	80	SEME36115E	£84.90
12				SEME36120E	£84.90
13		35	100	SEME36130E	£112.89
14				SEME3614012SE	£112.89
14	14	35	100	SEME3614014SE	£112.89
14	16	35	100	SEME36140E	£147.19
15		38		SEME36150E	£147.19
16		40		SEME36160E	£147.19
17		42		SEME36170E	£196.82
18		45		SEME36180E	£196.82
18	18	45	100	SEME3618018SE	£195.73
19	20	45	100	SEME36190E	£244.23
20				SEME36200E	£244.23
21				SEME36210E	£318.67
22				SEME36220E	£318.67
23	25	50	120	SEME36230E	£407.01
24				SEME36240E	£407.01
25				SEME36250E	£407.01



MULTIPLE HELIX DESIGN

The multiple helix design gives the end mill extra strength in both semi-roughing and finishing conditions, enabling heavier cutting and reducing vibration. The reduced vibration increases tool life and improves surface finish.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

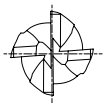
4 FLUTE MULTIPLE HELIX FOR HEAVY CUTTING

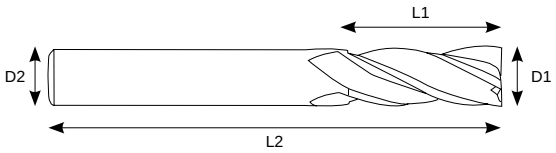
Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME71 YG-1	P131

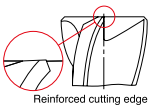
- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Vibration is minimised due to Multiple Helix geometry (3mm+ diameter only)
- Gash land geometry prevents the cutting edge from chipping and enables heavy duty cutting







MG SC | 4 | 35°/38° | PLAIN | HSC | Y1200 COATED



TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1	6	1	40	SEME7101001E	£35.30
		2		SEME7101002E	£35.30
		2.5	50	SEME71010E	£36.73
		3		SEME7101003E	£38.60
		4		SEME7101004E	£38.60
		6		SEME7101006E	£40.51
1.2	6	2	40	SEME7101202E	£35.30
		3	50	SEME71012E	£36.73
		4		SEME7101204E	£38.60
		6		SEME7101206E	£38.60
1.5	6	1.5	40	SEME71015015E	£35.30
		3		SEME7101503E	£35.30
		4	50	SEME71015E	£36.73
		6		SEME7101506E	£38.60
		8		SEME7101508E	£40.51
		10		SEME7101510E	£42.47
2	6	2	40	SEME7102002E	£32.08
		4		SEME7102004E	£32.08
		6	50	SEME71020E	£33.49
		8		SEME7102008E	£35.13
		10		SEME7102010E	£36.85
		12		SEME7102012E	£38.62
2.5	6	2.5	40	SEME71025025E	£32.08
		5		SEME7102505E	£32.08
		7	50	SEME71025E	£33.49
		10		SEME7102510E	£35.13
		12		SEME7102512E	£35.13
3	6	3	40	SEME7103003E	£32.08
		6		SEME7103006E	£32.08
		8	50	SEME71030E	£33.49
		10		SEME7103010E	£38.86
		12		SEME7103012E	£38.86
		14		SEME7103014E	£38.86

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	4	40	SEME7104004E	£32.08
		8		SEME7104008E	£32.08
		10	50	SEME71040E	£33.49
		12		SEME7104012E	£38.86
		14		SEME7104014E	£38.86
		16		SEME7104016E	£38.86
5	6	5	50	SEME7105005E	£32.08
		10		SEME7105010E	£32.08
		15	60	SEME71050E	£33.49
		20		SEME7105020E	£40.05
		25		SEME7105025E	£45.16
6	6	6	50	SEME7106006E	£32.08
		12		SEME7106012E	£32.08
		15	60	SEME71060E	£33.49
		20		SEME7106020E	£40.05
		25		SEME7106025E	£45.16
8	8	16	60	SEME7108016E	£40.20
		20	70	SEME71080E	£41.82
		25		SEME7108025E	£49.86
		30		SEME7108030E	£49.86
10	10	22	65	SEME7110022E	£59.60
		25	75	SEME71100E	£61.91
		30		SEME7110030E	£71.38
		35		SEME7110035E	£71.38
12	12	26	70	SEME7112026E	£81.70
		30	80	SEME71120E	£84.90
		35		SEME7112035E	£91.47
		40		SEME7112040E	£95.49
14	16	35	100	SEME71140E	£147.19
16	16	32	100	SEME7116032E	£147.19
		40		SEME71160E	£147.19
18	20	45	100	SEME71180E	£244.23
20	20	45	100	SEME71200E	£244.23

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

6 FLUTE 45° HELIX, REGULAR & LONG SHANK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME75 YG-1	P142

- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Exceptional surface finish in profiling operations
- Can be used for trochoidal machining, high speed milling or normal milling







MG SC | 6 | 45° | TROCHOIDAL | PLAIN | HSC | Y1200 COATED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6	6	15	60	SEME75060E	£38.23
		20	70	SEME7506020E	£51.56
		30	80	SEME7506030E	£62.83
		30	110	SEME7506030110E	£67.72
8	8	20	70	SEME75080E	£51.34
		30	80	SEME7508030E	£65.32
		35	90	SEME7508035E	£73.17
		40	90	SEME7508040E	£78.19
		40	130	SEME7508040130E	£87.61
10	10	25	75	SEME75100E	£72.49
		30	80	SEME7510030E	£83.57
		40	90	SEME7510040E	£93.38
		50	100	SEME7510050E	£107.46
		50	150	SEME7510050150E	£128.85
12	12	30	80	SEME75120E	£98.54
		50	100	SEME7512050E	£137.70
		60	110	SEME7512060E	£156.43
		60	150	SEME7512060150E	£181.29
16	16	40	100	SEME75160E	£174.23
		50	110	SEME7516050E	£225.14
		60	120	SEME7516060E	£234.98
		90	150	SEME7516090E	£308.30
		110	200	SEME75160110E	£398.53
		110	250	SEME75160110250E	£630.89
20	20	45	100	SEME75200E	£266.48
		60	120	SEME7520060E	£369.38
		70	130	SEME7520070E	£387.72
		110	200	SEME75200110E	£598.32
		110	250	SEME75200110250E	£725.89
		110	300	SEME75200110300E	£767.62

4G Mills - 6 FLUTE 45° HELIX - EXAMPLE DATA



The 4G Mill 6 flute 45° helix finisher can be used in normal speed/feed machining or high speed/feed machining, depending on your machine tool's capabilities.

LOW ALLOY STEEL HRC25

Ø16mm, 6 Flute, SEME75160E
NORMAL SPEED

RPM	2,205
VC (m/min)	111
fz (mm/tooth)	0.10
Feed (mm/min)	1,325
Ap:	24mm
Ae:	1.6mm

LOW ALLOY STEEL HRC25

Ø16mm, 6 Flute, SEME75160E
HIGH SPEED

RPM	6,615
VC (m/min)	333
fz (mm/tooth)	0.10
Feed (mm/min)	3,970
Ap:	24mm
Ae:	0.8mm

HARDENED STEEL HRC50

Ø16mm, 6 Flute, SEME75160E
NORMAL SPEED

RPM	670
VC (m/min)	34
fz (mm/tooth)	0.034
Feed (mm/min)	135
Ap:	16mm
Ae:	0.8mm

HARDENED STEEL HRC50

Ø16mm, 6 Flute, SEME75160E
HIGH SPEED

RPM	3,320
VC (m/min)	167
fz (mm/tooth)	0.10
Feed (mm/min)	1,985
Ap:	16mm
Ae:	0.8mm

RPM (Revolutions per minute), VC (surface speed in metres per minute), fz (feed rate in mm per tooth), Feed (Feed rate in mm per minute), Ap (depth of cut), Ae (width of cut)

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

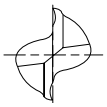
2 FLUTE CORNER RADIUS

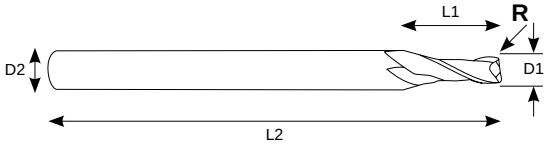
Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Available with various corner radius from R0.02mm to R5.0mm

Series	Cutting Data
SEMD99 YG-1	P143









Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to Ø6	±0.010	0~-0.012mm	h6
Over Ø6	±0.015	0~-0.015mm	

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
0.2	0.02	4	0.4	40	SEMD99002002E	£61.01
	0.05				SEMD99002005E	£61.01
0.3	0.02	4	0.6	40	SEMD99003002E	£53.77
	0.05				SEMD99003005E	£53.77
0.4	0.05	4	0.8	40	SEMD99004005E	£47.42
	0.1				SEMD9900401E	£47.42
0.5	0.05	4	1	40	SEMD99005005E	£41.51
	0.1				SEMD9900501E	£41.51
0.6	0.05	4	1.2	40	SEMD99006005E	£39.08
	0.1				SEMD9900601E	£39.08
	0.2				SEMD9900602E	£39.08
0.7	0.05	4	1.4	40	SEMD99007005E	£37.85
	0.1				SEMD9900701E	£37.85
	0.2				SEMD9900702E	£37.85
0.8	0.05	4	1.6	40	SEMD99008005E	£35.50
	0.1				SEMD9900801E	£35.50
	0.2				SEMD9900802E	£35.50
0.9	0.05	4	1.8	40	SEMD99009005E	£35.50
	0.1				SEMD9900901E	£35.50
1	0.05	6	2.5	50	SEMD99010005E	£48.65
	0.1				SEMD9901001E	£48.65
	0.2				SEMD9901002E	£48.65
	0.3				SEMD9901003E	£48.65
1.2	0.05	6	3	50	SEMD99012005E	£48.65
	0.1				SEMD9901201E	£48.65
	0.2				SEMD9901202E	£48.65
	0.3				SEMD9901203E	£48.65
1.5	0.05	6	4	50	SEMD99015005E	£48.65
	0.1				SEMD9901501E	£48.65
	0.2				SEMD9901502E	£48.65

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
1.5	0.3	6	4	50	SEMD9901503E	£48.65
	0.5				SEMD9901505E	£48.65
2	0.1	6	6	50	SEMD9902001E	£44.24
	0.2				SEMD9902002E	£44.24
	0.3				SEMD9902003E	£44.24
	0.5				SEMD9902005E	£44.24
2.5	0.1	6	7	60	SEMD9902501E	£44.24
	0.2				SEMD9902502E	£44.24
	0.3				SEMD9902503E	£44.24
	0.5				SEMD9902505E	£44.24
3	0.1	6	8	60	SEMD9903001E	£44.24
	0.2				SEMD9903002E	£44.24
	0.3				SEMD9903003E	£44.24
	0.5				SEMD9903005E	£44.24
	1				SEMD9903010E	£44.24
3.5	0.1	6	10	70	SEMD9903501E	£45.99
	0.2				SEMD9903502E	£45.99
	0.3				SEMD9903503E	£45.99
	0.5				SEMD9903505E	£45.99
4	0.1	4	10	70	SEMD99040014SE	£31.62
	0.2				SEMD99040024SE	£31.62
	0.3				SEMD99040034SE	£31.62
	0.5				SEMD99040054SE	£31.62
	1				SEMD99040104SE	£31.62
	0.1			100	SEMD99040011004SE	£37.27
	0.2				SEMD99040021004SE	£37.27
	0.3				SEMD99040031004SE	£37.27
	0.5				SEMD99040051004SE	£37.27
	1				SEMD99040101004SE	£37.27

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE CORNER RADIUS

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEMD99 YG-1	P143



SEMD99 continued

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
4	0.1	6	10	70	SEMD9904001E	£45.99
	0.2				SEMD9904002E	£45.99
	0.3				SEMD9904003E	£45.99
	0.5				SEMD9904005E	£45.99
	1				SEMD9904010E	£45.99
4.5	0.1	6	11	80	SEMD9904501E	£46.50
	0.2				SEMD9904502E	£46.50
	0.3				SEMD9904503E	£46.50
	0.5				SEMD9904505E	£46.50
5	0.1	6	13	90	SEMD9905001E	£48.77
	0.2				SEMD9905002E	£48.77
	0.3				SEMD9905003E	£48.77
	0.5				SEMD9905005E	£48.77
	1				SEMD9905010E	£48.77
5.5	0.1	6	13	90	SEMD9905501E	£48.77
	0.2				SEMD9905502E	£48.77
	0.3				SEMD9905503E	£48.77
	0.5				SEMD9905505E	£48.77
	1				SEMD9905510E	£48.77
6	0.2	6	15	60	SEMD9906002060E	£44.24
	0.3				SEMD9906003060E	£44.24
	0.5				SEMD9906005060E	£44.24
	1				SEMD9906010060E	£44.24
	0.1			90	SEMD9906001E	£48.77
	0.2				SEMD9906002E	£48.77
	0.3				SEMD9906003E	£48.77
	0.5				SEMD9906005E	£48.77
	1				SEMD9906010E	£48.77
	1.5				SEMD9906015E	£52.14
	2				SEMD9906020E	£52.14
	0.5			110	SEMD9906005E	£48.77
	1				SEMD9906010110E	£61.83
	0.5			130	SEMD9906005130E	£67.33
	1				SEMD9906010130E	£67.33
7	0.1	8	16	90	SEMD9907001E	£62.32
	0.2				SEMD9907002E	£62.32
	0.3				SEMD9907003E	£62.32
	0.5				SEMD9907005E	£62.32
	1				SEMD9907010E	£62.32
	2				SEMD9907020E	£66.32
8	0.3	8	20	70	SEMD9908003070E	£55.17
	0.5				SEMD9908005070E	£55.17
	1				SEMD9908010070E	£55.17
	0.1			100	SEMD9908001E	£62.32
	0.2				SEMD9908002E	£62.32
	0.3				SEMD9908003E	£62.32
	0.5				SEMD9908005E	£62.32
	1				SEMD9908010E	£62.32
	1.5				SEMD9908015E	£66.32
	2				SEMD9908020E	£66.32
	2.5				SEMD9908025E	£70.29
	3				SEMD9908030E	£70.29
	0.5			120	SEMD9908005120E	£73.56
	1				SEMD9908010120E	£73.56

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
8	0.5	8	20	150	SEMD9908015150E	£103.20
	1				SEMD9908010150E	£80.37
10	0.3	10	25	75	SEMD9910003075E	£74.38
	0.5				SEMD9910005075E	£74.38
	1				SEMD9910010075E	£74.38
	0.1			100	SEMD9910001E	£82.33
	0.2				SEMD9910002E	£82.33
	0.3				SEMD9910003E	£82.33
	0.5				SEMD9910005E	£82.33
	1				SEMD9910010E	£82.33
	1.5				SEMD9910015E	£89.79
	2				SEMD9910020E	£89.79
	2.5				SEMD9910025E	£89.79
	3				SEMD9910030E	£95.17
	4				SEMD9910040E	£101.01
	0.5			130	SEMD9910005130E	£100.00
	1				SEMD9910010130E	£100.00
	0.5			150	SEMD9910005150E	£107.77
	1				SEMD9910010150E	£107.77
11	0.2	12	25	110	SEMD9911002E	£133.58
	0.3				SEMD9911003E	£133.58
	0.5				SEMD9911005E	£133.58
	1				SEMD9911010E	£133.58
	2				SEMD9911020E	£143.78
12	0.3	12	30	80	SEMD9912003080E	£101.67
	0.5				SEMD9912005080E	£101.67
	1				SEMD9912010080E	£101.67
	0.1			110	SEMD9912001E	£133.58
	0.2				SEMD9912002E	£133.58
	0.3				SEMD9912003E	£133.58
	0.5				SEMD9912005E	£133.58
	1				SEMD9912010E	£133.58
	1.5				SEMD9912015E	£143.78
	2				SEMD9912020E	£143.78
	2.5				SEMD9912025E	£143.78
	3				SEMD9912030E	£151.19
	4				SEMD9912040E	£159.26
	5				SEMD9912050E	£168.18
	0.5			130	SEMD9912005130E	£146.06
	1				SEMD9912010130E	£146.06
	0.5			150	SEMD9912005150E	£156.60
	1				SEMD9912010150E	£156.60
14	0.5	16	35	150	SEMD9914005E	£214.12
	1				SEMD9914010E	£214.12
	2				SEMD9914020E	£233.14
16	0.5	16	32	150	SEMD9916005E	£214.12
	1				SEMD9916010E	£214.12
	1.5				SEMD9916015E	£233.14
	2				SEMD9916020E	£233.14
20	0.5	20	38	150	SEMD9920005E	£352.76
	1				SEMD9920010E	£352.76
	1.5				SEMD9920015E	£384.28
	2				SEMD9920020E	£384.28

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE CORNER RADIUS LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME61 YG-1	**P144**

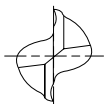
- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Available with various corner radius from R0.02mm to R2.0mm
- Available with various reach lengths and overall lengths

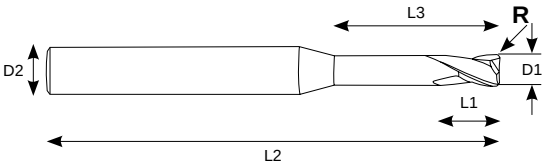
Up to Ø5mm

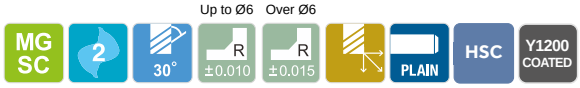


Over Ø5mm









Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to Ø6	±0.010	0~-0.012mm	h6
Over Ø6	±0.015	0~-0.015mm	

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.2	0.02	4	0.3	40	0.5	SEME61002002005E	**£52.38**
					1	SEME6100200201E	**£52.38**
					1.5	SEME61002002015E	**£52.38**
					2	SEME6100200202E	**£52.38**
	0.05				0.5	SEME61002005005E	**£52.38**
					1	SEME6100200501E	**£52.38**
					1.5	SEME61002005015E	**£52.38**
					2	SEME6100200502E	**£52.38**
0.3	0.02	4	0.5	40	1	SEME6100300201E	**£46.23**
					2	SEME6100300202E	**£46.23**
					3	SEME6100300203E	**£46.23**
	0.05				1	SEME6100300501E	**£46.23**
					2	SEME6100300502E	**£46.23**
					3	SEME6100300503E	**£46.23**
0.4	0.05	4	0.6	40	1	SEME6100400501E	**£40.75**
					1.5	SEME61004005015E	**£40.75**
					2	SEME6100400502E	**£40.75**
					2.5	SEME61004005025E	**£40.75**
					3	SEME6100400503E	**£40.75**
					4	SEME6100400504E	**£40.75**
	0.1				1	SEME610040101E	**£40.75**
					1.5	SEME6100401015E	**£40.75**
					2	SEME610040102E	**£40.75**
					2.5	SEME6100401025E	**£40.75**
					3	SEME610040103E	**£40.75**
					4	SEME610040104E	**£40.75**
0.5	0.05	4	0.7	45	1	SEME6100500501E	**£37.39**
					1.5	SEME61005005015E	**£37.39**
					2	SEME6100500502E	**£37.39**

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.5	0.05	4	0.7	45	2.5	SEME61005005025E	**£37.39**
					3	SEME6100500503E	**£37.39**
					4	SEME6100500504E	**£37.39**
					5	SEME6100500505E	**£37.39**
					6	SEME6100500506E	**£37.39**
	0.1				1	SEME610050101E	**£37.39**
					1.5	SEME6100501015E	**£37.39**
					2	SEME610050102E	**£37.39**
					2.5	SEME6100501025E	**£37.39**
					3	SEME610050103E	**£37.39**
					4	SEME610050104E	**£37.39**
					5	SEME610050105E	**£37.39**
					6	SEME610050106E	**£37.39**
0.6	0.05	4	0.9	45	2	SEME6100600502E	**£37.39**
					3	SEME6100600503E	**£37.39**
					4	SEME6100600504E	**£37.39**
					6	SEME6100600506E	**£37.39**
					8	SEME6100600508E	**£42.81**
					10	SEME6100600510E	**£43.06**
	0.1				2	SEME610060102E	**£37.39**
					3	SEME610060103E	**£37.39**
					4	SEME610060104E	**£37.39**
					6	SEME610060106E	**£37.39**
					8	SEME610060108E	**£42.81**
					10	SEME610060110E	**£43.06**
	0.2				2	SEME610060202E	**£37.39**
					3	SEME610060203E	**£37.39**
					4	SEME610060204E	**£37.39**
					6	SEME610060206E	**£37.39**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE CORNER RADIUS LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME61 YG-1	P144

Up to Ø5mm



Over Ø5mm



SEME61 continued

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.6	0.2	4	0.9	45	8	SEME610060208E	£42.81
					10	SEME610060210E	£43.06
0.8	0.05	4	1.2	45	2	SEME6100800502E	£35.18
					3	SEME6100800503E	£35.18
					4	SEME6100800504E	£35.18
					6	SEME6100800506E	£35.18
					8	SEME6100800508E	£35.18
					10	SEME6100800510E	£40.54
	0.1				2	SEME610080102E	£35.18
					3	SEME610080103E	£35.18
					4	SEME610080104E	£35.18
					6	SEME610080106E	£35.18
					8	SEME610080108E	£35.18
					10	SEME610080110E	£40.54
	0.2				2	SEME610080202E	£35.18
					3	SEME610080203E	£35.18
					4	SEME610080204E	£35.18
					6	SEME610080206E	£35.18
					8	SEME610080208E	£35.18
					10	SEME610080210E	£40.54
1	0.05	4	1.5	50	3	SEME6101000503E	£31.79
					4	SEME6101000504E	£31.79
					6	SEME6101000506E	£31.79
					8	SEME6101000508E	£31.79
					10	SEME6101000510E	£31.79
					12	SEME6101000512E	£33.73
					14	SEME6101000514E	£35.18
					16	SEME6101000516E	£35.18
					20	SEME6101000520E	£35.54
	0.1				3	SEME610100103E	£31.79
					4	SEME610100104E	£31.79
					6	SEME610100106E	£31.79
					8	SEME610100108E	£31.79
					10	SEME610100110E	£31.79
					12	SEME610100112E	£33.73
					14	SEME610100114E	£35.18
					16	SEME610100116E	£35.18
					20	SEME610100120E	£35.54
	0.2				3	SEME610100203E	£31.79
					4	SEME610100204E	£31.79
					6	SEME610100206E	£31.79
					8	SEME610100208E	£31.79
					10	SEME610100210E	£31.79
	0.3				4	SEME610100304E	£31.79
					6	SEME610100306E	£31.79
					8	SEME610100308E	£31.79
					10	SEME610100310E	£31.79
					12	SEME610100312E	£33.73
					14	SEME610100314E	£35.18
					16	SEME610100316E	£35.18

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1.2	0.05	4	1.8	50	3	SEME6101200503E	£31.79
					4	SEME6101200504E	£31.79
					6	SEME6101200506E	£31.79
					8	SEME6101200508E	£31.79
					10	SEME6101200510E	£31.79
					12	SEME6101200512E	£33.73
					16	SEME6101200516E	£35.18
					20	SEME6101200520E	£35.54
	0.1				3	SEME610120103E	£31.79
					4	SEME610120104E	£31.79
					6	SEME610120106E	£31.79
					8	SEME610120108E	£31.79
					10	SEME610120110E	£31.79
					12	SEME610120112E	£33.73
					16	SEME610120116E	£35.18
					20	SEME610120120E	£35.54
	0.2				3	SEME610120203E	£31.79
					4	SEME610120204E	£31.79
					6	SEME610120206E	£31.79
					8	SEME610120208E	£31.79
					10	SEME610120210E	£31.79
					12	SEME610120212E	£33.73
					16	SEME610120216E	£35.18
					20	SEME610120220E	£35.54
	0.3				3	SEME610120303E	£31.79
					4	SEME610120304E	£31.79
					6	SEME610120306E	£31.79
					8	SEME610120308E	£31.79
					10	SEME610120310E	£31.79
					12	SEME610120312E	£33.73
					16	SEME610120316E	£35.18
					20	SEME610120320E	£35.54
1.5	0.05	4	2.3	50	4	SEME6101500504E	£31.79
					6	SEME6101500506E	£31.79
					8	SEME6101500508E	£31.79
	0.1			50	4	SEME610150104E	£31.79
					6	SEME610150106E	£31.79
					8	SEME610150108E	£31.79
					10	SEME610150110E	£31.79
					12	SEME610150112E	£33.73
					14	SEME610150114E	£33.73
					16	SEME610150116E	£35.18
					20	SEME610150120E	£35.18
				60	22	SEME610150122E	£38.91
					26	SEME610150126E	£38.91
	0.2			50	4	SEME610150204E	£31.79
					6	SEME610150206E	£31.79
					8	SEME610150208E	£31.79
					10	SEME610150210E	£31.79
					12	SEME610150212E	£33.73

1.5mm-20mm diameter continues on next page

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE CORNER RADIUS LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME61 YG-1	P145

Up to Ø5mm



Over Ø5mm



SEME61 continued

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1.5	0.2	4	2.3	50	14	SEME610150214E	£33.73
					16	SEME610150216E	£35.18
					20	SEME610150220E	£35.18
				60	22	SEME610150222E	£38.91
					26	SEME610150226E	£38.91
	0.3			50	4	SEME610150304E	£31.79
					6	SEME610150306E	£31.79
					8	SEME610150308E	£31.79
					10	SEME610150310E	£31.79
					12	SEME610150312E	£33.73
					14	SEME610150314E	£33.73
					16	SEME610150316E	£35.18
					20	SEME610150320E	£35.18
				60	22	SEME610150322E	£38.91
					26	SEME610150326E	£38.91
	0.5			50	4	SEME610150504E	£31.79
					8	SEME610150508E	£31.79
					10	SEME610150510E	£31.79
					12	SEME610150512E	£33.73
					16	SEME610150516E	£35.18
					20	SEME610150520E	£35.18
				60	22	SEME610150522E	£38.91
					26	SEME610150526E	£38.91
2	0.1	4	3	50	6	SEME610200106E	£30.29
					8	SEME610200108E	£30.29
					10	SEME610200110E	£30.29
					12	SEME610200112E	£30.29
					14	SEME610200114E	£30.29
					16	SEME610200116E	£32.39
				60	26	SEME610200126E	£34.26
					70	SEME610200130E	£34.26
	0.2			50	6	SEME610200206E	£30.29
					8	SEME610200208E	£30.29
					10	SEME610200210E	£30.29
					12	SEME610200212E	£30.29
					14	SEME610200214E	£30.29
					16	SEME610200216E	£32.39
					20	SEME610200220E	£32.39
				60	22	SEME610200222E	£34.26
					26	SEME610200226E	£34.26
				70	30	SEME610200230E	£34.26
	0.3			50	6	SEME610200306E	£30.29
					8	SEME610200308E	£30.29
					10	SEME610200310E	£30.29
					12	SEME610200312E	£30.29
					14	SEME610200314E	£30.29
					16	SEME610200316E	£32.39
					20	SEME610200320E	£32.39
				60	22	SEME610200322E	£34.26
					26	SEME610200326E	£34.26
				70	30	SEME610200330E	£34.26
	0.5			50	6	SEME610200506E	£30.29

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
2	0.5	4	3	50	8	SEME610200508E	£30.29
				50	10	SEME610200510E	£30.29
				50	12	SEME610200512E	£30.29
				50	14	SEME610200514E	£30.29
				50	16	SEME610200516E	£32.39
				50	20	SEME610200520E	£32.39
				60	22	SEME610200522E	£34.26
				60	26	SEME610200526E	£34.26
				70	30	SEME610200530E	£34.26
2.5	0.1	4	4	50	8	SEME610250108E	£30.29
				50	10	SEME610250110E	£30.29
				50	12	SEME610250112E	£30.29
				50	14	SEME610250114E	£30.29
				50	16	SEME610250116E	£32.39
				50	20	SEME610250120E	£32.39
				60	26	SEME610250126E	£34.26
				70	30	SEME610250130E	£34.26
	0.2			50	8	SEME610250208E	£30.29
				50	10	SEME610250210E	£30.29
				50	12	SEME610250212E	£30.29
				50	14	SEME610250214E	£30.29
				50	16	SEME610250216E	£32.39
				50	20	SEME610250220E	£32.39
				60	26	SEME610250226E	£34.26
				70	30	SEME610250230E	£34.26
	0.3			50	8	SEME610250308E	£30.29
				50	10	SEME610250310E	£30.29
				50	12	SEME610250312E	£30.29
				50	14	SEME610250314E	£30.29
				50	16	SEME610250316E	£32.39
				50	20	SEME610250320E	£32.39
				60	26	SEME610250326E	£34.26
				70	30	SEME610250330E	£34.26
3	0.1	6	4.5	50	8	SEME610300108E	£45.45
				50	10	SEME610300110E	£45.45
				50	12	SEME610300112E	£45.45
				60	14	SEME610300114E	£45.77
				60	16	SEME610300116E	£45.77
				60	20	SEME610300120E	£45.77
				65	26	SEME610300126E	£45.77
				70	30	SEME610300130E	£58.25
				70	35	SEME610300135E	£58.25
				80	40	SEME610300140E	£55.17
	0.2			50	8	SEME610300208E	£45.45
				50	10	SEME610300210E	£45.45
				50	12	SEME610300212E	£45.45
				60	14	SEME610300214E	£45.77
				60	16	SEME610300216E	£45.77
				60	20	SEME610300220E	£45.77
				65	26	SEME610300226E	£45.77
				70	35	SEME610300235E	£58.25
	0.3			50	8	SEME610300308E	£45.45

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

2 FLUTE CORNER RADIUS LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME61 YG-1	P145

Up to Ø5mm



Over Ø5mm



SEME61 continued

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
3	0.3	6	4.5	50	10	SEME610300310E	£45.45
					12	SEME610300312E	£45.45
				60	14	SEME610300314E	£45.77
					16	SEME610300316E	£45.77
					20	SEME610300320E	£45.77
				70	35	SEME610300335E	£58.25
				80	40	SEME610300340E	£55.17
	0.5			50	8	SEME610300508E	£45.45
					10	SEME610300510E	£45.45
					12	SEME610300512E	£45.45
				60	14	SEME610300514E	£45.77
					16	SEME610300516E	£45.77
					20	SEME610300520E	£45.77
				65	26	SEME610300526E	£45.77
				70	30	SEME610300530E	£58.25
					35	SEME610300535E	£58.25
				80	40	SEME610300540E	£55.17
	1			50	8	SEME610301008E	£45.45
					10	SEME610301010E	£45.45
					12	SEME610301012E	£45.45
				60	14	SEME610301014E	£45.77
					16	SEME610301016E	£45.77
					20	SEME610301020E	£45.77
				65	26	SEME610301026E	£45.77
				70	30	SEME610301030E	£58.25
					35	SEME610301035E	£58.25
				80	40	SEME610301040E	£55.17
4	0.1	6	6	50	10	SEME610400110E	£44.58
					12	SEME610400112E	£44.58
				60	14	SEME610400114E	£45.41
					16	SEME610400116E	£45.41
					20	SEME610400120E	£45.41
				80	40	SEME610400140E	£55.17
				100	50	SEME610400150E	£78.04
	0.2			50	10	SEME610400210E	£44.58
					12	SEME610400212E	£44.58
				60	14	SEME610400214E	£45.41
					16	SEME610400216E	£45.41
					20	SEME610400220E	£45.41
				65	26	SEME610400226E	£45.41
				100	50	SEME610400250E	£78.04
	0.3			50	12	SEME610400312E	£44.58
					14	SEME610400314E	£45.41
					16	SEME610400316E	£45.41
					20	SEME610400320E	£45.41
				65	26	SEME610400326E	£45.41

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
4	0.5	6	6	50	10	SEME610400510E	£44.58
					12	SEME610400512E	£44.58
				60	16	SEME610400516E	£45.41
					20	SEME610400520E	£45.41
				65	26	SEME610400526E	£45.41
				70	30	SEME610400530E	£58.25
	1			50	10	SEME610401010E	£44.58
					12	SEME610401012E	£44.58
				60	16	SEME610401016E	£45.41
					20	SEME610401020E	£45.41
6	0.2	6	9	60	20	SEME6106002E	£45.41
	0.3					SEME6106003E	£45.41
	0.5					SEME6106005E	£45.41
	1					SEME6106010E	£45.41
	0.5		15	90	30	SEME6106005090E	£58.61
8	0.2	8	12	70	25	SEME6108002E	£57.18
	0.3					SEME6108003E	£57.18
	0.5					SEME6108005E	£57.18
	1					SEME6108010E	£57.18
10	0.2	10	15	75	30	SEME6110002E	£77.10
	0.3					SEME6110003E	£77.10
	0.5					SEME6110005E	£77.10
	1					SEME6110010E	£77.10
	1.5					SEME6110015E	£82.40
	2					SEME6110020E	£82.40
	0.3		25	100	40	SEME6110003100E	£95.34
	0.5					SEME6110005100E	£95.34
	1					SEME6110010100E	£95.34
12	0.2	12	18	80	32	SEME6112002E	£105.33
	0.3					SEME6112003E	£105.33
	0.5					SEME6112005E	£105.33
	1					SEME6112010E	£105.33
	1.5					SEME6112015E	£112.57
	2					SEME6112020E	£112.57
	0.3		30	110	50	SEME6112003110E	£139.51
	0.5					SEME6112005110E	£139.51
	1					SEME6112010110E	£139.51
16	0.5	16	20	100	35	SEME6116005E	£182.55
	1					SEME6116010E	£182.55
	0.5		35	150	50	SEME6116005150E	£228.78
	1					SEME6116010150E	£228.78
20	0.5	20	25	100	40	SEME6120005E	£303.01
	1					SEME6120010E	£303.01
	0.5		40	150	55	SEME6120005150E	£375.10
	1					SEME6120010150E	£375.10

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○		○			○					

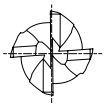
4 FLUTE CORNER RADIUS MULTIPLE HELIX

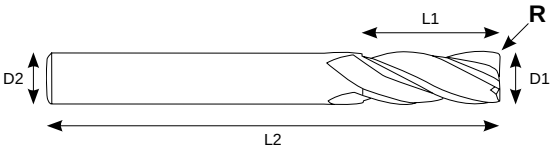
Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME01 YG-1	P148

- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Vibration is minimised due to Multiple Helix geometry (3mm+ diameter only)
- Available with various reach lengths and overall lengths
- Huge range of corner rads up to R5.0mm







MG SC | 4 | M-Helix | R ±0.02 | PLAIN | HSC | Y1200 COATED

TOLERANCE		
Radius	Mill Dia.	Shank Dia.
±0.02	0~-0.012mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
1	0.05	6	2.5	50	SEME01010005E	£48.65
	0.1				SEME0101001E	£48.65
	0.2				SEME0101002E	£48.65
	0.3				SEME0101003E	£48.65
1.2	0.05	6	3	50	SEME01012005E	£48.65
	0.1				SEME0101201E	£48.65
	0.2				SEME0101202E	£48.65
	0.3				SEME0101203E	£48.65
1.5	0.05	6	4	50	SEME01015005E	£48.65
	0.1				SEME0101501E	£48.65
	0.2				SEME0101502E	£48.65
	0.3				SEME0101503E	£48.65
	0.5				SEME0101505E	£48.65
2	0.1	6	6	50	SEME0102001E	£44.24
	0.2				SEME0102002E	£44.24
	0.3				SEME0102003E	£44.24
	0.5				SEME0102005E	£44.24
2.5	0.1	6	7	60	SEME0102501E	£44.24
	0.2				SEME0102502E	£44.24
	0.3				SEME0102503E	£44.24
	0.5				SEME0102505E	£44.24
3	0.1	6	8	60	SEME0103001E	£44.24
	0.2				SEME0103002E	£44.24
	0.3				SEME0103003E	£44.24
	0.5				SEME0103005E	£44.24
	1				SEME0103010E	£44.24
3.5	0.1	6	10	70	SEME0103501E	£45.99
	0.2				SEME0103502E	£45.99
	0.3				SEME0103503E	£45.99
	0.5				SEME0103505E	£45.99

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
4	0.1	4	10	70	SEME01040014SE	£31.62
	0.2				SEME01040024SE	£31.62
	0.3				SEME01040034SE	£31.62
	0.5				SEME01040054SE	£31.62
	1				SEME01040104SE	£31.62
	0.1			100	SEME01040011004SE	£36.42
	0.2				SEME01040021004SE	£36.42
	0.3				SEME01040031004SE	£36.42
	0.5				SEME01040051004SE	£36.42
	1				SEME01040101004SE	£36.42
	0.1	6		70	SEME0104001E	£45.99
	0.2				SEME0104002E	£45.99
	0.3				SEME0104003E	£45.99
	0.5				SEME0104005E	£45.99
	1				SEME0104010E	£45.99
4.5	0.1	6	11	80	SEME0104501E	£46.50
	0.2				SEME0104502E	£46.50
	0.3				SEME0104503E	£46.50
	0.5				SEME0104505E	£46.50
5	0.1	6	13	90	SEME0105001E	£48.77
	0.2				SEME0105002E	£48.77
	0.3				SEME0105003E	£48.77
	0.5				SEME0105005E	£48.77
	1				SEME0105010E	£48.77
5.5	0.1	6	13	90	SEME0105501E	£48.77
	0.2				SEME0105502E	£48.77
	0.3				SEME0105503E	£48.77
	0.5				SEME0105505E	£48.77
	1				SEME0105510E	£48.77

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○					○					

4 FLUTE CORNER RADIUS MULTIPLE HELIX

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME01 YG-1	P148



SEME01 continued

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
6	0.1	6	15	60	SEME0106001060E	£44.24
	0.2				SEME0106002060E	£44.24
	0.1			90	SEME0106001E	£48.77
	0.2				SEME0106002E	£48.77
	0.3				SEME0106003E	£48.77
	0.5				SEME0106005E	£48.77
	1				SEME0106010E	£48.77
	1.5				SEME0106015E	£52.14
	2				SEME0106020E	£52.14
	0.5			110	SEME0106005110E	£61.83
	1				SEME0106010110E	£61.83
	0.5			130	SEME0106005130E	£67.33
	1				SEME0106010130E	£67.33
7	0.1	8	16	90	SEME0107001E	£62.32
	0.2				SEME0107002E	£62.32
	0.3				SEME0107003E	£62.32
	0.5				SEME0107005E	£62.32
	1				SEME0107010E	£62.32
	2				SEME0107020E	£66.32
8	0.3	8	20	70	SEME0108003070E	£55.17
	0.5				SEME0108005070E	£55.17
	1				SEME0108010070E	£55.17
	0.1			100	SEME0108001E	£62.32
	0.2				SEME0108002E	£62.32
	0.3				SEME0108003E	£62.32
	0.5				SEME0108005E	£62.32
	1				SEME0108010E	£62.32
	1.5				SEME0108015E	£66.32
	2				SEME0108020E	£66.32
	2.5				SEME0108025E	£70.29
	3				SEME0108030E	£70.29
	0.5			120	SEME0108005120E	£73.56
	1				SEME0108010120E	£73.56
	0.5			150	SEME0108005150E	£80.37
	1				SEME0108010150E	£80.37
10	0.3	10	25	75	SEME0110003075E	£74.38
	0.5				SEME0110005075E	£74.38
	1				SEME0110010075E	£74.38
	0.1			100	SEME0110001E	£82.33
	0.2				SEME0110002E	£82.33
	0.3				SEME0110003E	£82.33
	0.5				SEME0110005E	£82.33
	1				SEME0110010E	£82.33

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
10	1.5	10	25	100	SEME0110015E	£89.79
	2				SEME0110020E	£89.79
	2.5				SEME0110025E	£89.79
	3				SEME0110030E	£95.17
	4				SEME0110040E	£101.01
	0.5		22	130	SEME0110005130E	£100.00
	1				SEME0110010130E	£100.00
	0.5			150	SEME0110005150E	£107.77
	1				SEME0110010150E	£107.77
11	0.2	12	25	110	SEME0111002E	£133.58
	0.3				SEME0111003E	£133.58
	0.5				SEME0111005E	£133.58
	1				SEME0111010E	£133.58
	2				SEME0111020E	£143.78
12	0.3	12	30	80	SEME0112003080E	£101.67
	0.5				SEME0112005080E	£101.67
	1				SEME0112010080E	£101.67
	0.1			110	SEME0112001E	£133.58
	0.2				SEME0112002E	£133.58
	0.3				SEME0112003E	£133.58
	0.5				SEME0112005E	£133.58
	1				SEME0112010E	£133.58
	1.5				SEME0112015E	£143.78
	2				SEME0112020E	£143.78
	2.5				SEME0112025E	£143.78
	3				SEME0112030E	£151.19
	4				SEME0112040E	£159.26
	5				SEME0112050E	£168.18
	0.5			130	SEME0112005130E	£146.06
	1				SEME0112010130E	£146.06
	0.5				SEME0112005150E	£156.60
	1				SEME0112010150E	£156.60
14	0.5	16	35	150	SEME0114005E	£214.12
	1				SEME0114010E	£214.12
	2				SEME0114020E	£233.14
16	0.5	16	32	150	SEME0116005E	£214.12
	1				SEME0116010E	£214.12
	1.5				SEME0116015E	£233.14
	2				SEME0116020E	£233.14
20	0.5	20	38	150	SEME0120005E	£352.76
	1				SEME0120010E	£352.76
	1.5				SEME0120015E	£384.28
	2				SEME0120020E	£384.28



MULTIPLE HELIX DESIGN

The multiple helix design gives the end mill extra strength in both semi-roughing and finishing conditions, enabling heavier cutting and reducing vibration. The reduced vibration increases tool life and improves surface finish.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○					○					

4 FLUTE CORNER RADIUS MULTIPLE HELIX, LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

- YG-1's Y1200 coating & premium micrograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Vibration is minimised due to Multiple Helix geometry (3mm+ diameter only)

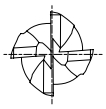
Series	Cutting Data
SEME64 YG-1	P146

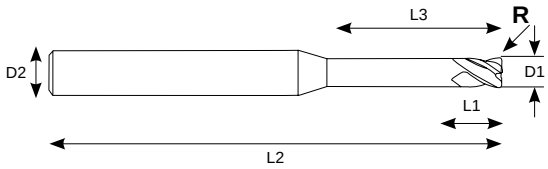
Up to Ø5mm



Over Ø5mm







MG SC | 4 | M-Helix | R ±0.02 | PLAIN | HSC | Y1200 COATED

TOLERANCE		
Radius	Mill Dia.	Shank Dia.
±0.02	0~-0.03mm	h6

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1	0.1	4	1.5	50	4	SEME640100104E	£37.73
					6	SEME640100106E	£37.73
					8	SEME640100108E	£37.73
	0.2				4	SEME640100204E	£37.73
					6	SEME640100206E	£37.73
					8	SEME640100208E	£37.73
	0.3				4	SEME640100304E	£37.73
					6	SEME640100306E	£37.73
					8	SEME640100308E	£37.73
1.2	0.1	4	1.8	50	4	SEME640120104E	£37.73
					6	SEME640120106E	£37.73
					8	SEME640120108E	£37.73
	0.2				4	SEME640120204E	£37.73
					6	SEME640120206E	£37.73
					8	SEME640120208E	£37.73
	0.3				4	SEME640120304E	£37.73
					6	SEME640120306E	£37.73
					8	SEME640120308E	£37.73
1.5	0.1	4	2.3	50	6	SEME640150106E	£37.73
					8	SEME640150108E	£37.73
					10	SEME640150110E	£37.73
					12	SEME640150112E	£39.93
	0.2				6	SEME640150206E	£37.73
					8	SEME640150208E	£37.73
					10	SEME640150210E	£37.73
					12	SEME640150212E	£39.93
	0.3				6	SEME640150306E	£37.73
					8	SEME640150308E	£37.73
					10	SEME640150310E	£37.73
					12	SEME640150312E	£39.93

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1.5	0.5	4	2.3	50	6	SEME640150506E	£37.73
					8	SEME640150508E	£37.73
					10	SEME640150510E	£37.73
					12	SEME640150512E	£39.93
2	0.1	4	3	50	6	SEME640200106E	£36.01
					8	SEME640200108E	£36.01
					10	SEME640200110E	£36.01
					12	SEME640200112E	£36.01
	0.2				6	SEME640200206E	£36.01
					8	SEME640200208E	£36.01
					10	SEME640200210E	£36.01
					12	SEME640200212E	£36.01
	0.3				6	SEME640200306E	£36.01
					8	SEME640200308E	£36.01
					10	SEME640200310E	£36.01
					12	SEME640200312E	£36.01
	0.5				6	SEME640200506E	£36.01
					8	SEME640200508E	£36.01
					10	SEME640200510E	£36.01
					12	SEME640200512E	£36.01
3	0.1	6	4.5	50	8	SEME640300108E	£53.98
					10	SEME640300110E	£53.98
					12	SEME640300112E	£53.98
				60	16	SEME640300116E	£54.47
	0.2			50	10	SEME640300210E	£53.98
					12	SEME640300212E	£53.98
				60	16	SEME640300216E	£54.47
					20	SEME640300220E	£54.47

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○					○					

4 FLUTE CORNER RADIUS MULTIPLE HELIX, LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEME64 YG-1	P147

Up to Ø5mm



Over Ø5mm



SEME64 continued

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
3	0.3	6	4.5	50	8	SEME640300308E	£53.98
					10	SEME640300310E	£53.98
					12	SEME640300312E	£53.98
				60	16	SEME640300316E	£54.47
					20	SEME640300320E	£54.47
	0.5			50	8	SEME640300508E	£53.98
					10	SEME640300510E	£53.98
					12	SEME640300512E	£53.98
				60	16	SEME640300516E	£54.47
					20	SEME640300520E	£54.47
				65	26	SEME640300526E	£54.47
	1			50	8	SEME640301008E	£53.98
					10	SEME640301010E	£53.98
					12	SEME640301012E	£53.98
				60	16	SEME640301016E	£54.47
4	0.1	6	6	50	10	SEME640400110E	£56.07
					12	SEME640400112E	£56.07
				60	16	SEME640400116E	£56.50
					20	SEME640400120E	£56.50
	0.2			50	10	SEME640400210E	£56.07
					12	SEME640400212E	£56.07
				60	16	SEME640400216E	£56.50
					20	SEME640400220E	£56.50
				65	26	SEME640400226E	£56.50
	0.3			50	10	SEME640400310E	£56.07
					12	SEME640400312E	£56.07
				60	16	SEME640400316E	£56.50
					20	SEME640400320E	£56.50
				65	26	SEME640400326E	£56.50
	0.5			50	10	SEME640400510E	£56.07
					12	SEME640400512E	£56.07
				60	16	SEME640400516E	£56.50
					20	SEME640400520E	£56.50
				65	26	SEME640400526E	£56.50
	1			50	10	SEME640401010E	£56.07
					12	SEME640401012E	£56.07
				60	16	SEME640401016E	£56.50
					20	SEME640401020E	£56.50
				65	26	SEME640401026E	£56.50

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
6	0.3	6	9	60	20	SEME6406003E	£54.44
	0.5					SEME6406005E	£54.44
	1			60	20	SEME6406010E	£54.44
				90	30	SEME6406010090E	£69.64
8	0.1	8	12	70	25	SEME6408001E	£67.87
	0.2					SEME6408002E	£67.87
	0.3					SEME6408003E	£67.87
	0.5					SEME6408005E	£67.87
	1					SEME6408010E	£67.87
	1.5					SEME6408015E	£72.59
	2					SEME6408020E	£72.59
	0.3		20	100	35	SEME6408003100E	£84.44
	0.5					SEME6408005100E	£84.44
	1					SEME6408010100E	£84.44
10	0.1	10	15	75	30	SEME6410001E	£91.52
	0.2					SEME6410002E	£91.52
	0.3					SEME6410003E	£91.52
	0.5					SEME6410005E	£91.52
	1					SEME6410010E	£91.52
	1.5					SEME6410015E	£97.86
	2					SEME6410020E	£97.86
	0.3		25	100	40	SEME6410003100E	£113.15
	0.5					SEME6410005100E	£113.15
	1					SEME6410010100E	£113.15
12	0.2	12	18	80	32	SEME6412002E	£125.05
	0.3					SEME6412003E	£125.05
	0.5					SEME6412005E	£125.05
	1					SEME6412010E	£125.05
	1.5					SEME6412015E	£133.65
	2					SEME6412020E	£133.65
	0.3		30	110	50	SEME6412003110E	£165.63
	0.5					SEME6412005110E	£165.63
	1					SEME6412010110E	£165.63
16	0.5	16	20	100	35	SEME6416005E	£216.69
	1					SEME6416010E	£216.69
20	0.5	20	35	100	40	SEME6420005E	£359.69
	1					SEME6420010E	£359.69
	0.5		35	150	55	SEME6420005150E	£445.17
	1					SEME6420010150E	£445.17



MULTIPLE HELIX DESIGN

The multiple helix design gives the end mill extra strength in both semi-roughing and finishing conditions, enabling heavier cutting and reducing vibration. The reduced vibration increases tool life and improves surface finish.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	●	○					○					

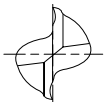
2 FLUTE BALL NOSE

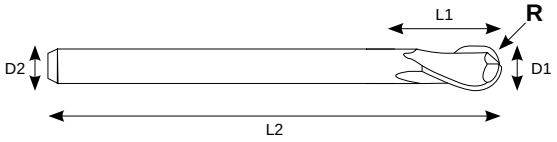
Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

- YG-1's Y1100 coating & premium nanograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Due to unique ball nose geometry and cutting edges, exceptional surface finish can be achieved

Series	Cutting Data
SEMD98 YG-1	P149







NG SC | 2 | 30° | Up to R3 R ±0.005 | Over R3 R ±0.01 | PLAIN | HSC | Y1200 COATED

Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to R3	±0.005	0~-0.012mm	h6
Over R3	±0.010	0~-0.015mm	

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
0.1	0.05	4	0.1	40	SEMD98001SE	£69.93
		4	0.2		SEMD98001E	£76.23
		3			SEMD980013SE	£74.07
0.15	0.075	4	0.15	40	SEMD980015SE	£54.40
		4	0.3		SEMD980015E	£59.19
		3			SEMD9800153SE	£57.50
0.2	0.1	4	0.2	40	SEMD98002SE	£54.40
		4	0.4		SEMD98002E	£59.19
		3			SEMD980023SE	£57.45
0.3	0.15	4	0.3	40	SEMD98003SE	£45.77
		4	0.6		SEMD98003E	£49.72
		3			SEMD980033SE	£48.27
0.4	0.2	4	0.4	40	SEMD98004SE	£38.45
		4	0.8		SEMD98004E	£41.67
		3			SEMD980043SE	£40.51
0.5	0.25	4	0.5	40	SEMD98005SE	£35.86
		4	1.0		SEMD98005E	£38.84
		3			SEMD980053SE	£37.77
0.6	0.3	4	0.6	40	SEMD98006SE	£35.86
		4	1.2		SEMD98006E	£38.84
		3			SEMD980063SE	£37.77
0.7	0.35	4	0.7	40	SEMD98007SE	£33.90
		4	1.4		SEMD98007E	£36.64
		3			SEMD980073SE	£35.62
0.8	0.4	4	0.8	40	SEMD98008SE	£31.62
		4	1.6		SEMD98008E	£34.09
		3			SEMD980083SE	£33.15
0.9	0.45	4	0.9	40	SEMD98009SE	£31.62
		4	1.8		SEMD98009E	£34.09
		3			SEMD980093SE	£33.15

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
1	0.5	6	1.5	40	SEMD98010040E	£35.54
		3	2.5	50	SEMD980103SE	£32.10
		4			SEMD980104SE	£33.56
		6			SEMD98010E	£35.54
		6		70	SEMD98010070E	£41.63
				100	SEMD98010100E	£52.09
1.2	0.6	6	2	40	SEMD98012040E	£35.54
		3	3	50	SEMD980123SE	£32.10
		4			SEMD980124SE	£33.56
		6			SEMD98012E	£35.54
		6		70	SEMD98012070E	£41.63
				100	SEMD98012100E	£52.09
1.5	0.75	6	2.5	40	SEMD98015040E	£35.54
		3	4	50	SEMD980153SE	£32.10
		4			SEMD980154SE	£33.56
		6			SEMD98015E	£35.54
		6		70	SEMD98015070E	£41.63
				100	SEMD98015100E	£52.09
2	1	6	3	40	SEMD98020040E	£34.79
		3	5	50	SEMD980203SE	£31.45
		4			SEMD980204SE	£33.56
		6			SEMD98020E	£34.79
		6		80	SEMD98020080E	£39.13
				100	SEMD98020100E	£50.95
2.5	1.25	6	4	40	SEMD98025040E	£34.79
		3	6	60	SEMD980253SE	£33.39
		4			SEMD980254SE	£33.56
		6			SEMD98025E	£34.79
		6		80	SEMD98025080E	£39.13
				100	SEMD98025100E	£50.95

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○					○					

2 FLUTE BALL NOSE

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEMD98 YG-1	P149



SEMD98 continued

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
3	1.5	6	4.5	40	SEMD98030040E	£34.79
		3	6	60	SEMD980303SE	£32.49
		4			SEMD980304SE	£33.56
		6			SEMD98030E	£34.79
		6	6	80	SEMD98030080E	£39.13
				100	SEMD98030100E	£50.95
3.5	1.75	6	8	70	SEMD98035E	£36.49
4	2	6	6	50	SEMD98040050E	£34.79
		4	8	70	SEMD980404SE	£34.70
		6			SEMD98040E	£36.49
		4	8	100	SEMD980401004SE	£45.45
				120	SEMD980401204SE	£50.64
		6	8	100	SEMD98040100E	£50.95
				120	SEMD98040120E	£53.18
4.5	2.25	6	9	80	SEMD98045E	£39.13
5	2.5	6	7.5	60	SEMD98050060E	£34.79
		6	10	80	SEMD98050E	£39.13
		5			SEMD980505SE	£44.70
5.5	2.75	6	11	90	SEMD98055E	£50.95
6	3	6	9	50	SEMD98060050E	£34.79
				60	SEMD98060060E	£34.79
				80	SEMD98060080E	£39.13
			12	90	SEMD98060E	£50.95
				110	SEMD98060110E	£55.05
				130	SEMD98060130E	£56.72
				150	SEMD98060150E	£64.43
6.5	3.25	8	13	90	SEMD98065E	£61.59
7	3.5	8	14	90	SEMD98070E	£61.59
8	4	8	12	50	SEMD98080050E	£50.62
				60	SEMD98080060E	£50.62
				80	SEMD98080080E	£61.59
				90	SEMD98080090E	£61.59
			14	100	SEMD98080E	£61.59
				130	SEMD98080130E	£79.50
				150	SEMD98080150E	£87.88
8.5	4.25	10	16	100	SEMD98085E	£98.69
9	4.5	10	18	100	SEMD98090E	£98.69

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
10	5	10	15	50	SEMD98100050E	£78.60
				60	SEMD98100060E	£78.60
				80	SEMD98100080E	£98.69
				90	SEMD98100090E	£98.69
			18	100	SEMD98100E	£98.69
				130	SEMD98100130E	£131.20
				150	SEMD98100150E	£147.46
				180	SEMD98100180E	£162.14
				200	SEMD98100200E	£188.63
11	5.5	12	20	100	SEMD98110E	£121.03
12	6	12	18	60	SEMD98120060E	£99.07
				80	SEMD98120080E	£121.03
				90	SEMD98120090E	£121.03
				100	SEMD98120100E	£121.03
			22	110	SEMD98120E	£132.58
				130	SEMD98120130E	£143.95
				150	SEMD98120150E	£163.53
				180	SEMD98120180E	£202.05
13	6.5	12	24	100	SEMD98130E	£145.09
14	7	12	26	100	SEMD98140E	£145.09
		14			SEMD9814014SE	£145.09
		16			SEMD9814016SE	£176.68
15	7.5	16	28	140	SEMD98150E	£234.42
16	8	16	24	100	SEMD98160100E	£176.68
				130	SEMD98160130E	£234.42
			30	150	SEMD98160E	£225.00
				180	SEMD98160180E	£275.10
				200	SEMD98160200E	£306.55
18	9	16	34	150	SEMD98180E	£275.64
		18			SEMD9818018SE	£275.64
20	10	20	30	100	SEMD98200100E	£276.53
				130	SEMD98200130E	£347.23
			38	150	SEMD98200E	£347.23
				200	SEMD98200200E	£448.66
25	12.5	25	50	120	SEMD98250120E	£496.85
				180	SEMD98250E	£564.14

4G Mills - 2 Flute Ball Nose - Example Data



The 4G Mill ball nosed cutters are manufactured from NANOGRAIN carbide which enables high speed cutting with exceptional tool life on steel and hardened steel. For best tool life, dry machining is recommended.

LOW CARBON STEEL HRC20

Ø6mm, 2 Flute, SEMD98060050E

RPM	8,340
VC (m/min)	157
fz (mm/tooth)	0.174
Feed (mm/min)	2,910
Ap:	0.18mm
Ae:	0.30mm

ALLOY STEEL HRC35

Ø6mm, 2 Flute, SEMD98060050E

RPM	8,040
VC (m/min)	152
fz (mm/tooth)	0.153
Feed (mm/min)	2,460
Ap:	0.18mm
Ae:	0.30mm

HARDENED STEEL HRC50

Ø6mm, 2 Flute, SEMD98060050E

RPM	6,680
VC (m/min)	124
fz (mm/tooth)	0.141
Feed (mm/min)	1,860
Ap:	0.18mm
Ae:	0.30mm

CAST IRON

Ø6mm, 2 Flute, SEMD98060050E

RPM	8,340
VC (m/min)	157
fz (mm/tooth)	0.174
Feed (mm/min)	2,910
Ap:	0.18mm
Ae:	0.30mm

RPM (Revolutions per minute), VC (surface speed in metres per minute), fz (feed rate in mm per tooth), Feed (Feed rate in mm per minute), Ap (depth of cut), Ae (width of cut)

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○					○					

2 FLUTE BALL NOSE, LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Stainless Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEM846 YG-1	**P150**

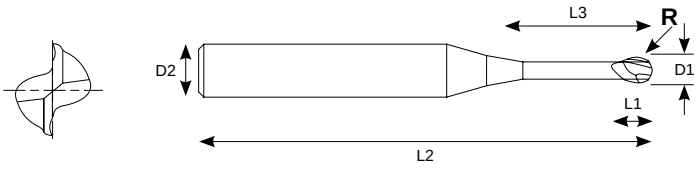
- YG-1's Y1200 coating & premium nanograin carbide substrate
- HSC = High speed cutting
- Due to new coating and tool geometry, 4G Mills can machine up to 1200°C with outstanding wear resistance
- Due to unique ball nose geometry and cutting edges, exceptional surface finish can be achieved
- Available with various reach lengths and overall lengths

Up to Ø5mm



Over Ø5mm





Up to R3 Over R3

NG SC | 2 | 30° | R ±0.005 | R ±0.01 | PLAIN | HSC | Y1200 COATED

Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to R3	±0.005	0~-0.012mm	h6
Over R3	±0.010	0~-0.015mm	

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.1	0.05	4	0.1	40	0.2	SEM846001002E	**£107.29**
					0.3	SEM846001003E	**£107.29**
					0.5	SEM846001005E	**£107.29**
					1	SEM84600101E	**£107.29**
0.2	0.1	4	0.2	40	0.5	SEM846002005E	**£83.18**
					1	SEM84600201E	**£83.18**
					1.5	SEM846002015E	**£83.18**
					2	SEM84600202E	**£95.68**
					3	SEM84600203E	**£95.68**
0.3	0.15	4	0.3	40	1	SEM84600301E	**£70.17**
					1.5	SEM846003015E	**£70.17**
					2	SEM84600302E	**£70.17**
					2.5	SEM846003025E	**£70.17**
					3	SEM84600303E	**£70.17**
					4	SEM84600304E	**£70.17**
					5	SEM84600305E	**£70.17**
0.4	0.2	4	0.4	40	1	SEM84600401E	**£52.41**
					1.5	SEM846004015E	**£52.41**
					2	SEM84600402E	**£60.19**
					2.5	SEM846004025E	**£60.19**
					3	SEM84600403E	**£60.19**
					4	SEM84600404E	**£60.19**
					5	SEM84600405E	**£60.19**
					6	SEM84600406E	**£69.25**
					8	SEM84600408E	**£69.25**
					10	SEM84600410E	**£90.01**
0.5	0.25	4	0.5	45	1	SEM84600501E	**£53.01**
					1.5	SEM846005015E	**£53.01**
					2	SEM84600502E	**£53.01**

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.5	0.25	4	0.5	45	2.5	SEM846005025E	**£53.01**
					3	SEM84600503E	**£53.01**
					4	SEM84600504E	**£53.01**
					5	SEM84600505E	**£53.01**
					6	SEM84600506E	**£60.77**
					8	SEM84600508E	**£60.77**
					10	SEM84600510E	**£78.99**
					12	SEM84600512E	**£84.00**
					14	SEM84600514E	**£84.00**
					16	SEM84600516E	**£89.79**
		6			1	SEM846005016SE	**£63.19**
					2	SEM846005026SE	**£63.19**
					4	SEM846005046SE	**£63.19**
0.6	0.3	4	0.6	45	1	SEM84600601E	**£53.01**
					2	SEM84600602E	**£53.01**
					3	SEM84600603E	**£53.01**
					4	SEM84600604E	**£53.01**
					5	SEM84600605E	**£53.01**
					6	SEM84600606E	**£53.01**
					8	SEM84600608E	**£60.77**
					10	SEM84600610E	**£78.99**
					12	SEM84600612E	**£84.00**
					14	SEM84600614E	**£84.00**
					16	SEM84600616E	**£89.79**
		6			1	SEM846006016SE	**£63.19**
					2	SEM846006026SE	**£63.19**
					3	SEM846006036SE	**£63.19**
					4	SEM846006046SE	**£63.19**
					5	SEM846006056SE	**£63.19**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○		○			○					

2 FLUTE BALL NOSE, LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEM846 YG-1	P150

Up to Ø5mm

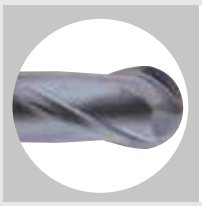


Over Ø5mm



SEM846 continued

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.6	0.3	6	0.6	45	6	SEM846006066SE	£63.19
					8	SEM846006086SE	£72.13
					10	SEM846006106SE	£92.99
					12	SEM846006126SE	£98.86
					14	SEM846006146SE	£98.86
					16	SEM846006166SE	£105.50
0.7	0.35	4	0.7	45	2	SEM84600702E	£53.01
					4	SEM84600704E	£53.01
					6	SEM84600706E	£53.01
					8	SEM84600708E	£60.77
					10	SEM84600710E	£78.99
					12	SEM84600712E	£84.00
0.8	0.4	4	0.8	45	1	SEM84600801E	£41.53
					2	SEM84600802E	£41.53
					3	SEM84600803E	£41.53
					4	SEM84600804E	£41.53
					5	SEM84600805E	£41.53
					6	SEM84600806E	£41.53
					8	SEM84600808E	£41.53
					10	SEM84600810E	£53.55
					12	SEM84600812E	£56.99
					14	SEM84600814E	£56.99
					16	SEM84600816E	£60.94
					20	SEM84600820E	£64.23
		6			1	SEM846008016SE	£49.94
					2	SEM846008026SE	£49.94
					3	SEM846008036SE	£49.94
					4	SEM846008046SE	£49.94
					5	SEM846008056SE	£49.94
					6	SEM846008066SE	£49.94
					8	SEM846008086SE	£49.94
					10	SEM846008106SE	£63.82
					12	SEM846008126SE	£67.77
					14	SEM846008146SE	£67.77
					16	SEM846008166SE	£72.25
					20	SEM846008206SE	£76.15
0.9	0.45	4	0.9	45	4	SEM84600904E	£41.53
					6	SEM84600906E	£41.53
0.9	0.45	4	0.9	45	8	SEM84600908E	£41.53
					10	SEM84600910E	£53.55
1	0.5	4	1	50	2	SEM84601002E	£38.40
					3	SEM84601003E	£38.40
					4	SEM84601004E	£38.40
					5	SEM84601005E	£38.40
					6	SEM84601006E	£38.40
					7	SEM84601007E	£38.40
					8	SEM84601008E	£38.40
					9	SEM84601009E	£38.40
					10	SEM84601010E	£38.40
					12	SEM84601012E	£40.75
					14	SEM84601014E	£40.75
					16	SEM84601016E	£43.06
					18	SEM84601018E	£44.78
					20	SEM84601020E	£44.78
				60	22	SEM84601022E	£49.36
					26	SEM84601026E	£53.52
				70	30	SEM84601030E	£59.19
				80	40	SEM84601040E	£66.58
				100	50	SEM84601050E	£73.39
		6		50	2	SEM846010026SE	£46.38
					3	SEM846010036SE	£46.38
					4	SEM846010046SE	£46.38
					5	SEM846010056SE	£46.38
					6	SEM846010066SE	£46.38
					7	SEM846010076SE	£46.38
					8	SEM846010086SE	£46.38
					9	SEM846010096SE	£46.38
					10	SEM846010106SE	£46.38
					12	SEM846010126SE	£49.14
					14	SEM846010146SE	£49.14
					16	SEM846010166SE	£51.73
					18	SEM846010186SE	£53.77
					20	SEM846010206SE	£53.77
				60	22	SEM846010226SE	£59.51
					26	SEM846010266SE	£64.28
				70	30	SEM846010306SE	£71.70



NANOGRAIN CARBIDE SUBSTRATE & Y-COATING TECHNOLOGY

4G Mill ball nosed cutters are manufactured with NANOGRAIN carbide substrate and coated with YG-1's own advanced Y1200 coating technology. This substrate and coating combination is heat resistant up to 1200°C, enabling the highest performance cutting at extreme temperatures without premature wear.

Suitable for dry or wet cutting, however tool life is likely to be increased when machining hardened steels dry.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○		○			○					

2 FLUTE BALL NOSE, LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEM846 YG-1	P151

Up to Ø5mm



Over Ø5mm



SEM846 continued

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1.2	0.6	4	1.2	50	4	SEM84601204E	£38.40
					6	SEM84601206E	£38.40
					8	SEM84601208E	£38.40
					10	SEM84601210E	£40.75
					12	SEM84601212E	£40.75
					16	SEM84601216E	£43.06
					20	SEM84601220E	£44.78
				60	26	SEM84601226E	£53.52
1.4	0.7	4	1.4	50	6	SEM84601406E	£38.40
					8	SEM84601408E	£38.40
					10	SEM84601410E	£38.40
					12	SEM84601412E	£40.75
					16	SEM84601416E	£43.06
1.5	0.75	4	1.5	50	3	SEM84601503E	£38.40
					4	SEM84601504E	£38.40
					5	SEM84601505E	£38.40
					6	SEM84601506E	£38.40
					7	SEM84601507E	£38.40
					8	SEM84601508E	£38.40
					10	SEM84601510E	£38.40
					12	SEM84601512E	£40.75
					14	SEM84601514E	£43.06
					16	SEM84601516E	£43.06
					18	SEM84601518E	£44.78
					20	SEM84601520E	£44.78
				60	22	SEM84601522E	£49.36
					26	SEM84601526E	£53.52
				70	30	SEM84601530E	£59.19
					35	SEM84601535E	£59.19
				80	40	SEM84601540E	£66.58
		6		50	3	SEM846015036SE	£46.38
					4	SEM846015046SE	£46.38
					6	SEM846015066SE	£46.38
					8	SEM846015086SE	£46.38
					10	SEM846015106SE	£46.38
					12	SEM846015126SE	£49.14
					14	SEM846015146SE	£51.73
					16	SEM846015166SE	£51.73
					18	SEM846015186SE	£53.77
					20	SEM846015206SE	£53.77
				60	22	SEM846015226SE	£59.51
					26	SEM846015266SE	£64.28
				70	30	SEM846015306SE	£71.70
					35	SEM846015356SE	£71.70
				80	40	SEM846015406SE	£81.48
1.6	0.8	4	1.6	50	4	SEM84601604E	£38.40
					6	SEM84601606E	£38.40
					8	SEM84601608E	£38.40
					10	SEM84601610E	£40.75
					12	SEM84601612E	£40.75
					16	SEM84601616E	£43.06
					20	SEM84601620E	£44.78

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1.8	0.9	4	1.8	50	4	SEM84601804E	£38.40
					6	SEM84601806E	£38.40
					8	SEM84601808E	£38.40
					10	SEM84601810E	£38.40
					12	SEM84601812E	£40.75
					16	SEM84601816E	£43.06
					20	SEM84601820E	£44.78
2	1	4	2	50	4	SEM84602004E	£36.01
					6	SEM84602006E	£36.01
					8	SEM84602008E	£36.01
					10	SEM84602010E	£36.01
					12	SEM84602012E	£36.01
					14	SEM84602014E	£37.94
					16	SEM84602016E	£37.94
					18	SEM84602018E	£40.75
					20	SEM84602020E	£40.75
				60	22	SEM84602022E	£40.75
					26	SEM84602026E	£40.54
				70	30	SEM84602030E	£46.74
					35	SEM84602035E	£46.74
				80	40	SEM84602040E	£52.87
				90	45	SEM84602045E	£57.67
				100	50	SEM84602050E	£62.92
				110	60	SEM84602060E	£72.45
		6		50	4	SEM846020046SE	£43.98
					6	SEM846020066SE	£43.98
					8	SEM846020086SE	£43.98
					10	SEM846020106SE	£43.98
					12	SEM846020126SE	£43.98
					14	SEM846020146SE	£45.84
					16	SEM846020166SE	£45.84
					18	SEM846020186SE	£49.14
					20	SEM846020206SE	£49.14
				60	22	SEM846020226SE	£56.96
					26	SEM846020266SE	£56.96
				70	30	SEM846020306SE	£61.76
					35	SEM846020356SE	£61.76
				80	40	SEM846020406SE	£65.73
				90	45	SEM846020456SE	£71.14
				100	50	SEM846020506SE	£77.10
2.5	1.25	4	2.5	50	8	SEM84602508E	£36.01
					10	SEM84602510E	£36.01
					12	SEM84602512E	£36.01
					16	SEM84602516E	£37.94
					20	SEM84602520E	£40.75
				60	22	SEM84602522E	£40.75
					26	SEM84602526E	£40.54
				70	30	SEM84602530E	£46.74
					35	SEM84602535E	£46.74
				80	40	SEM84602540E	£52.87
				90	45	SEM84602545E	£57.67
				100	50	SEM84602550E	£62.92

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○		○			○					

2 FLUTE BALL NOSE, LONG NECK

Excellent Performance on Dry or Wet Cutting all Steel, Cast Iron & Hardened Steel <HRC55

Series	Cutting Data
SEM846 YG-1	P153

Up to Ø5mm



Over Ø5mm



SEM846 continued

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
3	1.5	6	3	50	6	SEM84603006E	£43.98
					8	SEM84603008E	£43.98
					10	SEM84603010E	£43.98
					12	SEM84603012E	£43.98
				60	14	SEM84603014E	£53.16
					16	SEM84603016E	£53.16
					18	SEM84603018E	£56.96
					20	SEM84603020E	£56.96
				65	22	SEM84603022E	£57.35
					26	SEM84603026E	£57.35
				70	30	SEM84603030E	£61.76
					35	SEM84603035E	£67.31
				80	40	SEM84603040E	£76.59
				90	45	SEM84603045E	£83.11
				100	50	SEM84603050E	£90.23
					60	SEM84603060E	£90.23
4	2	6	4	50	8	SEM84604008E	£43.98
					10	SEM84604010E	£43.98
					12	SEM84604012E	£43.98
				60	14	SEM84604014E	£53.16
					16	SEM84604016E	£53.16
					18	SEM84604018E	£56.96
					20	SEM84604020E	£56.96
				65	22	SEM84604022E	£57.35
					26	SEM84604026E	£57.35
				70	30	SEM84604030E	£61.76
					35	SEM84604035E	£67.31
				80	40	SEM84604040E	£76.59
				90	45	SEM84604045E	£83.11

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
4	2	6	4	100	50	SEM84604050E	£90.23
					55	SEM84604055E	£90.23
					60	SEM84604060E	£90.23
5	2.5	6	6	60	15	SEM84605015E	£53.16
					20	SEM84605020E	£56.96
				65	26	SEM84605026E	£57.35
				70	30	SEM84605030E	£61.76
					35	SEM84605035E	£67.31
				80	40	SEM84605040E	£76.59
				90	45	SEM84605045E	£83.11
				100	50	SEM84605050E	£90.23
					55	SEM84605055E	£90.23
					60	SEM84605060E	£90.23
6	3	6	8	60	20	SEM84606020E	£56.96
					30	SEM84606030E	£56.96
			12	90	20	SEM84606020090E	£72.69
					30	SEM84606030090E	£78.19
8	4	8	10	70	25	SEM84608025E	£71.74
					35	SEM84608035E	£71.74
			14	100	25	SEM84608025100E	£79.04
					35	SEM84608035100E	£79.04
10	5	10	12	75	30	SEM84610030E	£110.27
					40	SEM84610040E	£110.27
			18	100	30	SEM84610030100E	£120.23
					40	SEM84610040100E	£120.23
12	6	12	14	80	32	SEM84612032E	£130.74
					45	SEM84612045E	£130.74
			22	110	32	SEM84612032110E	£157.95
					45	SEM84612045110E	£157.95

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○		○			○					

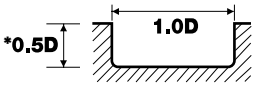
2 FLUTE

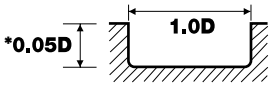
SEME35 Series

CUTTING DATA

Slotting

MATERIAL	NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY STEELS & HEAT RESISTANT STEELS				STAINLESS STEELS				HARDENED STEELS			
Hardness	~ HRC 35				HRC 35 ~ HRC 45				-				HRC 45 ~ HRC 55			
Strength	~ 1100N/mm²				1110 ~ 1500N/mm²				-				1500 ~ 2000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.1	42000	75	13	0.001	25200	45	8	0.001	21000	38	7	0.001	16800	15	5	0.000
0.2	42000	80	26	0.001	25200	48	16	0.001	21000	37	13	0.001	16800	16	11	0.000
0.3	39000	85	37	0.001	23400	51	22	0.001	19500	43	18	0.001	15600	17	15	0.001
0.4	39000	90	49	0.001	23400	54	29	0.001	19500	45	25	0.001	15600	18	20	0.001
0.5	36000	105	57	0.001	21600	63	34	0.001	18000	52	28	0.001	14400	21	23	0.001
0.6	32000	120	60	0.002	19200	72	36	0.002	16000	60	30	0.002	12800	24	24	0.001
0.7	28000	135	62	0.002	16800	81	37	0.002	14000	67	31	0.002	11200	27	25	0.001
0.8	25000	150	63	0.003	15000	90	38	0.003	12500	75	31	0.003	10000	30	25	0.002
0.9	23500	155	66	0.003	14100	93	40	0.003	11750	77	33	0.003	9400	31	27	0.002
1	21500	160	68	0.004	12900	96	41	0.004	10750	80	34	0.004	8600	32	27	0.002
1.2	18000	165	68	0.005	10800	99	41	0.005	9000	82.5	34	0.005	7200	33	27	0.002
1.5	15000	170	71	0.006	9000	102	42	0.006	7500	85	35	0.006	6000	34	28	0.003
2	11560	190	73	0.008	7560	120	48	0.008	6300	90	40	0.007	5040	35	32	0.003
2.5	10240	200	80	0.010	6560	130	52	0.010	5460	105	43	0.010	4200	37	33	0.004
3	8920	210	84	0.012	5560	140	52	0.013	4620	120	44	0.013	3360	40	32	0.006
3.5	8240	255	91	0.015	5090	160	56	0.016	4250	135	47	0.016	3150	40	35	0.006
4	7560	300	95	0.020	4620	180	58	0.019	3880	150	49	0.019	2940	40	37	0.007
4.5	6930	310	98	0.022	4200	185	59	0.022	3520	155	50	0.022	2630	45	37	0.009
5	6300	320	99	0.025	3780	190	59	0.025	3160	160	50	0.025	2320	50	36	0.011
5.5	5930	335	102	0.028	3570	205	62	0.029	3000	170	52	0.028	2160	52	37	0.012
6	5560	350	105	0.031	3360	220	63	0.033	2840	180	54	0.032	2000	55	38	0.014
6.5	5220	355	107	0.034	3150	215	64	0.034	2655	180	54	0.034	1920	60	39	0.016
7	4880	365	107	0.037	2940	210	65	0.036	2470	180	54	0.036	1840	65	40	0.018
7.5	4540	370	107	0.041	2730	205	64	0.038	2285	180	54	0.039	1760	70	41	0.020
8	4200	380	106	0.045	2520	200	63	0.040	2100	180	53	0.043	1680	75	42	0.022
8.5	3965	365	106	0.046	2390	190	64	0.040	1995	175	53	0.044	1600	70	43	0.022
9	3730	355	105	0.048	2260	180	64	0.040	1890	170	53	0.045	1520	65	43	0.021
9.5	3495	340	104	0.049	2130	170	64	0.040	1785	165	53	0.046	1440	60	43	0.021
10	3260	330	102	0.051	2000	160	63	0.040	1680	160	53	0.048	1360	60	43	0.022
10.5	3130	315	103	0.050	1920	150	63	0.039	1600	150	53	0.047	1310	58	43	0.022
11	3000	305	104	0.051	1840	145	64	0.039	1520	145	53	0.048	1260	55	44	0.022
11.5	2870	290	104	0.051	1760	135	64	0.038	1440	135	52	0.047	1210	55	44	0.023
12	2740	280	103	0.051	1680	130	63	0.039	1360	130	51	0.048	1160	55	44	0.024
13	2605	265	106	0.051	1600	125	65	0.039	1285	125	52	0.049	1095	52	45	0.024
14	2470	250	109	0.051	1520	120	67	0.039	1210	120	53	0.050	1030	47	45	0.023
15	2335	235	110	0.050	1440	115	68	0.040	1135	115	53	0.051	965	43	45	0.022
16	2200	220	111	0.050	1360	110	68	0.040	1060	110	53	0.052	900	40	45	0.022
17	2070	205	111	0.050	1285	100	69	0.039	1005	100	54	0.050	845	37	45	0.022
18	1940	195	110	0.050	1210	95	68	0.039	950	95	54	0.050	790	35	45	0.022
19	1810	180	108	0.050	1135	85	68	0.037	895	85	53	0.047	735	32	44	0.022
20	1680	170	106	0.051	1060	80	67	0.038	840	80	53	0.048	680	30	43	0.022
21	1615	160	107	0.050	1015	78	67	0.038	800	76	53	0.048	650	28	43	0.022
22	1550	155	107	0.050	970	76	67	0.039	775	72	54	0.046	620	26	43	0.021
23	1480	145	107	0.049	925	74	67	0.040	745	68	54	0.046	600	24	43	0.020
24	1425	135	107	0.047	885	72	67	0.041	715	64	54	0.045	570	22	43	0.019
25	1360	130	107	0.048	840	70	66	0.042	680	60	53	0.044	540	20	42	0.019





*up to 1mm Diameter **0.15D,** up to 3mm Diameter **0.2D**

*up to 1mm Diameter **0.02D**

RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

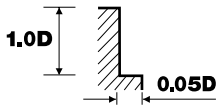
4 FLUTE

SEME36 & SEME71 Series

CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY STEELS & HEAT RESISTANT STEELS				STAINLESS STEELS				HARDENED STEELS			
Hardness	~ HRC 35				HRC 35 ~ HRC 45				-				HRC 45 ~ HRC 55			
Strength	~ 1100N/mm²				1110 ~ 1500N/mm²				-				1500 ~ 2000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.8	31250	225	79	0.002	18750	135	47	0.002	15630	115	39	0.002	12500	40	31	0.001
0.9	29300	235	83	0.002	17580	140	50	0.002	14650	115	41	0.002	11720	40	33	0.001
1	26800	240	84	0.002	16080	145	51	0.002	13400	120	42	0.002	10720	45	34	0.001
1.2	22500	250	85	0.003	13500	150	51	0.003	11250	125	42	0.003	9000	45	34	0.001
1.5	18750	255	88	0.003	11250	155	53	0.003	9380	130	44	0.003	7500	45	35	0.002
2	14450	280	91	0.005	9450	170	59	0.004	7880	140	50	0.004	6300	50	40	0.002
2.5	12800	300	101	0.006	8200	185	64	0.006	6830	155	54	0.006	5250	55	41	0.003
3	11150	320	105	0.007	6950	200	66	0.007	5780	170	54	0.007	4200	60	40	0.004
3.5	10300	445	113	0.011	6360	275	70	0.011	5310	225	58	0.011	3940	60	43	0.004
4	9450	570	119	0.015	5780	350	73	0.015	4850	280	61	0.014	3680	60	46	0.004
4.5	8660	585	122	0.017	5250	355	74	0.017	4400	290	62	0.016	3290	65	47	0.005
5	7880	600	124	0.019	4730	360	74	0.019	3950	300	62	0.019	2900	70	46	0.006
5.5	7410	630	128	0.021	4460	385	77	0.022	3750	315	65	0.021	2700	75	47	0.007
6	6950	660	131	0.024	4200	410	79	0.024	3550	330	67	0.023	2500	80	47	0.008
6.5	6530	675	133	0.026	3940	405	80	0.026	3320	335	68	0.025	2400	90	49	0.009
7	6100	685	134	0.028	3680	395	81	0.027	3090	340	68	0.028	2300	95	51	0.010
7.5	5680	700	134	0.031	3410	390	80	0.029	2860	345	67	0.030	2200	105	52	0.012
8	5250	710	132	0.034	3150	380	79	0.03	2630	350	66	0.033	2100	110	53	0.013
8.5	4960	685	132	0.035	2990	360	80	0.03	2490	340	66	0.034	2000	105	53	0.013
9	4660	660	132	0.035	2830	340	80	0.03	2360	325	67	0.034	1900	100	54	0.013
9.5	4370	635	130	0.036	2660	320	79	0.03	2230	315	67	0.035	1800	95	54	0.013
10	4080	610	128	0.037	2500	300	79	0.03	2100	300	66	0.036	1700	90	53	0.013
10.5	3910	590	129	0.038	2400	290	79	0.03	2000	285	66	0.036	1640	90	54	0.014
11	3750	565	130	0.038	2300	275	79	0.03	1900	270	66	0.036	1580	85	55	0.013
11.5	3590	545	130	0.038	2200	265	79	0.03	1800	255	65	0.035	1510	85	55	0.014
12	3430	520	129	0.038	2100	250	79	0.03	1700	240	64	0.035	1450	80	55	0.014
13	3260	495	133	0.038	2000	240	82	0.03	1620	230	66	0.035	1370	75	56	0.014
14	3090	465	136	0.038	1900	225	84	0.03	1540	220	68	0.036	1290	70	57	0.014
15	2920	440	138	0.038	1800	215	85	0.03	1460	210	69	0.036	1210	65	57	0.013
16	2750	420	138	0.038	1700	205	85	0.03	1380	200	69	0.036	1130	60	57	0.013
17	2590	390	138	0.038	1610	190	86	0.03	1290	190	69	0.037	1060	55	57	0.013
18	2430	365	137	0.038	1510	180	85	0.03	1210	175	68	0.036	990	50	56	0.013
19	2260	345	135	0.038	1420	170	85	0.03	1130	165	67	0.037	920	45	55	0.012
20	2100	320	132	0.038	1330	160	84	0.03	1050	150	66	0.036	850	40	53	0.012
21	2020	305	133	0.038	1270	155	84	0.031	1010	145	67	0.036	820	40	54	0.012
22	1940	295	134	0.038	1220	150	84	0.031	970	140	67	0.036	780	37	54	0.012
23	1860	280	134	0.038	1160	140	84	0.03	930	135	67	0.036	750	35	54	0.012
24	1780	265	134	0.037	1110	135	84	0.03	890	125	67	0.035	710	30	54	0.011
25	1700	250	134	0.037	1050	130	82	0.031	850	120	67	0.035	680	30	53	0.011



FREE morning delivery on orders over £59* placed before 6pm.

*Exclusions apply.

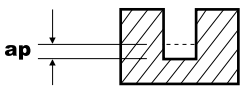
RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE LONG NECK
SEM845 Series

CUTTING DATA
Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae
0.1	0.3	50000	315	16	0.003	0.009	46200	230	15	0.002	0.007	40600	170	13	0.002	0.005
0.1	0.5	50000	315	16	0.003	0.006	46200	230	15	0.002	0.005	40600	170	13	0.002	0.004
0.1	1	45000	255	14	0.003	0.002	41580	185	13	0.002	0.002	36540	140	11	0.002	0.001
0.2	0.5	38500	380	24	0.005	0.018	36300	270	23	0.004	0.014	32100	200	20	0.003	0.010
0.2	1	38500	380	24	0.005	0.013	36300	270	23	0.004	0.010	32100	200	20	0.003	0.007
0.2	1.5	34650	310	22	0.004	0.007	32670	220	21	0.003	0.006	28890	160	18	0.003	0.004
0.2	2	34650	310	22	0.004	0.005	32670	220	21	0.003	0.004	28890	160	18	0.003	0.003
0.3	1	34200	390	32	0.006	0.019	32300	270	30	0.004	0.015	28500	230	27	0.004	0.011
0.3	1.5	34200	390	32	0.006	0.019	32300	270	30	0.004	0.015	28500	230	27	0.004	0.011
0.3	2	30780	315	29	0.005	0.011	29070	220	27	0.004	0.008	25650	185	24	0.004	0.006
0.3	2.5	30780	315	29	0.005	0.007	29070	220	27	0.004	0.005	25650	185	24	0.004	0.004
0.3	3	30780	315	29	0.005	0.007	29070	220	27	0.004	0.005	25650	185	24	0.004	0.004
0.3	4	27360	250	26	0.005	0.004	25840	175	24	0.003	0.003	22800	145	21	0.003	0.002
0.3	5	20520	165	19	0.004	0.003	19380	115	18	0.003	0.002	17100	95	16	0.003	0.002
0.4	1	27400	540	34	0.010	0.036	25800	380	32	0.007	0.028	22800	280	29	0.006	0.02
0.4	1.5	27400	540	34	0.010	0.025	25800	380	32	0.007	0.020	22800	280	29	0.006	0.014
0.4	2	27400	540	34	0.010	0.025	25800	380	32	0.007	0.020	22800	280	29	0.006	0.014
0.4	2.5	24660	435	31	0.009	0.014	23220	310	29	0.007	0.011	20520	225	26	0.005	0.008
0.4	3	24660	435	31	0.009	0.014	23220	310	29	0.007	0.011	20520	225	26	0.005	0.008
0.4	4	24660	435	31	0.009	0.009	23220	310	29	0.007	0.007	20520	225	26	0.005	0.005
0.4	5	21920	345	28	0.008	0.009	20640	245	26	0.006	0.007	18240	180	23	0.005	0.005
0.4	6	21920	345	28	0.008	0.005	20640	245	26	0.006	0.004	18240	180	23	0.005	0.003
0.4	8	16440	225	21	0.007	0.004	15480	160	19	0.005	0.003	13680	120	17	0.004	0.002
0.4	10	8220	95	10	0.006	0.004	7740	70	10	0.005	0.003	6840	50	9	0.004	0.002
0.5	1	27400	540	43	0.010	0.045	25800	425	41	0.008	0.035	22800	285	36	0.006	0.025
0.5	1.5	27400	540	43	0.010	0.045	25800	425	41	0.008	0.035	22800	285	36	0.006	0.025
0.5	2	27400	540	43	0.010	0.032	25800	425	41	0.008	0.025	22800	285	36	0.006	0.018
0.5	2.5	27400	540	43	0.010	0.032	25800	425	41	0.008	0.025	22800	285	36	0.006	0.018
0.5	3	24660	435	39	0.009	0.018	23220	345	36	0.007	0.014	20520	230	32	0.006	0.010
0.5	4	24660	435	39	0.009	0.018	23220	345	36	0.007	0.014	20520	230	32	0.006	0.010
0.5	5	24660	435	39	0.009	0.011	23220	345	36	0.007	0.009	20520	230	32	0.006	0.006
0.5	6	21920	345	34	0.008	0.011	20640	270	32	0.007	0.009	18240	180	29	0.005	0.006
0.5	8	16440	225	26	0.007	0.007	15480	180	24	0.006	0.005	13680	120	21	0.004	0.004
0.5	10	16440	225	26	0.007	0.005	15480	180	24	0.006	0.004	13680	120	21	0.004	0.003
0.5	12	8220	95	13	0.006	0.005	7740	75	12	0.005	0.004	6840	50	11	0.004	0.003
0.5	14	8220	95	13	0.006	0.005	7740	75	12	0.005	0.004	6840	50	11	0.004	0.003
0.5	16	2740	25	4	0.005	0.005	2580	20	4	0.004	0.004	2280	15	4	0.003	0.003
0.6	2	27400	775	52	0.014	0.038	25800	545	49	0.011	0.029	22800	405	43	0.009	0.021
0.6	3	27400	775	52	0.014	0.038	25800	545	49	0.011	0.029	22800	405	43	0.009	0.021
0.6	4	24660	630	46	0.013	0.022	23220	440	44	0.009	0.017	20520	330	39	0.008	0.012
0.6	5	24660	630	46	0.013	0.014	23220	440	44	0.009	0.011	20520	330	39	0.008	0.008
0.6	6	24660	630	46	0.013	0.014	23220	440	44	0.009	0.011	20520	330	39	0.008	0.008
0.6	8	21920	495	41	0.011	0.008	20640	350	39	0.008	0.006	18240	260	34	0.007	0.005
0.6	10	16440	325	31	0.010	0.005	15480	230	29	0.007	0.004	13680	170	26	0.006	0.003
0.6	12	16440	325	31	0.010	0.005	15480	230	29	0.007	0.004	13680	170	26	0.006	0.003
0.6	14	8220	140	15	0.009	0.005	7740	100	15	0.006	0.004	6840	75	13	0.005	0.003
0.6	16	8220	140	15	0.009	0.005	7740	100	15	0.006	0.004	6840	75	13	0.005	0.003
0.7	2	27400	775	60	0.014	0.063	25800	545	57	0.011	0.049	22800	405	50	0.009	0.035
0.7	4	24660	630	54	0.013	0.025	23220	440	51	0.009	0.020	20520	330	45	0.008	0.014
0.7	6	24660	630	54	0.013	0.016	23220	440	51	0.009	0.012	20520	330	45	0.008	0.009
0.7	8	21920	495	48	0.011	0.016	20640	350	45	0.008	0.012	18240	260	40	0.007	0.009
0.7	10	21920	495	48	0.011	0.009	20640	350	45	0.008	0.007	18240	260	40	0.007	0.005

LBS = Length Below Shank
ae = Width of cut per pass



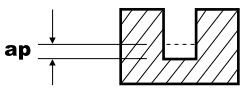
RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE LONG NECK
SEM845 Series continued

CUTTING DATA
Slotting

MATERIAL	NON-ALLOYED STEELS & ALLOY STEELS					ALLOY & HEAT RESISTANT STEELS					HARDENED STEELS				
	CAST IRON					STAINLESS STEELS									
Hardness	~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength	~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae
0.7	12	16440	325	36	0.01	0.006	15480	230	34	0.007	0.005	13680	170	30	0.006	0.004
0.8	2	27400	775	69	0.014	0.072	25800	605	65	0.012	0.056	22800	450	57	0.010	0.040
0.8	3	27400	775	69	0.014	0.050	25800	605	65	0.012	0.039	22800	450	57	0.010	0.028
0.8	4	27400	775	69	0.014	0.050	25800	605	65	0.012	0.039	22800	450	57	0.010	0.028
0.8	5	24660	630	62	0.013	0.029	23220	490	58	0.011	0.022	20520	365	52	0.009	0.016
0.8	6	24660	630	62	0.013	0.029	23220	490	58	0.011	0.022	20520	365	52	0.009	0.016
0.8	8	24660	630	62	0.013	0.018	23220	490	58	0.011	0.014	20520	365	52	0.009	0.010
0.8	10	21920	495	55	0.011	0.018	20640	385	52	0.009	0.014	18240	290	46	0.008	0.010
0.8	12	21920	495	55	0.011	0.011	20640	385	52	0.009	0.008	18240	290	46	0.008	0.006
0.8	14	16440	325	41	0.010	0.007	15480	255	39	0.008	0.006	13680	190	34	0.007	0.004
0.8	16	16440	325	41	0.010	0.007	15480	255	39	0.008	0.006	13680	190	34	0.007	0.004
0.8	20	8220	140	21	0.009	0.007	7740	110	19	0.007	0.006	6840	80	17	0.006	0.004
0.9	6	22140	575	63	0.013	0.032	20970	440	59	0.010	0.025	18450	330	52	0.009	0.018
0.9	8	22140	575	63	0.013	0.020	20970	440	59	0.010	0.016	18450	330	52	0.009	0.011
0.9	10	19680	455	56	0.012	0.020	18640	350	53	0.009	0.016	16400	260	46	0.008	0.011
1	2	24600	1045	77	0.021	0.090	23300	890	73	0.019	0.070	20500	665	64	0.016	0.050
1	3	24600	1045	77	0.021	0.090	23300	890	73	0.019	0.070	20500	665	64	0.016	0.050
1	4	24600	1045	77	0.021	0.063	23300	890	73	0.019	0.049	20500	665	64	0.016	0.035
1	5	24600	1045	77	0.021	0.063	23300	890	73	0.019	0.049	20500	665	64	0.016	0.035
1	6	22140	845	70	0.019	0.036	20970	720	66	0.017	0.028	18450	540	58	0.015	0.020
1	7	22140	845	70	0.019	0.036	20970	720	66	0.017	0.028	18450	540	58	0.015	0.020
1	8	22140	845	70	0.019	0.036	20970	720	66	0.017	0.028	18450	540	58	0.015	0.020
1	10	22140	845	70	0.019	0.023	20970	720	66	0.017	0.018	18450	540	58	0.015	0.013
1	12	19680	670	62	0.017	0.023	18640	570	59	0.015	0.018	16400	425	52	0.013	0.013
1	14	19680	670	62	0.017	0.014	18640	570	59	0.015	0.011	16400	425	52	0.013	0.008
1	16	14760	440	46	0.015	0.014	13980	375	44	0.013	0.011	12300	280	39	0.011	0.008
1	18	14760	440	46	0.015	0.009	13980	375	44	0.013	0.007	12300	280	39	0.011	0.005
1	20	14760	440	46	0.015	0.009	13980	375	44	0.013	0.007	12300	280	39	0.011	0.005
1	22	7380	190	23	0.013	0.009	6990	160	22	0.011	0.007	6150	120	19	0.010	0.005
1	26	7380	190	23	0.013	0.009	6990	160	22	0.011	0.007	6150	120	19	0.010	0.005
1	30	7380	190	23	0.013	0.009	6990	160	22	0.011	0.007	6150	120	19	0.010	0.005
1	40	2460	50	8	0.010	0.009	2330	45	7	0.010	0.007	2050	35	6	0.009	0.005
1	50	2460	50	8	0.010	0.006	2330	45	7	0.010	0.005	2050	35	6	0.009	0.003
1.2	4	21900	930	83	0.021	0.076	20700	720	78	0.017	0.059	18200	485	69	0.013	0.042
1.2	6	21900	930	83	0.021	0.076	20700	720	78	0.017	0.059	18200	485	69	0.013	0.042
1.2	8	19710	755	74	0.019	0.043	18630	585	70	0.016	0.034	16380	395	62	0.012	0.024
1.2	10	19710	755	74	0.019	0.027	18630	585	70	0.016	0.021	16380	395	62	0.012	0.015
1.2	12	19710	755	74	0.019	0.027	18630	585	70	0.016	0.021	16380	395	62	0.012	0.015
1.2	14	17520	595	66	0.017	0.027	16560	460	62	0.014	0.021	14560	310	55	0.011	0.015
1.2	16	17520	595	66	0.017	0.016	16560	460	62	0.014	0.013	14560	310	55	0.011	0.009
1.2	20	13140	390	50	0.015	0.011	12420	300	47	0.012	0.008	10920	205	41	0.009	0.006
1.2	26	6570	165	25	0.013	0.011	6210	130	23	0.010	0.008	5460	85	21	0.008	0.006
1.2	30	6570	165	25	0.013	0.011	6210	130	23	0.010	0.008	5460	85	21	0.008	0.006
1.4	6	19200	815	84	0.021	0.088	18100	570	80	0.016	0.069	16000	425	70	0.013	0.049
1.4	8	17280	660	76	0.019	0.050	16290	460	72	0.014	0.039	14400	345	63	0.012	0.028
1.4	10	17280	660	76	0.019	0.050	16290	460	72	0.014	0.039	14400	345	63	0.012	0.028
1.4	14	17280	660	76	0.019	0.032	16290	460	72	0.014	0.025	14400	345	63	0.012	0.018
1.4	16	15360	520	68	0.017	0.032	14480	365	64	0.013	0.025	12800	270	56	0.011	0.018
1.4	20	15360	520	68	0.017	0.019	14480	365	64	0.013	0.015	12800	270	56	0.011	0.011
1.5	4	19200	905	90	0.024	0.135	18100	635	85	0.018	0.105	16000	475	75	0.015	0.075
1.5	5	19200	905	90	0.024	0.095	18100	635	85	0.018	0.074	16000	475	75	0.015	0.053
1.5	6	19200	905	90	0.024	0.095	18100	635	85	0.018	0.074	16000	475	75	0.015	0.053

LBS = Length Below Shank
ae = Width of cut per pass



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE LONG NECK

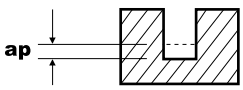
SEM845 Series continued

CUTTING DATA

Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS					ALLOY & HEAT RESISTANT STEELS					HARDENED STEELS				
		CAST IRON					STAINLESS STEELS									
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae
1.5	7	19200	905	90	0.024	0.095	18100	635	85	0.018	0.074	16000	475	75	0.015	0.053
1.5	8	17280	735	81	0.021	0.054	16290	515	77	0.016	0.042	14400	385	68	0.013	0.03
1.5	10	17280	735	81	0.021	0.054	16290	515	77	0.016	0.042	14400	385	68	0.013	0.030
1.5	12	17280	735	81	0.021	0.054	16290	515	77	0.016	0.042	14400	385	68	0.013	0.030
1.5	14	17280	735	81	0.021	0.034	16290	515	77	0.016	0.026	14400	385	68	0.013	0.019
1.5	16	15360	580	72	0.019	0.034	14480	405	68	0.014	0.026	12800	305	60	0.012	0.019
1.5	18	15360	580	72	0.019	0.034	14480	405	68	0.014	0.026	12800	305	60	0.012	0.019
1.5	20	15360	580	72	0.019	0.020	14480	405	68	0.014	0.016	12800	305	60	0.012	0.011
1.5	22	15360	580	72	0.019	0.020	14480	405	68	0.014	0.016	12800	305	60	0.012	0.011
1.5	26	11520	380	54	0.016	0.014	10860	265	51	0.012	0.011	9600	200	45	0.010	0.008
1.5	30	11520	380	54	0.016	0.014	10860	265	51	0.012	0.011	9600	200	45	0.010	0.008
1.6	8	17800	840	89	0.024	0.101	16800	655	84	0.019	0.078	14800	490	74	0.017	0.056
1.6	10	16020	680	81	0.021	0.058	15120	530	76	0.018	0.045	13320	395	67	0.015	0.032
1.6	12	16020	680	81	0.021	0.058	15120	530	76	0.018	0.045	13320	395	67	0.015	0.032
1.6	16	16020	680	81	0.021	0.036	15120	530	76	0.018	0.028	13320	395	67	0.015	0.020
1.6	20	14240	540	72	0.019	0.036	13440	420	68	0.016	0.028	11840	315	60	0.013	0.020
1.8	8	17800	840	101	0.024	0.113	16800	655	95	0.019	0.088	14800	490	84	0.017	0.063
1.8	10	16020	680	91	0.021	0.065	15120	530	86	0.018	0.050	13320	395	75	0.015	0.036
1.8	12	16020	680	91	0.021	0.065	15120	530	86	0.018	0.050	13320	395	75	0.015	0.036
1.8	16	16020	680	91	0.021	0.041	15120	530	86	0.018	0.032	13320	395	75	0.015	0.023
1.8	20	14240	540	81	0.019	0.041	13440	420	76	0.016	0.032	11840	315	67	0.013	0.023
2	6	14400	820	90	0.028	0.180	13600	620	85	0.023	0.140	12000	475	75	0.020	0.100
2	8	14400	820	90	0.028	0.126	13600	620	85	0.023	0.098	12000	475	75	0.020	0.070
2	10	14400	820	90	0.028	0.126	13600	620	85	0.023	0.098	12000	475	75	0.020	0.070
2	12	12960	665	81	0.026	0.072	12240	500	77	0.020	0.056	10800	385	68	0.018	0.040
2	14	12960	665	81	0.026	0.072	12240	500	77	0.020	0.056	10800	385	68	0.018	0.040
2	16	12960	665	81	0.026	0.072	12240	500	77	0.020	0.056	10800	385	68	0.018	0.040
2	18	12960	665	81	0.026	0.045	12240	500	77	0.020	0.035	10800	385	68	0.018	0.025
2	20	12960	665	81	0.026	0.045	12240	500	77	0.020	0.035	10800	385	68	0.018	0.025
2	22	11520	525	72	0.023	0.045	10880	395	68	0.018	0.035	9600	305	60	0.016	0.025
2	26	11520	525	72	0.023	0.045	10880	395	68	0.018	0.035	9600	305	60	0.016	0.025
2	30	11520	525	72	0.023	0.027	10880	395	68	0.018	0.021	9600	305	60	0.016	0.015
2	35	8640	345	54	0.020	0.018	8160	260	51	0.016	0.014	7200	200	45	0.014	0.010
2	40	8640	345	54	0.020	0.018	8160	260	51	0.016	0.014	7200	200	45	0.014	0.010
2	45	4320	150	27	0.017	0.018	4080	110	26	0.013	0.014	3600	85	23	0.012	0.010
2	50	4320	150	27	0.017	0.018	4080	110	26	0.013	0.014	3600	85	23	0.012	0.010
2	60	4320	150	27	0.017	0.018	4080	110	26	0.013	0.014	3600	85	23	0.012	0.010
2.5	8	12300	970	97	0.039	0.158	11600	680	91	0.029	0.123	10300	510	81	0.025	0.088
2.5	10	12300	970	97	0.039	0.158	11600	680	91	0.029	0.123	10300	510	81	0.025	0.088
2.5	12	12300	970	97	0.039	0.158	11600	680	91	0.029	0.123	10300	510	81	0.025	0.088
2.5	14	11070	785	87	0.035	0.090	10440	550	82	0.026	0.070	9270	415	73	0.022	0.050
2.5	16	11070	785	87	0.035	0.090	10440	550	82	0.026	0.070	9270	415	73	0.022	0.050
2.5	18	11070	785	87	0.035	0.090	10440	550	82	0.026	0.070	9270	415	73	0.022	0.050
2.5	20	11070	785	87	0.035	0.090	10440	550	82	0.026	0.070	9270	415	73	0.022	0.050
2.5	22	11070	785	87	0.035	0.056	10440	550	82	0.026	0.044	9270	415	73	0.022	0.031
2.5	26	9840	620	77	0.032	0.056	9280	435	73	0.023	0.044	8240	325	65	0.020	0.031
2.5	30	9840	620	77	0.032	0.056	9280	435	73	0.023	0.044	8240	325	65	0.020	0.031
2.5	35	9840	620	77	0.032	0.034	9280	435	73	0.023	0.026	8240	325	65	0.020	0.019
2.5	40	7380	405	58	0.027	0.034	6960	285	55	0.020	0.026	6180	215	49	0.017	0.019
2.5	45	7380	405	58	0.027	0.023	6960	285	55	0.020	0.018	6180	215	49	0.017	0.013
2.5	50	7380	405	58	0.027	0.023	6960	285	55	0.020	0.018	6180	215	49	0.017	0.013
3	6	10900	860	103	0.039	0.270	10300	605	97	0.029	0.210	6600	450	62	0.034	0.150

LBS = Length Below Shank
ae = Width of cut per pass

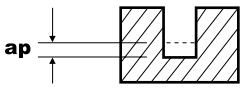


RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE LONG NECK
SEM845 Series continued

CUTTING DATA
Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae
3	8	10900	860	103	0.039	0.27	10300	605	97	0.029	0.21	6600	450	62	0.034	0.15
3	10	10900	860	103	0.039	0.189	10300	605	97	0.029	0.147	6600	450	62	0.034	0.105
3	12	10900	860	103	0.039	0.189	10300	605	97	0.029	0.147	6600	450	62	0.034	0.105
3	14	10900	860	103	0.039	0.189	10300	605	97	0.029	0.147	6600	450	62	0.034	0.105
3	16	9810	695	92	0.035	0.108	9270	490	87	0.026	0.084	5940	365	56	0.031	0.060
3	18	9810	695	92	0.035	0.108	9270	490	87	0.026	0.084	5940	365	56	0.031	0.060
3	20	9810	695	92	0.035	0.108	9270	490	87	0.026	0.084	5940	365	56	0.031	0.060
3	22	9810	695	92	0.035	0.108	9270	490	87	0.026	0.084	5940	365	56	0.031	0.060
3	26	9810	695	92	0.035	0.068	9270	490	87	0.026	0.053	5940	365	56	0.031	0.038
3	30	9810	695	92	0.035	0.068	9270	490	87	0.026	0.053	5940	365	56	0.031	0.038
3	35	8720	550	82	0.032	0.068	8240	385	78	0.023	0.053	5280	290	50	0.027	0.038
3	40	8720	550	82	0.032	0.041	8240	385	78	0.023	0.032	5280	290	50	0.027	0.023
3	45	8720	550	82	0.032	0.041	8240	385	78	0.023	0.032	5280	290	50	0.027	0.023
3	50	6540	360	62	0.028	0.027	6180	255	58	0.021	0.021	3960	190	37	0.024	0.015
3	60	6540	360	62	0.028	0.027	6180	255	58	0.021	0.021	3960	190	37	0.024	0.015
4	8	8000	1300	101	0.081	0.360	7600	1160	96	0.076	0.280	6700	770	84	0.057	0.200
4	10	8000	1300	101	0.081	0.360	7600	1160	96	0.076	0.280	6700	770	84	0.057	0.200
4	12	8000	1300	101	0.081	0.360	7600	1160	96	0.076	0.280	6700	770	84	0.057	0.200
4	14	8000	1300	101	0.081	0.252	7600	1160	96	0.076	0.196	6700	770	84	0.057	0.140
4	16	8000	1300	101	0.081	0.252	7600	1160	96	0.076	0.196	6700	770	84	0.057	0.140
4	18	8000	1300	101	0.081	0.252	7600	1160	96	0.076	0.196	6700	770	84	0.057	0.140
4	20	8000	1300	101	0.081	0.252	7600	1160	96	0.076	0.196	6700	770	84	0.057	0.140
4	22	7200	1055	90	0.073	0.144	6840	940	86	0.069	0.112	6030	625	76	0.052	0.080
4	26	7200	1055	90	0.073	0.144	6840	940	86	0.069	0.112	6030	625	76	0.052	0.080
4	30	7200	1055	90	0.073	0.144	6840	940	86	0.069	0.112	6030	625	76	0.052	0.080
4	35	7200	1055	90	0.073	0.090	6840	940	86	0.069	0.070	6030	625	76	0.052	0.050
4	40	7200	1055	90	0.073	0.090	6840	940	86	0.069	0.070	6030	625	76	0.052	0.050
4	45	6400	830	80	0.065	0.090	6080	740	76	0.061	0.070	5360	495	67	0.046	0.050
4	50	6400	830	80	0.065	0.090	6080	740	76	0.061	0.070	5360	495	67	0.046	0.050
4	60	6400	830	80	0.065	0.054	6080	740	76	0.061	0.042	5360	495	67	0.046	0.030
5	16	6400	1155	101	0.090	0.315	6100	900	96	0.074	0.245	5400	605	85	0.056	0.175
5	20	6400	1155	101	0.090	0.315	6100	900	96	0.074	0.245	5400	605	85	0.056	0.175
5	26	5760	935	90	0.081	0.180	5490	730	86	0.066	0.140	4860	490	76	0.050	0.100
5	30	5760	935	90	0.081	0.180	5490	730	86	0.066	0.140	4860	490	76	0.050	0.100
5	35	5760	935	90	0.081	0.180	5490	730	86	0.066	0.140	4860	490	76	0.050	0.100
5	40	5760	935	90	0.081	0.180	5490	730	86	0.066	0.140	4860	490	76	0.050	0.100
5	50	5760	935	90	0.081	0.113	5490	730	86	0.066	0.088	4860	490	76	0.050	0.063
5	60	5120	740	80	0.072	0.113	4880	575	77	0.059	0.088	4320	385	68	0.045	0.063
6	15	5300	1055	100	0.100	0.540	5000	820	94	0.082	0.420	4400	550	83	0.063	0.300
6	20	5300	1055	100	0.100	0.378	5000	820	94	0.082	0.294	4400	550	83	0.063	0.210
6	30	5300	1055	100	0.100	0.378	5000	820	94	0.082	0.294	4400	550	83	0.063	0.210
6	32	4770	855	90	0.090	0.216	4500	665	85	0.074	0.168	3960	445	75	0.056	0.120
8	25	4000	950	101	0.119	0.504	3800	750	96	0.099	0.392	3300	500	83	0.076	0.280
8	30	4000	950	101	0.119	0.504	3800	750	96	0.099	0.392	3300	500	83	0.076	0.280
8	42	3600	770	90	0.107	0.288	3400	605	85	0.089	0.224	2950	405	74	0.069	0.160
10	30	3200	900	101	0.141	0.900	3050	680	96	0.111	0.700	2630	400	83	0.076	0.500
10	35	3200	900	101	0.141	0.630	3050	680	96	0.111	0.490	2630	400	83	0.076	0.350
10	45	3200	900	101	0.141	0.630	3050	680	96	0.111	0.490	2630	400	83	0.076	0.350
12	35	2650	800	100	0.151	1.080	2520	600	95	0.119	0.840	2180	350	82	0.080	0.600
12	40	2650	800	100	0.151	0.756	2520	600	95	0.119	0.588	2180	350	82	0.080	0.420
12	50	2650	800	100	0.151	0.756	2520	600	95	0.119	0.588	2180	350	82	0.080	0.420



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE LONG LENGTH

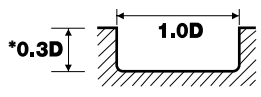
SEME70 Series

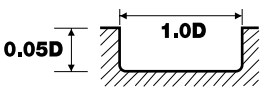
CUTTING DATA

Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS				HARDENED STEELS			
Hardness		~ HRC 35				HRC 35 ~ HRC 45				HRC 45 ~ HRC 55			
Strength		~ 1100N/mm²				1110 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	LOC	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	3	16000	70	50	0.002	12800	60	40	0.002	8000	30	25	0.002
1	4	16000	70	50	0.002	12800	60	40	0.002	8000	30	25	0.002
1	5	16000	70	50	0.002	12800	60	40	0.002	8000	30	25	0.002
1	6	14400	55	45	0.002	11520	50	36	0.002	7200	25	23	0.002
1	7	14400	55	45	0.002	11520	50	36	0.002	7200	25	23	0.002
1	8	14400	50	45	0.002	11520	45	36	0.002	7200	20	23	0.001
1	10	14400	50	45	0.002	11520	45	36	0.002	7200	20	23	0.001
1	12	12800	40	40	0.002	10240	35	32	0.002	6400	15	20	0.001
1.2	4	13500	75	51	0.003	10800	65	41	0.003	6750	30	25	0.002
1.2	6	13500	75	51	0.003	10800	65	41	0.003	6750	30	25	0.002
1.2	8	12150	60	46	0.002	9720	50	37	0.003	6080	25	23	0.002
1.2	10	12150	55	46	0.002	9720	45	37	0.002	6080	20	23	0.002
1.2	12	12150	55	46	0.002	9720	45	37	0.002	6080	20	23	0.002
1.5	6	11200	80	53	0.004	8960	70	42	0.004	5600	30	26	0.003
1.5	8	10080	70	48	0.003	8060	60	38	0.004	5040	30	24	0.003
1.5	10	10080	65	48	0.003	8060	55	38	0.003	5040	25	24	0.002
1.5	12	10080	60	48	0.003	8060	50	38	0.003	5040	25	24	0.002
1.5	14	10080	60	48	0.003	8060	50	38	0.003	5040	25	24	0.002
1.5	16	8960	45	42	0.003	7170	40	34	0.003	4480	20	21	0.002
2	8	9070	85	57	0.005	7260	70	46	0.005	4540	35	29	0.004
2	10	9070	85	57	0.005	7260	70	46	0.005	4540	35	29	0.004
2	12	8160	70	51	0.004	6530	60	41	0.005	4090	30	26	0.004
2	14	8160	70	51	0.004	6530	60	41	0.005	4090	30	26	0.004
2	16	8160	60	51	0.004	6530	50	41	0.004	4090	25	26	0.003
2.5	10	7700	95	60	0.006	6200	80	49	0.006	3850	40	30	0.005
2.5	12	7700	95	60	0.006	6200	80	49	0.006	3850	40	30	0.005
2.5	16	6930	75	54	0.005	5580	65	44	0.006	3470	30	27	0.004
2.5	20	6930	70	54	0.005	5580	55	44	0.005	3470	30	27	0.004
2.5	26	6160	55	48	0.004	4960	45	39	0.005	3080	20	24	0.003
3	10	6350	100	60	0.008	5150	85	49	0.008	3170	40	30	0.006
3	12	6350	100	60	0.008	5150	85	49	0.008	3170	40	30	0.006
3	14	6350	100	60	0.008	5150	85	49	0.008	3170	40	30	0.006
3	16	5720	90	54	0.008	4640	75	44	0.008	2850	40	27	0.007
3	20	5720	80	54	0.007	4640	70	44	0.008	2850	35	27	0.006
3	26	5720	70	54	0.006	4640	60	44	0.006	2850	30	27	0.005
3	30	5720	70	54	0.006	4640	60	44	0.006	2850	30	27	0.005
4	12	5150	120	65	0.012	4100	100	52	0.012	2580	50	32	0.010
4	16	5150	120	65	0.012	4100	100	52	0.012	2580	50	32	0.010
4	20	5150	120	65	0.012	4100	100	52	0.012	2580	50	32	0.010
4	26	4640	95	58	0.010	3690	85	46	0.012	2320	40	29	0.009
4	30	4640	95	58	0.010	3690	85	46	0.012	2320	40	29	0.009
5	20	4400	150	69	0.017	3480	125	55	0.018	2280	55	36	0.012
5	25	4400	150	69	0.017	3480	125	55	0.018	2280	55	36	0.012
5	30	3960	120	62	0.015	3130	100	49	0.016	2050	45	32	0.011
5	35	3960	120	62	0.015	3130	100	49	0.016	2050	45	32	0.011
5	40	3960	110	62	0.014	3130	90	49	0.014	2050	40	32	0.010
6	15	3800	180	72	0.024	3050	150	57	0.025	1970	70	37	0.018
6	20	3800	180	72	0.024	3050	150	57	0.025	1970	70	37	0.018
6	25	3800	180	72	0.024	3050	150	57	0.025	1970	70	37	0.018
6	30	3800	155	72	0.020	3050	130	57	0.021	1970	60	37	0.015
6	35	3420	140	64	0.020	2750	115	52	0.021	1770	55	33	0.016
6	40	3420	120	64	0.018	2750	100	52	0.018	1770	50	33	0.014

LOC = Length of Cut





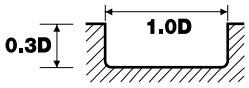
*up to 1mm Diameter **0.15D,** up to 3mm Diameter **0.2D**

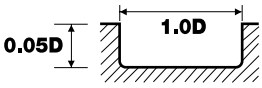
2 FLUTE LONG LENGTH
SEME70 Series continued

CUTTING DATA
Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS				ALLOY & HEAT RESISTANT STEELS				HARDENED STEELS			
		CAST IRON				STAINLESS STEELS							
Hardness		~ HRC 35				HRC 35 ~ HRC 45				HRC 45 ~ HRC 55			
Strength		~ 1100N/mm²				1110 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	LOC	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	45	3420	120	64	0.018	2750	100	52	0.018	1770	50	33	0.014
8	25	2880	190	72	0.033	2280	150	57	0.033	1510	70	38	0.023
8	30	2880	190	72	0.033	2280	150	57	0.033	1510	70	38	0.023
8	35	2880	190	72	0.033	2280	150	57	0.033	1510	70	38	0.023
8	40	2880	160	72	0.028	2280	125	57	0.027	1510	60	38	0.020
8	45	2590	145	65	0.028	2050	115	52	0.028	1360	55	34	0.020
8	50	2590	130	65	0.025	2050	100	52	0.024	1360	50	34	0.018
10	30	2450	190	77	0.039	2000	150	63	0.038	1210	70	38	0.029
10	35	2450	190	77	0.039	2000	150	63	0.038	1210	70	38	0.029
10	40	2450	190	77	0.039	2000	150	63	0.038	1210	70	38	0.029
10	45	2450	160	77	0.033	2000	125	63	0.031	1210	60	38	0.025
10	50	2450	160	77	0.033	2000	125	63	0.031	1210	60	38	0.025
10	55	2210	145	69	0.033	1800	115	57	0.032	1090	55	34	0.025
10	60	2210	130	69	0.029	1800	100	57	0.028	1090	50	34	0.023
12	35	2000	150	75	0.038	1670	135	63	0.040	1010	55	38	0.027
12	40	2000	150	75	0.038	1670	135	63	0.040	1010	55	38	0.027
12	45	2000	130	75	0.033	1670	115	63	0.034	1010	45	38	0.022
12	50	2000	130	75	0.033	1670	115	63	0.034	1010	45	38	0.022
12	55	2000	130	75	0.033	1670	115	63	0.034	1010	45	38	0.022
12	60	2000	110	75	0.028	1670	100	63	0.030	1010	40	38	0.020
12	65	1800	100	68	0.028	1500	90	57	0.030	910	35	34	0.019
12	70	1800	100	68	0.028	1500	90	57	0.030	910	35	34	0.019
14	50	1850	125	81	0.034	1480	100	65	0.034	910	45	40	0.025
14	60	1850	125	81	0.034	1480	100	65	0.034	910	45	40	0.025
16	40	1700	140	85	0.041	1280	105	64	0.041	800	50	40	0.031
16	50	1700	140	85	0.041	1280	105	64	0.041	800	50	40	0.031
16	60	1700	120	85	0.035	1280	90	64	0.035	800	40	40	0.025
16	70	1700	120	85	0.035	1280	90	64	0.035	800	40	40	0.025
16	80	1700	105	85	0.031	1280	80	64	0.031	800	35	40	0.022
16	90	1530	95	77	0.031	1150	70	58	0.030	720	30	36	0.021
16	110	1530	95	77	0.031	1150	70	58	0.030	720	30	36	0.021
16	120	1530	95	77	0.031	1150	70	58	0.030	720	30	36	0.021
18	50	1450	120	82	0.041	1120	90	63	0.040	700	40	40	0.029
18	70	1450	100	82	0.034	1120	75	63	0.033	700	35	40	0.025
18	100	1310	80	74	0.031	1000	60	57	0.030	630	30	36	0.024
20	50	1220	100	77	0.041	950	75	60	0.039	600	35	38	0.029
20	60	1220	100	77	0.041	950	75	60	0.039	600	35	38	0.029
20	70	1220	85	77	0.035	950	65	60	0.034	600	30	38	0.025
20	80	1220	85	77	0.035	950	65	60	0.034	600	30	38	0.025
20	90	1220	75	77	0.031	950	55	60	0.029	600	25	38	0.021
20	110	1100	70	69	0.032	860	50	54	0.029	540	25	34	0.023
20	120	1100	70	69	0.032	860	50	54	0.029	540	25	34	0.023
22	75	1100	75	76	0.034	840	55	58	0.033	550	30	38	0.027
22	110	1100	70	76	0.032	840	50	58	0.030	550	25	38	0.023
25	70	980	80	77	0.041	750	60	59	0.040	480	30	38	0.031
25	90	980	70	77	0.036	750	50	59	0.033	480	25	38	0.026
25	110	980	70	77	0.036	750	50	59	0.033	480	25	38	0.026
25	120	980	60	77	0.031	750	45	59	0.030	480	25	38	0.026

LOC = Length of Cut





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

4 FLUTE

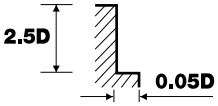
SEME72 Series

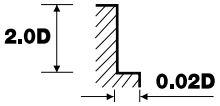
CUTTING DATA

Side Cutting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS				HARDENED STEELS			
Hardness		~ HRC 35				HRC 35 ~ HRC 45				HRC 45 ~ HRC 55			
Strength		~ 1100N/mm²				1110 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	LOC	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	3	19200	180	60	0.002	10940	70	34	0.002	6720	35	21	0.001
1	4	19200	180	60	0.002	10940	70	34	0.002	6720	35	21	0.001
1	5	19200	180	60	0.002	10940	70	34	0.002	6720	35	21	0.001
1	6	17280	145	54	0.002	9850	60	31	0.002	6050	30	19	0.001
1	7	17280	145	54	0.002	9850	60	31	0.002	6050	30	19	0.001
1	8	17280	130	54	0.002	9850	50	31	0.001	6050	25	19	0.001
1	10	17280	130	54	0.002	9850	50	31	0.001	6050	25	19	0.001
1	12	15360	100	48	0.002	8760	40	28	0.001	5380	20	17	0.001
1.2	4	16200	205	61	0.003	9230	80	35	0.002	5670	40	21	0.002
1.2	6	16200	205	61	0.003	9230	80	35	0.002	5670	40	21	0.002
1.2	8	14580	165	55	0.003	8310	65	31	0.002	5100	35	19	0.002
1.2	10	14580	145	55	0.002	8310	60	31	0.002	5100	30	19	0.001
1.2	12	14580	145	55	0.002	8310	60	31	0.002	5100	30	19	0.001
1.5	6	13800	215	65	0.004	7870	85	37	0.003	4830	45	23	0.002
1.5	8	12420	195	59	0.004	7080	80	33	0.003	4350	40	20	0.002
1.5	10	12420	175	59	0.004	7080	70	33	0.002	4350	35	20	0.002
1.5	12	12420	155	59	0.003	7080	60	33	0.002	4350	30	20	0.002
1.5	14	12420	155	59	0.003	7080	60	33	0.002	4350	30	20	0.002
1.5	16	11040	120	52	0.003	6290	50	30	0.002	3860	25	18	0.002
2	8	10580	240	66	0.006	6050	95	38	0.004	3780	55	24	0.004
2	10	10580	240	66	0.006	6050	95	38	0.004	3780	55	24	0.004
2	12	9530	195	60	0.005	5440	80	34	0.004	3400	45	21	0.003
2	14	9530	195	60	0.005	5440	80	34	0.004	3400	45	21	0.003
2	16	9530	175	60	0.005	5440	70	34	0.003	3400	40	21	0.003
2.5	10	8990	260	71	0.007	5170	110	41	0.005	3210	60	25	0.005
2.5	12	8990	260	71	0.007	5170	110	41	0.005	3210	60	25	0.005
2.5	16	8090	210	64	0.006	4650	85	37	0.005	2890	50	23	0.004
2.5	20	8090	185	64	0.006	4650	80	37	0.004	2890	45	23	0.004
2.5	26	7200	145	57	0.005	4130	60	32	0.004	2570	35	20	0.003
3	10	7400	275	70	0.009	4280	120	40	0.007	2640	65	25	0.006
3	12	7400	275	70	0.009	4280	120	40	0.007	2640	65	25	0.006
3	14	7400	275	70	0.009	4280	120	40	0.007	2640	65	25	0.006
3	16	6660	250	63	0.009	3860	110	36	0.007	2380	60	22	0.006
3	20	6660	225	63	0.008	3860	95	36	0.006	2380	55	22	0.006
3	26	6660	200	63	0.008	3860	85	36	0.006	2380	50	22	0.005
3	30	6660	200	63	0.008	3860	85	36	0.006	2380	50	22	0.005
4	12	6000	335	75	0.014	3410	140	43	0.010	2150	70	27	0.008
4	16	6000	335	75	0.014	3410	140	43	0.010	2150	70	27	0.008
4	20	6000	335	75	0.014	3410	140	43	0.010	2150	70	27	0.008
4	26	5400	270	68	0.013	3070	110	39	0.009	1930	60	24	0.008
4	30	5400	270	68	0.013	3070	110	39	0.009	1930	60	24	0.008
5	20	5120	430	80	0.021	2900	170	46	0.015	1900	85	30	0.011
5	25	5120	430	80	0.021	2900	170	46	0.015	1900	85	30	0.011
5	30	4610	350	72	0.019	2610	135	41	0.013	1710	70	27	0.010
5	35	4610	350	72	0.019	2610	135	41	0.013	1710	70	27	0.010
5	40	4610	310	72	0.017	2610	120	41	0.011	1710	60	27	0.009
6	15	4420	515	83	0.029	2520	215	48	0.021	1640	110	31	0.017
6	20	4420	515	83	0.029	2520	215	48	0.021	1640	110	31	0.017
6	25	4420	515	83	0.029	2520	215	48	0.021	1640	110	31	0.017
6	30	4420	440	83	0.025	2520	185	48	0.018	1640	90	31	0.014
6	35	3970	395	75	0.025	2270	165	43	0.018	1480	85	28	0.014
6	40	3970	350	75	0.022	2270	145	43	0.016	1480	75	28	0.013
6	45	3970	350	75	0.022	2270	145	43	0.016	1480	75	28	0.013

LOC = Length of Cut





4 FLUTE

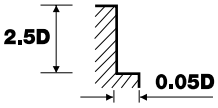
SEME72 Series continued

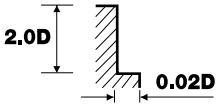
CUTTING DATA

Side Cutting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS				HARDENED STEELS			
Hardness		~ HRC 35				HRC 35 ~ HRC 45				HRC 45 ~ HRC 55			
Strength		~ 1100N/mm²				1110 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	LOC	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
8	25	3360	550	84	0.041	1900	215	48	0.028	1260	110	32	0.022
8	30	3360	550	84	0.041	1900	215	48	0.028	1260	110	32	0.022
8	35	3360	550	84	0.041	1900	215	48	0.028	1260	110	32	0.022
8	40	3360	470	84	0.035	1900	185	48	0.024	1260	90	32	0.018
8	45	3020	420	76	0.035	1710	165	43	0.024	1130	85	28	0.019
8	50	3020	375	76	0.031	1710	145	43	0.021	1130	75	28	0.017
10	30	2820	550	89	0.049	1640	215	52	0.033	1010	110	32	0.027
10	35	2820	550	89	0.049	1640	215	52	0.033	1010	110	32	0.027
10	40	2820	550	89	0.049	1640	215	52	0.033	1010	110	32	0.027
10	45	2820	470	89	0.042	1640	185	52	0.028	1010	90	32	0.022
10	50	2820	470	89	0.042	1640	185	52	0.028	1010	90	32	0.022
10	55	2540	420	80	0.041	1480	165	46	0.028	910	85	29	0.023
10	60	2540	375	80	0.037	1480	145	46	0.024	910	75	29	0.021
12	35	2300	430	87	0.047	1390	190	52	0.034	840	85	32	0.025
12	40	2300	430	87	0.047	1390	190	52	0.034	840	85	32	0.025
12	45	2300	365	87	0.040	1390	165	52	0.030	840	70	32	0.021
12	50	2300	365	87	0.040	1390	165	52	0.030	840	70	32	0.021
12	55	2300	365	87	0.040	1390	165	52	0.030	840	70	32	0.021
12	60	2300	325	87	0.035	1390	145	52	0.026	840	65	32	0.019
12	65	2070	290	78	0.035	1250	130	47	0.026	760	55	29	0.018
12	70	2070	290	78	0.035	1250	130	47	0.026	760	55	29	0.018
14	50	2120	345	93	0.041	1230	145	54	0.029	760	65	33	0.021
14	60	2120	345	93	0.041	1230	145	54	0.029	760	65	33	0.021
16	40	1940	385	98	0.050	1070	150	54	0.035	670	70	34	0.026
16	50	1940	385	98	0.050	1070	150	54	0.035	670	70	34	0.026
16	60	1940	325	98	0.042	1070	130	54	0.030	670	60	34	0.022
16	70	1940	325	98	0.042	1070	130	54	0.030	670	60	34	0.022
16	80	1940	290	98	0.037	1070	115	54	0.027	670	55	34	0.021
16	90	1750	260	88	0.037	960	100	48	0.026	600	50	30	0.021
16	110	1750	260	88	0.037	960	100	48	0.026	600	50	30	0.021
16	120	1750	260	88	0.037	960	100	48	0.026	600	50	30	0.021
18	50	1680	330	95	0.049	940	130	53	0.035	590	65	33	0.028
18	70	1680	280	95	0.042	940	110	53	0.029	590	55	33	0.023
18	100	1510	225	85	0.037	850	85	48	0.025	530	45	30	0.021
20	50	1420	275	89	0.048	820	110	52	0.034	500	55	31	0.028
20	60	1420	275	89	0.048	820	110	52	0.034	500	55	31	0.028
20	70	1420	235	89	0.041	820	90	52	0.027	500	45	31	0.023
20	80	1420	235	89	0.041	820	90	52	0.027	500	45	31	0.023
20	90	1420	205	89	0.036	820	80	52	0.024	500	40	31	0.020
20	110	1270	185	80	0.036	730	75	46	0.026	450	35	28	0.019
20	120	1270	185	80	0.036	730	75	46	0.026	450	35	28	0.019
22	75	1260	205	87	0.041	820	90	57	0.027	500	45	35	0.023
22	110	1260	180	87	0.036	820	80	57	0.024	500	40	35	0.020
25	70	1100	215	86	0.049	820	110	64	0.034	500	55	39	0.028
25	90	1100	185	86	0.042	820	90	64	0.027	500	45	39	0.023
25	110	1100	185	86	0.042	820	90	64	0.027	500	45	39	0.023
25	120	1100	160	86	0.036	820	80	64	0.024	500	40	39	0.020

LOC = Length of Cut





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

4 FLUTE LONG NECK

SEME73 Series

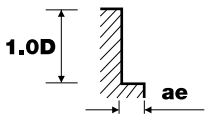
CUTTING DATA

Side Cutting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS					ALLOY & HEAT RESISTANT STEELS					HARDENED STEELS				
		CAST IRON					STAINLESS STEELS									
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae
1	2	22000	310	69	0.004	0.021	13500	180	42	0.003	0.016	8500	50	27	0.001	0.013
1	3	22000	310	69	0.004	0.021	13500	180	42	0.003	0.016	8500	50	27	0.001	0.013
1	4	22000	310	69	0.004	0.015	13500	180	42	0.003	0.011	8500	50	27	0.001	0.009
1	5	22000	310	69	0.004	0.015	13500	180	42	0.003	0.011	8500	50	27	0.001	0.009
1	6	19800	250	62	0.003	0.008	12150	145	38	0.003	0.006	7650	40	24	0.001	0.005
1	7	19800	250	62	0.003	0.008	12150	145	38	0.003	0.006	7650	40	24	0.001	0.005
1	8	19800	250	62	0.003	0.008	12150	145	38	0.003	0.006	7650	40	24	0.001	0.005
1	10	19800	250	62	0.003	0.005	12150	145	38	0.003	0.004	7650	40	24	0.001	0.003
1	12	17600	200	55	0.003	0.005	10800	115	34	0.003	0.004	6800	30	21	0.001	0.003
1	14	17600	200	55	0.003	0.003	10800	115	34	0.003	0.002	6800	30	21	0.001	0.002
1	16	13200	130	41	0.002	0.003	8100	75	25	0.002	0.002	5100	20	16	0.001	0.002
1	18	13200	130	41	0.002	0.002	8100	75	25	0.002	0.002	5100	20	16	0.001	0.001
1	20	13200	130	41	0.002	0.002	8100	75	25	0.002	0.002	5100	20	16	0.001	0.001
1	22	6600	55	21	0.002	0.002	4050	30	13	0.002	0.002	2550	10	8	0.001	0.001
1	26	6600	55	21	0.002	0.002	4050	30	13	0.002	0.002	2550	10	8	0.001	0.001
1	30	6600	55	21	0.002	0.002	4050	30	13	0.002	0.002	2550	10	8	0.001	0.001
1	40	2200	15	7	0.002	0.002	1350	10	4	0.002	0.002	850	5	3	0.001	0.001
1	50	2200	15	7	0.002	0.002	1350	10	4	0.002	0.002	850	5	3	0.001	0.001
1.2	4	19500	315	74	0.004	0.018	12100	185	46	0.004	0.013	7500	50	28	0.002	0.011
1.2	6	19500	315	74	0.004	0.018	12100	185	46	0.004	0.013	7500	50	28	0.002	0.011
1.2	8	17550	255	66	0.004	0.010	10890	150	41	0.003	0.008	6750	40	25	0.001	0.006
1.2	10	17550	255	66	0.004	0.006	10890	150	41	0.003	0.005	6750	40	25	0.001	0.004
1.2	12	17550	255	66	0.004	0.006	10890	150	41	0.003	0.005	6750	40	25	0.001	0.004
1.2	14	15600	200	59	0.003	0.006	9680	120	36	0.003	0.005	6000	30	23	0.001	0.004
1.2	16	15600	200	59	0.003	0.004	9680	120	36	0.003	0.003	6000	30	23	0.001	0.002
1.2	20	11700	130	44	0.003	0.003	7260	80	27	0.003	0.002	4500	20	17	0.001	0.002
1.2	26	5850	55	22	0.002	0.003	3630	35	14	0.002	0.002	2250	10	8	0.001	0.002
1.2	30	5850	55	22	0.002	0.003	3630	35	14	0.002	0.002	2250	10	8	0.001	0.002
1.5	4	17000	320	80	0.005	0.032	10700	190	50	0.004	0.024	6500	50	31	0.002	0.019
1.5	5	17000	320	80	0.005	0.022	10700	190	50	0.004	0.017	6500	50	31	0.002	0.013
1.5	6	17000	320	80	0.005	0.022	10700	190	50	0.004	0.017	6500	50	31	0.002	0.013
1.5	7	17000	320	80	0.005	0.022	10700	190	50	0.004	0.017	6500	50	31	0.002	0.013
1.5	8	15300	260	72	0.004	0.013	9630	155	45	0.004	0.009	5850	40	28	0.002	0.008
1.5	10	15300	260	72	0.004	0.013	9630	155	45	0.004	0.009	5850	40	28	0.002	0.008
1.5	12	15300	260	72	0.004	0.013	9630	155	45	0.004	0.009	5850	40	28	0.002	0.008
1.5	14	15300	260	72	0.004	0.008	9630	155	45	0.004	0.006	5850	40	28	0.002	0.005
1.5	16	13600	205	64	0.004	0.008	8560	120	40	0.004	0.006	5200	30	25	0.001	0.005
1.5	18	13600	205	64	0.004	0.008	8560	120	40	0.004	0.006	5200	30	25	0.001	0.005
1.5	20	13600	205	64	0.004	0.005	8560	120	40	0.004	0.004	5200	30	25	0.001	0.003
1.5	22	13600	205	64	0.004	0.005	8560	120	40	0.004	0.004	5200	30	25	0.001	0.003
1.5	26	10200	135	48	0.003	0.003	6420	80	30	0.003	0.002	3900	20	18	0.001	0.002
1.5	30	10200	135	48	0.003	0.003	6420	80	30	0.003	0.002	3900	20	18	0.001	0.002
2	6	13900	330	87	0.006	0.042	9070	200	57	0.006	0.032	6000	60	38	0.003	0.025
2	8	13900	330	87	0.006	0.029	9070	200	57	0.006	0.022	6000	60	38	0.003	0.018
2	10	13900	330	87	0.006	0.029	9070	200	57	0.006	0.022	6000	60	38	0.003	0.018
2	12	12510	265	79	0.005	0.017	8160	160	51	0.005	0.013	5400	50	34	0.002	0.010
2	16	12510	265	79	0.005	0.017	8160	160	51	0.005	0.013	5400	50	34	0.002	0.010
2	18	12510	265	79	0.005	0.011	8160	160	51	0.005	0.008	5400	50	34	0.002	0.006
2	20	12510	265	79	0.005	0.011	8160	160	51	0.005	0.008	5400	50	34	0.002	0.006
2	22	11120	210	70	0.005	0.011	7260	130	46	0.004	0.008	4800	40	30	0.002	0.006
2	26	11120	210	70	0.005	0.011	7260	130	46	0.004	0.008	4800	40	30	0.002	0.006
2	30	11120	210	70	0.005	0.006	7260	130	46	0.004	0.005	4800	40	30	0.002	0.004
2	35	8340	140	52	0.004	0.004	5440	85	34	0.004	0.003	3600	25	23	0.002	0.003
2	40	8340	140	52	0.004	0.004	5440	85	34	0.004	0.003	3600	25	23	0.002	0.003
2	45	4170	60	26	0.004	0.004	2720	35	17	0.003	0.003	1800	10	11	0.001	0.003
2	50	4170	60	26	0.004	0.004	2720	35	17	0.003	0.003	1800	10	11	0.001	0.003
2	60	4170	60	26	0.004	0.004	2720	35	17	0.003	0.003	1800	10	11	0.001	0.003
2.5	8	12000	350	94	0.007	0.037	7600	220	60	0.007	0.028	4500	60	35	0.003	0.022
2.5	10	12000	350	94	0.007	0.037	7600	220	60	0.007	0.028	4500	60	35	0.003	0.022
2.5	12	12000	350	94	0.007	0.037	7600	220	60	0.007	0.028	4500	60	35	0.003	0.022
2.5	14	10800	285	85	0.007	0.021	6840	180	54	0.007	0.016	4050	50	32	0.003	0.013
2.5	16	10800	285	85	0.007	0.021	6840	180	54	0.007	0.016	4050	50	32	0.003	0.013

LBS = Length Below Shank

ae = Width of cut per pass

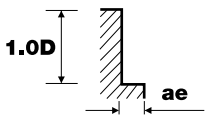


4 FLUTE LONG NECK
SEME73 Series continued

CUTTING DATA
Side Cutting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae
2.5	18	10800	285	85	0.007	0.021	6840	180	54	0.007	0.016	4050	50	32	0.003	0.013
2.5	20	10800	285	85	0.007	0.021	6840	180	54	0.007	0.016	4050	50	32	0.003	0.013
2.5	22	10800	285	85	0.007	0.013	6840	180	54	0.007	0.01	4050	50	32	0.003	0.008
2.5	26	9600	225	75	0.006	0.013	6080	140	48	0.006	0.01	3600	40	28	0.003	0.008
2.5	30	9600	225	75	0.006	0.013	6080	140	48	0.006	0.01	3600	40	28	0.003	0.008
2.5	35	9600	225	75	0.006	0.008	6080	140	48	0.006	0.006	3600	40	28	0.003	0.005
2.5	40	7200	145	57	0.005	0.008	4560	90	36	0.005	0.006	2700	25	21	0.002	0.005
2.5	45	7200	145	57	0.005	0.005	4560	90	36	0.005	0.004	2700	25	21	0.002	0.003
2.5	50	7200	145	57	0.005	0.005	4560	90	36	0.005	0.004	2700	25	21	0.002	0.003
3	6	10700	380	101	0.009	0.063	6670	240	63	0.009	0.047	4030	70	38	0.004	0.038
3	8	10700	380	101	0.009	0.063	6670	240	63	0.009	0.047	4030	70	38	0.004	0.038
3	10	10700	380	101	0.009	0.044	6670	240	63	0.009	0.033	4030	70	38	0.004	0.026
3	12	10700	380	101	0.009	0.044	6670	240	63	0.009	0.033	4030	70	38	0.004	0.026
3	14	10700	380	101	0.009	0.044	6670	240	63	0.009	0.033	4030	70	38	0.004	0.026
3	16	9630	310	91	0.008	0.025	6000	195	57	0.008	0.019	3630	55	34	0.004	0.015
3	18	9630	310	91	0.008	0.025	6000	195	57	0.008	0.019	3630	55	34	0.004	0.015
3	20	9630	310	91	0.008	0.025	6000	195	57	0.008	0.019	3630	55	34	0.004	0.015
3	22	9630	310	91	0.008	0.025	6000	195	57	0.008	0.019	3630	55	34	0.004	0.015
3	26	9630	310	91	0.008	0.016	6000	195	57	0.008	0.012	3630	55	34	0.004	0.009
3	30	9630	310	91	0.008	0.016	6000	195	57	0.008	0.012	3630	55	34	0.004	0.009
3	35	8560	245	81	0.007	0.016	5340	155	50	0.007	0.012	3220	45	30	0.003	0.009
3	40	8560	245	81	0.007	0.009	5340	155	50	0.007	0.007	3220	45	30	0.003	0.006
3	45	8560	245	81	0.007	0.009	5340	155	50	0.007	0.007	3220	45	30	0.003	0.006
3	50	6420	160	61	0.006	0.006	4000	100	38	0.006	0.005	2420	30	23	0.003	0.004
3	60	6420	160	61	0.006	0.006	4000	100	38	0.006	0.005	2420	30	23	0.003	0.004
4	8	9070	680	114	0.019	0.084	5540	420	70	0.019	0.063	3530	70	44	0.005	0.05
4	10	9070	680	114	0.019	0.084	5540	420	70	0.019	0.063	3530	70	44	0.005	0.05
4	12	9070	680	114	0.019	0.084	5540	420	70	0.019	0.063	3530	70	44	0.005	0.05
4	14	9070	680	114	0.019	0.059	5540	420	70	0.019	0.044	3530	70	44	0.005	0.035
4	16	9070	680	114	0.019	0.059	5540	420	70	0.019	0.044	3530	70	44	0.005	0.035
4	18	9070	680	114	0.019	0.059	5540	420	70	0.019	0.044	3530	70	44	0.005	0.035
4	20	9070	680	114	0.019	0.059	5540	420	70	0.019	0.044	3530	70	44	0.005	0.035
4	22	8160	550	103	0.017	0.034	4990	340	63	0.017	0.025	3180	55	40	0.004	0.02
4	26	8160	550	103	0.017	0.034	4990	340	63	0.017	0.025	3180	55	40	0.004	0.02
4	30	8160	550	103	0.017	0.034	4990	340	63	0.017	0.025	3180	55	40	0.004	0.02
4	35	8160	550	103	0.017	0.021	4990	340	63	0.017	0.016	3180	55	40	0.004	0.013
4	40	8160	550	103	0.017	0.021	4990	340	63	0.017	0.016	3180	55	40	0.004	0.013
4	45	7260	435	91	0.015	0.021	4430	270	56	0.015	0.016	2820	45	35	0.004	0.013
4	50	7260	435	91	0.015	0.021	4430	270	56	0.015	0.016	2820	45	35	0.004	0.013
4	60	7260	435	91	0.015	0.013	4430	270	56	0.015	0.009	2820	45	35	0.004	0.008
5	16	7560	720	119	0.024	0.074	4530	430	71	0.024	0.055	2780	85	44	0.008	0.044
5	20	7560	720	119	0.024	0.074	4530	430	71	0.024	0.055	2780	85	44	0.008	0.044
5	26	6800	585	107	0.022	0.042	4080	350	64	0.021	0.032	2500	70	39	0.007	0.025
5	30	6800	585	107	0.022	0.042	4080	350	64	0.021	0.032	2500	70	39	0.007	0.025
5	35	6800	585	107	0.022	0.042	4080	350	64	0.021	0.032	2500	70	39	0.007	0.025
5	40	6800	585	107	0.022	0.042	4080	350	64	0.021	0.032	2500	70	39	0.007	0.025
5	50	6800	585	107	0.022	0.026	4080	350	64	0.021	0.02	2500	70	39	0.007	0.016
5	60	6050	460	95	0.019	0.026	3620	275	57	0.019	0.02	2220	55	35	0.006	0.016
6	15	6670	790	126	0.03	0.126	4030	490	76	0.03	0.095	2400	95	45	0.01	0.076
6	20	6670	790	126	0.03	0.088	4030	490	76	0.03	0.066	2400	95	45	0.01	0.053
6	30	6670	790	126	0.03	0.088	4030	490	76	0.03	0.066	2400	95	45	0.01	0.053
6	32	6000	640	113	0.027	0.05	3630	395	68	0.027	0.038	2160	75	41	0.009	0.03
8	25	5040	850	127	0.042	0.118	3020	450	76	0.037	0.088	2010	130	51	0.016	0.071
8	30	5040	850	127	0.042	0.118	3020	450	76	0.037	0.088	2010	130	51	0.016	0.071
8	42	4540	690	114	0.038	0.067	2720	365	68	0.034	0.05	1810	105	45	0.015	0.04
10	30	3910	730	123	0.047	0.21	2400	360	75	0.038	0.158	1630	105	51	0.016	0.126
10	35	3910	730	123	0.047	0.147	2400	360	75	0.038	0.11	1630	105	51	0.016	0.088
10	45	3910	730	123	0.047	0.147	2400	360	75	0.038	0.11	1630	105	51	0.016	0.088
12	35	3300	620	124	0.047	0.252	2010	300	76	0.037	0.189	1400	95	53	0.017	0.151
12	40	3300	620	124	0.047	0.176	2010	300	76	0.037	0.132	1400	95	53	0.017	0.106
12	50	3300	620	124	0.047	0.176	2010	300	76	0.037	0.132	1400	95	53	0.017	0.106

LBS = Length Below Shank
ae = Width of cut per pass



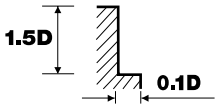
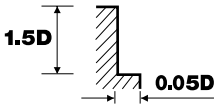
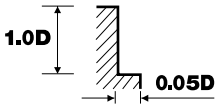
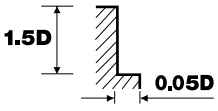
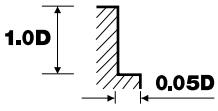
RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

6 FLUTE 45° HELIX

SEME75 Series

CUTTING DATA

Side Cutting

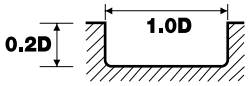
MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS				HARDENED STEELS			
Hardness		~ HRC 35				HRC 35 ~ HRC 45				HRC 45 ~ HRC 55			
Strength		~ 1100N/mm²				1110 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	LOC	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
NORMAL SPEED													
6	15	5840	2100	110	0.060	4075	1440	77	0.059	1660	220	31	0.022
6	20	5840	2100	110	0.060	4075	1440	77	0.059	1660	220	31	0.022
6	30	5840	1785	110	0.051	4075	1225	77	0.050	1660	190	31	0.019
8	20	4410	2100	111	0.079	3085	1440	78	0.078	1220	220	31	0.030
8	30	4410	2100	111	0.079	3085	1440	78	0.078	1220	220	31	0.030
8	35	4410	2100	111	0.079	3085	1440	78	0.078	1220	220	31	0.030
8	40	4410	1785	111	0.067	3085	1225	78	0.066	1220	190	31	0.026
10	25	3530	2100	111	0.099	2435	1440	76	0.099	1050	220	33	0.035
10	30	3530	2100	111	0.099	2435	1440	76	0.099	1050	220	33	0.035
10	40	3530	2100	111	0.099	2435	1440	76	0.099	1050	220	33	0.035
10	50	3530	1785	111	0.084	2435	1225	76	0.084	1050	190	33	0.030
12	30	2980	1765	112	0.099	2100	1220	79	0.097	880	190	33	0.036
12	40	2980	1765	112	0.099	2100	1220	79	0.097	880	190	33	0.036
12	50	2980	1500	112	0.084	2100	1035	79	0.082	880	165	33	0.031
12	60	2980	1325	112	0.074	2100	915	79	0.073	880	140	33	0.027
16	40	2205	1325	111	0.100	1555	925	78	0.099	670	135	34	0.034
16	50	2205	1325	111	0.100	1555	925	78	0.099	670	135	34	0.034
16	60	2205	1125	111	0.085	1555	790	78	0.085	670	115	34	0.029
16	90	1985	895	100	0.075	1395	625	70	0.075	610	95	31	0.026
16	110	1985	895	100	0.075	1395	625	70	0.075	610	95	31	0.026
20	45	1765	1060	111	0.100	1220	725	77	0.099	525	115	33	0.037
20	60	1765	1060	111	0.100	1220	725	77	0.099	525	115	33	0.037
20	70	1765	905	111	0.085	1220	615	77	0.084	525	100	33	0.032
20	110	1585	715	100	0.075	1090	490	68	0.075	475	80	30	0.028
													
HIGH SPEED													
6	15	-	-	-	-	17640	6395	333	0.060	8820	3205	166	0.061
6	20	-	-	-	-	17640	6395	333	0.060	8820	3205	166	0.061
6	30	-	-	-	-	17640	5435	333	0.051	8820	2720	166	0.051
8	20	-	-	-	-	13230	6395	333	0.081	6615	3205	166	0.081
8	30	-	-	-	-	13230	6395	333	0.081	6615	3205	166	0.081
8	35	-	-	-	-	13230	6395	333	0.081	6615	3205	166	0.081
8	40	-	-	-	-	13230	5435	333	0.068	6615	2725	166	0.069
10	25	-	-	-	-	10480	6290	329	0.100	5290	3205	166	0.101
10	30	-	-	-	-	10480	6290	329	0.100	5290	3205	166	0.101
10	40	-	-	-	-	10480	6290	329	0.100	5290	3205	166	0.101
10	50	-	-	-	-	10480	5345	329	0.085	5290	2720	166	0.086
12	30	-	-	-	-	8820	5290	333	0.100	4410	2645	166	0.100
12	40	-	-	-	-	8820	5290	333	0.100	4410	2645	166	0.100
12	50	-	-	-	-	8820	4500	333	0.085	4410	2245	166	0.085
12	60	-	-	-	-	8820	3970	333	0.075	4410	1985	166	0.075
16	40	-	-	-	-	6615	3970	333	0.100	3320	1985	167	0.100
16	50	-	-	-	-	6615	3970	333	0.100	3320	1985	167	0.100
16	60	-	-	-	-	6615	3375	333	0.085	3320	1685	167	0.085
16	90	-	-	-	-	5955	2680	299	0.075	2980	1340	150	0.075
16	110	-	-	-	-	5955	2680	299	0.075	2980	1340	150	0.075
20	45	-	-	-	-	5290	3205	332	0.101	2645	1545	166	0.097
20	60	-	-	-	-	5290	3205	332	0.101	2645	1545	166	0.097
20	70	-	-	-	-	5290	2720	332	0.086	2645	1315	166	0.083
20	110	-	-	-	-	4765	2165	299	0.076	2385	1040	150	0.073
													

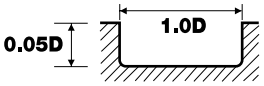
RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE CORNER RADIUS
SEMD99 Series

CUTTING DATA
Slotting

MATERIAL	NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS				HARDENED STEELS			
Hardness	~ HRC 35				HRC 35 ~ HRC 45				HRC 45 ~ HRC 55			
Strength	~ 1100N/mm²				1110 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.2	44000	145	28	0.002	28800	60	18	0.001	17600	40	11	0.001
0.3	41000	170	39	0.002	27000	70	25	0.001	16500	45	16	0.001
0.4	41000	170	52	0.002	27000	70	34	0.001	16500	45	21	0.001
0.5	36000	190	57	0.003	23400	80	37	0.002	14300	50	22	0.002
0.6	30000	210	57	0.004	19800	90	37	0.002	12100	55	23	0.002
0.7	30000	210	66	0.004	19800	90	44	0.002	12100	55	27	0.002
0.8	30000	210	75	0.004	19800	90	50	0.002	12100	55	30	0.002
0.9	30000	225	85	0.004	18900	90	53	0.002	11550	55	33	0.002
1	27600	240	87	0.004	18000	100	57	0.003	11000	60	35	0.003
1.2	24800	245	93	0.005	15750	105	59	0.003	9750	60	37	0.003
1.5	22000	250	104	0.006	13500	110	64	0.004	8500	60	40	0.004
2	18000	260	113	0.007	11560	120	73	0.005	7200	70	45	0.005
2.5	15000	270	118	0.009	9500	130	75	0.007	6100	70	48	0.006
3	13240	280	125	0.011	8560	140	81	0.008	5280	70	50	0.007
3.5	11980	310	132	0.013	7690	155	85	0.010	4790	75	53	0.008
4	10720	340	135	0.016	6820	170	86	0.012	4300	80	54	0.009
4.5	9940	380	141	0.019	6310	185	89	0.015	4300	90	61	0.010
5	9160	420	144	0.023	5800	200	91	0.017	3800	100	60	0.013
5.5	8530	460	147	0.027	5420	225	94	0.021	3540	110	61	0.016
6	7900	500	149	0.032	5040	250	95	0.025	3280	120	62	0.018
7	6950	520	153	0.037	4420	250	97	0.028	2900	120	64	0.021
8	6000	540	151	0.045	3800	250	96	0.033	2520	120	63	0.024
10	5040	540	158	0.054	3280	250	103	0.038	2020	120	63	0.030
11	4580	480	158	0.052	3030	240	105	0.040	1850	110	64	0.030
12	4120	420	155	0.051	2780	230	105	0.041	1680	100	63	0.030
14	3610	390	159	0.054	2440	200	107	0.041	1480	90	65	0.030
16	3100	360	156	0.058	2100	170	106	0.040	1280	80	64	0.031
20	2520	280	158	0.056	1640	120	103	0.037	1000	60	63	0.030





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

Contact our expert technical team for advice on your milling applications.

Please call 01924 869 615

2 FLUTE CORNER RADIUS LONG NECK

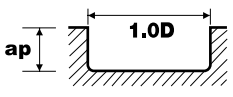
SEME61 Series

CUTTING DATA

Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.2	0.5	50000	170	31	0.002	0.040	34500	75	22	0.001	0.030	21150	45	13	0.001	0.024
0.2	1	50000	170	31	0.002	0.028	34500	75	22	0.001	0.021	21150	45	13	0.001	0.017
0.2	1.5	45000	140	28	0.002	0.016	31050	60	20	0.001	0.012	19040	35	12	0.001	0.010
0.2	2	45000	140	28	0.002	0.010	31050	60	20	0.001	0.008	19040	35	12	0.001	0.006
0.3	1	50000	200	47	0.002	0.042	32000	85	30	0.001	0.032	20000	50	19	0.001	0.025
0.3	2	45000	160	42	0.002	0.024	28800	70	27	0.001	0.018	18000	40	17	0.001	0.014
0.3	3	45000	160	42	0.002	0.015	28800	70	27	0.001	0.011	18000	40	17	0.001	0.009
0.4	1	50000	200	63	0.002	0.080	32000	85	40	0.001	0.060	20000	50	25	0.001	0.048
0.4	1.5	50000	200	63	0.002	0.056	32000	85	40	0.001	0.042	20000	50	25	0.001	0.034
0.4	2	50000	200	63	0.002	0.056	32000	85	40	0.001	0.042	20000	50	25	0.001	0.034
0.4	2.5	45000	160	57	0.002	0.032	28800	70	36	0.001	0.024	18000	40	23	0.001	0.019
0.4	3	45000	160	57	0.002	0.032	28800	70	36	0.001	0.024	18000	40	23	0.001	0.019
0.4	4	45000	160	57	0.002	0.020	28800	70	36	0.001	0.015	18000	40	23	0.001	0.012
0.5	1	43000	220	68	0.003	0.100	28000	95	44	0.002	0.075	17100	60	27	0.002	0.060
0.5	1.5	43000	220	68	0.003	0.100	28000	95	44	0.002	0.075	17100	60	27	0.002	0.060
0.5	2	43000	220	68	0.003	0.070	28000	95	44	0.002	0.053	17100	60	27	0.002	0.042
0.5	2.5	43000	220	68	0.003	0.070	28000	95	44	0.002	0.053	17100	60	27	0.002	0.042
0.5	3	38700	180	61	0.002	0.040	25200	75	40	0.001	0.030	15390	50	24	0.002	0.024
0.5	4	38700	180	61	0.002	0.040	25200	75	40	0.001	0.030	15390	50	24	0.002	0.024
0.5	5	38700	180	61	0.002	0.025	25200	75	40	0.001	0.019	15390	50	24	0.002	0.015
0.5	6	34400	140	54	0.002	0.025	22400	60	35	0.001	0.019	13680	40	21	0.001	0.015
0.6	2	36400	250	69	0.003	0.084	24000	110	45	0.002	0.063	14500	65	27	0.002	0.050
0.6	3	36400	250	69	0.003	0.084	24000	110	45	0.002	0.063	14500	65	27	0.002	0.050
0.6	4	32760	205	62	0.003	0.048	21600	90	41	0.002	0.036	13050	55	25	0.002	0.029
0.6	6	32760	205	62	0.003	0.030	21600	90	41	0.002	0.023	13050	55	25	0.002	0.018
0.6	8	29120	160	55	0.003	0.018	19200	70	36	0.002	0.014	11600	40	22	0.002	0.011
0.6	10	21840	105	41	0.002	0.012	14400	45	27	0.002	0.009	8700	25	16	0.001	0.007
0.7	2	36400	250	80	0.003	0.140	24000	110	53	0.002	0.105	14500	65	32	0.002	0.084
0.7	4	32760	205	72	0.003	0.056	21600	90	48	0.002	0.042	13050	55	29	0.002	0.034
0.7	6	32760	205	72	0.003	0.035	21600	90	48	0.002	0.026	13050	55	29	0.002	0.021
0.7	8	29120	160	64	0.003	0.035	19200	70	42	0.002	0.026	11600	40	26	0.002	0.021
0.7	10	29120	160	64	0.003	0.021	19200	70	42	0.002	0.016	11600	40	26	0.002	0.013
0.8	2	36400	250	91	0.003	0.160	24000	110	60	0.002	0.120	14500	65	36	0.002	0.096
0.8	3	36400	250	91	0.003	0.112	24000	110	60	0.002	0.084	14500	65	36	0.002	0.067
0.8	4	36400	250	91	0.003	0.112	24000	110	60	0.002	0.084	14500	65	36	0.002	0.067
0.8	6	32760	205	82	0.003	0.064	21600	90	54	0.002	0.048	13050	55	33	0.002	0.038
0.8	8	32760	205	82	0.003	0.040	21600	90	54	0.002	0.030	13050	55	33	0.002	0.024
0.8	10	29120	160	73	0.003	0.040	19200	70	48	0.002	0.030	11600	40	29	0.002	0.024
1	3	33100	280	104	0.004	0.200	21600	120	68	0.003	0.150	13200	70	41	0.003	0.120
1	4	33100	280	104	0.004	0.140	21600	120	68	0.003	0.105	13200	70	41	0.003	0.084
1	6	29790	225	94	0.004	0.080	19440	95	61	0.002	0.060	11880	55	37	0.002	0.048
1	8	29790	225	94	0.004	0.080	19440	95	61	0.002	0.060	11880	55	37	0.002	0.048
1	10	29790	225	94	0.004	0.050	19440	95	61	0.002	0.038	11880	55	37	0.002	0.030
1	12	26480	180	83	0.003	0.050	17280	75	54	0.002	0.038	10560	45	33	0.002	0.030
1	14	26480	180	83	0.003	0.030	17280	75	54	0.002	0.023	10560	45	33	0.002	0.018
1	16	19860	120	62	0.003	0.030	12960	50	41	0.002	0.023	7920	30	25	0.002	0.018
1	20	19860	120	62	0.003	0.020	12960	50	41	0.002	0.015	7920	30	25	0.002	0.012
1.2	3	29750	290	112	0.005	0.240	18900	125	71	0.003	0.180	11700	70	44	0.003	0.144
1.2	4	29750	290	112	0.005	0.168	18900	125	71	0.003	0.126	11700	70	44	0.003	0.101
1.2	6	29750	290	112	0.005	0.168	18900	125	71	0.003	0.126	11700	70	44	0.003	0.101
1.2	8	26780	235	101	0.004	0.096	17010	100	64	0.003	0.072	10530	55	40	0.003	0.058
1.2	10	26780	235	101	0.004	0.060	17010	100	64	0.003	0.045	10530	55	40	0.003	0.036
1.2	12	26780	235	101	0.004	0.060	17010	100	64	0.003	0.045	10530	55	40	0.003	0.036
1.2	16	23800	185	90	0.004	0.036	15120	80	57	0.003	0.027	9360	45	35	0.002	0.022
1.2	20	17850	120	67	0.003	0.024	11340	55	43	0.002	0.018	7020	30	26	0.002	0.014
1.5	4	26400	300	124	0.006	0.300	16200	130	76	0.004	0.225	10200	70	48	0.003	0.180
1.5	6	26400	300	124	0.006	0.210	16200	130	76	0.004	0.158	10200	70	48	0.003	0.126
1.5	8	23760	245	112	0.005	0.120	14580	105	69	0.004	0.090	9180	55	43	0.003	0.072
1.5	10	23760	245	112	0.005	0.120	14580	105	69	0.004	0.090	9180	55	43	0.003	0.072

LBS = Length Below Shank
ap = Depth of cut per pass



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE CORNER RADIUS LONG NECK

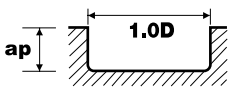
SEME61 Series continued

CUTTING DATA

Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS					ALLOY & HEAT RESISTANT STEELS					HARDENED STEELS				
		CAST IRON					STAINLESS STEELS									
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
1.5	12	23760	245	112	0.005	0.120	14580	105	69	0.004	0.090	9180	55	43	0.003	0.072
1.5	14	23760	245	112	0.005	0.075	14580	105	69	0.004	0.056	9180	55	43	0.003	0.045
1.5	16	21120	190	100	0.004	0.075	12960	85	61	0.003	0.056	8160	45	38	0.003	0.045
1.5	20	21120	190	100	0.004	0.045	12960	85	61	0.003	0.034	8160	45	38	0.003	0.027
1.5	22	21120	190	100	0.004	0.045	12960	85	61	0.003	0.034	8160	45	38	0.003	0.027
1.5	26	15840	125	75	0.004	0.030	9720	55	46	0.003	0.023	6120	30	29	0.002	0.018
2	6	21600	310	136	0.007	0.400	13800	140	87	0.005	0.300	8640	80	54	0.005	0.240
2	8	21600	310	136	0.007	0.280	13800	140	87	0.005	0.210	8640	80	54	0.005	0.168
2	10	21600	310	136	0.007	0.280	13800	140	87	0.005	0.210	8640	80	54	0.005	0.168
2	12	19440	250	122	0.006	0.160	12420	115	78	0.005	0.120	7780	65	49	0.004	0.096
2	14	19440	250	122	0.006	0.160	12420	115	78	0.005	0.120	7780	65	49	0.004	0.096
2	16	19440	250	122	0.006	0.160	12420	115	78	0.005	0.120	7780	65	49	0.004	0.096
2	20	19440	250	122	0.006	0.100	12420	115	78	0.005	0.075	7780	65	49	0.004	0.060
2	22	17280	200	109	0.006	0.100	11040	90	69	0.004	0.075	6910	50	43	0.004	0.060
2	26	17280	200	109	0.006	0.100	11040	90	69	0.004	0.075	6910	50	43	0.004	0.060
2	30	17280	200	109	0.006	0.060	11040	90	69	0.004	0.045	6910	50	43	0.004	0.036
2.5	8	18000	320	141	0.009	0.350	11400	150	90	0.007	0.263	7320	80	57	0.005	0.210
2.5	10	18000	320	141	0.009	0.350	11400	150	90	0.007	0.263	7320	80	57	0.005	0.210
2.5	12	18000	320	141	0.009	0.350	11400	150	90	0.007	0.263	7320	80	57	0.005	0.210
2.5	14	16200	260	127	0.008	0.200	10260	120	81	0.006	0.150	6590	65	52	0.005	0.120
2.5	16	16200	260	127	0.008	0.200	10260	120	81	0.006	0.150	6590	65	52	0.005	0.120
2.5	20	16200	260	127	0.008	0.200	10260	120	81	0.006	0.150	6590	65	52	0.005	0.120
2.5	26	14400	205	113	0.007	0.125	9120	95	72	0.005	0.094	5860	50	46	0.004	0.075
2.5	30	14400	205	113	0.007	0.125	9120	95	72	0.005	0.094	5860	50	46	0.004	0.075
3	8	15900	330	150	0.010	0.600	10300	160	97	0.008	0.450	6300	80	59	0.006	0.360
3	10	15900	330	150	0.010	0.420	10300	160	97	0.008	0.315	6300	80	59	0.006	0.252
3	12	15900	330	150	0.010	0.420	10300	160	97	0.008	0.315	6300	80	59	0.006	0.252
3	14	15900	330	150	0.010	0.420	10300	160	97	0.008	0.315	6300	80	59	0.006	0.252
3	16	14310	265	135	0.009	0.240	9270	130	87	0.007	0.180	5670	65	53	0.006	0.144
3	20	14310	265	135	0.009	0.240	9270	130	87	0.007	0.180	5670	65	53	0.006	0.144
3	26	14310	265	135	0.009	0.150	9270	130	87	0.007	0.113	5670	65	53	0.006	0.090
3	30	14310	265	135	0.009	0.150	9270	130	87	0.007	0.113	5670	65	53	0.006	0.090
3	35	12720	210	120	0.008	0.150	8240	100	78	0.006	0.113	5040	50	48	0.005	0.090
3	40	12720	210	120	0.008	0.090	8240	100	78	0.006	0.068	5040	50	48	0.005	0.054
4	10	12800	400	161	0.016	0.800	8200	200	103	0.012	0.600	5150	95	65	0.009	0.480
4	12	12800	400	161	0.016	0.800	8200	200	103	0.012	0.600	5150	95	65	0.009	0.480
4	14	12800	400	161	0.016	0.560	8200	200	103	0.012	0.420	5150	95	65	0.009	0.336
4	16	12800	400	161	0.016	0.560	8200	200	103	0.012	0.420	5150	95	65	0.009	0.336
4	20	12800	400	161	0.016	0.560	8200	200	103	0.012	0.420	5150	95	65	0.009	0.336
4	26	11520	325	145	0.014	0.320	7380	160	93	0.011	0.240	4640	75	58	0.008	0.192
4	30	11520	325	145	0.014	0.320	7380	160	93	0.011	0.240	4640	75	58	0.008	0.192
4	35	11520	325	145	0.014	0.200	7380	160	93	0.011	0.150	4640	75	58	0.008	0.120
4	40	11520	325	145	0.014	0.200	7380	160	93	0.011	0.150	4640	75	58	0.008	0.120
4	45	10240	255	129	0.012	0.200	6560	130	82	0.010	0.150	4120	60	52	0.007	0.120
4	50	10240	255	129	0.012	0.200	6560	130	82	0.010	0.150	4120	60	52	0.007	0.120
5	15	11000	500	173	0.023	1.000	7000	240	110	0.017	0.750	4560	120	72	0.013	0.600
6	20	9500	600	179	0.032	0.840	6000	300	113	0.025	0.630	3930	140	74	0.018	0.504
6	30	9500	600	179	0.032	0.840	6000	300	113	0.025	0.630	3930	140	74	0.018	0.504
8	25	7200	640	181	0.044	1.120	4550	300	114	0.033	0.840	3020	140	76	0.023	0.672
8	35	7200	640	181	0.044	1.120	4550	300	114	0.033	0.840	3020	140	76	0.023	0.672
10	30	6000	640	188	0.053	2.000	4000	300	126	0.038	1.500	2420	140	76	0.029	1.200
10	40	6000	640	188	0.053	1.400	4000	300	126	0.038	1.050	2420	140	76	0.029	0.840
12	32	5000	500	188	0.050	2.400	3340	270	126	0.040	1.800	2000	120	75	0.030	1.440
12	45	5000	500	188	0.050	1.680	3340	270	126	0.040	1.260	2000	120	75	0.030	1.008
16	35	3720	450	187	0.060	3.200	2520	210	127	0.042	2.400	1540	95	77	0.031	1.920
16	50	3720	450	187	0.060	2.240	2520	210	127	0.042	1.680	1540	95	77	0.031	1.344
20	40	3000	330	188	0.055	4.000	1950	140	123	0.036	3.000	1200	70	75	0.029	2.400
20	55	3000	330	188	0.055	4.000	1950	140	123	0.036	3.000	1200	70	75	0.029	2.400

LBS = Length Below Shank
ap = Depth of cut per pass



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

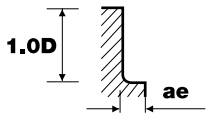
4 FLUTE CORNER RADIUS LONG NECK

SEME64 Series

CUTTING DATA

Side Cutting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae
1	4	33100	360	104	0.003	0.021	21600	260	68	0.003	0.016	13200	140	41	0.003	0.013
1	6	29790	290	94	0.002	0.012	19440	210	61	0.003	0.009	11880	115	37	0.002	0.007
1	8	29790	290	94	0.002	0.012	19440	210	61	0.003	0.009	11880	115	37	0.002	0.007
1	10	29790	290	94	0.002	0.008	19440	210	61	0.003	0.006	11880	115	37	0.002	0.005
1	12	26480	230	83	0.002	0.008	17280	165	54	0.002	0.006	10560	90	33	0.002	0.005
1	16	19860	150	62	0.002	0.005	12960	110	41	0.002	0.003	7920	60	25	0.002	0.003
1	20	19860	150	62	0.002	0.003	12960	110	41	0.002	0.002	7920	60	25	0.002	0.002
1	22	9930	65	31	0.002	0.003	6480	45	20	0.002	0.002	3960	25	12	0.002	0.002
1	26	9930	65	31	0.002	0.003	6480	45	20	0.002	0.002	3960	25	12	0.002	0.002
1.2	3	29750	365	112	0.003	0.036	18900	265	71	0.004	0.027	11700	140	44	0.003	0.022
1.2	4	29750	365	112	0.003	0.025	18900	265	71	0.004	0.019	11700	140	44	0.003	0.015
1.2	6	29750	365	112	0.003	0.025	18900	265	71	0.004	0.019	11700	140	44	0.003	0.015
1.2	8	26780	295	101	0.003	0.014	17010	215	64	0.003	0.011	10530	115	40	0.003	0.009
1.2	10	26780	295	101	0.003	0.009	17010	215	64	0.003	0.007	10530	115	40	0.003	0.005
1.2	12	26780	295	101	0.003	0.009	17010	215	64	0.003	0.007	10530	115	40	0.003	0.005
1.2	16	23800	235	90	0.002	0.005	15120	170	57	0.003	0.004	9360	90	35	0.002	0.003
1.2	20	17850	155	67	0.002	0.004	11340	110	43	0.002	0.003	7020	60	26	0.002	0.002
1.5	4	26400	370	124	0.004	0.045	16200	270	76	0.004	0.034	10200	140	48	0.003	0.027
1.5	6	26400	370	124	0.004	0.032	16200	270	76	0.004	0.024	10200	140	48	0.003	0.019
1.5	8	23760	300	112	0.003	0.018	14580	220	69	0.004	0.014	9180	115	43	0.003	0.011
1.5	10	23760	300	112	0.003	0.018	14580	220	69	0.004	0.014	9180	115	43	0.003	0.011
1.5	12	23760	300	112	0.003	0.018	14580	220	69	0.004	0.014	9180	115	43	0.003	0.011
1.5	14	23760	300	112	0.003	0.011	14580	220	69	0.004	0.008	9180	115	43	0.003	0.007
1.5	16	21120	235	100	0.003	0.011	12960	175	61	0.003	0.008	8160	90	38	0.003	0.007
1.5	20	21120	235	100	0.003	0.007	12960	175	61	0.003	0.005	8160	90	38	0.003	0.004
1.5	22	21120	235	100	0.003	0.007	12960	175	61	0.003	0.005	8160	90	38	0.003	0.004
1.5	26	15840	155	75	0.002	0.005	9720	115	46	0.003	0.003	6120	60	29	0.002	0.003
2	6	21600	380	136	0.004	0.060	13800	280	87	0.005	0.045	8640	150	54	0.004	0.036
2	8	21600	380	136	0.004	0.042	13800	280	87	0.005	0.032	8640	150	54	0.004	0.025
2	10	21600	380	136	0.004	0.042	13800	280	87	0.005	0.032	8640	150	54	0.004	0.025
2	12	19440	310	122	0.004	0.024	12420	225	78	0.005	0.018	7780	120	49	0.004	0.014
2	14	19440	310	122	0.004	0.024	12420	225	78	0.005	0.018	7780	120	49	0.004	0.014
2	16	19440	310	122	0.004	0.024	12420	225	78	0.005	0.018	7780	120	49	0.004	0.014
2	20	19440	310	122	0.004	0.015	12420	225	78	0.005	0.011	7780	120	49	0.004	0.009
2	22	17280	245	109	0.004	0.015	11040	180	69	0.004	0.011	6910	95	43	0.003	0.009
2	26	17280	245	109	0.004	0.015	11040	180	69	0.004	0.011	6910	95	43	0.003	0.009
2	30	17280	245	109	0.004	0.009	11040	180	69	0.004	0.007	6910	95	43	0.003	0.005
2.5	8	18000	390	141	0.005	0.053	11400	300	90	0.007	0.039	7320	150	57	0.005	0.032
2.5	10	18000	390	141	0.005	0.053	11400	300	90	0.007	0.039	7320	150	57	0.005	0.032
2.5	12	18000	390	141	0.005	0.053	11400	300	90	0.007	0.039	7320	150	57	0.005	0.032
2.5	14	16200	315	127	0.005	0.030	10260	245	81	0.006	0.023	6590	120	52	0.005	0.018
2.5	16	16200	315	127	0.005	0.030	10260	245	81	0.006	0.023	6590	120	52	0.005	0.018
2.5	20	16200	315	127	0.005	0.030	10260	245	81	0.006	0.023	6590	120	52	0.005	0.018
2.5	26	14400	250	113	0.004	0.019	9120	190	72	0.005	0.014	5860	95	46	0.004	0.011
2.5	30	14400	250	113	0.004	0.019	9120	190	72	0.005	0.014	5860	95	46	0.004	0.011
3	8	15900	400	150	0.006	0.090	10300	310	97	0.008	0.068	6300	150	59	0.006	0.054
3	10	15900	400	150	0.006	0.063	10300	310	97	0.008	0.047	6300	150	59	0.006	0.038
3	12	15900	400	150	0.006	0.063	10300	310	97	0.008	0.047	6300	150	59	0.006	0.038
3	14	15900	400	150	0.006	0.063	10300	310	97	0.008	0.047	6300	150	59	0.006	0.038
3	16	14310	325	135	0.006	0.036	9270	250	87	0.007	0.027	5670	120	53	0.005	0.022
3	20	14310	325	135	0.006	0.036	9270	250	87	0.007	0.027	5670	120	53	0.005	0.022
3	26	14310	325	135	0.006	0.023	9270	250	87	0.007	0.017	5670	120	53	0.005	0.014



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

4 FLUTE CORNER RADIUS LONG NECK

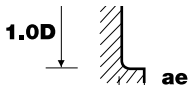
SEME64 Series continued

CUTTING DATA

Side Cutting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae	RPM	Feed	Vc	Fz	ae
3	30	14310	325	135	0.006	0.023	9270	250	87	0.007	0.017	5670	120	53	0.005	0.014
3	35	12720	255	120	0.005	0.023	8240	200	78	0.006	0.017	5040	95	48	0.005	0.014
3	40	12720	255	120	0.005	0.014	8240	200	78	0.006	0.010	5040	95	48	0.005	0.008
4	10	12800	500	161	0.010	0.120	8200	360	103	0.011	0.090	5150	160	65	0.008	0.072
4	12	12800	500	161	0.010	0.120	8200	360	103	0.011	0.090	5150	160	65	0.008	0.072
4	14	12800	500	161	0.010	0.084	8200	360	103	0.011	0.063	5150	160	65	0.008	0.050
4	16	12800	500	161	0.010	0.084	8200	360	103	0.011	0.063	5150	160	65	0.008	0.050
4	20	12800	500	161	0.010	0.084	8200	360	103	0.011	0.063	5150	160	65	0.008	0.050
4	26	11520	405	145	0.009	0.048	7380	290	93	0.010	0.036	4640	130	58	0.007	0.029
4	30	11520	405	145	0.009	0.048	7380	290	93	0.010	0.036	4640	130	58	0.007	0.029
4	35	11520	405	145	0.009	0.030	7380	290	93	0.010	0.023	4640	130	58	0.007	0.018
4	40	11520	405	145	0.009	0.030	7380	290	93	0.010	0.023	4640	130	58	0.007	0.018
4	45	10240	320	129	0.008	0.030	6560	230	82	0.009	0.023	4120	100	52	0.006	0.018
4	50	10240	320	129	0.008	0.030	6560	230	82	0.009	0.023	4120	100	52	0.006	0.018
5	15	11000	510	173	0.012	0.150	7000	430	110	0.015	0.113	4560	200	72	0.011	0.090
6	20	9500	510	179	0.013	0.126	6000	430	113	0.018	0.095	3930	200	74	0.013	0.076
6	30	9500	510	179	0.013	0.126	6000	430	113	0.018	0.095	3930	200	74	0.013	0.076
8	25	7200	550	181	0.019	0.168	4550	430	114	0.024	0.126	3020	200	76	0.017	0.101
8	35	7200	550	181	0.019	0.168	4550	430	114	0.024	0.126	3020	200	76	0.017	0.101
10	30	6000	550	188	0.023	0.300	4000	430	126	0.027	0.225	2420	200	76	0.021	0.180
10	40	6000	550	188	0.023	0.210	4000	430	126	0.027	0.158	2420	200	76	0.021	0.126
12	32	5000	430	188	0.022	0.360	3340	380	126	0.028	0.270	2000	160	75	0.020	0.216
12	45	5000	430	188	0.022	0.252	3340	380	126	0.028	0.189	2000	160	75	0.020	0.151
16	35	3720	330	187	0.022	0.480	2520	280	127	0.028	0.360	1540	135	77	0.022	0.288
16	50	3720	330	187	0.022	0.336	2520	280	127	0.028	0.252	1540	135	77	0.022	0.202
20	40	3000	270	188	0.023	0.600	1950	210	123	0.027	0.450	1200	100	75	0.021	0.360
20	55	3000	270	188	0.023	0.600	1950	210	123	0.027	0.450	1200	100	75	0.021	0.360

LBS = Length Below Shank
ae = Width of cut per pass



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

4 FLUTE CORNER RADIUS

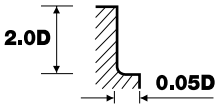
SEME01 Series

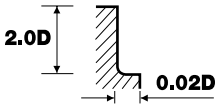
CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY STEELS & HEAT RESISTANT STEELS				HARDENED STEELS			
Hardness	~ HRC 35				HRC 35 ~ HRC 45				HRC 45 ~ HRC 55			
Strength	~ 1100N/mm²				1110 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	27600	300	87	0.003	18000	220	57	0.003	11000	120	35	0.003
1.2	24800	305	93	0.003	15750	225	59	0.004	9750	120	37	0.003
1.5	22000	310	104	0.004	13500	230	64	0.004	8500	120	40	0.004
2	18000	320	113	0.004	11560	240	73	0.005	7200	130	45	0.005
2.5	15000	330	118	0.006	9500	250	75	0.007	6100	130	48	0.005
3	13240	340	125	0.006	8560	260	81	0.008	5280	130	50	0.006
3.5	11980	380	132	0.008	7690	280	85	0.009	4790	135	53	0.007
4	10720	420	135	0.010	6820	300	86	0.011	4300	140	54	0.008
4.5	9940	425	141	0.011	6310	330	89	0.013	4050	155	57	0.010
5	9160	430	144	0.012	5800	360	91	0.016	3800	170	60	0.011
5.5	8530	430	147	0.013	5420	360	94	0.017	3540	170	61	0.012
6	7900	430	149	0.014	5040	360	95	0.018	3280	170	62	0.013
7	6950	445	153	0.016	4420	360	97	0.020	2900	170	64	0.015
8	6000	460	151	0.019	3800	360	96	0.024	2520	170	63	0.017
10	5040	460	158	0.023	3280	360	103	0.027	2020	170	63	0.021
11	4580	410	158	0.022	3030	340	105	0.028	1850	155	64	0.021
12	4120	360	155	0.022	2780	320	105	0.029	1680	140	63	0.021
14	3610	320	159	0.022	2440	275	107	0.028	1480	125	65	0.021
16	3100	280	156	0.023	2100	230	106	0.027	1280	115	64	0.022
20	2520	230	158	0.023	1640	180	103	0.027	1000	90	63	0.023

1.5 x D Axial cutting depth should be used for diameters over 16mm





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE BALL NOSE

SEMD98 Series

CUTTING DATA

Stepover Cutting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON				ALLOY & HEAT RESISTANT STEELS				HARDENED STEELS			
Hardness		~ HRC 35				HRC 35 ~ HRC 45				HRC 45 ~ HRC 55			
Strength		~ 1100N/mm²				1110 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.1	0.05	40000	550	13	0.007	40000	500	13	0.006	33000	400	10	0.006
0.2	0.1	30000	720	19	0.012	30000	630	19	0.011	27000	575	17	0.011
0.3	0.15	30000	900	28	0.015	30000	810	28	0.014	27000	720	25	0.013
0.4	0.2	30000	1140	38	0.019	30000	1020	38	0.017	27000	900	34	0.017
0.5	0.25	30000	1440	47	0.024	30000	1260	47	0.021	27000	1140	42	0.021
0.6	0.3	30000	1740	57	0.029	30000	1500	57	0.025	27000	1320	51	0.024
0.7	0.35	30000	2040	66	0.034	30000	1740	66	0.029	27000	1560	59	0.029
0.8	0.4	30000	2340	75	0.039	30000	1980	75	0.033	27000	1800	68	0.033
0.9	0.45	30000	2610	85	0.044	30000	2250	85	0.038	27000	2040	76	0.038
1	0.5	30000	2880	94	0.048	30000	2520	94	0.042	27000	2280	85	0.042
1.2	0.6	30000	3060	113	0.051	28800	2580	109	0.045	25800	2310	97	0.045
1.5	0.75	30000	3240	141	0.054	28800	2700	136	0.047	25800	2400	122	0.047
2	1	29820	3420	187	0.057	28680	2880	180	0.050	24000	2400	151	0.050
2.5	1.25	23800	3510	187	0.074	22900	3030	180	0.066	19200	2400	151	0.063
3	1.5	19860	3600	187	0.091	19080	3180	180	0.083	16000	2400	151	0.075
3.5	1.75	17000	3600	187	0.106	16400	3180	180	0.097	13700	2400	151	0.088
4	2	14900	3600	187	0.121	14340	3180	180	0.111	12000	2400	151	0.100
4.5	2.25	13030	3540	184	0.136	12510	3060	177	0.122	10500	2325	148	0.111
5	2.5	11160	3480	175	0.156	10680	2940	168	0.138	9000	2250	141	0.125
5.5	2.75	9750	3195	168	0.164	9360	2700	162	0.144	7800	2055	135	0.132
6	3	8340	2910	157	0.174	8040	2460	152	0.153	6600	1860	124	0.141
6.5	3.25	7780	2780	159	0.179	7500	2340	153	0.156	6200	1780	127	0.144
7	3.5	7220	2650	159	0.184	6960	2220	153	0.159	5800	1700	128	0.147
8	4	6660	2520	167	0.189	6420	2100	161	0.164	5400	1620	136	0.150
8.5	4.25	6300	2420	168	0.192	6060	2020	162	0.167	5100	1560	136	0.153
9	4.5	5940	2320	168	0.195	5700	1940	161	0.170	4800	1500	136	0.156
10	5	5580	2220	175	0.199	5340	1860	168	0.174	4500	1440	141	0.160
11	5.5	4875	1995	168	0.205	4670	1680	161	0.180	3930	1290	136	0.164
12	6	4170	1770	157	0.212	4000	1500	151	0.188	3360	1140	127	0.170
13	6.5	3960	1725	162	0.218	3800	1500	155	0.197	3200	1110	131	0.173
14	7	3750	1680	165	0.224	3600	1500	158	0.208	3030	1080	133	0.178
15	7.5	3550	1635	167	0.230	3400	1500	160	0.221	2870	1050	135	0.183
16	8	3340	1590	168	0.238	3210	1320	161	0.206	2700	1020	136	0.189
18	9	3005	1500	170	0.250	2895	1245	164	0.215	2430	960	137	0.198
20	10	2670	1410	168	0.264	2580	1170	162	0.227	2160	900	136	0.208
25	12.5	213	1150	167	0.270	2060	950	162	0.231	1730	730	136	0.211

ap: 0.05D
ae: 0.08D



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE BALL NOSE LONG NECK

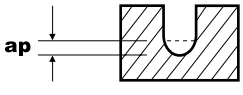
SEM846 Series

CUTTING DATA

Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.1	0.2	50000	240	16	0.002	0.009	50000	215	16	0.002	0.007	50000	190	16	0.002	0.005
0.1	0.3	50000	240	16	0.002	0.009	50000	215	16	0.002	0.007	50000	190	16	0.002	0.005
0.1	0.5	50000	240	16	0.002	0.006	50000	215	16	0.002	0.005	50000	190	16	0.002	0.004
0.1	1	45000	195	14	0.002	0.002	45000	175	14	0.002	0.002	45000	155	14	0.002	0.001
0.2	0.5	50000	335	31	0.003	0.018	50000	310	31	0.003	0.014	43200	260	27	0.003	0.010
0.2	1	50000	335	31	0.003	0.013	50000	310	31	0.003	0.010	43200	260	27	0.003	0.007
0.2	1.5	45000	270	28	0.003	0.007	45000	250	28	0.003	0.006	38880	210	24	0.003	0.004
0.2	2	45000	270	28	0.003	0.005	45000	250	28	0.003	0.004	38880	210	24	0.003	0.003
0.2	3	45000	270	28	0.003	0.003	45000	250	28	0.003	0.003	38880	210	24	0.003	0.002
0.3	1	50000	475	47	0.005	0.019	50000	430	47	0.004	0.015	42800	365	40	0.004	0.011
0.3	1.5	50000	475	47	0.005	0.019	50000	430	47	0.004	0.015	42800	365	40	0.004	0.011
0.3	2	45000	385	42	0.004	0.011	45000	350	42	0.004	0.008	38520	295	36	0.004	0.006
0.3	2.5	45000	385	42	0.004	0.007	45000	350	42	0.004	0.005	38520	295	36	0.004	0.004
0.3	3	45000	385	42	0.004	0.007	45000	350	42	0.004	0.005	38520	295	36	0.004	0.004
0.3	4	40000	305	38	0.004	0.004	40000	275	38	0.003	0.003	34240	235	32	0.003	0.002
0.3	5	30000	200	28	0.003	0.003	30000	180	28	0.003	0.002	25680	155	24	0.003	0.002
0.4	1	41000	490	52	0.006	0.036	38800	425	49	0.005	0.028	34200	340	43	0.005	0.020
0.4	1.5	41000	490	52	0.006	0.025	38800	425	49	0.005	0.020	34200	340	43	0.005	0.014
0.4	2	41000	490	52	0.006	0.025	38800	425	49	0.005	0.020	34200	340	43	0.005	0.014
0.4	2.5	36900	395	46	0.005	0.014	34920	345	44	0.005	0.011	30780	275	39	0.004	0.008
0.4	3	36900	395	46	0.005	0.014	34920	345	44	0.005	0.011	30780	275	39	0.004	0.008
0.4	4	36900	395	46	0.005	0.009	34920	345	44	0.005	0.007	30780	275	39	0.004	0.005
0.4	5	32800	315	41	0.005	0.009	31040	270	39	0.004	0.007	27360	220	34	0.004	0.005
0.4	6	32800	315	41	0.005	0.005	31040	270	39	0.004	0.004	27360	220	34	0.004	0.003
0.4	8	24600	205	31	0.004	0.004	23280	180	29	0.004	0.003	20520	145	26	0.004	0.002
0.4	10	12300	90	15	0.004	0.004	11640	75	15	0.003	0.003	10260	60	13	0.003	0.002
0.5	1	34200	685	54	0.010	0.045	32300	580	51	0.009	0.035	28500	515	45	0.009	0.025
0.5	1.5	34200	685	54	0.010	0.045	32300	580	51	0.009	0.035	28500	515	45	0.009	0.025
0.5	2	34200	685	54	0.010	0.032	32300	580	51	0.009	0.025	28500	515	45	0.009	0.018
0.5	2.5	34200	685	54	0.010	0.032	32300	580	51	0.009	0.025	28500	515	45	0.009	0.018
0.5	3	30780	555	48	0.009	0.018	29070	470	46	0.008	0.014	25650	415	40	0.008	0.010
0.5	4	30780	555	48	0.009	0.018	29070	470	46	0.008	0.014	25650	415	40	0.008	0.010
0.5	5	30780	555	48	0.009	0.011	29070	470	46	0.008	0.009	25650	415	40	0.008	0.006
0.5	6	27360	440	43	0.008	0.011	25840	370	41	0.007	0.009	22800	330	36	0.007	0.006
0.5	8	20520	290	32	0.007	0.007	19380	245	30	0.006	0.005	17100	215	27	0.006	0.004
0.5	10	20520	290	32	0.007	0.005	19380	245	30	0.006	0.004	17100	215	27	0.006	0.003
0.5	12	10260	125	16	0.006	0.005	9690	105	15	0.005	0.004	8550	95	13	0.006	0.003
0.5	14	10260	125	16	0.006	0.005	9690	105	15	0.005	0.004	8550	95	13	0.006	0.003
0.5	16	3420	35	5	0.005	0.005	3230	30	5	0.005	0.004	2850	25	4	0.004	0.003
0.6	1	34200	1025	64	0.015	0.038	32300	840	61	0.013	0.029	28500	685	54	0.012	0.021
0.6	2	34200	1025	64	0.015	0.038	32300	840	61	0.013	0.029	28500	685	54	0.012	0.021
0.6	3	34200	1025	64	0.015	0.038	32300	840	61	0.013	0.029	28500	685	54	0.012	0.021
0.6	4	30780	830	58	0.013	0.022	29070	680	55	0.012	0.017	25650	555	48	0.011	0.012
0.6	5	30780	830	58	0.013	0.014	29070	680	55	0.012	0.011	25650	555	48	0.011	0.008
0.6	6	30780	830	58	0.013	0.014	29070	680	55	0.012	0.011	25650	555	48	0.011	0.008
0.6	8	27360	655	52	0.012	0.008	25840	540	49	0.010	0.006	22800	440	43	0.010	0.005
0.6	10	20520	430	39	0.010	0.005	19380	355	37	0.009	0.004	17100	290	32	0.008	0.003
0.6	12	20520	430	39	0.010	0.005	19380	355	37	0.009	0.004	17100	290	32	0.008	0.003
0.6	14	10260	185	19	0.009	0.005	9690	150	18	0.008	0.004	8550	125	16	0.007	0.003
0.6	16	10260	185	19	0.009	0.005	9690	150	18	0.008	0.004	8550	125	16	0.007	0.003
0.7	2	34200	1130	75	0.017	0.063	32300	930	71	0.014	0.049	28500	765	63	0.013	0.035
0.7	4	30780	915	68	0.015	0.025	29070	755	64	0.013	0.020	25650	620	56	0.012	0.014
0.7	6	30780	915	68	0.015	0.016	29070	755	64	0.013	0.012	25650	620	56	0.012	0.009

LBS = Length Below Shank
ap = Depth of cut per pass



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE BALL NOSE LONG NECK

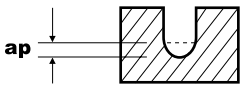
SEM846 Series continued

CUTTING DATA

Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS					ALLOY & HEAT RESISTANT STEELS					HARDENED STEELS				
		CAST IRON					STAINLESS STEELS									
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.7	8	27360	725	60	0.013	0.016	25840	595	57	0.012	0.012	22800	490	50	0.011	0.009
0.7	10	27360	725	60	0.013	0.009	25840	595	57	0.012	0.007	22800	490	50	0.011	0.005
0.7	12	20520	475	45	0.012	0.006	19380	390	43	0.010	0.005	17100	320	38	0.009	0.004
0.8	2	34200	1230	86	0.018	0.072	32300	1035	81	0.016	0.056	28500	855	72	0.015	0.040
0.8	3	34200	1230	86	0.018	0.050	32300	1035	81	0.016	0.039	28500	855	72	0.015	0.028
0.8	4	34200	1230	86	0.018	0.050	32300	1035	81	0.016	0.039	28500	855	72	0.015	0.028
0.8	5	30780	995	77	0.016	0.029	29070	840	73	0.014	0.022	25650	695	64	0.014	0.016
0.8	6	30780	995	77	0.016	0.029	29070	840	73	0.014	0.022	25650	695	64	0.014	0.016
0.8	8	30780	995	77	0.016	0.018	29070	840	73	0.014	0.014	25650	695	64	0.014	0.010
0.8	10	27360	785	69	0.014	0.018	25840	660	65	0.013	0.014	22800	545	57	0.012	0.010
0.8	12	27360	785	69	0.014	0.011	25840	660	65	0.013	0.008	22800	545	57	0.012	0.006
0.8	14	20520	515	52	0.013	0.007	19380	435	49	0.011	0.006	17100	360	43	0.011	0.004
0.8	16	20520	515	52	0.013	0.007	19380	435	49	0.011	0.006	17100	360	43	0.011	0.004
0.8	20	10260	220	26	0.011	0.007	9690	185	24	0.010	0.006	8550	155	21	0.009	0.004
0.9	4	29250	1120	83	0.019	0.032	27630	935	78	0.017	0.025	24390	775	69	0.016	0.018
0.9	6	29250	1120	83	0.019	0.032	27630	935	78	0.017	0.025	24390	775	69	0.016	0.018
0.9	8	29250	1120	83	0.019	0.020	27630	935	78	0.017	0.016	24390	775	69	0.016	0.011
0.9	10	26000	885	74	0.017	0.020	24560	740	69	0.015	0.016	21680	610	61	0.014	0.011
1	2	30800	1540	97	0.025	0.090	29100	1310	91	0.023	0.070	25700	1075	81	0.021	0.050
1	3	30800	1540	97	0.025	0.090	29100	1310	91	0.023	0.070	25700	1075	81	0.021	0.050
1	4	30800	1540	97	0.025	0.063	29100	1310	91	0.023	0.049	25700	1075	81	0.021	0.035
1	5	30800	1540	97	0.025	0.063	29100	1310	91	0.023	0.049	25700	1075	81	0.021	0.035
1	6	27720	1245	87	0.022	0.036	26190	1060	82	0.020	0.028	23130	870	73	0.019	0.020
1	7	27720	1245	87	0.022	0.036	26190	1060	82	0.020	0.028	23130	870	73	0.019	0.020
1	8	27720	1245	87	0.022	0.036	26190	1060	82	0.020	0.028	23130	870	73	0.019	0.020
1	10	27720	1245	87	0.022	0.023	26190	1060	82	0.020	0.018	23130	870	73	0.019	0.013
1	12	24640	985	77	0.020	0.023	23280	840	73	0.018	0.018	20560	690	65	0.017	0.013
1	14	24640	985	77	0.020	0.014	23280	840	73	0.018	0.011	20560	690	65	0.017	0.008
1	16	18480	645	58	0.017	0.014	17460	550	55	0.016	0.011	15420	450	48	0.015	0.008
1	18	18480	645	58	0.017	0.009	17460	550	55	0.016	0.007	15420	450	48	0.015	0.005
1	20	18480	645	58	0.017	0.009	17460	550	55	0.016	0.007	15420	450	48	0.015	0.005
1	22	9240	275	29	0.015	0.009	8730	235	27	0.013	0.007	7710	195	24	0.013	0.005
1	26	9240	275	29	0.015	0.009	8730	235	27	0.013	0.007	7710	195	24	0.013	0.005
1	30	9240	275	29	0.015	0.009	8730	235	27	0.013	0.007	7710	195	24	0.013	0.005
1	40	3080	75	10	0.012	0.009	2910	65	9	0.011	0.007	2570	55	8	0.011	0.005
1	50	3080	75	10	0.012	0.006	2910	65	9	0.011	0.005	2570	55	8	0.011	0.003
1.2	4	26300	1375	99	0.026	0.076	24800	1150	93	0.023	0.059	21900	950	83	0.022	0.042
1.2	6	26300	1375	99	0.026	0.076	24800	1150	93	0.023	0.059	21900	950	83	0.022	0.042
1.2	8	23670	1115	89	0.024	0.043	22320	930	84	0.021	0.034	19710	770	74	0.020	0.024
1.2	10	23670	1115	89	0.024	0.027	22320	930	84	0.021	0.021	19710	770	74	0.020	0.015
1.2	12	23670	1115	89	0.024	0.027	22320	930	84	0.021	0.021	19710	770	74	0.020	0.015
1.2	16	21040	880	79	0.021	0.016	19840	735	75	0.019	0.013	17520	610	66	0.017	0.009
1.2	20	15780	580	59	0.018	0.011	14880	485	56	0.016	0.008	13140	400	50	0.015	0.006
1.2	26	7890	245	30	0.016	0.011	7440	205	28	0.014	0.008	6570	170	25	0.013	0.006
1.4	6	21500	1295	95	0.030	0.088	20300	1100	89	0.027	0.069	18000	935	79	0.026	0.049
1.4	8	19350	1050	85	0.027	0.050	18270	890	80	0.024	0.039	16200	755	71	0.023	0.028
1.4	10	19350	1050	85	0.027	0.050	18270	890	80	0.024	0.039	16200	755	71	0.023	0.028
1.4	16	17200	830	76	0.024	0.032	16240	705	71	0.022	0.025	14400	600	63	0.021	0.018
1.5	4	23900	1580	113	0.033	0.135	22600	1355	106	0.030	0.105	20000	1075	94	0.027	0.075
1.5	5	23900	1580	113	0.033	0.095	22600	1355	106	0.030	0.074	20000	1075	94	0.027	0.053
1.5	6	23900	1580	113	0.033	0.095	22600	1355	106	0.030	0.074	20000	1075	94	0.027	0.053
1.5	7	23900	1580	113	0.033	0.095	22600	1355	106	0.030	0.074	20000	1075	94	0.027	0.053
1.5	8	21510	1280	101	0.030	0.054	20340	1100	96	0.027	0.042	18000	870	85	0.024	0.030

LBS = Length Below Shank
ap = Depth of cut per pass



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE BALL NOSE LONG NECK

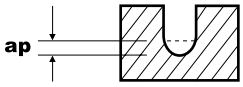
SEM846 Series continued

CUTTING DATA

Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
1.5	10	21510	1280	101	0.030	0.054	20340	1100	96	0.027	0.042	18000	870	85	0.024	0.030
1.5	12	21510	1280	101	0.030	0.054	20340	1100	96	0.027	0.042	18000	870	85	0.024	0.030
1.5	14	21510	1280	101	0.030	0.034	20340	1100	96	0.027	0.026	18000	870	85	0.024	0.019
1.5	16	19120	1010	90	0.026	0.034	18080	865	85	0.024	0.026	16000	690	75	0.022	0.019
1.5	18	19120	1010	90	0.026	0.034	18080	865	85	0.024	0.026	16000	690	75	0.022	0.019
1.5	20	19120	1010	90	0.026	0.02	18080	865	85	0.024	0.016	16000	690	75	0.022	0.011
1.5	22	19120	1010	90	0.026	0.02	18080	865	85	0.024	0.016	16000	690	75	0.022	0.011
1.5	26	14340	665	68	0.023	0.014	13560	570	64	0.021	0.011	12000	450	57	0.019	0.008
1.5	30	14340	665	68	0.023	0.014	13560	570	64	0.021	0.011	12000	450	57	0.019	0.008
1.5	35	7170	285	34	0.020	0.010	6780	245	32	0.018	0.008	6000	195	28	0.016	0.005
1.5	40	7170	285	34	0.020	0.010	6780	245	32	0.018	0.008	6000	195	28	0.016	0.005
1.6	4	22200	1555	112	0.035	0.101	21000	1300	106	0.031	0.078	18500	1110	93	0.030	0.056
1.6	6	22200	1555	112	0.035	0.101	21000	1300	106	0.031	0.078	18500	1110	93	0.030	0.056
1.6	8	22200	1555	112	0.035	0.101	21000	1300	106	0.031	0.078	18500	1110	93	0.030	0.056
1.6	10	19980	1260	100	0.032	0.058	18900	1055	95	0.028	0.045	16650	900	84	0.027	0.032
1.6	12	19980	1260	100	0.032	0.058	18900	1055	95	0.028	0.045	16650	900	84	0.027	0.032
1.6	16	19980	1260	100	0.032	0.036	18900	1055	95	0.028	0.028	16650	900	84	0.027	0.020
1.6	20	17760	995	89	0.028	0.036	16800	830	84	0.025	0.028	14800	710	74	0.024	0.020
1.8	4	22200	1780	126	0.040	0.113	21000	1470	119	0.035	0.088	18500	1225	105	0.033	0.063
1.8	6	22200	1780	126	0.040	0.113	21000	1470	119	0.035	0.088	18500	1225	105	0.033	0.063
1.8	8	22200	1780	126	0.040	0.113	21000	1470	119	0.035	0.088	18500	1225	105	0.033	0.063
1.8	10	19980	1440	113	0.036	0.065	18900	1190	107	0.031	0.050	16650	990	94	0.030	0.036
1.8	12	19980	1440	113	0.036	0.065	18900	1190	107	0.031	0.050	16650	990	94	0.030	0.036
1.8	16	19980	1440	113	0.036	0.041	18900	1190	107	0.031	0.032	16650	990	94	0.030	0.023
1.8	20	17760	1140	100	0.032	0.041	16800	940	95	0.028	0.032	14800	785	84	0.027	0.023
2	6	18000	1795	113	0.050	0.180	17000	1525	107	0.045	0.140	15000	1285	94	0.043	0.100
2	8	18000	1795	113	0.050	0.126	17000	1525	107	0.045	0.098	15000	1285	94	0.043	0.070
2	10	18000	1795	113	0.050	0.126	17000	1525	107	0.045	0.098	15000	1285	94	0.043	0.070
2	12	16200	1455	102	0.045	0.072	15300	1235	96	0.040	0.056	13500	1040	85	0.039	0.040
2	14	16200	1455	102	0.045	0.072	15300	1235	96	0.040	0.056	13500	1040	85	0.039	0.040
2	16	16200	1455	102	0.045	0.072	15300	1235	96	0.040	0.056	13500	1040	85	0.039	0.040
2	18	16200	1455	102	0.045	0.045	15300	1235	96	0.040	0.035	13500	1040	85	0.039	0.025
2	20	16200	1455	102	0.045	0.045	15300	1235	96	0.040	0.035	13500	1040	85	0.039	0.025
2	22	14400	1150	90	0.040	0.045	13600	975	85	0.036	0.035	12000	820	75	0.034	0.025
2	26	14400	1150	90	0.040	0.045	13600	975	85	0.036	0.035	12000	820	75	0.034	0.025
2	30	14400	1150	90	0.040	0.027	13600	975	85	0.036	0.021	12000	820	75	0.034	0.015
2	35	10800	755	68	0.035	0.018	10200	640	64	0.031	0.014	9000	540	57	0.030	0.010
2	40	10800	755	68	0.035	0.018	10200	640	64	0.031	0.014	9000	540	57	0.030	0.010
2	45	5400	325	34	0.030	0.018	5100	275	32	0.027	0.014	4500	230	28	0.026	0.010
2	50	5400	325	34	0.030	0.018	5100	275	32	0.027	0.014	4500	230	28	0.026	0.010
2	60	5400	325	34	0.030	0.018	5100	275	32	0.027	0.014	4500	230	28	0.026	0.010
2.5	8	15800	1925	124	0.061	0.158	14900	1605	117	0.054	0.123	13200	1305	104	0.049	0.088
2.5	10	15800	1925	124	0.061	0.158	14900	1605	117	0.054	0.123	13200	1305	104	0.049	0.088
2.5	12	15800	1925	124	0.061	0.158	14900	1605	117	0.054	0.123	13200	1305	104	0.049	0.088
2.5	16	14220	1560	112	0.055	0.090	13410	1300	105	0.048	0.070	11880	1055	93	0.044	0.050
2.5	20	14220	1560	112	0.055	0.090	13410	1300	105	0.048	0.070	11880	1055	93	0.044	0.050
2.5	22	14220	1560	112	0.055	0.056	13410	1300	105	0.048	0.044	11880	1055	93	0.044	0.031
2.5	26	12640	1230	99	0.049	0.056	11920	1025	94	0.043	0.044	10560	835	83	0.040	0.031
2.5	30	12640	1230	99	0.049	0.056	11920	1025	94	0.043	0.044	10560	835	83	0.040	0.031
2.5	35	12640	1230	99	0.049	0.034	11920	1025	94	0.043	0.026	10560	835	83	0.040	0.019
2.5	40	9480	810	74	0.043	0.034	8940	675	70	0.038	0.026	7920	550	62	0.035	0.019
2.5	45	9480	810	74	0.043	0.023	8940	675	70	0.038	0.018	7920	550	62	0.035	0.013
2.5	50	9480	810	74	0.043	0.023	8940	675	70	0.038	0.018	7920	550	62	0.035	0.013

LBS = Length Below Shank
ap = Depth of cut per pass



2 FLUTE BALL NOSE LONG NECK

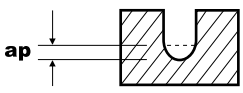
SEM846 Series continued

CUTTING DATA

Slotting

MATERIAL		NON-ALLOYED STEELS & ALLOY STEELS / CAST IRON					ALLOY & HEAT RESISTANT STEELS / STAINLESS STEELS					HARDENED STEELS				
Hardness		~ HRC 35					HRC 35 ~ HRC 45					HRC 45 ~ HRC 55				
Strength		~ 1100N/mm²					1110 ~ 1500N/mm²					1500 ~ 2000N/mm²				
Dia.	LBS	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
3	6	13700	2050	129	0.075	0.270	12900	1730	122	0.067	0.210	11400	1435	107	0.063	0.150
3	8	13700	2050	129	0.075	0.270	12900	1730	122	0.067	0.210	11400	1435	107	0.063	0.150
3	10	13700	2050	129	0.075	0.189	12900	1730	122	0.067	0.147	11400	1435	107	0.063	0.105
3	12	13700	2050	129	0.075	0.189	12900	1730	122	0.067	0.147	11400	1435	107	0.063	0.105
3	14	13700	2050	129	0.075	0.189	12900	1730	122	0.067	0.147	11400	1435	107	0.063	0.105
3	16	12330	1660	116	0.067	0.108	11610	1400	109	0.060	0.084	10260	1160	97	0.057	0.060
3	18	12330	1660	116	0.067	0.108	11610	1400	109	0.060	0.084	10260	1160	97	0.057	0.060
3	20	12330	1660	116	0.067	0.108	11610	1400	109	0.060	0.084	10260	1160	97	0.057	0.060
3	22	12330	1660	116	0.067	0.108	11610	1400	109	0.060	0.084	10260	1160	97	0.057	0.060
3	26	12330	1660	116	0.067	0.068	11610	1400	109	0.060	0.053	10260	1160	97	0.057	0.038
3	30	12330	1660	116	0.067	0.068	11610	1400	109	0.060	0.053	10260	1160	97	0.057	0.038
3	35	10960	1310	103	0.060	0.068	10320	1105	97	0.054	0.053	9120	920	86	0.050	0.038
3	40	10960	1310	103	0.060	0.041	10320	1105	97	0.054	0.032	9120	920	86	0.050	0.023
3	45	10960	1310	103	0.060	0.041	10320	1105	97	0.054	0.032	9120	920	86	0.050	0.023
3	50	8220	860	77	0.052	0.027	7740	725	73	0.047	0.021	6840	605	64	0.044	0.015
3	60	8220	860	77	0.052	0.027	7740	725	73	0.047	0.021	6840	605	64	0.044	0.015
4	8	9800	1965	123	0.100	0.360	9300	1670	117	0.090	0.280	8200	1395	103	0.085	0.200
4	10	9800	1965	123	0.100	0.360	9300	1670	117	0.090	0.280	8200	1395	103	0.085	0.200
4	12	9800	1965	123	0.100	0.360	9300	1670	117	0.090	0.280	8200	1395	103	0.085	0.200
4	14	9800	1965	123	0.100	0.252	9300	1670	117	0.090	0.196	8200	1395	103	0.085	0.140
4	16	9800	1965	123	0.100	0.252	9300	1670	117	0.090	0.196	8200	1395	103	0.085	0.140
4	18	9800	1965	123	0.100	0.252	9300	1670	117	0.090	0.196	8200	1395	103	0.085	0.140
4	20	9800	1965	123	0.100	0.252	9300	1670	117	0.090	0.196	8200	1395	103	0.085	0.140
4	22	8820	1590	111	0.090	0.144	8370	1355	105	0.081	0.112	7380	1130	93	0.077	0.080
4	26	8820	1590	111	0.090	0.144	8370	1355	105	0.081	0.112	7380	1130	93	0.077	0.080
4	30	8820	1590	111	0.090	0.144	8370	1355	105	0.081	0.112	7380	1130	93	0.077	0.080
4	35	8820	1590	111	0.090	0.090	8370	1355	105	0.081	0.070	7380	1130	93	0.077	0.050
4	40	8820	1590	111	0.090	0.090	8370	1355	105	0.081	0.070	7380	1130	93	0.077	0.050
4	45	7840	1260	99	0.080	0.090	7440	1070	93	0.072	0.070	6560	895	82	0.068	0.050
4	50	7840	1260	99	0.080	0.090	7440	1070	93	0.072	0.070	6560	895	82	0.068	0.050
4	60	7840	1260	99	0.080	0.054	7440	1070	93	0.072	0.042	6560	895	82	0.068	0.030
5	15	7700	1845	121	0.120	0.315	7300	1455	115	0.100	0.245	6400	1285	101	0.100	0.175
5	20	7700	1845	121	0.120	0.315	7300	1455	115	0.100	0.245	6400	1285	101	0.100	0.175
5	26	6930	1495	109	0.108	0.180	6570	1180	103	0.090	0.140	5760	1040	90	0.090	0.100
5	30	6930	1495	109	0.108	0.180	6570	1180	103	0.090	0.140	5760	1040	90	0.090	0.100
5	35	6930	1495	109	0.108	0.180	6570	1180	103	0.090	0.140	5760	1040	90	0.090	0.100
5	40	6930	1495	109	0.108	0.180	6570	1180	103	0.090	0.140	5760	1040	90	0.090	0.100
5	50	6930	1495	109	0.108	0.113	6570	1180	103	0.090	0.088	5760	1040	90	0.090	0.063
5	60	6160	1180	97	0.096	0.113	5840	930	92	0.080	0.088	5120	820	80	0.080	0.063
6	20	6500	1900	123	0.146	0.378	6200	1600	117	0.129	0.294	5500	1330	104	0.121	0.210
6	30	6500	1900	123	0.146	0.378	6200	1600	117	0.129	0.294	5500	1330	104	0.121	0.210
8	25	4850	1800	122	0.186	0.504	4600	1500	116	0.163	0.392	4000	1280	101	0.160	0.280
8	30	4850	1800	122	0.186	0.504	4600	1500	116	0.163	0.392	4000	1280	101	0.160	0.280
10	30	3850	1650	121	0.214	0.900	3680	1400	116	0.190	0.700	3200	1200	101	0.188	0.500
10	40	3850	1650	121	0.214	0.630	3680	1400	116	0.190	0.490	3200	1200	101	0.188	0.350
12	32	3200	1520	121	0.238	1.080	3050	1300	115	0.213	0.840	2650	1100	100	0.208	0.600
12	45	3200	1520	121	0.238	0.756	3050	1300	115	0.213	0.588	2650	1100	100	0.208	0.420

LBS = Length Below Shank
ap = Depth of cut per pass



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

X-Power Pro Milling Cutters

Performance
★★★★★

P H M K

When tool life matters, X-Power Pro is the tool of choice

Excellent performance in wet or dry high speed machining, suitable for steel <55HRC, stainless steel and cast iron.

Diameter Range
0.4-25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Dry Machining
Opt for dry machining to extend tool life when working with steel.

Accuracy
Meticulously engineered to excel in high-accuracy machining applications.

Reliable
Consistent and reliable performance, even when used in unstable CNC machining conditions.

Wear Resistant
Outstanding wear resistance, particularly at medium and high speeds.

Features

Ultrafine Micrograin Carbide
Premium ultrafine micrograin carbide substrate, delivering superior performance in machining applications.

Y-Coating
Exceptional heat protection, significantly extending tool life for enhanced machining performance.

HSC
Perfectly suited for high-speed cutting and precision finishing applications.

Huge Range of Geometries
Huge range of tool geometries including rib processing, 6 flute, ripper, ball nose and more.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE STANDARD PLAIN SHANK		GM810	0.4-20	30°	**156**
2 FLUTE CORNER RADIUS PLAIN SHANK		GM818	4-12	30°	**156**
2 FLUTE LONG NECK PLAIN SHANK		GM883	0.4-6	30°	**157**
2 FLUTE CORNER RADIUS, LONG NECK PLAIN SHANK		GM8A1	1-6	30°	**157**
3 FLUTE 38° HELIX PLAIN SHANK		GM895	1-16	38°	**158**
4 FLUTE STANDARD PLAIN SHANK		GM811 GM817	2-25	30°	**158**
4 FLUTE STUB LENGTH, CORNER RADIUS PLAIN SHANK		GM839	2-12	30°	**159**
4 FLUTE CORNER RADIUS PLAIN SHANK		GM819	3-20	30°	**159**
6 & 8 FLUTE 45° HELIX PLAIN SHANK		GM812 GM834	6-25	45°	**160**
3 & 4 FLUTE FINE PITCH ROUGHER, 20° HELIX PLAIN SHANK		GM814	6-20	20°	**160**
2 FLUTE BALL NOSE PLAIN SHANK		GM876 GM813	1-20	30°	**161**
2 FLUTE BALL NOSE, LONG NECK PLAIN SHANK		GM886	0.5-6	30°	**161**
4 FLUTE BALL NOSE, LONG NECK PLAIN SHANK		GM815	2-16	30°	**162**
2 FLUTE BALL NOSE TAPER NECK, ±0.01mm PLAIN SHANK		GM902	1-8	30°	**162**

2 FLUTE

High Speed Machining of Medium-High Hardness Steel <HRC55 & Cast Iron

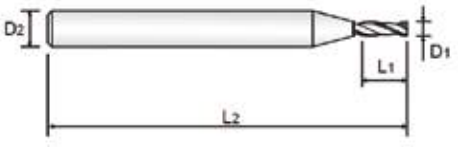
- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- High precision milling in medical, optical, aerospace, electronics, mould & die industries
- Suitable for dry cutting on steel & hardened steel

Series	Cutting Data
GM810 YG-1	P163





up to Ø3mm



MG SC | 2 | 30° | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.4	3	0.8	40	GM810004	£30.57
0.5	3	1	40	GM810005	£26.60
0.6	3	1.2	40	GM810006	£25.03
0.7	3	1.4	40	GM810007	£24.23
0.8	3	1.6	40	GM810008	£22.68
0.9	3	2	40	GM810009	£22.68
1	4	2.5	40	GM810010	£21.62
1	6	2.5	40	GM810901	£31.32
1.2	4	4	40	GM810012	£21.62
1.4	4	4	40	GM810014	£21.62
1.5	4	4	40	GM810015	£21.62
1.5	6	4	40	GM810902	£31.32
2	4	6	40	GM810020	£19.77
2	6	6	40	GM810903	£28.53
3	6	8	45	GM810030	£28.53

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
3.5	6	10	45	GM810035	£28.53
4	6	11	45	GM810040	£28.53
5	6	13	50	GM810050	£28.53
6	6	13	50	GM810060	£28.53
7	8	16	60	GM810070	£36.51
8	8	19	60	GM810080	£36.51
9	10	19	70	GM810090	£54.05
10	10	22	70	GM810100	£54.05
11	12	22	75	GM810110	£74.12
12	12	26	75	GM810120	£74.12
14	14	26	85	GM810140	£93.98
16	16	32	100	GM810160	£122.96
18	18	32	100	GM810180	£163.39
20	20	38	105	GM810200	£203.86

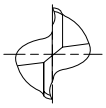
2 FLUTE CORNER RADIUS

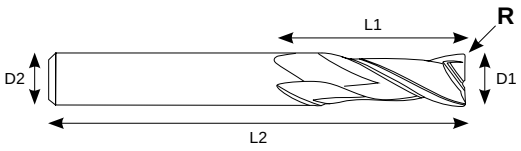
For High Speed Machining of Medium to High Hardness Steel <HRC55 & Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Suitable for dry cutting on steel & hardened steel

Series	Cutting Data
GM818 YG-1	P168







MG SC | 2 | 30° | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
4	0.5	6	15	50	GM818911	£37.66
6	0.5	6	20	60	GM818060	£37.66
6	1.0	6	20	60	GM818901	£37.66
8	0.5	8	25	70	GM818080	£48.20
8	1.0	8	25	70	GM818902	£48.20
10	0.5	10	30	90	GM818100	£71.33
10	1.0	10	30	90	GM818905	£71.33
12	1.0	12	30	90	GM818908	£97.83

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○		○			○					

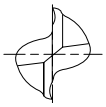
2 FLUTE LONG NECK

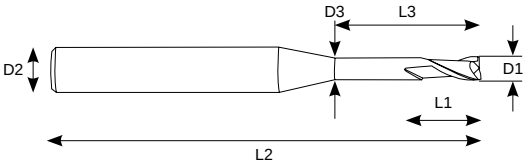
High Speed Machining of Medium-High Hardness Steel <HRC55 & Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Tool has reduced neck diameter to prevent interference in pocket milling
- Wide range of reach lengths (L3) from short to long

Series	Cutting Data
GM883 YG-1	P164







MG SC | 2 | 30° | PLAIN | Y COATED | HSC

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.4	4	0.37	0.6	45	2	GM883004	£32.82
0.5	4	0.45	0.7	45	2	GM883005	£30.10
0.5	4	0.45	0.7	45	4	GM883988	£30.10
0.7	4	0.65	1	45	3	GM883820	£27.45
0.8	4	0.75	1.2	45	4	GM883008	£27.45
0.8	4	0.75	1.2	45	6	GM883908	£27.45
1	4	0.95	1.5	45	4	GM883996	£24.56
1	4	0.95	1.5	45	6	GM883010	£24.56
1	4	0.95	1.5	45	8	GM883912	£24.56
1	4	0.95	1.5	45	10	GM883913	£24.56
1	4	0.95	1.5	45	12	GM883914	£25.92
1	4	0.95	1.5	50	16	GM883997	£27.45
1	4	0.95	1.5	55	20	GM883998	£28.22
1.2	4	1.15	1.8	45	6	GM883012	£24.56
1.5	4	1.45	2.3	45	6	GM883015	£24.56
1.5	4	1.45	2.3	45	8	GM883923	£24.56
1.5	4	1.45	2.3	45	10	GM883924	£24.56

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
1.5	4	1.45	2.3	45	12	GM883925	£25.92
1.5	4	1.45	2.3	50	16	GM883927	£27.45
1.5	4	1.45	2.3	55	20	GM883810	£27.45
1.8	4	1.75	2.7	45	12	GM883946	£25.92
2	4	1.95	3	45	6	GM883958	£23.38
2	4	1.95	3	45	8	GM883020	£23.38
2	4	1.95	3	45	10	GM883959	£23.38
2	4	1.95	3	45	12	GM883960	£23.38
2	4	1.95	3	50	14	GM883961	£23.38
2	4	1.95	3	50	16	GM883962	£25.33
2	4	1.95	3	55	20	GM883964	£25.33
2	4	1.95	3	60	25	GM883966	£26.81
2	4	1.95	3	70	30	GM883814	£26.81
2	4	2.40	3.7	55	16	GM883970	£25.33
3	6	2.85	4.5	45	10	GM883975	£34.89
3	6	2.85	4.5	45	12	GM883976	£34.89
3	6	2.85	4.5	55	16	GM883978	£35.64

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
3	6	2.85	4.5	55	18	GM883979	£35.64
3	6	2.85	4.5	60	20	GM883980	£35.64
3	6	2.85	4.5	65	25	GM883981	£35.64
3	6	2.85	4.5	70	30	GM883832	£42.78
3	6	2.85	4.5	90	40	GM883983	£46.37
4	6	3.85	6	60	16	GM883801	£35.64
4	6	3.85	6	60	20	GM883802	£35.64
4	6	3.85	6	70	25	GM883803	£35.64
4	6	3.85	6	70	30	GM883834	£42.78
4	6	3.85	6	90	40	GM883836	£46.37
4	6	3.85	6	100	50	GM883838	£61.18
6	6	5.85	9	90	30	GM883807	£46.37
6	6	5.85	9	110	50	GM883809	£61.18

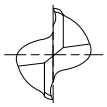
2 FLUTE CORNER RADIUS, LONG NECK

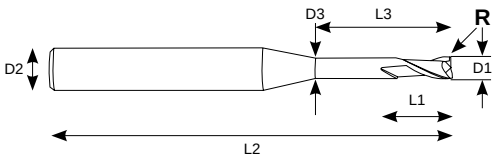
High Speed Machining of Medium-High Hardness Steel <HRC55 & Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Tool has reduced neck diameter to prevent interference in pocket milling
- Wide range of reach lengths (L3) from short to long
- Suitable for dry cutting on steel & hardened steel

Series	Cutting Data
GM8A1 YG-1	P164







MG SC | 2 | 30° | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.015mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
1	0.1	4	0.95	1.5	45	6	GM8A1010	£27.47
1	0.1	4	0.95	1.5	45	8	GM8A1920	£27.47
1	0.1	4	0.95	1.5	45	10	GM8A1921	£27.47
1.2	0.2	4	1.15	1.8	45	6	GM8A1012	£27.47
1.5	0.2	4	1.45	2.3	45	6	GM8A1015	£27.47
1.5	0.2	4	1.45	2.3	45	8	GM8A1937	£27.47
1.5	0.2	4	1.45	2.3	45	10	GM8A1938	£27.47
1.5	0.2	4	1.45	2.3	45	12	GM8A1939	£29.11
1.5	0.2	4	1.45	2.3	50	16	GM8A1941	£30.73
1.8	0.2	4	1.75	2.7	45	6	GM8A1018	£27.47
2	0.2	4	1.95	3	45	6	GM8A1960	£26.13
2	0.2	4	1.95	3	45	8	GM8A1020	£26.13
2	0.2	4	1.95	3	45	12	GM8A1962	£26.13
2	0.2	4	1.95	3	45	10	GM8A1961	£26.13

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	0.2	4	1.95	3	50	16	GM8A1964	£28.31
2	0.2	4	1.95	3	55	20	GM8A1966	£28.31
2	0.2	4	1.95	3	60	25	GM8A1967	£29.93
2.5	0.2	4	2.4	3.7	45	12	GM8A1969	£26.13
3	0.3	6	2.85	4.5	55	16	GM8A1981	£39.68
3	0.3	6	2.85	4.5	60	20	GM8A1983	£39.68
3	0.3	6	2.85	4.5	65	25	GM8A1984	£39.68
3	0.3	6	2.85	4.5	70	30	GM8A1976	£47.64
3	0.3	6	2.85	4.5	90	40	GM8A1985	£51.23
4	0.3	6	3.85	6	50	12	GM8A1040	£38.97
4	0.3	6	3.85	6	60	16	GM8A1986	£39.68
4	0.3	6	3.85	6	60	20	GM8A1987	£39.68
6	0.5	6	5.85	9	80	20	GM8A1060	£38.97
6	0.5	6	5.85	9	100	40	GM8A1802	£51.18

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○					○					

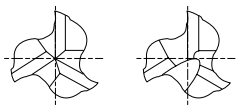
3 FLUTE 38° HELIX

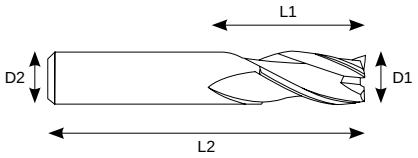
High Speed Machining of Medium-High Hardness Steel <HRC55, Stainless Steel & Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Suitable for dry cutting on steel & hardened steel

Series	Cutting Data
GM895 YG-1	P165







MG SC | 3 | 38° | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1	3	2.5	38	GM895010	£23.38
1.5	4	5	50	GM895015	£23.38
2.5	3	7	38	GM895025	£19.70
3	3	10	38	GM895030	£19.70
3	6	10	50	GM895901	£31.13
4	4	12	50	GM895040	£21.88
4	6	12	50	GM895903	£31.13
5	5	14	50	GM895050	£28.43
5	6	14	57	GM895904	£31.13
6	6	16	57	GM895060	£31.13
8	8	20	63	GM895080	£38.39
10	10	22	72	GM895100	£55.48
12	12	25	73	GM895120	£76.26
16	16	32	82	GM895160	£122.46

Material Applications - GM895 & GM811

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○		○			○					

4 FLUTE

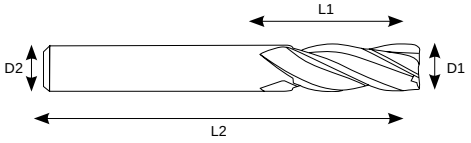
High Speed Machining of Medium-High Hardness Steel <HRC55, Stainless Steel* & Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Available in stub length low cost version or standard length
- Suitable for dry cutting on steel & hardened steel
- *GM811 only

Series	Cutting Data
GM811/17 YG-1	P166







MG SC | 4 | 30° | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
2	4	6	40	GM811020	£19.77
2	6	6	40	GM811901	£28.53
2	4	8	40	GM817020	£23.69
2.5	4	8	40	GM811025	£19.77
2.5	6	8	40	GM811902	£28.53
3	6	8	45	GM811030	£28.53
3	6	12	50	GM817030	£34.23
3.5	6	10	45	GM811035	£28.53
4	6	11	45	GM811040	£28.53
4	6	15	50	GM817040	£34.23
4.5	6	11	45	GM811045	£28.53
5	6	13	50	GM811050	£28.53
5	6	20	60	GM817050	£34.23
6	6	13	50	GM811060	£28.53

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6	6	20	60	GM817060	£34.23
8	8	19	60	GM811080	£36.51
8	8	25	70	GM817080	£43.83
10	10	22	70	GM811100	£54.05
10	10	30	90	GM817100	£64.85
12	12	26	75	GM811120	£74.12
12	12	30	90	GM817120	£88.98
14	14	26	85	GM811140	£93.98
14	16	40	110	GM817140	£126.90
16	16	32	100	GM811160	£122.96
16	16	50	110	GM817160	£166.04
20	20	38	105	GM811200	£203.86
20	20	55	110	GM817200	£275.24
25	25	45	120	GM811250	£326.18

Material Applications - GM817

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○					○					

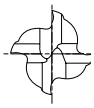
4 FLUTE STUB LENGTH CORNER RADIUS

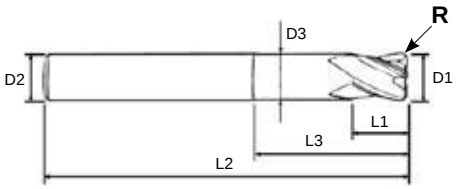
High Speed Machining of Medium-High Hardness Steel <HRC55 & Cast Iron

- Designed to machine tool steel, alloy steel, mold steel and other hardened materials
- Superior work piece finishes
- Increased feed rates

Series	Cutting Data
GM839 YG-1	P169







MG SC | 4 | 30° | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	0.2	6	1.9	2.5	50	1.9	GM839020	£31.32
3	0.3	6	2.8	4	50	2.8	GM839030	£31.32
4	0.4	6	3.7	5	50	3.7	GM839040	£31.32
6	0.6	6	5.6	7	55	5.6	GM839060	£31.32
8	0.8	8	7.4	10	60	7.4	GM839080	£40.17
10	1.0	10	9.4	12	70	9.4	GM839100	£49.75
12	1.2	12	11.4	15	80	11.4	GM839120	£81.59

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	●					○					

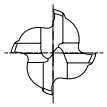
4 FLUTE CORNER RADIUS

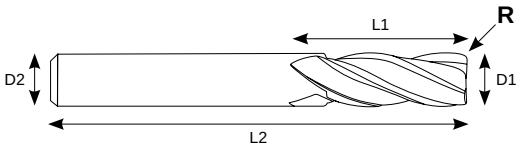
High Speed Machining of Medium-High Hardness Steel <HRC55, Stainless Steel & Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Suitable for dry cutting on steel & hardened steel

Series	Cutting Data
GM819 YG-1	P168







MG SC | 4 | 30° | | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
3	0.3	6	12	50	GM819030	£41.37
4	0.3	6	15	50	GM819040	£41.37
4	0.5	6	15	50	GM819911	£41.37
5	0.5	6	20	60	GM819912	£41.37
6	0.5	6	20	60	GM819060	£41.37
6	1.0	6	20	60	GM819901	£41.37
8	0.5	8	25	70	GM819080	£53.04
8	1.0	8	25	70	GM819902	£53.04
8	2.0	8	25	70	GM819904	£57.87
10	0.5	10	30	90	GM819100	£78.46
10	1.0	10	30	90	GM819905	£78.46

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
10	1.5	10	30	90	GM819906	£85.60
10	2.0	10	30	90	GM819907	£85.60
10	2.0	10	30	90	GM819907	£85.60
12	0.5	12	30	90	GM819120	£107.60
12	1.0	12	30	90	GM819908	£107.60
12	1.5	12	30	90	GM819909	£117.39
12	2.0	12	30	90	GM819910	£117.39
16	0.5	16	50	110	GM819160	£200.86
16	1.0	16	50	110	GM819916	£200.86
16	2.0	16	50	110	GM819918	£219.08
20	2.0	20	55	110	GM819921	£363.23

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○		○			○					

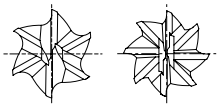
6 & 8 FLUTE 45° HELIX

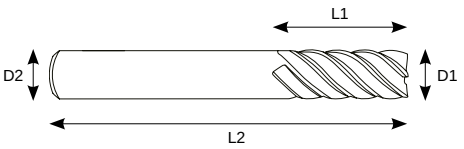
High Speed Machining of Medium-High Hardness Steel <HRC55, & Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining with ultra high feed rates
- Superior work piece finish due to 6-8 flute design
- Suitable for dry cutting on steel & hardened steel

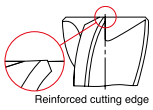
Series	Cutting Data
GM812/34 YG-1	P167







MG SC | 6&8 | 45° | PLAIN | Y COATED | HSC



D1	D2	L1	L2	No. Flutes	★★★★★ Performance Order Code	Price
6	6	13	57	6	GM812060	£33.39
		26	70	6	GM834060	£43.39
8	8	19	63	6	GM812080	£42.21
		36	90	6	GM834080	£57.05
10	10	22	72	6	GM812100	£63.30
		46	100	6	GM834100	£88.77
12	12	26	83	6	GM812120	£86.00
		56	110	6	GM834120	£124.74
16	16	32	92	6	GM812160	£144.67
		66	130	6	GM834160	£217.01
20	20	38	104	8	GM812200	£212.57
		76	140	8	GM834200	£340.11
25	25	92	180	8	GM834250	£637.69

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○					○					

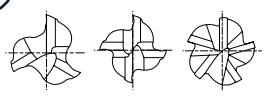
3 & 4 FLUTE FINE PITCH ROUGHER, 20° HELIX

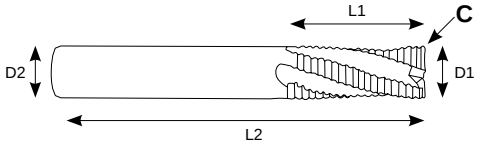
High Speed Machining of Medium-High Hardness Steel <HRC55, Stainless Steel & Cast Iron

- Y coated ultrafine micrograin carbide
- Dry or wet cutting
- 20° helix gives highest strength in hard steel roughing

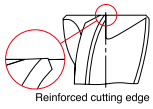
Series	Cutting Data
GM814 YG-1	P169







MG SC | 3&4 | 20° | FINE | PLAIN | C x 45° | Y COATED



D1	D2	L1	L2	C	No. Flutes	★★★★★ Performance Order Code	Price
6	6	16	57	0.38	3	GM814060	£37.94
8	8	16	63	0.38	3	GM814080	£44.33
10	10	22	72	0.6	4	GM814100	£66.30
12	12	26	83	0.6	4	GM814120	£85.18
16	16	32	92	0.6	4	GM814160	£138.71
20	20	38	104	0.6	4	GM814200	£223.21

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○		○			○					

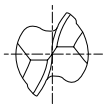
2 FLUTE BALL NOSE

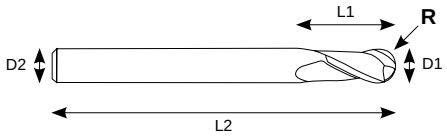
For High Speed Machining of Medium to High Hardness Steel <HRC55 and Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Radius tolerance ±0.02mm
- Suitable for dry cutting on steel & hardened steel

Series	Cutting Data
GM813/76 YG-1	P171







MG SC | 2 | 30° | R ±0.02 | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1	3	3	38	GM876010	£26.53
1	4	2.5	50	GM813010	£28.53
2	6	3	50	GM876020	£26.39
2	6	5	50	GM813020	£27.16
3	6	4	50	GM876030	£26.39
3	6	8	60	GM813030	£27.16
4	6	5	54	GM876040	£27.40
4	6	8	70	GM813040	£28.31
5	6	10	80	GM813050	£29.32
6	6	7	54	GM876060	£27.40

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6	6	12	90	GM813060	£31.77
8	8	9	58	GM876080	£43.79
8	8	14	100	GM813080	£49.61
10	10	11	66	GM876100	£68.42
10	10	18	100	GM813100	£79.07
12	12	12	73	GM876120	£86.54
12	12	22	110	GM813120	£101.00
16	16	16	82	GM876160	£135.66
16	16	30	140	GM813160	£167.85
20	20	38	160	GM813200	£261.95

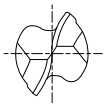
2 FLUTE BALL NOSE, LONG NECK

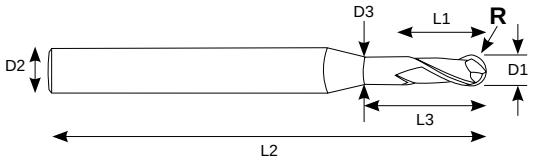
For High Speed Machining of Medium to High Hardness Steel <HRC55 and Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Tool has reduced neck diameter to prevent interference in pocket milling
- Wide range of reach lengths (L3) from short to long

Series	Cutting Data
GM886 YG-1	P170







MG SC | 2 | 30° | R ±0.01 | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.02mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.5	0.25	4	0.45	0.7	45	2	GM886005	£45.08
0.5	0.25	4	0.45	0.7	45	4	GM886962	£45.08
0.6	0.3	4	0.55	0.9	45	2	GM886957	£45.08
0.6	0.3	4	0.55	0.9	45	4	GM886915	£45.08
0.6	0.3	4	0.55	0.9	45	6	GM886916	£45.08
0.8	0.4	4	0.75	1.2	45	4	GM886919	£35.12
0.8	0.4	4	0.75	1.2	45	6	GM886008	£35.12
1	0.5	4	0.95	1.5	45	4	GM886921	£32.40
1	0.5	4	0.95	1.5	45	5	GM886923	£32.40
1	0.5	4	0.95	1.5	45	6	GM886010	£32.40
1	0.5	4	0.95	1.5	45	8	GM886902	£32.40
1	0.5	4	0.95	1.5	45	10	GM886903	£32.40
1	0.5	4	0.95	1.5	45	12	GM886904	£34.42
1	0.5	4	0.95	1.5	50	16	GM886927	£36.84
1.2	0.6	4	1.15	1.8	45	8	GM886012	£32.40
1.5	0.75	4	1.45	2.3	45	6	GM886930	£32.40
1.5	0.75	4	1.45	2.3	45	8	GM886015	£32.40
1.5	0.75	4	1.45	2.3	45	10	GM886931	£32.40
1.5	0.75	4	1.45	2.3	45	12	GM886906	£34.42
2	1.0	4	1.95	3	45	6	GM886940	£30.38

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	R1.0	4	1.95	3	45	8	GM886020	£30.38
2	1.0	4	1.95	3	45	10	GM886941	£30.38
2	1.0	4	1.95	3	50	12	GM886942	£30.38
2	1.0	4	1.95	3	50	16	GM886909	£32.38
2	1.0	4	1.95	3	55	20	GM886910	£34.47
2	1.0	4	1.95	3	60	25	GM886945	£34.47
2	1.0	4	1.95	3	70	30	GM886967	£39.73
3	1.5	6	2.85	4.5	50	10	GM886947	£37.24
3	1.5	6	2.85	4.5	50	12	GM886948	£37.24
3	1.5	6	2.85	4.5	55	16	GM886030	£45.03
3	1.5	6	2.85	4.5	60	20	GM886911	£48.29
3	1.5	6	2.85	4.5	65	25	GM886968	£48.29
4	2.0	6	3.85	6	60	16	GM886040	£45.03
4	2.0	6	3.85	6	65	20	GM886912	£48.29
4	2.0	6	3.85	6	70	25	GM886913	£48.29
4	2.0	6	3.85	6	70	30	GM886971	£52.15
4	2.0	6	3.85	6	80	35	GM886972	£57.45
5	2.5	6	4.85	7.5	60	16	GM886050	£45.03
6	3.0	6	5.85	9	80	20	GM886060	£48.29
6	3.0	6	5.85	9	90	30	GM886954	£52.15

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○					○					

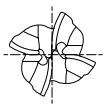
4 FLUTE BALL NOSE, LONG NECK

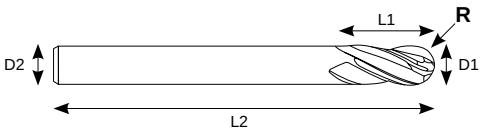
For High Speed Machining of Medium to High Hardness Steel <HRC55 and Cast Iron

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- 4 flutes for higher feed rates
- Radius tolerance ±0.02mm
- Suitable for dry cutting on steel & hardened steel

Series	Cutting Data
GM815 YG-1	P173







MG SC | 4 | 30° | R ±0.02 | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
2	1.0	6	5	50	GM815020	**£35.71**
3	1.5	6	8	60	GM815030	**£35.71**
4	2.0	6	8	70	GM815040	**£36.91**
5	2.5	6	10	80	GM815050	**£38.08**
6	3.0	6	12	90	GM815060	**£40.41**
8	4.0	8	14	100	GM815080	**£59.61**
10	5.0	10	18	100	GM815100	**£91.66**
12	6.0	12	22	110	GM815120	**£115.25**
16	8.0	16	30	140	GM815160	**£189.54**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	●	○					○					

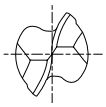
2 FLUTE BALL NOSE HIGH PRECISION, TAPER NECK

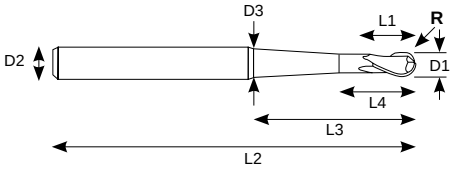
For High Speed Machining of Medium to High Hardness Steel <HRC55

- Y coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Taper neck for strength and rigidity in deep pocket milling
- Radius tolerance ±0.01mm for high precision machining
- Suitable for dry cutting on steel & hardened steel

Series	Cutting Data
GM902 YG-1	P172







MG SC | 2 | 30° | R ±0.01 | PLAIN | Y COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	L4	Neck Taper Angle	★★★★★ Performance Order Code	Price
1	0.5	6	2	4	60	23	2	1° 30′	GM902010	**£38.15**
1	0.5	6	2	4	60	23	4.3	5°	GM902901	**£38.15**
1	0.5	6	2	4	80	42	5	3°	GM902902	**£40.10**
2	1.0	6	4	6	60	23	2.9	1° 30′	GM902020	**£34.25**
2	1.0	6	4	6	60	23	5	5°	GM902903	**£34.25**
2	1.0	6	4	6	80	41	5.7	3°	GM902904	**£37.24**
3	1.5	6	6	8	70	32	5.6	3°	GM902030	**£34.47**
3	1.5	6	6	8	90	52	5.3	1° 30′	GM902905	**£38.32**
4	2.0	6	8	10	70	28	5.9	3°	GM902040	**£34.72**
4	2.0	6	8	10	90	49	6	1° 30′	GM902906	**£38.57**
6	3.0	8	12	15	90	34	8	3°	GM902060	**£55.43**
6	3.0	8	12	15	110	53	8	1° 30′	GM902908	**£64.66**
8	4.0	10	14	17	100	36	10	3°	GM902080	**£98.00**
8	4.0	10	14	17	120	55	10	1° 30′	GM902909	**£109.90**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	○	●	●	○										

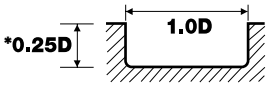
2 FLUTE

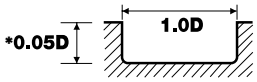
GM810 Series SHORT LENGTH up to 1.5mm

CUTTING DATA

Slotting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL			
Hardness	HRC 30 ~ HRC 45				HRC45 ~ HRC55			
Strength	1000 ~ 1500N/mm²				1500 ~ 2000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.4	33000	100	40	0.002	25300	55	30	0.001
0.8	26400	165	65	0.003	19800	70	50	0.002
1	22000	175	70	0.004	16500	85	50	0.003
1.2	17600	175	65	0.005	13200	85	50	0.003
1.5	13200	165	60	0.006	9900	75	45	0.004





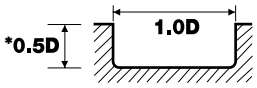
*up to Ø1mm **0.15D**

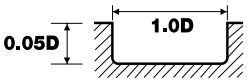
*up to Ø1mm **0.02D**

GM810 Series SHORT LENGTH 2-20mm

Slotting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL				HARDENED STEEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-				HRC45 ~ HRC55			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				1500 ~ 2000N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	10360	215	65	0.010	6780	135	45	0.010	5660	100	35	0.009	4510	40	30	0.004
3	8010	235	75	0.015	4980	155	45	0.016	4140	135	40	0.016	3010	45	30	0.007
4	6780	335	85	0.025	4140	200	50	0.024	3470	170	45	0.024	2630	45	35	0.009
5	5660	360	90	0.032	3380	215	55	0.032	2830	180	45	0.032	2080	55	35	0.013
6	4980	390	95	0.039	3010	245	55	0.041	2540	200	50	0.039	1790	60	35	0.017
8	3760	425	95	0.057	2260	225	55	0.050	1880	200	45	0.053	1510	85	40	0.028
10	2910	370	90	0.064	1790	180	55	0.050	1510	180	45	0.060	1220	65	40	0.027
12	2460	315	95	0.064	1510	145	55	0.048	1220	145	45	0.059	1040	60	40	0.029
16	1970	245	100	0.062	1220	125	60	0.051	950	125	50	0.066	810	45	40	0.028
20	1510	190	95	0.063	950	90	60	0.047	750	90	45	0.060	620	35	40	0.028





*up to Ø3mm **0.2D**

RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

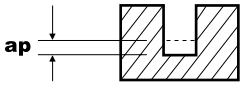
2 FLUTE LONG NECK
GM883 & GM8A1 Series

CUTTING DATA
Slotting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEELS CAST IRON					ALLOY STEEL & HEAT RESISTANT STEEL				
Hardness	~ HRC 30					HRC 30 ~ HRC 45				
Strength	~ 1000N/mm²					1000 ~ 1500N/mm²				
Dia.	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.4	32550~42000	210~460	39~50	0.003~0.006	0.007~0.018	23630~29400	90~355	28~35	0.002~0.006	0.007~0.018
0.5	32550~42000	210~460	49~63	0.003~0.006	0.009~0.022	23630~29400	90~355	35~44	0.002~0.006	0.009~0.022
0.6	32550~42000	265~600	58~75	0.004~0.007	0.011~0.026	23630~29400	115~450	42~53	0.002~0.008	0.011~0.026
0.7	32550~42000	265~600	68~88	0.004~0.007	0.012~0.031	23630~29400	115~450	49~62	0.002~0.008	0.012~0.031
0.8	28350~36750	295~660	68~88	0.005~0.009	0.014~0.035	20480~25730	125~505	49~62	0.003~0.010	0.014~0.035
0.9	26250~33080	295~755	71~89	0.006~0.011	0.030~0.060	18380~23630	170~565	49~64	0.005~0.012	0.030~0.060
1	23630~29400	295~850	71~88	0.006~0.014	0.045~0.090	16490~21000	200~630	49~63	0.006~0.015	0.045~0.090
1.2	19430~23630	295~945	70~85	0.008~0.020	0.055~0.100	13650~17330	200~630	49~62	0.007~0.018	0.055~0.100
1.4	16800~21000	295~945	70~88	0.009~0.023	0.062~0.125	12080~14700	200~630	51~62	0.008~0.021	0.062~0.125
1.5	15230~19430	295~945	68~87	0.010~0.024	0.070~0.135	11030~14180	200~630	49~64	0.009~0.022	0.070~0.135
1.6	14700~18900	295~945	70~90	0.010~0.025	0.075~0.145	10710~13440	200~630	51~64	0.009~0.023	0.075~0.145
1.8	13650~17330	295~945	74~93	0.011~0.027	0.080~0.160	9660~12080	200~630	52~65	0.010~0.026	0.080~0.160
2	12600~15230	295~945	75~91	0.012~0.031	0.090~0.180	8720~11030	200~630	52~66	0.011~0.029	0.090~0.180
2.5	9980~12600	295~945	75~94	0.015~0.038	0.112~0.235	7040~8930	200~630	53~67	0.014~0.035	0.112~0.235
3	8400~10500	295~945	75~94	0.018~0.045	0.135~0.270	5780~7350	200~630	52~66	0.017~0.043	0.135~0.270
4	6300~7880	295~945	75~94	0.023~0.060	0.180~0.360	4310~5570	200~630	52~67	0.023~0.057	0.180~0.360
5	5040~6300	295~945	75~94	0.029~0.075	0.225~0.450	3470~4410	200~630	52~66	0.029~0.071	0.225~0.450
6	4200~5250	295~945	75~94	0.035~0.090	0.270~0.540	2940~3680	200~630	53~66	0.034~0.086	0.270~0.540

MATERIAL	HARDENED STEEL				
Hardness	HRc 45 ~ HRc 55				
Strength	1500 ~ 2000N/mm²				
Dia.	RPM	Feed	Vc	Fz	ap
0.4	15020~17850	30~95	18~21	0.001~0.003	0.004~0.008
0.5	15020~17850	30~95	22~27	0.001~0.003	0.004~0.009
0.6	15020~17850	40~115	27~32	0.001~0.003	0.005~0.011
0.7	15020~17850	40~115	31~37	0.001~0.003	0.006~0.013
0.8	13130~15540	45~130	31~37	0.002~0.004	0.007~0.015
0.9	11550~13130	60~135	31~35	0.003~0.005	0.008~0.016
1	10500~13130	70~135	31~39	0.003~0.005	0.009~0.018
1.2	8720~11030	70~135	31~40	0.004~0.006	0.010~0.022
1.4	7560~9450	70~135	32~40	0.005~0.007	0.012~0.025
1.5	7040~8610	70~135	32~39	0.005~0.008	0.014~0.028
1.6	6720~8400	70~135	32~40	0.005~0.008	0.015~0.030
1.8	5990~7560	70~135	32~41	0.006~0.009	0.016~0.032
2	5570~6930	70~135	33~41	0.006~0.010	0.018~0.035
2.5	4520~5570	70~135	34~42	0.008~0.012	0.022~0.045
3	3680~4620	70~135	33~41	0.009~0.015	0.028~0.055
4	2730~3470	70~135	33~41	0.013~0.020	0.036~0.072
5	2210~2730	70~135	33~41	0.015~0.025	0.045~0.090
6	1840~2730	70~135	33~49	0.019~0.025	0.054~0.108

ap = Depth of cut per pass



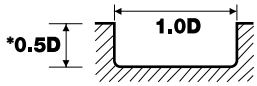
RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

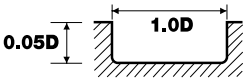
3 FLUTE
GM895 Series

CUTTING DATA
Slotting & Side Cutting

Slotting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC45				-				HRC45 ~ HRC55				HRC55 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				1500 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	12720	185	80	0.005	8320	120	50	0.005	6930	90	45	0.004	5540	35	35	0.002				
3	9810	210	90	0.007	6120	145	60	0.008	5080	120	50	0.008	3700	40	35	0.004				
4	8320	295	105	0.012	5080	175	65	0.011	4270	145	55	0.011	3230	40	40	0.004				
5	6930	310	110	0.015	4160	185	65	0.015	3480	155	55	0.015	2550	50	40	0.007				
6	6120	340	115	0.019	3700	220	70	0.02	3120	175	60	0.019	2200	55	40	0.008				
8	4620	375	115	0.027	2770	200	70	0.024	2310	175	60	0.025	1850	70	45	0.013				
10	3590	330	115	0.031	2200	155	70	0.023	1850	160	60	0.029	1500	60	45	0.013				
12	3010	275	115	0.03	1850	130	70	0.023	1500	130	55	0.029	1280	55	50	0.014				
16	2420	220	120	0.03	1500	110	75	0.024	1170	110	60	0.031	990	40	50	0.013				

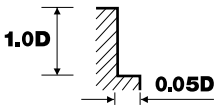




*up to 3mm Diameter **0.2D**

Side Cutting

MATERIAL	NON-ALLOYED STEEL ALLOY STEEL & / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC45				-				HRC45 ~ HRC55				HRC55 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				1500 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	12720	230	80	0.006	8320	155	50	0.006	6930	125	45	0.006	5540	35	35	0.002				
3	9810	265	90	0.009	6120	165	60	0.009	5080	140	50	0.009	3700	45	35	0.004				
4	8320	475	105	0.019	5080	285	65	0.019	4270	230	55	0.018	3230	50	40	0.005				
5	6930	495	110	0.024	4160	295	65	0.024	3480	255	55	0.024	2550	60	40	0.008				
6	6120	550	115	0.03	3700	340	70	0.031	3120	275	60	0.029	2200	65	40	0.01				
8	4620	585	115	0.042	2770	320	70	0.039	2310	290	60	0.042	1850	90	45	0.016				
10	3590	505	115	0.047	2200	255	70	0.039	1850	255	60	0.046	1500	75	45	0.017				
12	3010	430	115	0.048	1850	210	70	0.038	1500	200	55	0.044	1280	65	50	0.017				
16	2420	340	120	0.047	1500	165	75	0.037	1170	165	60	0.047	990	50	50	0.017				



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

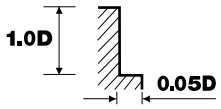
4 FLUTE SHORT LENGTH

GM811 Series

CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC45				-				HRC45 ~ HRC55				HRC55 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				1500 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	12950	315	80	0.006	8470	190	55	0.006	7060	155	45	0.005	5640	55	35	0.002				
3	9990	360	95	0.009	6230	225	60	0.009	5170	190	50	0.009	3760	65	35	0.004				
4	8470	640	105	0.019	5170	390	65	0.019	4350	315	55	0.018	3290	65	40	0.005				
5	7060	670	110	0.024	4230	405	65	0.024	3540	335	55	0.024	2600	80	40	0.008				
6	6230	740	115	0.03	3760	460	70	0.031	3180	370	60	0.029	2240	90	40	0.01				
8	4700	795	120	0.042	2820	425	70	0.038	2350	390	60	0.041	1880	125	45	0.017				
10	3650	685	115	0.047	2240	335	70	0.037	1880	335	60	0.045	1520	100	50	0.016				
12	3070	580	115	0.047	1880	280	70	0.037	1520	270	55	0.044	1300	90	50	0.017				
16	2460	460	125	0.047	1520	225	75	0.037	1230	225	60	0.046	1010	65	50	0.016				
20	1880	360	120	0.048	1190	180	75	0.038	940	170	60	0.045	760	45	50	0.015				
25	1520	280	120	0.046	940	145	75	0.039	760	135	60	0.044	600	35	45	0.015				



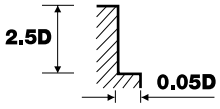
4 FLUTE LONG LENGTH

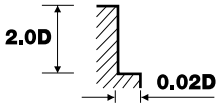
GM817 Series

CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC45				HRC45 ~ HRC55				HRC55 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				1500 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	9880	225	60	0.006	5640	90	35	0.004	3530	50	20	0.004				
3	6910	260	65	0.009	4000	110	40	0.007	2460	60	25	0.006				
4	5600	315	70	0.014	3180	130	40	0.01	2000	65	25	0.008				
5	4780	405	75	0.021	2710	155	45	0.014	1770	80	30	0.011				
6	4120	480	80	0.029	2350	200	45	0.021	1530	100	30	0.016				
8	3140	515	80	0.041	1770	200	45	0.028	1180	100	30	0.021				
10	2630	515	85	0.049	1530	200	50	0.033	940	100	30	0.027				
12	2150	405	80	0.047	1300	180	50	0.035	780	80	30	0.026				
16	1810	360	90	0.05	1000	140	50	0.035	630	65	30	0.026				
20	1320	260	85	0.049	760	100	50	0.033	470	50	30	0.027				





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

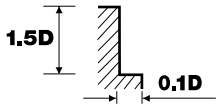
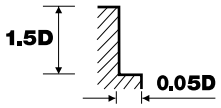
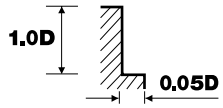
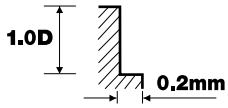
6 & 8 FLUTE 45° HELIX, LONG LENGTH

GM812 Series

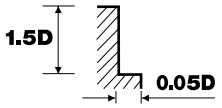
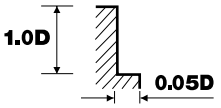
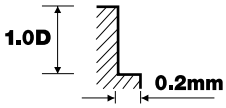
CUTTING DATA

Side Cutting

Normal Speed

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC50				HRC50 ~ HRC60				HRC60 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1750N/mm²				1750 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	5670	2040	105	0.06	3960	1395	75	0.059	1610	215	30	0.022				
8	4280	2040	110	0.079	3000	1395	75	0.078	1180	215	30	0.03				
10	3430	2040	110	0.099	2370	1395	75	0.098	1020	215	30	0.035				
12	2900	1715	110	0.099	2040	1185	75	0.097	860	185	30	0.036				
16	2140	1285	110	0.1	1510	900	75	0.099	650	135	35	0.035				
20	1710	1030	105	0.075	1180	705	75	0.075	510	110	30	0.027				
																

High Speed

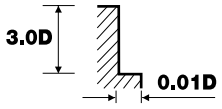
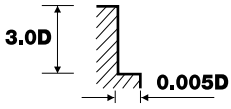
MATERIAL	HEAT RESISTANT STEEL & HARDENED STEEL				HARDENED STEEL							
Hardness	~ HRC50				HRC50 ~ HRC60				HRC60 ~ HRC65			
Strength	~ 1750N/mm²				1750 ~ 2080N/mm²				2080N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	8570	3110	160	0.06	17140	6210	325	0.06				
8	6430	3110	160	0.081	12850	6210	325	0.081				
10	5140	3110	160	0.101	10180	6110	320	0.1				
12	4280	2570	160	0.1	8570	5140	325	0.1				
16	3220	1930	160	0.1	6430	3855	325	0.1				
20	2570	1500	160	0.073	5140	3110	325	0.076				
												

6 & 8 FLUTE 45° HELIX, EXTRA LONG LENGTH

GM834 Series

CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL, & ALLOY STEEL CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL							
Hardness	~ HRC40				HRC40 ~ HRC50				HRC50 ~ HRC60				HRC60 ~ HRC65			
Strength	~ 1250N/mm²				1250 ~ 1750N/mm²				1750 ~ 2080N/mm²				2080N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	2270	480	45	0.035	1700	355	30	0.035	1420	255	25	0.03				
8	1700	460	45	0.045	1280	335	30	0.044	1070	245	25	0.038				
10	1360	450	45	0.055	1020	305	30	0.05	860	235	25	0.046				
12	1130	410	45	0.06	860	275	30	0.053	700	215	25	0.051				
16	860	335	45	0.065	640	235	30	0.061	540	175	25	0.054				
20	680	285	45	0.07	510	205	30	0.067	430	155	25	0.06				
25	550	245	45	0.074	410	175	30	0.071	350	135	25	0.064				
																

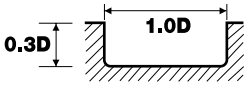
2 FLUTE CORNER RADIUS

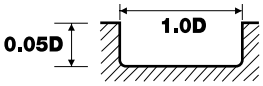
GM818 Series

CUTTING DATA

Slotting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC45				HRC45 ~ HRC55				HRC55 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				1500 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
4	5900	185	75	0.016	3750	95	45	0.013	2370	30	30	0.006				
5	5040	230	80	0.023	3190	110	50	0.017	2090	35	35	0.008				
6	4350	275	80	0.032	2770	140	50	0.025	1800	35	35	0.01				
8	3300	295	85	0.045	2090	140	55	0.033	1390	35	35	0.013				
10	2770	295	85	0.053	1800	140	55	0.039	1110	35	35	0.016				
12	2270	230	85	0.051	1530	125	60	0.041	920	35	35	0.019				





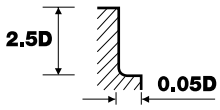
4 FLUTE CORNER RADIUS

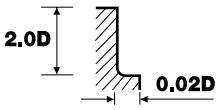
GM819 Series

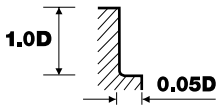
CUTTING DATA

Side Cutting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC45				HRC45 ~ HRC55				HRC55 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				1500 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	7280	185	70	0.006	4710	145	45	0.008	2900	70	25	0.006				
4	5900	230	75	0.01	3750	165	45	0.011	2370	75	30	0.008				
5	5040	235	80	0.012	3190	200	50	0.016	2090	95	35	0.011				
6	4350	235	80	0.014	2770	200	50	0.018	1800	95	35	0.013				
8	3300	255	85	0.019	2090	200	55	0.024	1390	95	35	0.017				
10	2770	255	85	0.023	1800	200	55	0.028	1110	95	35	0.021				
12	2270	200	85	0.022	1530	175	60	0.029	920	75	35	0.02				
16	1910	175	95	0.023	1180	140	60	0.03	740	65	35	0.022				
20	1390	125	85	0.022	900	100	55	0.028	550	50	35	0.023				





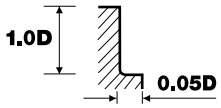


RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

4 FLUTE CORNER RADIUS STUB LENGTH
GM839 Series

CUTTING DATA
Side Cutting

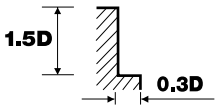
MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC45				HRC45 ~ HRC55				HRC55 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				1500 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	15260	375	95	0.006	9980	225	65	0.006	6660	65	40	0.002				
3	11770	425	110	0.009	7340	265	70	0.009	4430	75	40	0.004				
4	9980	755	125	0.019	6090	460	75	0.019	3880	75	50	0.005				
6	7340	870	140	0.03	4430	540	85	0.03	2640	105	50	0.01				
8	5540	935	140	0.042	3320	500	85	0.038	2220	145	55	0.016				
10	4300	805	135	0.047	2640	395	85	0.037	1790	120	55	0.017				
12	3620	690	135	0.048	2220	330	85	0.037	1530	105	60	0.017				

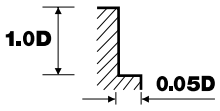


3-5 FLUTE FINE PITCH ROUGHER
GM814 Series

CUTTING DATA
Side Cutting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				STAINLESS STEEL				HARDENED STEEL							
Hardness	~ HRC30				HRC30 ~ HRC38				HRC38 ~ HRC45				HRC45 ~ HRC55				HRC55 ~ HRC65			
Strength	~ 1000N/mm²				1000 ~ 1200N/mm²				1200 ~ 1400N/mm²				1400 ~ 2000N/mm²				2000N/mm² ~			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	16380	2435	310	0.05	13020	880	245	0.023	8820	600	165	0.023	3570	275	65	0.026				
8	12180	2435	305	0.067	9660	880	245	0.03	6620	600	165	0.03	2520	250	65	0.033				
10	9660	2435	305	0.063	7980	880	250	0.028	5360	600	170	0.028	2100	305	65	0.036				
12	8400	2520	315	0.075	6300	840	240	0.033	4410	600	165	0.034	1760	275	65	0.039				
16	6300	2520	315	0.1	5040	800	255	0.04	3470	535	175	0.039	1260	170	65	0.034				
20	5040	2270	315	0.113	3780	590	240	0.039	2520	380	160	0.038	1050	160	65	0.038				





Contact our expert technical team for advice on your milling applications.

Please call 01924 869 615

2 FLUTE BALL NOSE LONG NECK

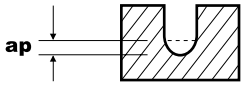
GM886 Series

CUTTING DATA

Slotting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL CAST IRON					ALLOY STEEL & HEAT RESISTANT STEEL				
Hardness	~ HRC30					HRC30 ~ HRC45				
Strength	~ 1000N/mm²					1000 ~ 1500N/mm²				
Dia.	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.5	23630~29930	90~285	35~45	0.002~0.005	0.023~0.045	32550~42000	185~515	49~63	0.003~0.006	0.023~0.045
0.6	23630~29930	115~370	42~54	0.002~0.006	0.027~0.054	32550~42000	235~660	58~75	0.004~0.008	0.027~0.054
0.8	23630~29930	115~370	57~72	0.002~0.006	0.036~0.072	32550~42000	235~660	78~101	0.004~0.008	0.036~0.072
1	21530~27300	130~410	64~82	0.003~0.008	0.045~0.090	30450~38330	265~735	91~115	0.004~0.010	0.045~0.090
1.2	17850~22580	130~410	64~81	0.004~0.009	0.055~0.100	25200~32030	265~820	90~115	0.005~0.013	0.055~0.100
1.4	15750~18900	130~410	66~79	0.004~0.011	0.062~0.125	22050~27300	265~820	92~114	0.006~0.015	0.062~0.125
1.5	14180~18380	130~410	64~82	0.005~0.011	0.070~0.135	19950~25200	265~820	90~113	0.007~0.016	0.070~0.135
1.6	13860~17330	130~410	66~83	0.005~0.012	0.075~0.145	18900~24680	265~820	90~118	0.007~0.017	0.075~0.145
1.8	12600~15750	130~410	68~85	0.005~0.013	0.080~0.160	17850~22580	265~820	96~122	0.007~0.018	0.080~0.160
2	11550~14180	130~410	69~85	0.006~0.014	0.090~0.180	16280~19950	265~820	97~119	0.008~0.021	0.090~0.180
3	7350~9450	130~410	66~85	0.009~0.022	0.135~0.270	11030~13650	265~820	99~123	0.012~0.030	0.135~0.270
4	6090~8190	130~410	73~98	0.011~0.025	0.180~0.360	8930~11550	265~820	107~138	0.015~0.035	0.180~0.360
5	4830~6510	130~410	72~97	0.014~0.031	0.225~0.450	7140~9240	265~820	107~138	0.018~0.044	0.225~0.450
6	4100~5460	130~410	74~98	0.016~0.038	0.270~0.540	5990~7670	265~820	107~138	0.022~0.053	0.270~0.540

MATERIAL	HARDENED STEEL				
Hardness	HRC45 ~ HRC55				
Strength	1500 ~ 2000N/mm²				
Dia.	RPM	Feed	Vc	Fz	ap
0.5	15020~18900	90~185	22~28	0.003~0.005	0.005~0.009
0.6	15020~18900	115~235	27~34	0.004~0.006	0.005~0.011
0.8	15020~18900	115~235	36~45	0.004~0.006	0.007~0.014
1	13650~17120	130~265	41~51	0.005~0.008	0.009~0.018
1.2	11340~14390	130~265	41~52	0.006~0.009	0.010~0.022
1.4	9870~12290	130~265	41~51	0.007~0.011	0.012~0.025
1.5	9140~11240	130~265	41~50	0.007~0.012	0.014~0.028
1.6	8720~10920	130~265	42~52	0.008~0.012	0.015~0.030
1.8	7770~9870	130~265	42~53	0.008~0.013	0.016~0.032
2	7250~9030	130~265	43~54	0.009~0.015	0.018~0.035
3	4830~5990	130~265	43~54	0.014~0.022	0.028~0.055
4	4100~5150	130~265	49~62	0.016~0.026	0.035~0.070
5	3260~4100	130~265	49~61	0.020~0.032	0.044~0.088
6	2730~3470	130~265	49~62	0.024~0.038	0.053~0.105



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE BALL NOSE

GM876, GM813 Series

CUTTING DATA

Stepover Cutting

Normal Speed

MATERIAL		NON ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL			
Hardness		~ HRC30				HRC30 ~ HRC40				HRC45 ~ HRC55			
Strength		~ 1000N/mm²				1000 ~ 1250N/mm²				1500N/mm² ~			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	0.5	17650	280	55	0.008	14250	225	45	0.008	6500	100	20	0.008
1.5	0.75	17650	390	85	0.011	13600	300	65	0.011	5960	135	30	0.011
2	1	16130	840	100	0.026	11980	550	75	0.023	5240	170	35	0.016
2.5	1.25	16130	840	125	0.026	11980	550	95	0.023	5240	170	40	0.016
3	1.5	14670	760	140	0.026	11200	515	105	0.023	5060	170	50	0.017
4	2	11760	830	150	0.035	9410	595	120	0.032	4700	200	60	0.021
5	2.5	10240	920	160	0.045	8180	650	130	0.04	4120	200	65	0.024
6	3	9510	1140	180	0.06	7730	930	145	0.06	3560	215	65	0.03
8	4	8020	1445	200	0.09	6460	1030	160	0.08	2770	245	70	0.044
10	5	7130	1715	225	0.12	5700	1140	180	0.1	2280	250	70	0.055
12	6	6540	1960	245	0.15	5200	1245	195	0.12	1960	275	75	0.07
16	8	5340	1925	270	0.18	4230	1185	215	0.14	1510	275	75	0.091
20	10	4640	1860	290	0.2	3650	1165	230	0.16	1240	280	80	0.113

ap: D1~D6 = 0.2mm
D8~D20 = 0.3mm
ae: 0.2D



High Speed

MATERIAL		NON ALLOYED STEEL & ALLOY STEEL / CAST IRON				HARDENED STEEL			
Hardness		~ HRC45				HRC45 ~ HRC65			
Strength		~ 1500N/mm²				1500N/mm² ~			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	0.5	28000	1455	90	0.026	28000	895	90	0.016
1.5	0.75	25760	1570	120	0.03	25760	965	120	0.019
2	1	23520	1660	150	0.035	23520	1055	150	0.022
2.5	1.25	23520	1970	185	0.042	21280	1100	165	0.026
3	1.5	23520	2240	220	0.048	19040	1165	180	0.031
4	2	23520	3295	295	0.07	15300	1300	190	0.042
5	2.5	23520	4030	370	0.086	13440	1345	210	0.05
6	3	23520	4480	445	0.095	11760	1400	220	0.06
8	4	18700	4480	470	0.12	9360	1400	235	0.075
10	5	15680	4370	495	0.139	7840	1345	245	0.086
12	6	13660	4370	515	0.16	6830	1300	255	0.095
16	8	10700	3865	540	0.181	5340	1120	270	0.105
20	10	8920	3560	560	0.2	4460	1030	280	0.115

ap: D1~D6 = 0.2mm
D8~D20 = 0.3mm
ae: 0.05D



2 FLUTE BALL NOSE HIGH PRECISION, TAPER NECK

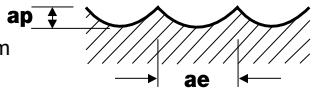
GM902 Series

CUTTING DATA

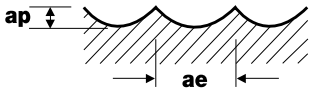
Slotting - Normal Speed

MATERIAL		ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL							
Hardness		HRC30 ~ HRC40				HRC40 ~ HRC50				HRC50 ~ HRC55			
Strength		1000 ~ 1250N/mm²				1250 ~ 1750N/mm²				1750 ~ 2000N/mm²			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	0.5	10690	170	35	0.008					16800	335	55	0.01
2	1	9710	275	60	0.014					11870	620	75	0.026
3	1.5	8400	390	80	0.023					10290	895	95	0.043
4	2	7060	440	90	0.031					8610	895	110	0.052
5	2.5	6130	485	95	0.04					7560	895	120	0.059
6	3	5780	695	110	0.06					6830	925	130	0.068
8	4	4830	775	120	0.08					5570	840	140	0.075
10	5	4270	860	135	0.101					4880	810	155	0.083
12	6												

ap: D1~D6 = 0.2mm
D8~D12 = 0.3mm
ae: 0.2D



ap: D1~D4 = 0.05D
D5~D8 = 0.25mm
D10~D12 = 0.3mm
ae: 0.1D

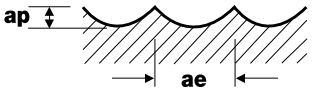


GM902 Series

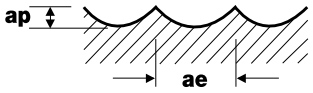
Slotting - High Speed

MATERIAL		NON ALLOYED STEEL & ALLOY STEEL / CAST IRON				HARDENED STEEL							
Hardness		~ HRC45				HRC45 ~ HRC55				HRC50 ~ HRC55			
Strength		~ 1500N/mm²				1250 ~ 1750N/mm²				1750 ~ 2000N/mm²			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	0.5	21000	1090	65	0.026	16800	580	55	0.017				
2	1	17640	1260	110	0.036	11970	1030	75	0.043				
3	1.5	17640	1680	165	0.048	10290	1365	95	0.066				
4	2	17640	2470	220	0.07	8610	1365	110	0.079				
5	2.5	17640	3025	275	0.086	7560	1315	120	0.087				
6	3	17640	3360	335	0.095	6930	1420	130	0.102				
8	4	14070	3360	355	0.119	5570	1210	140	0.109				
10	5	11760	3255	370	0.138	4830	1155	150	0.12				
12	6												

ap: D1~D6 = 0.2mm
D8~D12 = 0.3mm
ae: 0.05D



ap: D1~D4 = 0.05D
D5~D8 = 0.25mm
D10~D12 = 0.3mm
ae: 0.05D



*up to 6mm Diameter **0.2D**

*up to 4mm Diameter **0.05D,** Diameter 5-8mm **0.25D**

4 FLUTE BALL NOSE

GM815 Series

CUTTING DATA

Stepover Cutting- Normal Speed

MATERIAL		NON ALLOYED STEEL & ALLOY STEEL / CAST IRON				ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL			
Hardness		~ HRC30				HRC30 ~ HRC40				HRC45 ~ HRC65			
Strength		~ 1000N/mm²				1000 ~ 1250N/mm²				1500N/mm² ~			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	0.5	16550	840	105	0.013	12140	505	75	0.01	5080	170	30	0.008
1.5	0.75	13760	1070	130	0.019	10500	725	100	0.017	4750	230	45	0.012
2	1	11030	1165	140	0.026	8820	840	110	0.024	4410	285	55	0.016
3	1.5	9600	1290	150	0.034	7670	915	120	0.03	3860	285	60	0.018
4	2	8910	1605	170	0.045	7250	1315	135	0.045	3340	295	65	0.022
5	2.5	7520	2050	190	0.068	6060	1450	150	0.06	2590	345	65	0.033
6	3	6690	2415	210	0.09	5340	1605	170	0.075	2140	355	65	0.041
8	4	6130	2730	230	0.111	4870	1735	185	0.089	1840	390	70	0.053
10	5	5010	2730	250	0.136	3970	1680	200	0.106	1420	390	70	0.069
12	6												
16	8												
20	10												

ap: D1~D6 = 0.2mm
D8~D20 = 0.3mm
ae: 0.2D (<HRC40) 0.1D (>HRC40)



GM815 Series

Stepover Cutting- High Speed

MATERIAL		NON ALLOYED STEEL & ALLOY STEEL / CAST IRON				HARDENED STEEL			
Hardness		~ HRC45				HRC45 ~ HRC65			
Strength		~ 1500N/mm²				1500N/mm² ~			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	0.5	22050	2310	140	0.026	22050	1470	140	0.017
1.5	0.75	22050	3150	210	0.036	17850	1640	170	0.023
2	1	22050	4620	275	0.052	14340	1825	180	0.032
3	1.5	22050	5670	345	0.064	12600	1890	200	0.038
4	2	22050	6300	415	0.071	11030	1975	210	0.045
5	2.5	17540	6300	440	0.09	8780	1975	220	0.056
6	3	14700	6145	460	0.105	7350	1890	230	0.064
8	4	12810	6145	485	0.12	6410	1825	240	0.071
10	5	10030	5440	505	0.136	5010	1575	250	0.079
12	6								
16	8								
20	10								

ap: D1~D6 = 0.2mm
D8~D20 = 0.3mm
ae: 0.05D



X-Speed Rougher Milling Cutters

Performance
★★★★★

P K

Extreme and silent metal removal in steel and cast iron rough milling

Silent roughing with 2-3 times faster metal removal rates compared to 4 flute HPC style end mills.



Diameter Range
6-20mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★	★★★★★	★★★	★★★	★★★★★	★★★★★

Advantages

Extreme Roughing
First choice for slotting and profiling with one tool in stainless steel, titanium and steel machining applications.

Silent Machining
The unique double core design promotes chip evacuation when slotting and improved stability when profiling.

Ultimate Tool Life
Premium micrograin carbide substrate combined with X1100 coating improves performance.

Cost Efficient
Achieve reduced cycle times by taking arge depths of cut at high feed rates.

Features

Special Pitch
Variable pitch reduces vibration and cutting forces allowing large depths of cut and high feed rates.

Swarf Control
Special uneven ripper tooth design breaks swarf down, improving chip flow.

Strong Cutting Edge
Corner radius geometry strengthens cutting edges, reducing risk of premature failure.

Versatile Performance
Sharper cutting edges combined with optimised edge preparation provides excellent performance in sticky materials.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
4 & 5 FLUTE CORNER RADIUS CARBIDE ROUGHER PLAIN SHANK		G9D75/76 G9D67/68	6-20		**176**
4 & 5 FLUTE CORNER RADIUS CARBIDE ROUGHER, LONG REACH PLAIN SHANK		G9D77/69	6-20		**177**

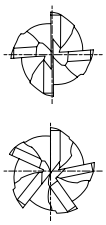
4 & 5 FLUTE CORNER RADIUS CARBIDE ROUGHER

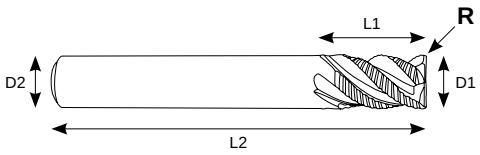
Ultra High Metal Removal for Carbon Steel, Alloy Steel & Pre-Hardened Steel

Series		Cutting Data
G9D75/76 YG-1	G9D67/68 YG-1	P177

- Micrograin carbide with special X1100 coating
- HPC = High performance machining
- Special variable pitch profile reduces cutting force and stress on your machine spindle at high feed rates & large depth of cut
- Strong end tooth design for ramping and pocket milling
- Recommended for use with high performance holder for best tool life & rigidity







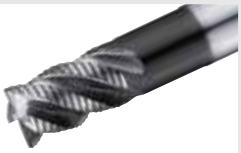
VARIABLE PITCH & MULTIPLE HELIX TO PREVENT VIBRATION

MG SC | 4&5 | 44°~45° | VAR | PLAIN | WELDON | X1100 COATED | HPC

SHORT LENGTH TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.05mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
4 Flutes							
6	0.5	6	9	57	G9D75060	G9D67060	**£41.30**
			12		G9D76060	G9D68060	**£44.61**
8	0.5	8	12	63	G9D75080	G9D67080	**£47.05**
			16		G9D76080	G9D68080	**£50.85**
10	0.5	10	15	72	G9D75100	G9D67100	**£69.59**
			20		G9D76100	G9D68100	**£75.29**
12	0.5	12	18	83	G9D75120	G9D67120	**£97.81**
			24		G9D76120	G9D68120	**£109.46**
5 Flutes							
16	1	16	24	92	G9D75160	G9D67160	**£139.72**
			32		G9D76160	G9D68160	**£154.25**
20	1	20	30	104	G9D75200	G9D67200	**£225.60**
			40		G9D76200	G9D68200	**£249.55**

X-Speed - Variable Pitch Rougher - Example Data



The X-SPEED VARIABLE PITCH rougher offers extreme metal removal rates on steels, cast iron and pre-hardened steels. The variable pitch, unequal flute spacing & multiple helix eliminates vibration. For best results use with high performance tool holding.

ALLOY STEEL HRC30

Ø12mm, 6 Flute, GMG18120
SIDE CUTTING

RPM	**6,000**
VC (m/min)	**300**
fz (mm/tooth)	**0.082**
Feed (mm/min)	**2,450**
Ap:	**16mm**
Ae:	**8mm**

ALLOY STEEL HRC30

Ø12mm, 6 Flute, GMG18120
SLOTTING

RPM	**4,500**
VC (m/min)	**225**
fz (mm/tooth)	**0.067**
Feed (mm/min)	**1,500**
Ap:	**16mm**
Ae:	**16mm**

PRE-HARDENED STEEL HRC45

Ø12mm, 6 Flute, GMG18120
SIDE CUTTING

RPM	**7,100**
VC (m/min)	**270**
fz (mm/tooth)	**0.065**
Feed (mm/min)	**1,850**
Ap:	**12mm**
Ae:	**4.2mm**

PRE-HARDENED STEEL HRC45

Ø12mm, 6 Flute, GMG18120
SLOTTING

RPM	**5,400**
VC (m/min)	**205**
fz (mm/tooth)	**0.053**
Feed (mm/min)	**1,140**
Ap:	**9.6mm**
Ae:	**12mm**

RPM (Revolutions per minute), VC (surface speed in metres per minute), fz (feed rate in mm per tooth), Feed (Feed rate in mm per minute), Ap (depth of cut), Ae (width of cut)

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○						●					

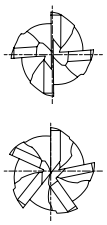
4 & 5 FLUTE CORNER RADIUS CARBIDE ROUGHER, LONG REACH

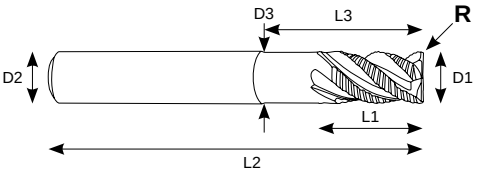
Ultra High Metal Removal for Carbon Steels, Alloy Steel & Pre-Hardened Steel

Series	Cutting Data
G9D77/69 YG-1	P177

- Micrograin carbide with special X1100 coating
- HPC = High performance machining
- Special variable pitch profile reduces cutting force and stress on your machine spindle at high feed rates & large depth of cut
- Strong end tooth design for ramping and pocket milling
- Recommended for use with high performance holder for best tool life & rigidity







VARIABLE PITCH & MULTIPLE HELIX TO PREVENT VIBRATION

MG SC | 4&5 | 44°~45° | VAR | PLAIN | WELDON | X1100 COATED | HPC

SHORT LENGTH TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.05mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code		Price
							Plain Shank	Weldon Shank	
4 Flutes									
6	0.5	6	5.7	9	57	18	G9D77060	G9D69060	**£43.88**
8	0.5	8	7.7	12	63	24	G9D77080	G9D69080	**£49.63**
10	0.5	10	9.7	15	72	30	G9D77100	G9D69100	**£73.21**
12	0.5	12	11.7	18	83	36	G9D77120	G9D69120	**£102.32**
5 Flutes									
16	1	16	15.7	24	100	48	G9D77160	G9D69160	**£145.35**
20	1	20	19.7	30	110	60	G9D77200	G9D69200	**£283.19**

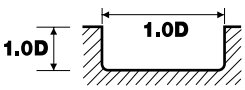
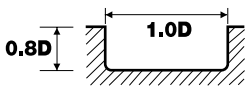
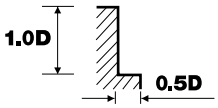
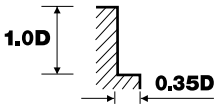
Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○						●					

4 & 5 FLUTE CORNER RADIUS CARBIDE ROUGHER

G9D67, G9D68, G9D75, G9D76, G9D77 & G9D69 Series

MATERIAL	ALLOYED STEEL, CARBON STEEL & TOOL STEEL				ALLOYED STEEL, CARBON STEEL, TOOL STEEL & PRE HARDENED STEEL			
	CAST IRON				CAST IRON			
Hardness	~ HRC 35				HRC 35 ~ HRC 45			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
SLOTTING								
6	12000	1550	225	0.032	10600	1100	200	0.026
8	9000	1650	225	0.046	8100	1180	205	0.036
10	7200	1650	225	0.057	6400	1180	200	0.046
12	6000	1540	225	0.064	5400	1140	205	0.053
16	4500	1500	225	0.067	4100	1050	205	0.051
20	3600	1330	225	0.074	3200	900	200	0.056
								
SIDE CUTTING								
6	15800	2570	300	0.041	14300	1850	270	0.032
8	11900	2700	300	0.057	10700	1950	270	0.046
10	9500	2700	300	0.071	8500	1950	265	0.057
12	8000	2570	300	0.080	7100	1850	270	0.065
16	6000	2450	300	0.082	5400	1750	270	0.065
20	4800	2140	300	0.089	4300	1500	270	0.070
								

Jet Power Milling Cutters

Performance
★★★★

P M S

High performance milling on low power or older CNC machines

HSC (High Speed Cutting) on steel <45HRC, stainless steel, titanium and HRSA's.

Diameter Range
1-25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★★★

Advantages

Low Requirements
Ideal for lower power or older machines where high performance cutting is not possible.

Superior Chip Control
45° helix version available to prevent built up edge & give superior chip control on sticky materials.

No Chipped Edges
Reinforced cutting edge reduces chipping of corner edges.

High Metal Removal
Rippers available for high velocity milling operations with fast chip evacuation.

Features

HSC Machining
For high speed machining on low-medium hardness materials.

Multi-Material
Excellent on steel <45HRC, stainless steel, titanium and HRSA's.

Aerospace Approved
Ideal for low thermal conductivity materials like titanium, nickel based alloy & cobalt alloy.

Ultrafine Carbide
High performance premium ultrafine micrograin carbide.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE 35° HELIX PLAIN SHANK		EH911	1-25	35°	**180**
4 FLUTE 35° HELIX PLAIN SHANK		EH913	2-25	35°	**181**
6 & 8 FLUTE 45° HELIX, POSITIVE RAKE ANGLE PLAIN SHANK		EH915	6-25	45°	**182**
3-5 FLUTE FINE PITCH ROUGHER PLAIN SHANK		EH831 EH841	6-25	30°	**183**
3-6 FLUTE FINE PITCH ROUGHER, 45° HELIX, LONG LENGTH PLAIN & WELDON SHANK		EH919 EH920	4-25	45°	**183**
4-6 FLUTE FINE PITCH ROUGHER, 45° HELIX, LONG REACH PLAIN & WELDON SHANK		EH921 EH942	6-20	45°	**184**

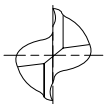
2 FLUTE 35° HELIX

High Performance Machining of Steel (<HRC45), Stainless Steel & Titanium

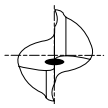
Series	Cutting Data
EH911 YG-1	P185

- TiAlN coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Reinforced cutting edge reduces chipping of corner edges
- Suitable for low hardness materials (under HRC45), alloy steel, tool steel, carbon steel, pre-hardened steel, stainless steel, etc
- Ideal for lower power or older machines where high performance cutting is not possible

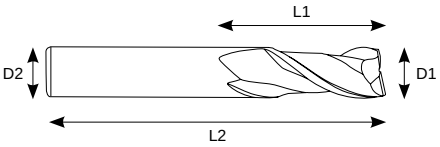




Up to 3mm



Over 3mm



MG SC | 2 | 35° | PLAIN | TiAlN 850 | HSC



Reinforced cutting edge

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★ Performance Order Code	Price
1	4	2.5	40	EH911010	£20.49
	6			EH911901	£29.67
1.5	4	4	40	EH911015	£20.49
	6			EH911902	£29.67
2	4	6	40	EH911020	£18.72
	6			EH911903	£27.02
2.5	4	8	40	EH911025	£18.72
	6			EH911904	£27.02
3	6	8	45	EH911030	£27.02
3.5		10		EH911035	£27.02
4		11		EH911040	£27.02
4.5		11		EH911045	£27.02
5		13	50	EH911050	£27.02
5.5				EH911055	£27.02
6				EH911060	£27.02
6.5	8	16	60	EH911065	£34.59
7		16		EH911070	£34.59
7.5		16		EH911075	£34.59
8		19		EH911080	£34.59
8.5	10	19	70	EH911085	£51.18
9		19		EH911090	£51.18
9.5		19		EH911095	£51.18
10		22		EH911100	£51.18
11	12	22	75	EH911110	£70.22
12		26		EH911120	£70.22
14	16	26	85	EH911140	£116.48
16		32	100	EH911160	£116.48
18		32	100	EH911180	£154.76
20	20	38	105	EH911200	£193.10
22				EH911220	£251.08
25	25	45	120	EH911250	£308.98

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	○			●	●							

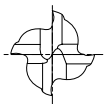
4 FLUTE 35° HELIX

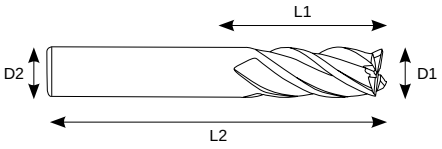
High Performance Machining of Steel (<HRC45), Stainless Steel & Titanium

Series	Cutting Data
EH913 YG-1	P185

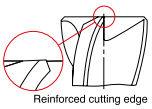
- TiAlN coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Reinforced cutting edge reduces chipping of corner edges
- Suitable for low hardness materials (under HRC45), alloy steel, tool steel, carbon steel, pre-hardened steel, stainless steel, etc
- Ideal for lower power or older machines where high performance cutting is not possible







MG SC | 4 | 35° | PLAIN | TiAlN 850 | HSC



TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★ Performance Order Code	Price
2	4	6	40	EH913020	£18.72
	6			EH913901	£27.02
2.5	4	8	40	EH913025	£18.72
	6			EH913902	£27.02
3	6	8	45	EH913030	£27.02
3.5		10		EH913035	£27.02
4		11		EH913040	£27.02
4.5		11		EH913045	£27.02
5		13	50	EH913050	£27.02
5.5				EH913055	£27.02
6				EH913060	£27.02
6.5	8	16	60	EH913065	£34.59
7		16		EH913070	£34.59
7.5		16		EH913075	£34.59
8		19		EH913080	£34.59
8.5	10	19	70	EH913085	£51.18
9		19		EH913090	£51.18
9.5		19		EH913095	£51.18
10		22		EH913100	£51.18
11	12	22	75	EH913110	£70.22
12		26		EH913120	£70.22
14	16	26	85	EH913140	£116.48
16		32	100	EH913160	£116.48
18		32	100	EH913180	£154.76
20	20	38	105	EH913200	£193.10
22				EH913220	£251.08
25	25	45	120	EH913250	£308.98

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	○			●	●							

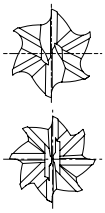
6 & 8 FLUTE 45° HELIX, POSITIVE RAKE ANGLE

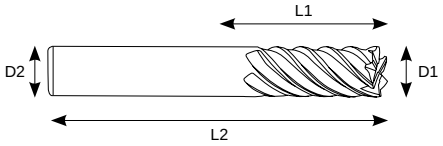
Ultra High Metal Removal for Carbon Steel, Alloy Steel & Pre-Hardened Steel

Series	Cutting Data
EH915 YG-1	P186

- TiAlN coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Reinforced cutting edge reduces chipping of corner edges
- Suitable for low hardness materials (under HRC45), alloy steel, tool steel, carbon steel, pre-hardened steel, stainless steel, etc.
- Ideal for lower power or older machines where high performance cutting is not possible

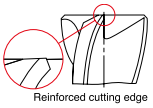






SUITABLE FOR TROCHOIDAL MILLING

MG SC | 6&8 | 45° | PLAIN | TiAlN 850 | HSC



TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★ Performance Order Code	Price
6 Flutes					
6	6	13	57	EH915060	**£31.63**
7	8	16	63	EH915070	**£39.99**
8	8	19	63	EH915080	**£39.99**
9	10	19	72	EH915090	**£59.94**
10	10	22	72	EH915100	**£59.94**
12	12	26	83	EH915120	**£81.48**
14	14	26	83	EH915140	**£101.93**
16	16	32	92	EH915160	**£137.04**
8 Flutes					
18	18	32	92	EH915180	**£160.26**
20	20	38	104	EH915200	**£201.38**
25	25	44	104	EH915250	**£355.30**

JET-POWER - 45° HELIX FINISHER - Example Data



The JET-POWER 45° helix finisher offers superior chip control on sticky materials such as soft steels, stainless steel (300/400 series) and titanium / titanium alloys. The high helix design & positive rake prevents built up edge and gives exceptional surface finish.

LOW CARBON STEEL HRC20

Ø12mm, 6 flute, EH915120

RPM	2,840
VC (m/min)	105
fz (mm/tooth)	0.099
Feed (mm/min)	1,680
Ap:	18mm
Ae:	1.2mm

STAINLESS STEEL 316

Ø12mm, 6 flute, EH915120

RPM	1,610
VC (m/min)	60
fz (mm/tooth)	0.104
Feed (mm/min)	1,000
Ap:	18mm
Ae:	0.6mm

TITANIUM

Ø12mm, 6 flute, EH915120

RPM	1,610
VC (m/min)	60
fz (mm/tooth)	0.104
Feed (mm/min)	1,000
Ap:	18mm
Ae:	0.6mm

INCONEL 718

Ø12mm, 6 flute, EH915120

RPM	400
VC (m/min)	15
fz (mm/tooth)	0.104
Feed (mm/min)	250
Ap:	12mm
Ae:	0.24mm

RPM (Revolutions per minute), VC (surface speed in metres per minute), fz (feed rate in mm per tooth), Feed (Feed rate in mm per minute), Ap (depth of cut), Ae (width of cut)

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	○			●	●	○						

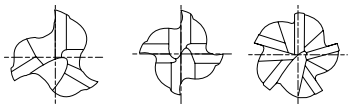
3-5 FLUTE FINE PITCH ROUGHER

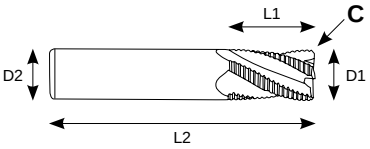
High Performance Machining of Stainless Steel, Titanium, Hastelloy & Inconel

Series	Cutting Data
EH831/41 YG-1	P188

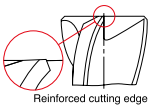
- TiAlN coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- Suitable for low hardness materials (under HRC45), alloy steel, tool steel, carbon steel, pre-hardened steel, stainless steel, etc.
- Ideal for lower power or older machines where high performance cutting is not possible
- High velocity milling operation
- Fast chip ejection







MG SC | 3-5 | 30° | FINE | PLAIN | WELDON | C x 45° | TiAlN 850 | HSC



D1	D2	L1	L2	No. of Flutes	C	★★★★ Performance Order Code		Price
						Plain Shank	Weldon Shank	
6	6	16	57	3	0.38	EH831060	EH841060	£35.94
7	8	16	63			EH831070	EH841070	£41.99
8	8	16	63			EH831080	EH841080	£41.99
9	10	19	72	4		EH831090	EH841090	£62.80
10	10	22	72			EH831100	EH841100	£62.80
12	12	26	83	4	0.55	EH831120	EH841120	£80.66
14	14	26	83			EH831140	EH841140	£97.82
16	16	32	92			EH831160	EH841160	£131.39
18	18	32	92			EH831180	EH841180	£168.31
20	20	38	104			EH831200	EH841200	£211.45
25	25	45	121	5		EH831250	EH841250	£370.71

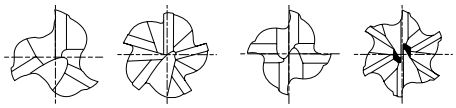
3-6 FLUTE FINE PITCH ROUGHER, 45° HELIX

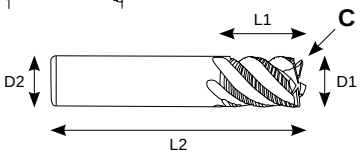
High Performance Machining of Stainless Steel, Titanium, Hastelloy & Inconel

Series	Cutting Data
EH917/18 YG-1	P187

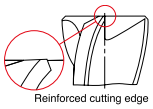
- TiAlN coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- High chip removal and minimizing breakages of cutting edges
- Suitable for low hardness materials (under HRC45), alloy steel, tool steel, carbon steel, pre hardened steel, stainless steel, etc.
- Ideal for lower power or older machines where high performance cutting is not possible







MG SC | 3-6 | 45° | FINE | PLAIN | WELDON | C x 45° | TiAlN 850 | HSC



D1	D2	L1	L2	No. of Flutes	C	★★★★ Performance Order Code		Price
						Plain Shank	Weldon Shank	
4	6	11	57	3	0.10	EH919040	EH920040	£35.94
5	6	13	57	4	0.13	EH919050	EH920050	£35.94
6	6	7	54	4	0.15	EH917060	EH918060	£33.44
		16	57			EH919060	EH920060	£35.94
7	8	16	63			EH919070	EH920070	£41.99
8	8	9	58		0.18	EH917080	EH918080	£39.11
		16	63			EH919080	EH920080	£41.99
9	10	19	72			EH919090	EH920090	£62.80
10	10	14	66		0.20	EH917100	EH918100	£58.40
		22	72			EH919100	EH920100	£62.80
12	12	16	73			EH917120	EH918120	£74.91
		26	83			EH919120	EH920120	£80.66
14	14	26	83	5		EH919140	EH920140	£97.82
16	16	22	82			EH917160	EH918160	£122.15
		32	92			EH919160	EH920160	£131.39
20	20	26	92	6		EH917200	EH918200	£196.67
		38	104			EH919200	EH920200	£211.45
25	25	45	121			EH919250	EH920250	£370.71

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	○			●	●	○						

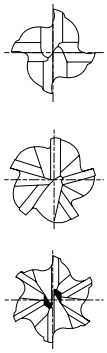
4-6 FLUTE FINE PITCH ROUGHER, 45° HELIX, LONG REACH

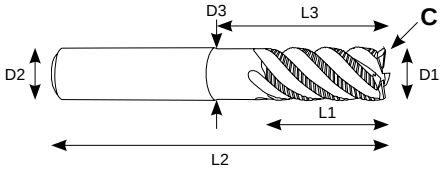
High Performance Machining of Stainless Steel, Titanium, Hastelloy & Inconel

Series	Cutting Data
EH921/942 YG-1	P187

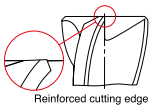
- TiAlN coated ultrafine micrograin carbide
- HSC = Suitable for high speed machining
- High chip removal and minimizing breakages of cutting edges
- Suitable for low hardness materials (under HRC45), alloy steels, tool steels, carbon steels, pre hardened steels, stainless steel, etc.
- Ideal for lower power or older machines where high performance cutting is not possible





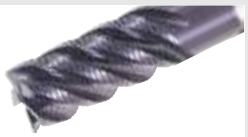


MG SC | 4-6 | 45° | FINE | PLAIN | WELDON | C x 45° | TiAlN 850 | HSC


Reinforced cutting edge

D1	D2	D3	L1	L2	L3	C	★★★★ Performance Order Code		Price
							Plain Shank	Weldon Shank	
4 Flutes									
6	6	5.5	16	57	20	0.15	EH921060	EH942060	**£43.14**
8	8	7.5	16	63	26	0.18	EH921080	EH942080	**£50.47**
10	10	9.5	22	72	31	0.20	EH921100	EH942100	**£75.35**
12	12	11.5	26	83	37	0.20	EH921120	EH942120	**£96.76**
5 Flutes									
16	16	15.5	32	100	51	0.20	EH921160	EH942160	**£157.64**
6 Flutes									
20	20	19.2	38	110	59	0.20	EH921200	EH942200	**£253.79**

JET-POWER - 45° HELIX ROUGHER - Example Data



The JET-POWER 45° HELIX rougher offers superior chip control on sticky materials such as soft steels, stainless steel (300/400 series) and titanium / titanium alloy. The high helix design prevents built up edge.

LOW CARBON STEEL HRC20

Ø12mm, 4 flute, EH921120

RPM	**8,000**
VC (m/min)	**302**
fz (mm/tooth)	**0.075**
Feed (mm/min)	**2,400**
Ap:	**18mm**
Ae:	**3.6mm**

STAINLESS STEEL 316

Ø12mm, 4 flute, EH921120

RPM	**4,200**
VC (m/min)	**158**
fz (mm/tooth)	**0.034**
Feed (mm/min)	**570**
Ap:	**18mm**
Ae:	**1.2mm**

TITANIUM

Ø12mm, 4 flute, EH921120

RPM	**4,200**
VC (m/min)	**158**
fz (mm/tooth)	**0.034**
Feed (mm/min)	**570**
Ap:	**18mm**
Ae:	**1.2mm**

INCONEL 718

Ø12mm, 4 flute, EH921120

RPM	**1,200**
VC (m/min)	**41**
fz (mm/tooth)	**0.040**
Feed (mm/min)	**45**
Ap:	**12mm**
Ae:	**0.6mm**

RPM (Revolutions per minute), **VC** (surface speed in metres per minute), **fz** (feed rate in mm per tooth), **Feed** (Feed rate in mm per minute), **Ap** (depth of cut), **Ae** (width of cut)

Material Applications

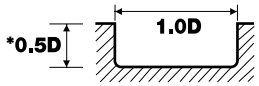
● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
○	●	●	○			●	●	○						

2 FLUTE 35° HELIX
EH911 Series

CUTTING DATA
Slotting

MATERIAL	CARBON STEEL, ALLOY STEEL & TOOL STEEL								STAINLESS STEEL / TITANIUM ALLOY			
Hardness	~ HRC30				HRC30 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	11560	190	75	0.008	7560	120	50	0.008	6300	90	40	0.007
3	8920	210	85	0.012	5560	140	50	0.013	4620	120	45	0.013
4	7560	300	95	0.020	4620	180	60	0.019	3880	150	50	0.019
5	6300	320	100	0.025	3780	190	60	0.025	3160	160	50	0.025
6	5560	350	105	0.031	3360	220	65	0.033	2840	180	55	0.032
8	4200	380	105	0.045	2520	200	65	0.040	2100	180	55	0.043
10	3260	330	100	0.051	2000	160	65	0.040	1680	160	55	0.048
12	2740	280	105	0.051	1680	130	65	0.039	1360	130	50	0.048
16	2200	220	110	0.050	1360	110	70	0.040	1060	110	55	0.052
20	1680	170	105	0.051	1060	80	65	0.038	840	80	55	0.048
25	1360	130	105	0.048	840	70	65	0.042	680	60	55	0.044

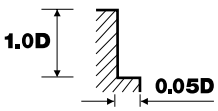


*up to 3mm Diameter **0.2D**

4 FLUTE 35° HELIX
EH913 Series

CUTTING DATA
Side Cutting

MATERIAL	CARBON STEEL, ALLOY STEEL & TOOL STEEL								STAINLESS STEEL / TITANIUM ALLOY			
Hardness	~ HRC30				HRC30 ~ HRC45				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	11560	280	75	0.006	7560	170	50	0.006	6300	140	40	0.006
3	8920	320	85	0.009	5560	200	50	0.009	4620	170	45	0.009
4	7560	570	95	0.019	4620	350	60	0.019	3880	280	50	0.018
5	6300	600	100	0.024	3780	360	60	0.024	3160	300	50	0.024
6	5560	660	105	0.030	3360	410	65	0.031	2840	330	55	0.029
8	4200	710	105	0.042	2520	380	65	0.038	2100	350	55	0.042
10	3260	610	100	0.047	2000	300	65	0.038	1680	300	55	0.045
12	2740	520	105	0.047	1680	250	65	0.037	1360	240	50	0.044
16	2200	410	110	0.047	1360	200	70	0.037	1060	200	55	0.047
20	1680	320	105	0.048	1060	160	65	0.038	840	150	55	0.045
25	1360	250	105	0.046	840	130	65	0.039	680	120	55	0.044



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

6 & 8 FLUTE 45° HELIX

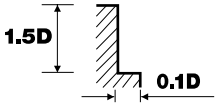
EH915 Series

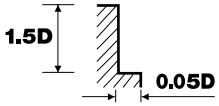
CUTTING DATA

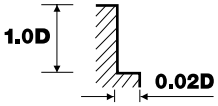
Side Cutting

Normal Speed

MATERIAL	CARBON STEEL, ALLOY STEEL & TOOL STEEL								STAINLESS STEEL / TITANIUM ALLOY				INCONEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	5560	2000	105	0.060	3880	1370	75	0.059	3370	1100	65	0.054	1350	280	25	0.035
8	4200	2000	105	0.079	2940	1370	75	0.078	2490	1100	65	0.074	1000	280	25	0.047
10	3360	2000	105	0.099	2320	1370	75	0.098	1920	1100	60	0.095	440	280	15	0.106
12	2840	1680	105	0.099	2000	1160	75	0.097	1610	1000	60	0.104	400	250	15	0.104
16	2100	1260	105	0.100	1480	880	75	0.099	1160	770	60	0.111	310	190	15	0.102
20	1680	1010	105	0.075	1160	690	75	0.074	900	620	55	0.086	250	155	15	0.078
25	1500	900	120	0.075	1100	600	85	0.068	850	540	65	0.079	220	135	15	0.077

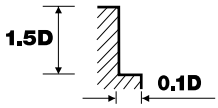


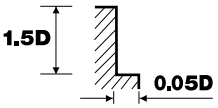




High Speed

MATERIAL	CARBON STEEL, ALLOY STEEL & TOOL STEEL							
Hardness	~ HRC30				HRC30 ~ HRC45			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	22200	8000	420	0.060	16800	6090	315	0.060
8	16800	8000	420	0.079	12600	6090	315	0.081
10	13400	8000	420	0.100	9980	5990	315	0.100
12	11350	6720	430	0.099	8400	5040	315	0.100
16	8400	5040	420	0.100	6300	3780	315	0.100
20	6700	4040	420	0.075	5040	3050	315	0.076
25	6000	3600	470	0.075	4500	2700	355	0.075





FREE next day delivery on orders above £59* placed before 6pm.

*Exclusions apply.

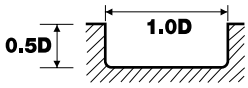
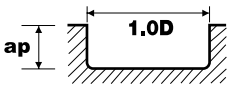
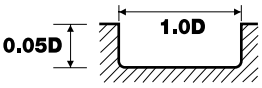
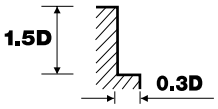
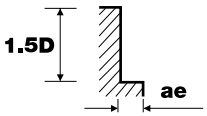
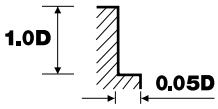
3-6 FLUTE FINE PITCH ROUGHER, 45° HELIX

EH917, & EH918, EH921 & EH942 Series

CUTTING DATA

Slotting & Side Cutting

Short Length & Long Reach

MATERIAL	CARBON STEEL, ALLOY STEEL & TOOL STEEL								STAINLESS STEEL / TITANIUM ALLOY				INCONEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
SLOTTING																
6	15600	1390	294	0.022	12400	500	234	0.010	8400	340	158	0.010	2400	115	45	0.012
8	11600	1390	292	0.030	9200	500	231	0.014	6300	340	158	0.013	1800	110	45	0.015
10	9200	1390	289	0.038	7600	500	239	0.016	5100	340	160	0.017	1300	115	41	0.022
12	8000	1440	302	0.045	6000	480	226	0.020	4200	340	158	0.020	1200	115	45	0.024
16	6000	1440	302	0.048	4800	460	241	0.019	3300	310	166	0.019	800	65	40	0.016
20	4800	1300	302	0.045	3600	340	226	0.016	2400	220	151	0.015	660	60	41	0.015
									 ap: Ø4-10mm 0.25D Ø12-16mm 0.15D Ø18-25mm 0.10D							
SIDE CUTTING																
6	15600	2320	294	0.037	12400	840	234	0.017	8400	570	158	0.017	2400	190	45	0.020
8	11600	2320	292	0.050	9200	840	231	0.023	6300	570	158	0.023	1800	180	45	0.025
10	9200	2320	289	0.063	7600	840	239	0.028	5100	570	160	0.028	1300	190	41	0.037
12	8000	2400	302	0.075	6000	800	226	0.033	4200	570	158	0.034	1200	190	45	0.040
16	6000	2400	302	0.080	4800	760	241	0.032	3300	510	166	0.031	800	110	40	0.028
20	4800	2160	302	0.075	3600	560	226	0.026	2400	360	151	0.025	660	100	41	0.025
									 ae: Ø4-10mm 0.15D Ø12-16mm 0.10D Ø18-25mm 0.05D							

NOTE: For long & extra long types the feed should be reduced by around 50%.

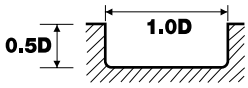
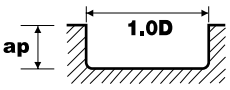
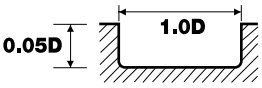
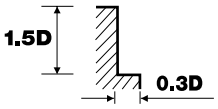
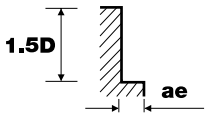
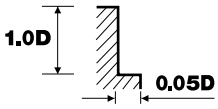
RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

3-5 FLUTE FINE PITCH ROUGHER

EH852, EH862, EH831 & EH841 Series

CUTTING DATA

Slotting & Side Cutting

MATERIAL	CARBON STEEL, ALLOY STEEL & TOOL STEEL								STAINLESS STEEL` TITANIUM ALLOY				INCONEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
SLOTTING																
6	15600	1390	294	0.030	12400	500	234	0.013	8400	340	158	0.013	2400	115	45	0.016
8	11600	1390	292	0.040	9200	500	231	0.018	6300	340	158	0.018	1800	110	45	0.020
10	9200	1390	289	0.038	7600	500	239	0.016	5100	340	160	0.017	1300	115	41	0.022
12	8000	1440	302	0.045	6000	480	226	0.020	4200	340	158	0.020	1200	115	45	0.024
14	6800	1440	299	0.053	5200	500	229	0.024	3600	340	158	0.024	900	80	40	0.022
16	6000	1440	302	0.060	4800	460	241	0.024	3300	310	166	0.023	800	65	40	0.020
18	5200	1390	294	0.067	4400	430	249	0.024	2700	250	153	0.023	700	60	40	0.021
20	4800	1300	302	0.068	3600	340	226	0.024	2400	220	151	0.023	660	60	41	0.023
25	4300	1290	338	0.060	3200	370	251	0.023	2160	250	170	0.023	600	65	47	0.022
									 ap: Ø4-10mm 0.25D Ø12-16mm 0.15D Ø18-25mm 0.10D							
SIDE CUTTING																
6	15600	2320	294	0.050	12400	840	234	0.023	8400	570	158	0.023	2400	190	45	0.026
8	11600	2320	292	0.067	9200	840	231	0.030	6300	570	158	0.030	1800	180	45	0.033
10	9200	2320	289	0.063	7600	840	239	0.028	5100	570	160	0.028	1300	190	41	0.037
12	8000	2400	302	0.075	6000	800	226	0.033	4200	570	158	0.034	1200	190	45	0.040
14	6800	2400	299	0.088	5200	840	229	0.040	3600	570	158	0.040	900	130	40	0.036
16	6000	2400	302	0.100	4800	760	241	0.040	3300	510	166	0.039	800	110	40	0.034
18	5200	2320	294	0.112	4400	720	249	0.041	2700	420	153	0.039	700	100	40	0.036
20	4800	2160	302	0.113	3600	560	226	0.039	2400	360	151	0.038	660	100	41	0.038
25	4300	2150	338	0.100	3200	620	251	0.039	2160	410	170	0.038	600	110	47	0.037
									 ae: Ø4-10mm 0.15D Ø12-16mm 0.10D Ø18-25mm 0.05D							

NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

3-6 FLUTE FINE PITCH ROUGHER, 45° HELIX

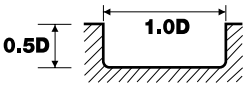
EH919, & EH920 Series

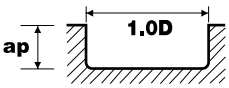
CUTTING DATA

Slotting & Side Cutting

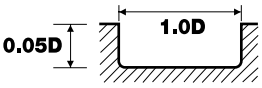
Long Length

MATERIAL	CARBON STEEL, ALLOY STEEL & TOOL STEEL								STAINLESS STEEL / TITANIUM ALLOY				INCONEL			
Hardness	~ HRC30				HRC30 ~ HRC45				-				-			
Strength	~ 1000N/mm²				1000 ~ 1500N/mm²				-				-			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
SLOTTING																
4	23400	1390	294	0.020	18600	500	234	0.009	12600	340	158	0.009	3600	115	45	0.011
6	15600	1390	294	0.022	12400	500	234	0.010	8400	340	158	0.010	2400	115	45	0.012
8	11600	1390	292	0.030	9200	500	231	0.014	6300	340	158	0.013	1800	110	45	0.015
10	9200	1390	289	0.038	7600	500	239	0.016	5100	340	160	0.017	1300	115	41	0.022
12	8000	1440	302	0.045	6000	480	226	0.020	4200	340	158	0.020	1200	115	45	0.024
14	6800	1440	299	0.042	5200	500	229	0.019	3600	340	158	0.019	900	80	40	0.018
16	6000	1440	302	0.048	4800	460	241	0.019	3300	310	166	0.019	800	65	40	0.016
20	4800	1300	302	0.045	3600	340	226	0.016	2400	220	151	0.015	660	60	41	0.015
25	4300	1290	338	0.050	3200	370	251	0.019	2160	250	170	0.019	600	65	47	0.018

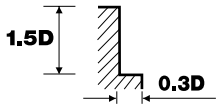


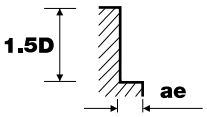


ap: Ø4-10mm 0.25D
Ø12-16mm 0.15D
Ø18-25mm 0.10D

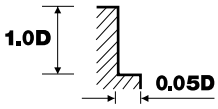


SIDE CUTTING																
4	23400	2320	294	0.033	18600	840	234	0.015	12600	570	158	0.015	3600	190	45	0.018
6	15600	2320	294	0.037	12400	840	234	0.017	8400	570	158	0.017	2400	190	45	0.020
8	11600	2320	292	0.050	9200	840	231	0.023	6300	570	158	0.023	1800	180	45	0.025
10	9200	2320	289	0.063	7600	840	239	0.028	5100	570	160	0.028	1300	190	41	0.037
12	8000	2400	302	0.075	6000	800	226	0.033	4200	570	158	0.034	1200	190	45	0.040
14	6800	2400	299	0.071	5200	840	229	0.032	3600	570	158	0.032	900	130	40	0.029
16	6000	2400	302	0.080	4800	760	241	0.032	3300	510	166	0.031	800	110	40	0.028
20	4800	2160	302	0.075	3600	560	226	0.026	2400	360	151	0.025	660	100	41	0.025
25	4300	2150	338	0.083	3200	620	251	0.032	2160	410	170	0.032	600	110	47	0.031





ae: Ø4-10mm 0.15D
Ø12-16mm 0.10D
Ø18-25mm 0.05D



NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

X5070 Blue Milling Cutters

Performance
★★★★★

P H

Nothing cuts hardened steel <70 HRC faster or longer

Nanograin carbide substrate designed for ultra-performance high speed cutting & dry cutting of <70 HRC hardened steel.



Diameter Range
0.1-25mm

Machining Solutions

Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★	★★★★★	★★★★★	★★★★	★★★★★	★★★★★

Advantages

Dry Machining
On steel and hardened steel up to 70 Rockwell

Thermal Stability
Blue coating offers Incredible tool life due to withstanding temperatures up to 1,400°

High Precision Milling
Designed for highly accurate milling applications. Suitable for extreme cutting speeds with high abrasion resistance.

Mirror Finish
High precision design ensures excellent workpiece finish.

Features

Nanograin Carbide
Combined with YG-1's blue silicon based coating.

Negative Rake Angle
Provides the tool strength needed for high hardness machining.

Deep Slotting
Various long neck options avaialble for deep slotting applications.

Wide Range
Diameters available from just 0.1mm in a wide range of geometries.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE, LONG NECK PLAIN SHANK		G8A45	0.1-4	30°	**192**
2 & 4 FLUTE, EXTENDED NECK PLAIN SHANK		G8A01 G8A02	0.1-20	30°	**193**
2 FLUTE CORNER RADIUS, LONG NECK PLAIN SHANK		G8A60 G8A52	0.5-12	30°	**194**
2 FLUTE CORNER RADIUS, EXTENDED NECK PLAIN SHANK		G8A36	0.3-20	30°	**196**
4 FLUTE CORNER RADIUS HIGH FEED PLAIN SHANK		G8B59 G8B54	2-16	0°	**197**
6 & 8 FLUTE 45° HELIX PLAIN SHANK		G8D63 G8D64	6-25	45°	**198**
6 FLUTE CORNER RADIUS, EXTENDED NECK PLAIN SHANK		G8A39	6-20	45°	**199**
4 FLUTE CORNER RADIUS, EXTENDED NECK PLAIN SHANK		G8A47 G8B08 G8A37	1-20	30°	**200**
2 FLUTE MINIATURE CORNER RADIUS PLAIN SHANK		G8A50	0.3-2	30°	**201**
2 FLUTE MINIATURE BALL NOSE PLAIN SHANK		G8A53	0.4-2	30°	**201**
2 FLUTE BALL NOSE PLAIN SHANK		G8A28 G8A38	0.1-25	30°	**202**
4 FLUTE BALL NOSE CENTRE MATCH PLAIN SHANK		G8D62	3-20	30°	**203**
3 FLUTE BALL NOSE PLAIN SHANK		G8A59	3-20	30°	**203**
2 FLUTE BALL NOSE LONG NECK PLAIN SHANK		G8A46 G8A54	0.1-4	30°	**204**

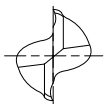
2 FLUTE, LONG NECK

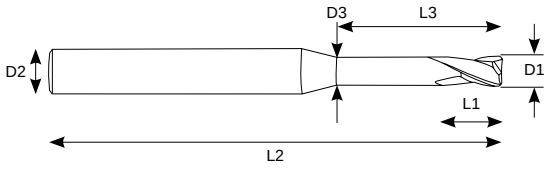
Highest Performance Machining of Hardened Steel <HRC70

- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Designed for high precision milling operation
- Silicone based coating with ultra high heat and wear-resistance

Series	Cutting Data
G8A45 YG-1	P208







NG SC | 2 | 30° | PLAIN | X5070 COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.012mm	h6

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.1	4	0.085	0.15	45	0.3	G8A45863	£62.83
					0.5	G8A45864	£66.76
0.2	4	0.17	0.3	45	0.5	G8A45002	£43.49
					1	G8A45815	£43.49
					1.5	G8A45816	£52.06
0.3	4	0.27	0.45	45	1	G8A45003	£36.94
					1.5	G8A45844	£36.94
					2	G8A45817	£45.27
					3	G8A45818	£45.27
					4	G8A45842	£47.37
0.4	4	0.37	0.6	45	1	G8A45843	£39.90
					2	G8A45004	£39.90
					3	G8A45984	£39.90
					4	G8A45985	£39.90
					5	G8A45986	£39.90
0.5	4	0.45	0.7	45	2	G8A45005	£27.59
					2.5	G8A45861	£27.59
					4	G8A45988	£27.59
					6	G8A45989	£27.59
					8	G8A45990	£27.71
0.6	4	0.55	0.9	45	2	G8A45006	£29.55
					3	G8A45860	£29.55
					4	G8A45991	£29.55
					6	G8A45992	£29.55
					8	G8A45993	£29.42
					10	G8A45819	£29.55
0.8	4	0.75	1.2	45	2	G8A45862	£32.55
					4	G8A45008	£32.55
					6	G8A45908	£32.55
					8	G8A45909	£32.55
					10	G8A45994	£33.01
					12	G8A45995	£41.36
1	4	0.95	1.5	45	4	G8A45996	£29.28
				45	6	G8A45010	£29.28
				45	8	G8A45912	£29.28
				45	10	G8A45913	£29.28
				45	12	G8A45914	£29.25
				50	16	G8A45997	£29.91
				55	20	G8A45998	£29.91

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
1.2	4	1.15	1.8	45	6	G8A45012	£30.89
				45	8	G8A45915	£30.89
				45	10	G8A45916	£30.89
				45	12	G8A45917	£30.86
				50	16	G8A45999	£31.18
1.5	4	1.45	2.3	45	6	G8A45015	£30.89
				45	8	G8A45923	£30.89
				45	10	G8A45924	£30.89
				45	12	G8A45925	£31.16
				50	14	G8A45926	£31.16
				50	16	G8A45927	£32.18
				55	18	G8A45928	£32.18
				55	20	G8A45810	£32.18
2	4	1.95	3	45	6	G8A45958	£30.42
				45	8	G8A45020	£30.42
				45	10	G8A45959	£30.42
				45	12	G8A45960	£30.42
				50	14	G8A45961	£30.42
				50	16	G8A45962	£31.30
				55	18	G8A45963	£31.30
				55	20	G8A45964	£31.30
				60	25	G8A45966	£31.30
				70	30	G8A45814	£31.30
3	6	2.85	4.5	45	10	G8A45975	£41.75
				45	12	G8A45976	£41.75
				50	14	G8A45977	£41.75
				55	16	G8A45978	£41.78
				55	18	G8A45979	£41.78
				60	20	G8A45980	£41.78
				65	25	G8A45981	£41.78
				70	30	G8A45832	£50.25
				80	35	G8A45833	£54.35
				90	40	G8A45983	£54.35
4	6	3.85	6	50	12	G8A45040	£48.42
				60	16	G8A45801	£48.44
				60	20	G8A45802	£48.44
				70	25	G8A45803	£48.44
				70	30	G8A45834	£53.30
				80	35	G8A45835	£59.41
				90	40	G8A45836	£59.41
				90	45	G8A45837	£65.32
				100	50	G8A45838	£78.38

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

2 & 4 FLUTE, EXTENDED NECK

Highest Performance Machining of Hardened Steel <HRC70

Series	Cutting Data
G8A01/02 YG-1	**P206 (2 Flute)** **P209 (4 Flute)**

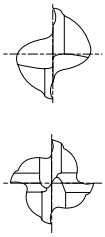
- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Designed for high precision milling operation
- Silicon based coating with ultra high heat and wear-resistance

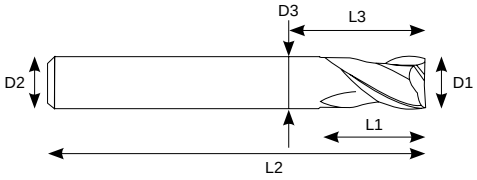
2 Flute



4 Flute



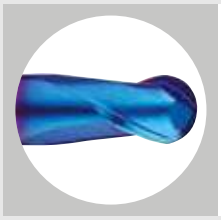






Size	TOLERANCE	
	Mill Dia.	Shank Dia.
Up to Ø6	0~-0.012mm	h6
Over Ø6	0~-0.015mm	

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code		Price
						2 Flute	4 Flute	
0.1	4	-	0.2	40	-	G8A01001	-	**£61.36**
0.2			0.4			G8A01002	-	**£40.83**
0.3			0.6			G8A01003	-	**£35.31**
0.4			0.8			G8A01004	-	**£38.48**
0.5			1			G8A01005	-	**£27.81**
0.6			1.2			G8A01006	-	**£29.28**
0.7			1.4			G8A01007	-	**£33.50**
0.8			1.6			G8A01008	-	**£32.55**
0.9			2			G8A01009	-	**£32.55**
1	6	0.95	1.5	50	3	G8A01010	G8A02010	**£37.07**
1.5		1.45	1.7		4	G8A01015	-	**£37.07**
2		1.95	2		5	G8A01020	G8A02020	**£37.07**
2.5		2.4	2.5	55	6	G8A01025	-	**£37.07**
3		2.85	3		8	G8A01030	G8A02030	**£37.07**
3.5		3.35	3.5		9	G8A01035	-	**£37.07**
4		3.85	4		10	G8A01040	G8A02040	**£37.07**
5		4.85	5		13	G8A01050	G8A02050	**£37.07**
6		5.85	6		15	G8A01060	G8A02060	**£37.07**
8	8	7.7	8	65	20	G8A01080	G8A02080	**£45.59**
10	10	9.7	10	75	25	G8A01100	G8A02100	**£67.86**
12	12	11.7	12	85	28	G8A01120	G8A02120	**£94.62**
16	16	15.7	16	90	32	G8A01160	G8A02160	**£157.79**
20	20	19.7	20	105	40	G8A01200	G8A02200	**£260.56**



NANOGRAIN SUBSTRATE & SILICON BASED COATING TECHNOLOGY

All X5070 cutters are manufactured with the hardest nanograin carbide substrate and coated with YG-1's silicon based X5070 BLUE coating*. This special coating and substrate combination is heat resistant up to 1400°C, enabling extreme cutting speeds in the hardest of steels <HRC70.

***PLEASE NOTE when used the blue colour of the coating may fade, however this does not affect performance.**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

2 FLUTE CORNER RADIUS, LONG NECK

Highest Performance Machining of Hardened Steel <HRC70

Series	Cutting Data
G8A60/52 YG-1	**P210 (G8A60)** **P213 (G8A52)**

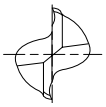
- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Deep slotting is possible by reduced neck
- Corner radius for preventing chipping in high speed machining
- Silicon based coating with ultra high heat and wear-resistance

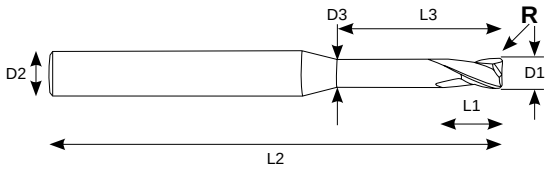
Up to Ø6mm



Over Ø6mm







Up to Ø6 Over Ø6

NG SC | 2 | 30° | R ±0.010 | R ±0.015 | PLAIN | X5070 COATED | HSC

Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to Ø6	±0.010	0~-0.012mm	h6
Over Ø6	±0.015	0~-0.015mm	

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.5	0.05	4	0.45	0.7	45	1.5	G8A60936	**£39.48**
		4			45	2.5	G8A60932	**£39.48**
		4			45	4	G8A60935	**£39.48**
		6			50	1.5	G8A52005	**£44.24**
		6			50	3.3	G8A52901	**£44.24**
0.6	0.05	4	0.55	0.9	45	2	G8A60931	**£36.46**
	0.05	4			45	3	G8A60933	**£36.46**
	0.05	4			45	4	G8A60934	**£39.29**
	0.1	4			45	2	G8A600060102	**£36.46**
	0.05	6			50	2	G8A52006	**£44.24**
	0.05	6			50	4	G8A52902	**£44.24**
0.7	0.1	4	0.65	1	45	4	G8A600070104	**£39.29**
0.8	0.1	4	0.75	1.2	45	2	G8A600080102	**£38.29**
	0.1	4			45	4	G8A60008	**£38.29**
	0.1	4			45	6	G8A60924	**£38.29**
	0.05	6			50	2.5	G8A52008	**£39.97**
	0.05	6			50	5.5	G8A52903	**£39.97**
1	0.1	6	0.95	1.5	50	4	G8A60925	**£38.38**
	0.1					6	G8A60926	**£38.38**
	0.2					4	G8A60010	**£38.38**
	0.2					6	G8A60910	**£38.38**
	0.1					3.3	G8A52010	**£38.38**
	0.1					6.7	G8A52904	**£38.38**
	0.2					8	G8A60911	**£38.38**
	0.3					4	G8A60912	**£38.38**
	0.3					6	G8A60930	**£38.38**
	0.3					8	G8A600100308	**£38.38**

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
1.2	0.1	6	1.15	1.8	50	4.4	G8A52012	**£35.67**
						8	G8A52905	**£37.82**
1.5	0.15	6	1.45	2.2	50	5	G8A52015	**£35.67**
	0.15			2.2		9.7	G8A52906	**£35.67**
	0.2			2.5		4	G8A60015	**£35.67**
	0.2			2.5		6	G8A600150206	**£35.67**
	0.2			2.5		8	G8A600150208	**£35.67**
	0.2			2.5		10	G8A60913	**£37.04**
	0.2			2.5		12	G8A60914	**£37.04**
	0.3			2.5		4	G8A60915	**£35.67**
	0.3			2.5		6	G8A600150306	**£35.67**
	0.3			2.5		8	G8A600150308	**£35.67**
2	0.15	6	1.95	2.2	50	6	G8A52020	**£36.46**
	0.15			2.2	50	13	G8A52907	**£39.58**
	0.2			3	50	6	G8A60927	**£38.97**
	0.2			3	50	8	G8A600200208	**£38.97**
	0.2			3	55	10	G8A600200210	**£38.97**
	0.2			3	55	12	G8A600200212	**£38.97**
	0.3			3	50	6	G8A60916	**£38.97**
	0.3			3	50	8	G8A600200308	**£38.97**
	0.3			3	55	10	G8A600200310	**£38.97**
	0.3			3	55	12	G8A600200312	**£38.97**
	0.3			3	55	16	G8A600200316	**£38.97**
	0.5			3	50	6	G8A60917	**£38.97**
	0.5			3	55	10	G8A60020	**£38.97**
	0.5			3	55	12	G8A60918	**£38.97**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

2 FLUTE CORNER RADIUS, LONG NECK

Highest Performance Machining of Hardened Steel <HRC70

Series	Cutting Data
G8A60/52 YG-1	P210 (G8A60) P213 (G8A52)

G8A60/52 continued

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
3	0.2	6	2.85	4	55	8	G8A600300208	£39.85
	0.2					10	G8A600300210	£39.85
	0.2					12	G8A600300212	£39.85
	0.2					16	G8A600300216	£39.85
	0.3					8	G8A600300308	£39.85
	0.3					10	G8A60919	£39.85
	0.3					12	G8A600300312	£39.85
	0.3					16	G8A600300316	£39.85
	0.5					10	G8A60030	£39.85
	0.5					12	G8A600300512	£39.85
	0.5					16	G8A60901	£39.85
	0.5					20	G8A60902	£39.85
4	0.2	6	3.85	5	55	12	G8A600400212	£39.85
	0.2					16	G8A600400216	£39.85
	0.2					20	G8A600400220	£39.85
	0.3					10	G8A600400310	£39.85
	0.3					12	G8A60920	£39.85
	0.3					16	G8A600400316	£39.85
	0.3					20	G8A600400320	£39.85
	0.5					12	G8A60040	£39.85
	0.5					16	G8A60903	£39.85
	0.5					20	G8A60904	£39.85
	1					12	G8A600401012	£39.85
	1					16	G8A600401016	£39.85
6	0.3	6	5.85	7	60	20	G8A60921	£39.85
	0.5						G8A60060	£39.85
	1						G8A60905	£39.85
	1.5						G8A60906	£39.85
	2						G8A600602020	£39.85
8	0.3	8	7.7	9	60	25	G8A60922	£48.20
	0.5						G8A60929	£48.20
	1						G8A60080	£48.20
	1.5						G8A60907	£48.20
	2						G8A600802025	£48.20
10	0.3	10	9.7	11	70	32	G8A60923	£72.20
	0.5						G8A601000532	£72.20
	1						G8A60100	£72.20
	1.5						G8A60908	£72.20
	2						G8A601002032	£72.20
12	0.5	12	11.7	12	80	38	G8A601200538	£99.55
	1						G8A60120	£99.55
	1.5						G8A60909	£99.55
	2						G8A601202038	£99.55

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THE SOLUTION FOR HIGH PRECISION 5 AXIS MACHINING

- No crimping machine required, no need to crimp or pre-machine work piece
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- Market leading clamping forces
- Low profile design with high rigidity
- Compatible with competitor zero point, plate and pallet systems

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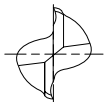
2 FLUTE CORNER RADIUS, EXTENDED NECK

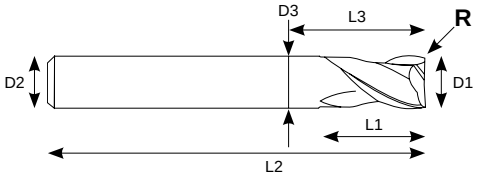
Highest Performance Machining of Hardened Steel <HRC70

Series	Cutting Data
G8A36 YG-1	P207

- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Deep slotting is possible by reduced neck
- Corner radius for preventing chipping in high speed machining
- Silicon based coating with ultra high heat and wear-resistance









Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to Ø6	±0.010	0~-0.012mm	h6
Over Ø6	±0.015	0~-0.015mm	

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.3	-	3	-	0.45	40	-	G8A36003	£48.15
0.4				0.6			G8A36004	£42.49
0.5	0.05	3	-	0.7	40	-	G8A36005	£36.80
0.5	0.05	4		1			G8A36907	£39.48
0.6	0.05	3		0.9			G8A36006	£34.48
0.6	0.05	4		1.2			G8A36908	£36.46
0.7	0.05	4		1.4			G8A36909	£36.85
0.8	0.05	3		1.2			G8A36008	£31.08
0.8	0.05	4		1.6			G8A36910	£34.21
0.9	0.05	4		2			G8A36911	£34.21
1	0.1	3	-	1.5	40	-	G8A36010	£27.96
		4					G8A36901	£33.16
		6					G8A36903	£44.02
1.5	0.1	3	-	2.2	40	-	G8A36015	£27.96
		6					G8A36904	£40.90
2	0.1	3	1.95	3	40	6	G8A36020	£27.25
		4					G8A36902	£30.01
		6					G8A36905	£38.97
2.5	0.1	3	2.4	4	40	6	G8A36025	£27.25
		6					G8A36906	£39.85
3	0.1	6	2.85	4	45	7	G8A36030	£39.85
3.5			3.35	5		9	G8A36035	£39.85
4			3.85	5		9	G8A36040	£39.85
4.5			4.35	6		10	G8A36045	£39.85
5	0.2	6	4.85	6	50	11	G8A36050	£39.85
6		6	5.85	7	50	14	G8A36060	£39.85
8		8	7.7	9	60	18	G8A36080	£48.20
10		10	9.7	12	75	25	G8A36100	£72.20
12	0.3	12	11.7	15	75	30	G8A36120	£99.55
16		16	15.7	18	90	38	G8A36160	£166.18
20		20	19.7	24	100	45	G8A36200	£274.94

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

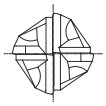
4 FLUTE CORNER RADIUS, HIGH FEED

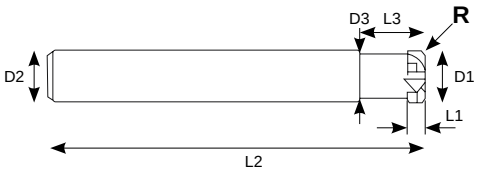
Highest Performance Machining of Hardened Steel <HRC70

- X5070 Blue coated nanograin carbide
- HSC = Roughing and finishing
- Excellent wear resistance at heavy feed rates on high hardened material
- Designed with reduced clearance angles and short flutes for strength
- High hardness & heat resistance coating for long life in dry applications

Series	Cutting Data
G8B54/59 YG-1	P214







EXTREME ROUGHING PERFORMANCE

NG SC | 4 | 0° | R ±0.005 | PLAIN | X5070 COATED | HSC

TOLERANCE		
Mill Dia.	Corner Rad.	Shank Dia.
0~-0.02mm	±0.005mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	0.5	6	1.8	1	50	6	G8B5902005	£42.68
					70		G8B5402005	£45.05
3	0.5	6	2.8	1.2	50	8	G8B5903005	£42.68
					70		G8B5403005	£45.05
4	0.5	6	3.8	1.5	50	10	G8B5904005	£42.68
					70		G8B5404005	£45.05
5	0.5	6	4.6	2	70	10	G8B5405005	£45.05
6	0.5	6	5.4	2.5	60	12	G8B5906005	£42.68
	0.5				90		G8B5406005	£49.45
	1				60		G8B5906010	£42.68
	1				90		G8B5406010	£49.45
8	1	8	7.2	3.5	60	16	G8B5908010	£54.65
	1		5.4		100		G8B5408010	£63.09
	2		7.2		60		G8B5908020	£54.65
	2		7.2		100		G8B5408020	£63.09
10	1	10	9	4	70	20	G8B5910010	£81.51
	1		7.2		100		G8B5410010	£88.88
	2		9		70		G8B5910020	£81.51
	2		9		100		G8B5410020	£88.88
12	2	12	11	5	80	25	G8B5912020	£112.52
	2		9		110		G8B5412020	£124.80
	3		11		80		G8B5912030	£112.52
	3		11		110		G8B5412030	£124.80
16	3	16	11	6.5	130	30	G8B5416030	£216.53

X5070 High Feed Geometry

The special high feed geometry is designed for both roughing and mirror finish machining of steels and hardened steels. By using a small depth of cut with an ultra-high feed rate, the highest metal removal rates can be achieved with exceptional tool life and ultra-low cutting loads.

Real cutting data (normal speed)

Tool	8mm dia, R2.0
Work piece	EN24T (steel)
RPM	4,350
VC (m/min)	110
Feed (mm/min)	7,650
Ap:	0.4mm
Ae:	4mm

Real cutting data (high speed)

Tool	8mm dia, R2.0
Work piece	EN24T (steel)
RPM	10,000
VC (m/min)	250
Feed (mm/min)	18,500
Ap:	0.2mm
Ae:	2.4mm



Reduced clearance angles and short flutes strengthen corner radius and reduces chattering

Extra-short flute length for high rigidity

Heavy core with reduced diameter allows greater depths and maximum rigidity

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

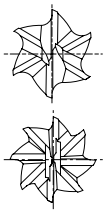
6 & 8 FLUTE 45° HELIX

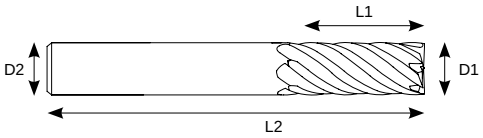
Highest Performance Machining of Hardened Steel <HRC70

Series	Cutting Data
G8D63/64 YG-1	P212

- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Designed for high abrasion resistance thanks to negative rake angle
- Excellent performance side-cutting for mirror finish machining
- Silicon based coating with ultra high heat and wear-resistance
- Can be used for trochoidal machining

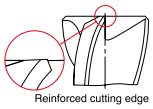






SUITABLE FOR TROCHOIDAL MILLING

NG SC | 6&8 | 45° | TROCHOIDAL | PLAIN | X5070 COATED | HSC



Size	TOLERANCE	
	Mill Dia.	Shank Dia.
Long	0~-0.02mm	h6
Extra Long	0~-0.03mm	

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6 Flutes					
6	6	13	57	G8D63060	**£44.83**
		26	70	G8D64060	**£58.70**
8	8	19	63	G8D63080	**£56.33**
		36	90	G8D64080	**£76.52**
10	10	22	72	G8D63100	**£85.12**
		46	100	G8D64100	**£120.01**
12	12	26	83	G8D63120	**£116.23**
		56	110	G8D64120	**£169.26**
14	14	26	83	G8D63140	**£145.67**
16	16	32	92	G8D63160	**£196.46**
		66	130	G8D64160	**£295.55**
8 Flutes					
18	18	32	92	G8D63180	**£229.62**
20	20	38	104	G8D63200	**£287.64**
		76	140	G8D64200	**£462.15**
25	25	44	104	G8D63250	**£510.59**
		92	180	G8D64250	**£867.26**

FREE morning delivery on orders over £59* placed before 6pm.

*Exclusions apply.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

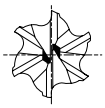
6 FLUTE CORNER RADIUS 45° HELIX, EXTENDED NECK

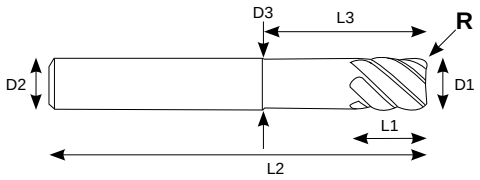
Highest Performance Machining of Hardened Steel <HRC70

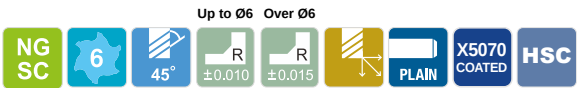
Series	Cutting Data
G8A39 YG-1	P216

- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Deep slotting is possible by reduced neck
- Corner radius for preventing chipping in high speed machining
- Silicon based coating with ultra high heat and wear-resistance









Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Ø6	±0.010	0~-0.02mm	h6
Over Ø6	±0.015		

*For cutters with longer L1, Mill Dia. tolerance is 0~-0.03mm

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
6	0.25	6	5.85	6	50	14	G8A39916	£57.26
	0.5		5.85	6	50	14	G8A39060	£57.26
	0.5		-	13	70	-	G8A39901	£65.00
	0.5		-	26*	70	-	G8A39910	£78.38
8	0.5	8	7.7	8	60	24	G8A39080	£65.10
			-	19	90	-	G8A39902	£77.77
			-	36*	90	-	G8A39911	£96.55
10	0.5	10	-	22	100	-	G8A39903	£117.28
	1		9.7	10	70	30	G8A39100	£101.70
	1		-	22	100	-	G8A39904	£117.28
	1		-	46*	100	-	G8A39912	£152.61
12	0.5	12	-	26	110	-	G8A39905	£160.10
	1		11.7	12	75	30	G8A39120	£121.48
	1		-	26	110	-	G8A39906	£160.10
	1		-	56*	110	-	G8A39913	£216.36
16	1	16	-	32	130	-	G8A39160	£270.15
	1.5			32			G8A39907	£295.08
	1.5			66*			G8A39914	£379.15
20	1	20	-	38	140	-	G8A39200	£395.54
	1.5			38			G8A39908	£432.11
	2			38			G8A39909	£432.11
	2			76*			G8A39915	£591.51



DRY CUTTING BENEFITS

All X5070 Blue cutters are designed for DRY machining on steels and hardened steels.

Tool life can actually be increased by up to 2.5 times when machining dry vs with coolant. Flood coolant can cause thermal shock cracks in the coating and breaks down the cutting edge in high temperature milling operations. Dry machining can maintain a sharper cutting edge for longer.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

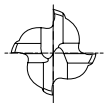
4 FLUTE CORNER RADIUS, EXTENDED NECK

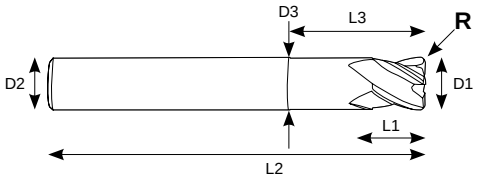
Highest Performance Machining of Hardened Steel <HRC70

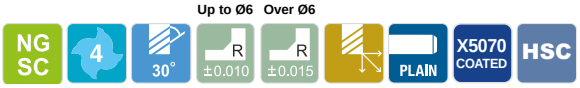
- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Deep slotting is possible with reduced neck
- Corner radius for preventing chipping in high speed machining
- Silicon based coating with ultra high heat and wear-resistance

Series		Cutting Data
G8A47/B08 YG-1	G8A37 YG-1	**P215 (G8A47 & G8B08) P209 (G8A37)**









Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to Ø6	±0.010	0~-0.012mm	h6
Over Ø6	±0.015	0~-0.015mm	

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
1	0.1	3	-	1.5	40	-	G8A37010	**£30.08**
		6	-			-	G8A37901	**£44.10**
1.5	0.1	3	-	2.2	40	-	G8A37015	**£27.96**
		6	-			-	G8A37902	**£40.97**
2	0.1	3	1.95	3	40	6	G8A37020	**£27.25**
		6					G8A37903	**£38.97**
2.5	0.1	3	2.4	4	40	6	G8A37025	**£27.25**
		6					G8A37904	**£39.85**
3	0.1	6	2.85	4	45	7	G8A37030	**£39.85**
	0.3				55	12	G8A47916	**£39.85**
	0.3				55	16	G8A47917	**£39.85**
	0.3				55	20	G8A47918	**£39.85**
	0.5				55	10	G8A47030	**£39.85**
	0.5				55	16	G8A47901	**£39.85**
	0.5				55	20	G8A47902	**£39.85**
3.5	0.1	6	3.35	5	45	9	G8A37035	**£39.85**
4	0.1	6	3.85	5	45	9	G8A37040	**£39.85**
	0.3				55	12	G8A47919	**£39.85**
	0.3				55	16	G8A47920	**£39.85**
	0.3				55	20	G8A47921	**£39.85**
	0.5				55	12	G8A47040	**£39.85**
	0.5				55	16	G8A47903	**£39.85**
	0.5				55	20	G8A47904	**£39.85**
	1				55	12	G8A47922	**£39.85**
4.5	0.1	6	4.35	6	45	10	G8A37045	**£39.85**
5	0.2	6	4.85	6	50	11	G8A37050	**£39.85**
6	0.2	6	5.85	7	50	14	G8A37060	**£39.85**
	0.5			7	60	20	G8A47060	**£39.85**
	0.5			9	90	20	G8B0806005090	**£46.91**

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
6	1	6	5.85	7	60	20	G8A47905	**£39.85**
	1			9	90		G8B0806010090	**£46.91**
	1.5			7	60		G8A47906	**£39.85**
8	0.2	8	7.7	9	60	18	G8A37080	**£48.20**
	0.5			9	60	25	G8A47910	**£48.20**
	0.5			12	100	25	G8B0808005100	**£58.09**
	1			9	60	25	G8A47080	**£48.20**
	1			12	100	25	G8B0808010100	**£58.09**
	1.5			9	60	25	G8A47907	**£48.20**
	2			9	60	25	G8A47913	**£48.20**
10	0.2	10	9.7	12	75	25	G8A37100	**£72.20**
	0.5			11	70	32	G8A47911	**£72.20**
	0.5			15	100	32	G8B0810005100	**£80.53**
	1			11	70	32	G8A47100	**£72.20**
	1			15	100	32	G8B0810010100	**£80.53**
	1.5			11	70	32	G8A47908	**£72.20**
	2			11	70	32	G8A47914	**£72.20**
	2			15	100	32	G8B0810020100	**£80.53**
12	0.3	12	11.7	15	75	30	G8A37120	**£99.55**
	0.5			12	80	38	G8A47912	**£99.55**
	0.5			18	110	38	G8B0812005110	**£131.68**
	1			12	80	38	G8A47120	**£99.55**
	1			18	110	38	G8B0812010110	**£131.68**
	1.5			12	80	38	G8A47909	**£99.55**
	2			12	80	38	G8A47915	**£99.55**
	2			18	110	38	G8B0812020110	**£131.68**
16	0.3	16	15.7	18	90	38	G8A37160	**£166.18**
20	0.3	20	19.7	24	100	45	G8A37200	**£274.94**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

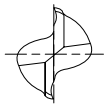
2 FLUTE MINIATURE CORNER RADIUS & BALL NOSE

Highest Performance Machining of Hardened Steel <HRC70

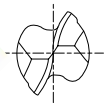
Series	Cutting Data
G8A50/53 YG-1	**P213 (G8A50)** **P217 (G8A53)**

- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Designed for high precision milling operation
- Silicon based coating with ultra high heat and wear-resistance

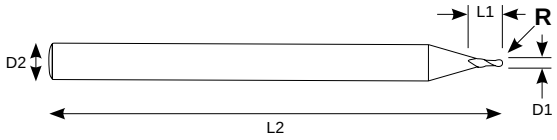




Corner Radius



Ball Nose



NG SC | 2 | 30° | R ±0.005 | R ±0.010 | PLAIN | X5070 COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.012mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
Corner Radius						
0.3	-	6	0.45	50	G8A50003	**£60.56**
0.4	-	6	0.6	50	G8A50004	**£56.79**
0.5	0.05	6	0.7	50	G8A50005	**£48.20**
0.6	0.05	6	0.9	50	G8A50006	**£46.32**
0.8	0.05	6	1.2	50	G8A50008	**£42.68**
1	0.1	6	1.5	50	G8A50010	**£40.90**
1.2	0.1	6	1.8	50	G8A50012	**£40.90**
1.5	0.15	6	2.2	50	G8A50015	**£40.90**
2	0.15	6	2.2	50	G8A50020	**£37.11**
Ball Nose						
0.4	0.2	6	0.4	50	G8A53004	**£61.58**
0.5	0.25	6	0.5	50	G8A53005	**£59.43**
0.6	0.3	6	0.6	50	G8A53006	**£54.26**
0.8	0.4	6	0.8	50	G8A53008	**£44.42**
1	0.5	6	1.0	50	G8A53010	**£41.88**
1.2	0.6	6	1.2	50	G8A53012	**£41.88**
1.5	0.75	6	1.5	50	G8A53015	**£41.88**
2	1.0	6	2.0	50	G8A53020	**£37.82**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

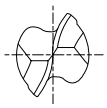
2 FLUTE BALL NOSE

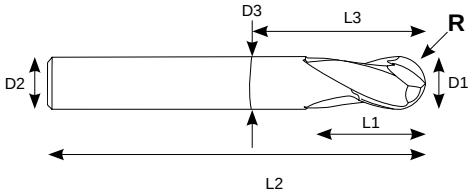
Highest Performance Machining of Hardened Steel <HRC70

- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Designed for high precision milling operation
- Silicon based coating with ultra high heat and wear-resistance

Series	Cutting Data
G8A28/38 YG-1	P217







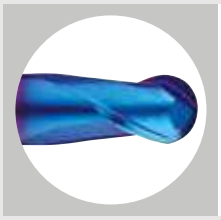
Up to R3 Over R3

NG SC | 2 | 30° | R ±0.005 | R ±0.01 | PLAIN | X5070 COATED | HSC

Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to R3	±0.005	0~-0.012mm	h6
Over R3	±0.010	0~-0.015mm	

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.1	0.05	4	-	0.2	40	-	G8A28001	£73.15
0.2	0.1	4	-	0.3	40	-	G8A28002	£60.53
0.3	0.15	4	-	0.5	40	-	G8A28003	£53.96
0.4	0.2	4	-	0.6	40	-	G8A28004	£50.40
0.5	0.25	4	-	0.7	40	-	G8A28005	£46.98
0.6	0.3	4	-	0.9	40	-	G8A28006	£42.29
0.7	0.35	4	-	1.1	40	-	G8A28007	£42.29
0.8	0.4	4	-	1.2	40	-	G8A28008	£41.39
0.9	0.45	4	-	1.4	40	-	G8A28009	£41.39
1	0.5	4	0.95	1	50	2.2	G8A38010	£46.25
		6		1.5		3	G8A28010	£40.48
1.2	0.6	4	1.15	1.2	50	2.6	G8A38012	£46.25
1.5	0.75	4	1.45	1.5	50	3	G8A38015	£46.25
		6		2		4	G8A28015	£47.17
2	1	6	1.95	2	50	4	G8A38020	£47.17
				2.5		5	G8A28020	£43.88
2.5	1.25	6	2.4	3	50	7	G8A28025	£47.17
3	1.5	6	2.85	3	60	6	G8A38030	£47.17
				4		10	G8A28030	£47.17
3.5	1.75	6	3.35	4.5	60	10	G8A28035	£47.17
4	2	6	3.85	4	70	8	G8A38040	£49.25
				5	60	10	G8A28040	£47.17
4.5	2.25	6	4.35	5.5	60	10	G8A28045	£50.76

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
5	2.5	6	4.85	5	80	10	G8A38050	£50.76
				6	60	12	G8A28050	£50.76
5.5	2.75	6	5.35	6.5	60	12	G8A28055	£50.76
6	3	6	5.85	6	90	12	G8A38060	£54.45
				7	60	15	G8A28060	£50.76
				9	90	30	G8A28903	£62.78
7	3.5	8	6.7	7	90	14	G8A38070	£82.12
8	4	8	7.7	8	100	16	G8A38080	£81.26
				9	60	15	G8A28901	£79.92
				9	80	15	G8A28080	£81.29
				12	100	30	G8A28904	£93.69
9	4.5	10	8.7	9	100	18	G8A38090	£134.22
10	5	10	9.7	10	100	20	G8A38100	£134.22
				11	60	25	G8A28902	£134.22
				11	80	25	G8A28100	£134.22
				15	100	30	G8A28905	£152.73
12	6	12	11.7	12	110	24	G8A38120	£172.31
12	6	12	11.7	14	80	25	G8A28120	£164.65
14	7	14	13.7	14	110	28	G8A38140	£217.97
16	8	16	15.7	16	140	32	G8A38160	£287.83
18	9	18	17.7	18	140	36	G8A38180	£310.76
20	10	20	19.7	20	160	40	G8A38200	£440.61
25	12.5	25	24.7	25	180	50	G8A38250	£714.33



NANOGRAIN SUBSTRATE & SILICON BASED COATING TECHNOLOGY

All X5070 cutters are manufactured with the hardest nanograin carbide substrate and coated with YG-1's silicon based X5070 BLUE coating*. This special coating and substrate combination is heat resistant up to 1400°C, enabling extreme cutting speeds in the hardest of steels <HRC70.

***PLEASE NOTE when used the blue colour of the coating may fade, however this does not affect performance.**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

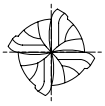
4 FLUTE BALL NOSE, CENTRE MATCH

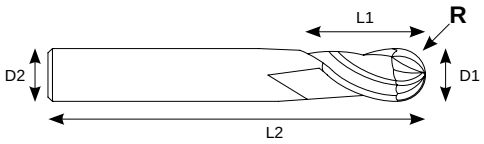
Highest Performance Machining of Hardened Steel <HRC70

- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Designed for high precision milling operation
- Silicon based coating with ultra high heat and wear-resistance

Series	Cutting Data
G8D62 YG-1	P219







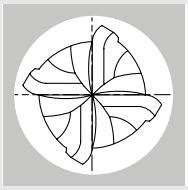
ULTIMATE FINISHER

Up to R3 Over R3

NG SC | 4 | 30° | R ±0.005 | R ±0.01 | PLAIN | X5070 COATED | HSC

Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to R3	±0.005	0~-0.012mm	h6
Over R3	±0.010	0~-0.015mm	

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
3	1.5	6	8	60	G8D62030	£53.06
4	2	6	8	70	G8D62040	£55.55
5	2.5	6	10	80	G8D62050	£58.33
6	3	6	12	90	G8D62060	£60.97
8	4	8	14	100	G8D62080	£95.50
10	5	10	18	100	G8D62100	£159.03
12	6	12	22	110	G8D62120	£204.59
16	8	16	30	140	G8D62160	£341.94
20	10	20	38	160	G8D62200	£524.29



4 FLUTE BALL NOSED CENTRE MATCH TECHNOLOGY

The X5070 CENTRE MATCH geometry is designed for the highest performance cutting, ultra-high quality surface roughness, high accuracy machining & extreme tool life. The tool is able to machine with ultra low cut depth and exceptionally high feed rates.

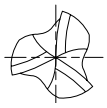
3 FLUTE BALL NOSE

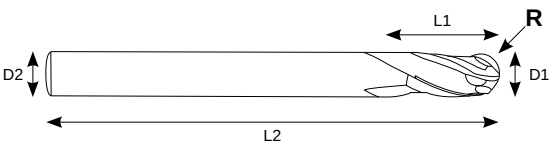
Highest Performance Machining of Hardened Steel <HRC70

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- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Designed for high precision milling operation
- Silicon based coating with ultra high heat and wear-resistance

Series	Cutting Data
G8A59 YG-1	P219







Up to R3 Over R3

NG SC | 3 | 30° | R ±0.005 | R ±0.01 | PLAIN | X5070 COATED | HSC

Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to R3	±0.005	0~-0.012mm	h6
Over R3	±0.010	0~-0.015mm	

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
3	1.5	6	8	60	G8A59030	£53.06
4	2	6	8	70	G8A59040	£55.55
5	2.5	6	10	80	G8A59050	£58.33
6	3	6	12	90	G8A59060	£60.97
8	4	8	14	100	G8A59080	£95.50
10	5	10	18	100	G8A59100	£159.03
12	6	12	22	110	G8A59120	£204.59
16	8	16	30	140	G8A59160	£341.94
20	10	20	38	160	G8A59200	£524.29

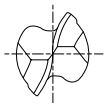
2 FLUTE BALL NOSE, LONG NECK

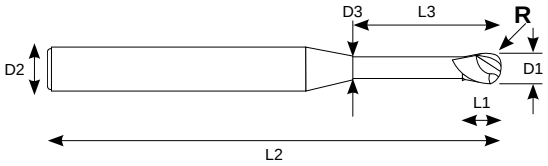
Highest Performance Machining of Hardened Steel <HRC70

Series	Cutting Data
G8A46/54 YG-1	P218

- X5070 Blue coated nanograin carbide
- HSC = Suitable for high speed cutting & dry cutting thanks to newly developed substrate & coating
- Excellent work piece finish
- Designed for high precision milling operation
- Silicon based coating with ultra high heat and wear-resistance







NG SC | 2 | 30° | R ±0.005 | PLAIN | X5070 COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.012mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.1	0.05	4	0.085	0.1	45	0.3	G8A46805	£69.98
						0.5	G8A46806	£69.98
0.2	0.1	4	0.17	0.2	45	0.5	G8A46002	£58.33
						1	G8A46977	£58.33
						1.5	G8A46958	£58.33
0.3	0.15	4	0.27	0.3	45	1	G8A46003	£51.15
						2	G8A46959	£51.15
						3	G8A46986	£51.15
0.4	0.2	4	0.37	0.4	45	1	G8A46004	£50.40
						2	G8A46960	£53.99
						3	G8A46961	£53.99
						4	G8A46981	£53.99
						5	G8A46987	£53.99
0.5	0.25	4	0.45	0.4	45	2	G8A46005	£50.40
						2.5	G8A46804	£50.40
						4	G8A46962	£50.40
						6	G8A46963	£53.99
						8	G8A46964	£53.99
		6		0.5	50	1.5	G8A54005	£61.56
						3.3	G8A54901	£61.56
0.6	0.3	4	0.55	0.5	45	2	G8A46957	£38.29
						3	G8A46988	£38.29
						4	G8A46915	£40.02
						5	G8A46989	£40.02
						6	G8A46916	£40.02
						8	G8A46917	£53.06
						10	G8A46990	£53.06
				0.6	50	2	G8A54006	£54.26
						4	G8A54902	£54.26
0.8	0.4	4	0.75	0.6	45	2	G8A46918	£40.02
						4	G8A46919	£40.02
						6	G8A46008	£40.02
						8	G8A46901	£40.02
						10	G8A46965	£42.10
		6		0.8	50	2.5	G8A54008	£44.88
						5.5	G8A54903	£44.88
1	0.5	4	0.95	0.8	45	3	G8A46920	£36.09
						4	G8A46921	£36.09
						5	G8A46923	£36.09
						6	G8A46010	£36.09
						7	G8A46924	£38.29
						8	G8A46902	£38.29
						9	G8A46925	£38.29
						10	G8A46903	£38.29
						12	G8A46904	£38.29
					50	14	G8A46926	£45.27

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

2 FLUTE BALL NOSE, LONG NECK

Highest Performance Machining of Hardened Steel <HRC70

Series	Cutting Data
G8A46/54 YG-1	P218



G8A46/54 continued

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
1	0.5	4	0.95	0.8	50	16	G8A46927	£45.27
					55	20	G8A46966	£51.18
		6		1	50	3.3	G8A54010	£51.20
					50	6.7	G8A54904	£51.20
					50	12	G8A54905	£54.67
1.2	0.6	4	1.15	1	45	6	G8A46982	£42.49
					45	8	G8A46012	£42.49
					45	10	G8A46983	£42.49
					45	12	G8A46905	£45.27
		6		1.2	50	4.4	G8A54012	£51.20
					50	8	G8A54906	£54.67
1.5	0.75	4	1.45	1.2	45	6	G8A46930	£38.29
					45	8	G8A46015	£38.29
					45	10	G8A46931	£38.29
					45	12	G8A46906	£45.27
					50	14	G8A46992	£45.27
					50	16	G8A46907	£48.42
					55	20	G8A46932	£48.42
		6		1.5	50	5	G8A54015	£51.20
					50	9.7	G8A54907	£54.67
					50	15	G8A54908	£54.67
2	1	4	1.95	1.6	45	4	G8A46939	£35.72
					45	6	G8A46940	£35.72
					45	8	G8A46020	£38.09
					45	10	G8A46941	£38.09
					50	12	G8A46942	£38.09
					50	14	G8A46943	£38.09
		4	1.95	1.6	50	16	G8A46909	£38.09
					55	18	G8A46993	£38.51
					55	20	G8A46910	£38.51
					60	22	G8A46944	£41.68
					60	25	G8A46945	£41.68
					70	30	G8A46967	£44.44
		6		2	50	6	G8A54020	£47.88
					50	13	G8A54909	£51.20
					60	20	G8A54910	£54.74
3	1.5	6	2.85	2.4	50	12	G8A46948	£52.60
					55	14	G8A46984	£52.60
					55	16	G8A46030	£52.60
					60	18	G8A46985	£52.60
					60	20	G8A46911	£52.60
					65	25	G8A46968	£52.60
					70	30	G8A46969	£52.60
					80	35	G8A46970	£56.94
4	2	6	3.85	3.2	60	12	G8A46950	£52.60
					60	16	G8A46040	£52.60
					65	20	G8A46912	£52.60
					70	25	G8A46913	£52.60
					70	30	G8A46971	£52.60
					80	35	G8A46972	£60.73
					90	40	G8A46973	£71.05
					90	45	G8A46974	£71.05
					100	50	G8A46975	£73.45

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
		○	○	●	●									

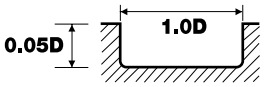
2 FLUTE EXTENDED NECK

G8A01 & G8A36 Series

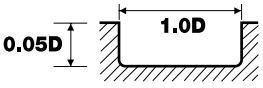
CUTTING DATA

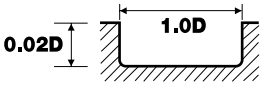
Slotting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL				HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				<HRC 55			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.2	50000	130	30	0.001	45000	115	30	0.001	40000	95	25	0.001
0.3	50000	190	45	0.002	45000	140	40	0.002	40000	115	40	0.001
0.4	50000	235	65	0.002	45000	180	55	0.002	40000	140	50	0.002
0.5	50000	370	80	0.004	45000	280	70	0.003	40000	220	65	0.003
0.6	50000	470	95	0.005	45000	360	85	0.004	40000	285	75	0.004
0.8	50000	600	125	0.006	40000	440	100	0.006	30000	295	75	0.005
0.9	49000	655	140	0.007	39000	520	110	0.007	27800	330	80	0.006
1	48000	750	150	0.008	38000	570	120	0.008	25500	360	80	0.007
2	33300	850	210	0.013	26000	680	165	0.013	17500	420	110	0.012
3	21800	850	205	0.019	17300	680	165	0.020	11500	420	110	0.018
4	16700	880	210	0.026	13200	700	165	0.027	8800	440	110	0.025
5	15700	1000	245	0.032	12500	805	195	0.032	8300	500	130	0.030
6	13100	950	245	0.036	10350	770	195	0.037	6900	480	130	0.035
8	9880	930	250	0.047	7800	720	195	0.046	5200	445	130	0.043
10	7800	850	245	0.054	6150	680	195	0.055	4100	415	130	0.051
12	6650	850	250	0.064	5250	680	200	0.065	3500	415	130	0.059
16	4900	730	245	0.074	3900	580	195	0.074	2600	365	130	0.070
20	3900	660	245	0.085	3100	525	195	0.085	2050	335	130	0.082



MATERIAL	HARDENED STEEL								HIGH HARDENED STEEL			
Hardness	HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC 65 ~ HRC 70			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.2	33000	60	20	0.001	33000	45	20	0.001	26400	30	15	0.750
0.3	33000	70	30	0.001	25000	50	25	0.001	20000	35	20	0.700
0.4	33000	90	40	0.001	25000	55	30	0.001	20000	40	25	0.667
0.5	33000	140	50	0.002	25000	85	40	0.002	20000	60	30	0.750
0.6	30000	160	55	0.003	25000	105	45	0.002	20000	75	40	0.833
0.8	25000	185	65	0.004	19000	110	50	0.003	15200	80	40	0.800
0.9	22700	205	65	0.005	17500	125	50	0.004	14000	90	40	0.900
1	20500	215	65	0.005	16000	135	50	0.004	12500	85	40	0.850
2	14500	260	90	0.009	11000	160	70	0.007	9500	115	60	0.821
3	9500	260	90	0.014	7500	160	70	0.011	6400	115	60	0.821
4	7200	270	90	0.019	5600	170	70	0.015	4750	118	60	0.843
5	6400	285	100	0.022	5100	180	80	0.018	4450	132	70	0.825
6	5300	280	100	0.026	4200	180	80	0.021	3700	130	70	0.813
8	4000	255	100	0.032	3200	165	80	0.026	2800	120	70	0.750
10	3200	240	100	0.038	2550	155	80	0.030	2200	112	70	0.700
12	2650	240	100	0.045	2100	155	80	0.037	1860	112	70	0.700
16	2000	210	100	0.053	1600	135	80	0.042	1400	95	70	0.594
20	1600	195	100	0.061	1300	125	80	0.048	1100	85	70	0.531

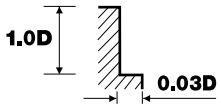




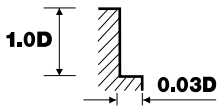
2 FLUTE EXTENDED NECK
G8A01 & G8A36 Series

CUTTING DATA
Side Cutting

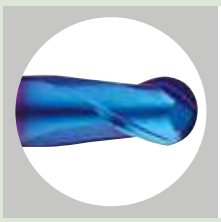
MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL				HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				<HRC 55			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	48000	1050	150	0.011	38000	820	120	0.011	25500	510	80	0.010
2	33300	1200	210	0.018	26000	970	165	0.019	17500	600	110	0.017
3	21800	1200	205	0.028	17300	970	165	0.028	11500	600	110	0.026
4	16700	1250	210	0.037	13200	1000	165	0.038	8800	625	110	0.036
5	15700	1450	245	0.046	12500	1150	195	0.046	8300	710	130	0.043
6	13100	1350	245	0.052	10350	1100	195	0.053	6900	690	130	0.050
8	9880	1320	250	0.067	7800	1030	195	0.066	5200	635	130	0.061
10	7800	1200	245	0.077	6150	970	195	0.079	4100	590	130	0.072
12	6650	1200	250	0.090	5250	970	200	0.092	3500	590	130	0.084
16	4900	1050	245	0.107	3900	840	195	0.108	2600	520	130	0.100
20	3900	950	245	0.122	3100	750	195	0.121	2050	475	130	0.116



MATERIAL	HARDENED STEEL								HIGH HARDENED STEEL			
Hardness	HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC 65 ~ HRC 70			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	20500	310	65	0.008	16000	190	50	0.006	12500	125	40	1.250
2	14500	370	90	0.013	11000	230	70	0.010	9500	165	60	1.179
3	9500	370	90	0.019	7500	230	70	0.015	6400	165	60	1.179
4	7200	385	90	0.027	5600	240	70	0.021	4750	170	60	1.214
5	6400	410	100	0.032	5100	260	80	0.025	4450	190	70	1.188
6	5300	400	100	0.038	4200	255	80	0.030	3700	185	70	1.156
8	4000	365	100	0.046	3200	235	80	0.037	2800	170	70	1.063
10	3200	340	100	0.053	2550	220	80	0.043	2200	160	70	1.000
12	2650	340	100	0.064	2100	220	80	0.052	1860	160	70	1.000
16	2000	300	100	0.075	1600	190	80	0.059	1400	140	70	0.875
20	1600	275	100	0.086	1300	175	80	0.067	1100	125	70	0.781



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth



NANOGRAIN SUBSTRATE & SILICON BASED COATING TECHNOLOGY

All X5070 cutters are manufactured with the hardest nanograin carbide substrate and coated with YG-1's silicon based X5070 BLUE coating*. This special coating and substrate combination is heat resistant up to 1400°C, enabling extreme cutting speeds in the hardest of steels <HRC70.

***PLEASE NOTE when used the blue colour of the coating may fade, however this does not affect performance.**

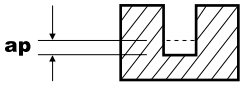
2 FLUTE LONG NECK

G8A45 Series

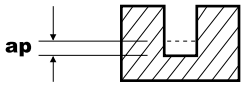
CUTTING DATA

Slotting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL					HARDENED STEEL				
Hardness	HRC 30 ~ HRC 45					HRC 45 ~ HRC 55				
Diameter	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.2	50000	300~350	31	0.003~0.004	0.006~0.016	50000	265~310	31	0.003~0.003	0.005~0.013
0.3	43000~50000	330~420	41~47	0.004~0.004	0.006~0.015	39900~46200	265~310	38~44	0.003~0.003	0.004~0.011
0.4	31400~50000	350~590	39~63	0.006~0.006	0.005~0.028	30500~35200	295~340	38~44	0.005~0.005	0.003~0.020
0.5	25650~33000	370~470	40~52	0.007~0.007	0.006~0.035	23750~26000	285~315	37~41	0.006~0.006	0.004~0.025
0.6	20900~35200	330~560	39~66	0.008~0.008	0.007~0.030	19900~22000	260~290	38~41	0.007~0.007	0.005~0.021
0.8	16150~26400	360~590	41~66	0.011~0.011	0.009~0.040	15200~16700	280~310	38~42	0.009~0.009	0.006~0.028
1	12300~18700	350~540	39~59	0.014~0.014	0.011~0.028	10500~11500	250~280	33~36	0.012~0.012	0.008~0.020
1.2	10450~17600	350~590	39~66	0.017~0.017	0.025~0.070	9100~10000	250~280	34~38	0.014~0.014	0.015~0.042
1.5	9100~17600	430~830	43~83	0.024~0.024	0.017~0.077	7000~8000	250~280	33~38	0.018~0.018	0.012~0.055
2	6350~10550	340~570	40~66	0.027~0.027	0.021~0.140	6100~6700	270~300	38~42	0.022~0.022	0.015~0100
3	4300~7050	550~900	41~66	0.064~0.064	0.056~0.210	3990~4600	445~515	38~43	0.056~0.056	0.040~0.150
4	3200~5300	400~675	40~67	0.063~0.064	0.074~0.280	3000~3400	335~380	38~43	0.056~0.056	0.053~0.200



MATERIAL	HIGH HARDENED STEEL				
Hardness	HRC 65 ~ HRC 70				
Diameter	RPM	Feed	Vc	Fz	ap
0.2	50000	225~265	31	0.002~0.003	0.005~0.012
0.3	23900~32300	105~185	23~30	0.002~0.003	0.003~0.007
0.4	18300~24600	120~200	23~31	0.003~0.004	0.002~0.012
0.5	14200~18000	115~130	22~28	0.004~0.004	0.003~0.015
0.6	11900~15500	100~120	22~29	0.004~0.004	0.003~0.013
0.8	9000~11700	110~125	23~29	0.006~0.005	0.004~0.017
1	6300~8050	100~115	20~25	0.008~0.007	0.005~0.012
1.2	5400~7000	100~115	20~26	0.009~0.008	0.009~0.026
1.5	4300~5500	100~115	20~26	0.012~0.01	0.007~0.033
2	3600~4700	100~120	23~30	0.014~0.013	0.009~0.060
3	2400~3200	105~310	23~30	0.022~0.048	0.024~0.090
4	1800~2400	75~230	23~30	0.021~0.048	0.032~0.120

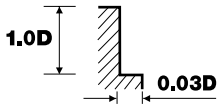


RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

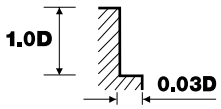
4 FLUTE EXTENDED NECK
G8A02 & G8A37 Series

CUTTING DATA
Side Cutting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL				HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				<HRC 55			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	48000	1480	150	0.008	38000	1050	120	0.007	25500	710	80	0.007
2	33300	1750	210	0.013	26000	1250	165	0.012	17500	840	110	0.012
3	21800	1750	205	0.020	17300	1250	165	0.018	11500	840	110	0.018
4	16700	1800	210	0.027	13200	1300	165	0.025	8800	880	110	0.025
5	15700	2000	245	0.032	12500	1500	195	0.030	8300	1000	130	0.030
6	13100	1950	245	0.037	10350	1400	195	0.034	6900	950	130	0.034
8	9880	1880	250	0.048	7800	1350	195	0.043	5200	900	130	0.043
10	7800	1750	245	0.056	6150	1260	195	0.051	4100	840	130	0.051
12	6650	1750	250	0.066	5250	1260	200	0.060	3500	840	130	0.060
16	4900	1500	245	0.077	3900	1100	195	0.071	2600	730	130	0.070
20	3900	1300	245	0.083	3100	970	195	0.078	2050	650	130	0.079



MATERIAL	HARDENED STEEL								HIGH HARDENED STEEL			
Hardness	HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC 65 ~ HRC 70			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	20500	430	65	0.005	16000	270	50	0.004	12500	175	40	0.875
2	14500	520	90	0.009	11000	320	70	0.007	9500	230	60	0.821
3	9500	520	90	0.014	7500	320	70	0.011	6400	230	60	0.821
4	7200	540	90	0.019	5600	335	70	0.015	4750	240	60	0.857
5	6400	580	100	0.023	5100	370	80	0.018	4450	270	70	0.844
6	5300	560	100	0.026	4200	350	80	0.021	3700	260	70	0.813
8	4000	520	100	0.033	3200	330	80	0.026	2800	240	70	0.750
10	3200	480	100	0.038	2550	310	80	0.030	2200	220	70	0.688
12	2650	480	100	0.045	2100	300	80	0.036	1860	220	70	0.688
16	2000	420	100	0.053	1600	270	80	0.042	1400	200	70	0.625
20	1600	380	100	0.059	1300	250	80	0.048	1100	180	70	0.563



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

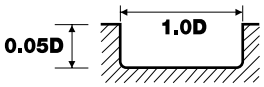
2 FLUTE CORNER RADIUS LONG NECK

G8A60 Series

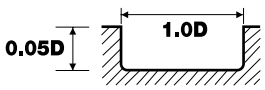
CUTTING DATA

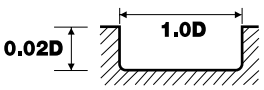
Slotting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL				HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				<HRC 55			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.5	50000	144	80	0.001	45000	110	70	0.001	40000	85	65	0.001
0.6	50000	185	95	0.002	45000	140	85	0.002	40000	110	75	0.001
0.8	50000	235	125	0.002	40000	170	100	0.002	30000	115	75	0.002
1	48000	590	150	0.006	38000	460	120	0.006	25500	285	80	0.006
2	33300	670	210	0.010	26000	540	165	0.010	17500	335	110	0.010
3	21800	670	205	0.015	17300	540	165	0.016	11500	335	110	0.015
4	16700	700	210	0.021	13200	560	165	0.021	8800	350	110	0.020
5	15700	810	245	0.026	12500	645	195	0.026	8300	395	130	0.024
6	13100	755	245	0.029	10350	615	195	0.030	6900	385	130	0.028
8	9880	740	250	0.037	7800	575	195	0.037	5200	355	130	0.034
10	7800	670	245	0.043	6150	540	195	0.044	4100	330	130	0.040
12	6650	672	250	0.051	5250	540	200	0.051	3500	330	130	0.047



MATERIAL	HARDENED STEEL								HIGH HARDENED STEEL			
Hardness	HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC65-70			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.5	33000	55	50	0.001	25000	30	40	0.001	20000	20	30	0.250
0.6	30000	65	55	0.001	25000	40	45	0.001	20000	25	40	0.278
0.8	25000	70	65	0.001	19000	45	50	0.001	16000	28	40	0.280
1	20500	170	65	0.004	16000	105	50	0.003	12500	70	40	0.700
2	14500	205	90	0.007	11000	130	70	0.006	9500	90	60	0.643
3	9500	205	90	0.011	7500	130	70	0.009	6400	90	60	0.643
4	7200	215	90	0.015	5600	135	70	0.012	4750	95	60	0.679
5	6400	230	100	0.018	5100	145	80	0.014	4450	105	70	0.656
6	5300	225	100	0.021	4200	140	80	0.017	3700	100	70	0.625
8	4000	205	100	0.026	3200	130	80	0.020	2800	95	70	0.594
10	3200	190	100	0.030	2550	120	80	0.024	2200	90	70	0.563
12	2650	190	100	0.036	2100	120	80	0.029	1860	90	70	0.563





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

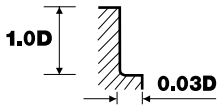
2 FLUTE CORNER RADIUS LONG NECK

G8A60 Series

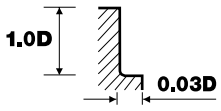
CUTTING DATA

Side Cutting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL				HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				<HRC 55			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.5	50000	205	80	0.002	45000	160	70	0.002	40000	125	65	0.002
0.6	50000	265	95	0.003	45000	200	85	0.002	40000	160	75	0.002
0.8	50000	335	125	0.003	40000	245	100	0.003	30000	165	75	0.003
1	48000	840	150	0.009	38000	656	120	0.009	25500	408	80	0.008
2	33300	960	210	0.014	26000	776	165	0.015	17500	480	110	0.014
3	21800	960	205	0.022	17300	776	165	0.022	11500	480	110	0.021
4	16700	1000	210	0.030	13200	800	165	0.030	8800	500	110	0.028
5	15700	1160	245	0.037	12500	920	195	0.037	8300	568	130	0.034
6	13100	1080	245	0.041	10350	880	195	0.043	6900	552	130	0.040
8	9880	1056	250	0.053	7800	824	195	0.053	5200	508	130	0.049
10	7800	960	245	0.062	6150	776	195	0.063	4100	472	130	0.058
12	6650	960	250	0.072	5250	776	200	0.074	3500	472	130	0.067



MATERIAL	HARDENED STEEL								HIGH HARDENED STEEL			
Hardness	HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC65-70			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.5	33000	80	50	0.001	25000	45	40	0.001	20000	30	30	0.001
0.6	30000	90	55	0.002	25000	60	45	0.001	20000	35	40	0.001
0.8	25000	100	65	0.002	19000	65	50	0.002	16000	40	40	0.001
1	20500	248	65	0.006	16000	152	50	0.005	12500	100	40	0.004
2	14500	296	90	0.010	11000	184	70	0.008	9500	132	60	0.007
3	9500	296	90	0.016	7500	184	70	0.012	6400	132	60	0.010
4	7200	308	90	0.021	5600	192	70	0.017	4750	136	60	0.014
5	6400	328	100	0.026	5100	208	80	0.020	4450	152	70	0.017
6	5300	320	100	0.030	4200	204	80	0.024	3700	148	70	0.020
8	4000	292	100	0.037	3200	188	80	0.029	2800	136	70	0.024
10	3200	272	100	0.043	2550	176	80	0.035	2200	128	70	0.029
12	2650	272	100	0.051	2100	176	80	0.042	1860	128	70	0.034



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

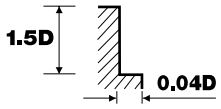
6 & 8 FLUTE 45° HELIX, LONG LENGTH

G8D63 Series

CUTTING DATA

Side Cutting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL								HIGH HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 55				HRC 55 ~ HRC 65				HRC 65 ~ HRC 70			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	6360	1500	120	0.039	5040	1045	95	0.035	3840	720	70	0.031	2520	430	50	0.028
8	4800	1510	120	0.052	3840	1070	95	0.046	2880	720	70	0.042	1920	430	50	0.037
10	3840	1450	120	0.063	3000	995	95	0.055	2280	685	70	0.050	1560	420	50	0.045
12	3240	1355	120	0.070	2520	935	95	0.062	1920	650	70	0.056	1320	395	50	0.050
14	2730	1320	120	0.081	2180	920	95	0.070	1600	630	70	0.066	1070	325	45	0.051
16	2400	1300	120	0.090	1920	910	95	0.079	1440	625	70	0.072	960	370	50	0.064
18	2120	1610	120	0.095	1700	1090	95	0.080	1280	750	70	0.073	850	450	50	0.066
20	1920	1210	120	0.079	1560	1130	100	0.091	1200	660	75	0.069	720	410	45	0.071
25	1560	1370	125	0.110	1200	925	95	0.096	960	670	75	0.087	610	385	50	0.079



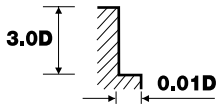
6 & 8 FLUTE 45° HELIX, EXTRA LONG LENGTH

G8D64 Series

CUTTING DATA

Side Cutting

MATERIAL	ALLOY & HEAT RESISTANT STEEL				HARDENED STEEL				HIGH HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 55				HRC 55 ~ HRC 65			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	3180	770	60	0.040	3180	575	60	0.030	2540	455	50	0.030
8	2390	720	60	0.050	2390	575	60	0.040	1910	455	50	0.040
10	1910	685	60	0.060	1910	575	60	0.050	1520	455	50	0.050
12	1580	660	60	0.070	1580	575	60	0.061	1270	455	50	0.060
14	1370	620	60	0.075	1370	540	60	0.066	1090	430	50	0.066
16	1190	575	60	0.081	1190	505	60	0.071	960	410	50	0.071
18	1070	730	60	0.085	1070	685	60	0.080	850	550	50	0.081
20	960	660	60	0.086	960	695	60	0.090	770	560	50	0.091
25	770	550	60	0.089	770	490	60	0.080	610	395	50	0.081

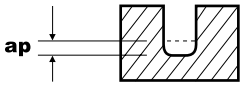


RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

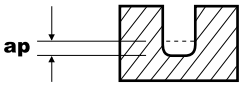
2 FLUTE CORNER RADIUS LONG NECK
G8A52 Series

CUTTING DATA
Side Cutting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL					HARDENED STEEL				
Hardness	HRC 30 ~ HRC 45					HRC 45 ~ HRC 55				
Diameter	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.5	25650~33000	370~470	40~52	0.029~0.028	0.0056~0.0350	23750~26000	285~315	37~41	0.024~0.024	0.0040~0.0250
0.6	20900~35200	330~560	39~66	0.032~0.032	0.0063~0.0294	19900~22000	260~290	38~41	0.026~0.026	0.0450~0.0210
0.8	16150~26400	360~590	41~66	0.045~0.045	0.0084~0.0392	15200~16700	280~310	38~42	0.037~0.037	0.0060~0.0280
1	12300~18700	350~540	39~59	0.057~0.058	0.0105~0.0280	10500~11500	250~280	33~36	0.048~0.049	0.0075~0.0200
1.2	10450~17600	350~590	39~66	0.067~0.067	0.0245~0.0700	9100~10000	250~280	34~38	0.055~0.056	0.0150~0.0420
1.5	9100~17600	430~830	43~83	0.095~0.094	0.0161~0.0770	7000~8000	250~280	33~38	0.071~0.070	0.0115~0.0550
2	6350~10550	340~570	40~66	0.107~0.108	0.0210~0.1400	6100~6700	270~300	38~42	0.089~0.090	0.0150~0.1000



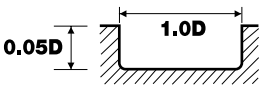
MATERIAL	HARDENED STEEL				
Hardness	HRC 55 ~ HRC 60				
Diameter	RPM	Feed	Vc	Fz	ap
0.5	14200~18000	115~130	22~28	0.016~0.014	0.0024~0.0150
0.6	11900~15500	100~120	22~29	0.017~0.015	0.0027~0.0126
0.8	9000~11700	110~125	23~29	0.024~0.021	0.0036~0.0168
1	6300~8050	100~115	20~25	0.032~0.029	0.0045~0.0120
1.2	5400~7000	100~115	20~26	0.037~0.033	0.0090~0.0252
1.5	4300~5500	100~115	20~26	0.047~0.042	0.0069~0.0330
2	3600~4700	100~120	23~30	0.056~0.051	0.0090~0.0600

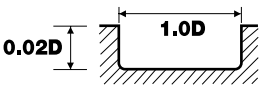


2 FLUTE MINIATURE CORNER RADIUS
G8A50 Series

CUTTING DATA
Slotting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL								HIGH HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				HRC 50 ~ HRC 55				HRC 55 ~ HRC 60				HRC 60 ~ HRC 65			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.3	50000	190	45	0.002	45000	140	40	0.002	40000	115	40	0.001	33000	70	30	0.001	25000	40	25	0.001
0.4	50000	235	65	0.002	45000	180	55	0.002	40000	140	50	0.002	33000	90	40	0.001	25000	55	30	0.001
0.5	50000	370	80	0.004	45000	280	70	0.003	40000	220	65	0.003	33000	140	50	0.002	25000	85	40	0.002
0.6	50000	470	95	0.005	45000	360	85	0.004	40000	285	75	0.004	30000	160	55	0.003	25000	105	45	0.002
0.8	50000	600	125	0.006	40000	440	100	0.006	30000	295	75	0.005	25000	185	65	0.004	19000	110	50	0.003
1	48000	750	150	0.008	38000	570	120	0.008	25500	360	80	0.007	20500	215	65	0.005	16000	135	50	0.004
1.2	42000	790	160	0.009	34000	640	130	0.009	22500	380	85	0.008	20000	250	75	0.006	14500	145	55	0.005
1.5	37000	800	175	0.011	30500	670	145	0.011	21000	410	100	0.010	17000	250	80	0.007	13000	155	60	0.006
2	33300	850	210	0.013	26000	680	165	0.013	17500	420	110	0.012	14500	260	90	0.009	11000	160	70	0.007





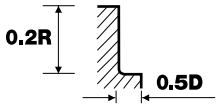
4 FLUTE CORNER RADIUS HIGH FEED

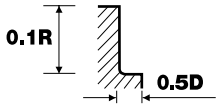
G8B59 & G8B54 Series

CUTTING DATA

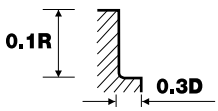
Side Cutting

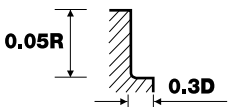
MATERIAL		HARDENED STEEL																			
Hardness		~ HRC 40				HRC 40 ~ HRC 50				HRC 50 ~ HRC 55				HRC 55 ~ HRC 60				HRC 60 ~ HRC 65			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
NORMAL SPEED																					
2	0.5	13500	6500	85	0.120	9550	3800	60	0.099	5500	2200	35	0.100	3200	1000	20	0.078	2200	550	15	0.063
3	0.5	9550	6500	90	0.170	6900	4150	65	0.150	4550	2750	45	0.151	2850	1150	25	0.101	1900	610	20	0.080
4	0.5	7950	7000	100	0.220	5750	4600	70	0.200	4000	3200	50	0.200	2550	1350	30	0.132	1750	700	20	0.100
5	0.5	6500	7300	100	0.281	4800	4800	75	0.250	3400	3200	55	0.235	2200	1600	35	0.182	1500	700	25	0.117
6	0.5	5800	7650	110	0.330	4100	4900	75	0.299	2900	3500	55	0.302	1850	1850	35	0.250	1350	795	25	0.147
6	1	5800	7650	110	0.330	4100	4900	75	0.299	2900	3500	55	0.302	1850	1850	35	0.250	1350	795	25	0.147
8	1	4350	7650	110	0.440	3050	4900	75	0.402	2200	3500	55	0.398	1400	1850	35	0.330	995	795	25	0.200
8	2	4350	7650	110	0.440	3050	4900	75	0.402	2200	3500	55	0.398	1400	1850	35	0.330	995	795	25	0.200
10	1	3500	7650	110	0.546	2450	4900	75	0.500	1750	3500	55	0.500	1100	1850	35	0.420	795	795	25	0.250
10	2	3500	7650	110	0.546	2450	4900	75	0.500	1750	3500	55	0.500	1100	1850	35	0.420	795	795	25	0.250
12	2	2900	7650	110	0.659	2050	4900	75	0.598	1450	3500	55	0.603	925	1850	35	0.500	665	795	25	0.299
12	3	2900	7650	110	0.659	2050	4900	75	0.598	1450	3500	55	0.603	925	1850	35	0.500	665	795	25	0.299
16	3	2200	7650	110	0.869	1550	4900	80	0.790	1100	3500	55	0.795	700	1850	35	0.661	500	795	25	0.398





HIGH SPEED																					
2	0.5	29000	15000	180	0.129	22000	9800	140	0.111	15000	7850	95	0.131	11000	4450	70	0.101	8700	2450	55	0.070
3	0.5	22000	16000	205	0.182	17000	10000	160	0.147	12500	8000	200	0.160	9500	4600	90	0.121	6900	2500	65	0.091
4	0.5	17000	17500	215	0.257	13000	12000	165	0.231	11000	9200	140	0.209	8000	5500	100	0.172	5600	2900	70	0.129
5	0.5	15000	18000	235	0.300	11000	12500	175	0.284	10000	10000	155	0.250	7000	6000	110	0.214	4900	3100	75	0.158
6	0.5	13500	18500	255	0.343	10500	13800	200	0.329	9000	11000	170	0.306	6400	6400	120	0.250	4500	3600	85	0.200
6	1	13500	18500	255	0.343	10500	13800	200	0.329	9000	11000	170	0.306	6400	6400	120	0.250	4500	3600	85	0.200
8	1	10000	18500	250	0.463	8000	14000	200	0.438	6800	11000	170	0.404	4800	6700	120	0.349	3400	4100	85	0.301
8	2	10000	18500	250	0.463	8000	14000	200	0.438	6800	11000	170	0.404	4800	6700	120	0.349	3400	4100	85	0.301
10	1	8000	18500	250	0.578	6400	14000	200	0.547	5400	11000	170	0.509	3800	6800	120	0.447	2700	3800	85	0.352
10	2	8000	18500	250	0.578	6400	14000	200	0.547	5400	11000	170	0.509	3800	6800	120	0.447	2700	3800	85	0.352
12	2	6600	18500	250	0.701	5300	14000	200	0.660	4500	11000	170	0.611	3200	7000	120	0.547	2250	3600	85	0.400
12	3	6600	18500	250	0.701	5300	14000	200	0.660	4500	11000	170	0.611	3200	7000	120	0.547	2250	3600	85	0.400
16	3	5000	18500	250	0.925	3900	14000	195	0.897	3300	11000	165	0.833	2400	7000	120	0.729	1650	3300	85	0.500





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

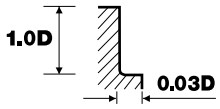
4 FLUTE CORNER RADIUS EXTENDED NECK

G8A47 & G8B08 Series

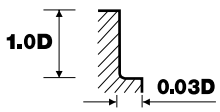
CUTTING DATA

Side Cutting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL				HARDENED STEEL			
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				<HRC 55			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	48000	1184	150	0.006	38000	840	120	0.006	25500	568	80	0.006
2	33300	1400	210	0.011	26000	1000	165	0.010	17500	672	110	0.010
3	21800	1400	205	0.016	17300	1000	165	0.014	11500	672	110	0.015
4	16700	1440	210	0.022	13200	1040	165	0.020	8800	704	110	0.020
5	15700	1600	245	0.025	12500	1200	195	0.024	8300	800	130	0.024
6	13100	1560	245	0.030	10350	1120	195	0.027	6900	760	130	0.028
8	9880	1504	250	0.038	7800	1080	195	0.035	5200	720	130	0.035
10	7800	1400	245	0.045	6150	1008	195	0.041	4100	672	130	0.041
12	6650	1400	250	0.053	5250	1008	200	0.048	3500	672	130	0.048
16	4900	1200	245	0.061	3900	880	195	0.056	2600	584	130	0.056
20	3900	1040	245	0.067	3100	776	195	0.063	2050	520	130	0.063



MATERIAL	HARDENED STEEL								HIGH HARDENED STEEL			
Hardness	HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC 65 ~ HRC 70			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	20500	344	65	0.004	16000	216	50	0.003	12500	140	40	0.700
2	14500	416	90	0.007	11000	256	70	0.006	9500	184	60	0.657
3	9500	416	90	0.011	7500	256	70	0.009	6400	184	60	0.657
4	7200	432	90	0.015	5600	268	70	0.012	4750	192	60	0.686
5	6400	464	100	0.018	5100	296	80	0.015	4450	216	70	0.675
6	5300	448	100	0.021	4200	280	80	0.017	3700	208	70	0.650
8	4000	416	100	0.026	3200	264	80	0.021	2800	192	70	0.600
10	3200	384	100	0.030	2550	248	80	0.024	2200	176	70	0.550
12	2650	384	100	0.036	2100	240	80	0.029	1860	176	70	0.550
16	2000	336	100	0.042	1600	216	80	0.034	1400	160	70	0.500
20	1600	304	100	0.048	1300	200	80	0.038	1100	144	70	0.450



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

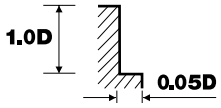
6 FLUTE CORNER RADIUS 45° HELIX

G8A39 Series

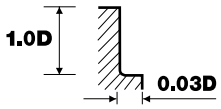
CUTTING DATA

Side Cutting

MATERIAL	ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL							
Hardness	HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				HRC 50 ~ HRC 55			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	24800	5350	465	0.036	23500	4900	445	0.035	16000	4900	300	0.051
8	20000	5500	505	0.046	19000	5000	480	0.044	12000	4600	300	0.064
10	16000	4900	505	0.051	15500	4500	485	0.048	9500	4100	300	0.072
12	13000	4500	490	0.058	12500	4100	470	0.055	8000	3800	300	0.079
16	10000	4000	505	0.067	9700	3700	490	0.064	6000	3400	300	0.094
20	8000	3350	505	0.070	7800	3400	490	0.073	4800	3200	300	0.111



MATERIAL	HARDENED STEEL				HARDENED STEEL				HIGH HARDENED STEEL			
Hardness	HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC 65 ~ HRC 70			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	13500	3300	255	0.041	10500	2100	200	0.033	8000	1450	150	1.208
8	10000	3100	250	0.052	8000	2000	200	0.042	6000	1400	150	1.167
10	8000	2900	250	0.060	6400	1800	200	0.047	4800	1300	150	1.083
12	6600	2500	250	0.063	5300	1600	200	0.050	4000	1150	150	0.958
16	5000	2300	250	0.077	4000	1250	200	0.052	3000	870	150	0.725
20	4000	2100	250	0.088	3200	1020	200	0.053	2400	690	150	0.575



NOTE: For long & extra long types the feed should be reduced by around 50%.

RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

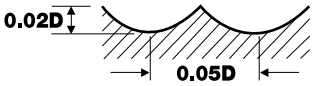
2 FLUTE BALL NOSE

G8A28, G8A38 & G8A53 Series

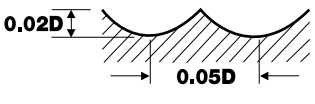
CUTTING DATA

Stepover Cutting

MATERIAL		ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL				HARDENED STEEL			
Hardness		HRC 30 ~ HRC 40				HRC 40 ~ HRC 50				HRC 50 ~ HRC 55			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.2	0.1	50000	1200	30	0.012	50000	1050	30	0.011	45000	960	30	0.011
0.3	0.15	50000	1500	45	0.015	50000	1350	45	0.014	45000	1200	40	0.013
0.4	0.2	50000	1900	65	0.019	50000	1700	65	0.017	45000	1500	55	0.017
0.5	0.25	50000	2400	80	0.024	50000	2100	80	0.021	45000	1900	70	0.021
0.6	0.3	50000	2900	95	0.029	50000	2500	95	0.025	45000	2200	85	0.024
0.8	0.4	50000	3900	125	0.039	50000	3300	125	0.033	45000	3000	115	0.033
1	0.5	50000	4800	155	0.048	50000	4200	155	0.042	45000	3800	140	0.042
1.2	0.6	50000	5100	190	0.051	48000	4300	180	0.045	43000	3850	160	0.045
1.5	0.75	50000	5400	235	0.054	48000	4500	225	0.047	43000	4000	205	0.047
2	1	49700	5700	310	0.057	47800	4800	300	0.050	40000	4000	250	0.050
3	1.5	33100	6000	310	0.091	31800	5300	300	0.083	26500	4000	250	0.075
4	2	24900	6000	315	0.120	23900	5300	300	0.111	20000	4000	250	0.100
5	2.5	18600	5800	290	0.156	17800	4900	280	0.138	15000	3750	235	0.125
6	3	13900	4850	260	0.174	13400	4100	255	0.153	11000	3100	205	0.141
8	4	11100	4200	280	0.189	10700	3500	270	0.164	9000	2700	225	0.150
10	5	9300	3700	290	0.199	8900	3100	280	0.174	7500	2400	235	0.160
12	6	6950	2950	260	0.212	6680	2500	250	0.187	5600	1900	210	0.170
16	8	5570	2650	280	0.238	5350	2200	270	0.206	4500	1700	225	0.189
20	10	4450	2350	280	0.264	4300	1950	270	0.227	3600	1500	225	0.208



MATERIAL		HARDENED STEEL								HIGH HARDENED STEEL			
Hardness		HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC 65 ~ HRC 70			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.2	0.1	40000	770	25	0.010	35000	674	20	0.010	31500	570	20	0.009
0.3	0.15	40000	965	40	0.012	35000	840	35	0.012	31500	700	30	0.011
0.4	0.2	40000	1200	50	0.015	35000	1050	45	0.015	31500	890	40	0.014
0.5	0.25	40000	1500	65	0.019	35000	1300	55	0.019	31500	1100	50	0.017
0.6	0.3	40000	1800	75	0.023	35000	1600	65	0.023	31500	1400	60	0.022
0.8	0.4	40000	2400	100	0.030	35000	2100	90	0.030	31500	1800	80	0.029
1	0.5	40000	3000	125	0.038	35000	2600	110	0.037	35000	2300	110	0.033
1.2	0.6	38000	3000	145	0.039	34000	2700	130	0.040	30600	2300	115	0.038
1.5	0.75	37000	3100	175	0.042	33000	2700	155	0.041	29700	2300	140	0.039
2	1	35000	3150	220	0.045	32000	2800	200	0.044	28500	2300	180	0.040
3	1.5	23500	3150	220	0.067	21000	2800	200	0.067	19000	2300	180	0.061
4	2	17500	3150	220	0.090	16000	2800	200	0.088	14500	2300	180	0.079
5	2.5	13500	3050	210	0.113	11500	2550	180	0.111	10500	2100	165	0.100
6	3	10000	2500	190	0.125	8800	2150	165	0.122	8000	1750	150	0.109
8	4	8000	2150	200	0.134	7000	1850	175	0.132	6500	1550	165	0.119
10	5	6600	1900	205	0.144	5800	1650	180	0.142	5300	1380	165	0.130
12	6	5000	1550	190	0.155	4400	1250	165	0.142	4000	1050	150	0.131
16	8	4000	1350	200	0.169	3500	1000	175	0.143	3200	850	160	0.133
20	10	3200	1200	200	0.188	2800	800	175	0.143	2550	660	160	0.129



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

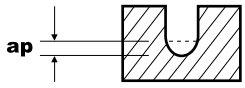
2 FLUTE BALL NOSE LONG NECK

G8A46 & G8A54 Series

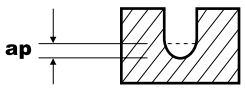
CUTTING DATA

Slotting

MATERIAL		ALLOY STEEL & HEAT RESISTANT STEEL					HARDENED STEEL				
Hardness		HRC 30 ~ HRC 45					<HRC 55				
Dia.	Rad.	RPM	Feed	Vc	Fz	ap	RPM	Feed	Vc	Fz	ap
0.2	0.1	50000	300~350	31	0.012~0.014	0.006~0.016	50000	265~310	31	0.011~0.012	0.005~0.013
0.3	0.15	48000~50000	480~520	45~47	0.020~0.021	0.010~0.017	48000~50000	440~460	45~47	0.018~0.018	0.008~0.014
0.4	0.2	48000~50000	720~790	60~63	0.030~0.032	0.013~0.032	48000~50000	450~550	60~63	0.019~0.022	0.011~0.026
0.5	0.25	34100~49500	600~870	54~78	0.035~0.035	0.007~0.028	31900~35200	490~540	50~55	0.031~0.031	0.005~0.023
0.6	0.3	28600~40700	590~850	54~77	0.041~0.042	0.007~0.034	26400~29700	480~540	50~56	0.036~0.036	0.006~0.028
0.8	0.4	22000~30800	640~890	55~77	0.058~0.058	0.016~0.064	19800~22000	490~550	50~55	0.049~0.05	0.013~0.052
1	0.5	17600~24200	600~850	55~76	0.068~0.070	0.008~0.080	15400~17600	470~540	48~55	0.061~0.061	0.007~0.065
1.2	0.6	14300~18700	590~780	54~70	0.083~0.083	0.024~0.032	12000~14000	480~540	45~53	0.080~0.077	0.020~0.026
1.5	0.75	11000~14300	580~760	52~67	0.105~0.106	0.031~0.048	10000~11500	480~540	47~54	0.096~0.094	0.025~0.039
2	1	8500~11000	590~800	53~69	0.139~0.145	0.024~0.160	7900~8800	470~530	50~55	0.119~0.12	0.020~0.130
3	1.5	5700~8200	730~1000	54~77	0.256~0.244	0.064~0.240	5300~5800	590~650	50~55	0.223~0.224	0.052~0.195
4	2	4300~6200	680~990	54~78	0.316~0.319	0.080~0.320	3950~4400	550~620	50~55	0.299~0.282	0.065~0.026



MATERIAL		HIGH HARDENED STEEL				
Hardness		< HRC 65				
Dia.	Rad.	RPM	Feed	Vc	Fz	ap
0.2	0.1	50000	225~265	31~31	0.009~0.011	0.005~0.012
0.3	0.15	46000~50000	390~420	43~47	0.017~0.017	0.007~0.013
0.4	0.2	46000~50000	400~460	58~63	0.017~0.018	0.010~0.024
0.5	0.25	31900~35200	440~480	50~55	0.028~0.027	0.005~0.021
0.6	0.3	26400~29700	400~480	50~56	0.030~0.032	0.006~0.025
0.8	0.4	19800~22000	440~500	50~55	0.044~0.045	0.012~0.048
1	0.5	15400~17600	440~500	48~55	0.057~0.057	0.006~0.060
1.2	0.6	12000~14000	420~480	45~53	0.070~0.069	0.018~0.024
1.5	0.75	10000~11500	420~480	47~54	0.084~0.083	0.023~0.036
2	1	7900~8800	440~480	50~55	0.111~0.109	0.018~0.120
3	1.5	5300~5800	550~620	50~55	0.208~0.214	0.048~0.120
4	2	3850~4400	530~570	48~55	0.275~0.259	0.060~0.240

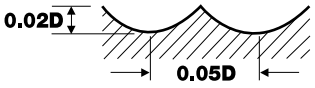


RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

3 FLUTE BALL NOSE
G8A59 Series

CUTTING DATA
Stepover Cutting

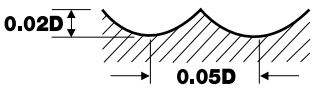
MATERIAL		ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL										HIGH HARDENED STEEL			
Hardness		HRC 30 ~ HRC 45				HRC 45 ~ HRC 55				HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC 65 ~ HRC 70			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	1.5	32000	8600	300	0.090	26840	5800	255	0.072	19840	4280	185	0.072	18680	4040	175	0.072	12780	2760	120	0.072
4	2	24080	7700	305	0.107	20130	5430	255	0.090	14880	3880	185	0.087	14220	3650	180	0.086	9580	2500	120	0.087
5	2.5	20000	7250	315	0.121	16780	5430	265	0.108	12400	3690	195	0.099	11670	3470	185	0.099	8000	2370	125	0.099
6	3	18000	8570	340	0.159	15200	6220	285	0.136	12200	4500	230	0.123	11100	3830	210	0.115	7590	2460	145	0.108
8	4	13500	7350	340	0.181	11300	5250	285	0.155	9200	3980	230	0.144	8320	3350	210	0.134	5690	2130	145	0.125
10	5	10800	6530	340	0.202	9100	4590	285	0.168	7350	3450	230	0.156	6660	2870	210	0.144	4550	1960	145	0.144
12	6	9050	6100	340	0.225	7590	4260	285	0.187	6130	3190	230	0.173	5530	2400	210	0.145	3800	1640	145	0.144
16	8	6700	4600	335	0.229	5690	3250	285	0.190	4600	2480	230	0.180	4160	1800	210	0.144	2850	1230	145	0.144
20	10	5400	3600	340	0.222	4550	2620	285	0.192	3670	1980	230	0.180	3300	1440	205	0.145	2280	980	145	0.143



4 FLUTE BALL NOSE CENTRE MATCH
G8D62 Series

CUTTING DATA
Stepover Cutting

MATERIAL		ALLOY STEEL & HEAT RESISTANT STEEL				HARDENED STEEL										HIGH HARDENED STEEL			
Hardness		HRC 30 ~ HRC 45				HRC 45 ~ HRC 55				HRC 55 ~ HRC 60				HRC 60 ~ HRC 65				HRC 65 ~ HRC 70			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	1.5	36100	10200	340	0.071	30250	7300	285	0.060	24440	4880	230	0.050	22280	4010	210	0.045	15170	2430	145	0.040
4	2	27050	8700	340	0.080	22650	6350	285	0.070	18300	4400	230	0.060	16710	3680	210	0.055	11380	2280	145	0.050
5	2.5	21600	7800	340	0.090	17820	5750	280	0.081	14650	4150	230	0.071	13370	3590	210	0.067	9100	2260	145	0.062
6	3	18040	7320	340	0.101	15180	5560	285	0.092	12210	4020	230	0.082	11110	3410	210	0.077	7590	2200	145	0.072
8	4	13530	6270	340	0.116	11330	4680	285	0.103	9190	3520	230	0.096	8310	2970	210	0.089	5670	1870	145	0.082
10	5	10840	5560	340	0.128	9130	4070	285	0.111	7370	3080	230	0.104	6660	2530	210	0.095	4570	1760	145	0.096
12	6	9020	5230	340	0.145	7590	3800	285	0.125	6110	2810	230	0.115	5560	2150	210	0.097	3800	1430	145	0.094
16	8	6770	3910	340	0.144	5670	2920	285	0.129	4620	2200	230	0.119	4180	1600	210	0.096	2860	1100	145	0.096
20	10	5450	3140	340	0.144	4570	2310	285	0.126	3690	1760	230	0.119	3300	1270	205	0.096	2260	880	140	0.097



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

YG KORLOY ATORN®

Aluminium Milling Cutters

Performance
★★★★

N

For general and precision machining with maximum chip control

Dedicated uncoated aluminium milling range with a huge choice of tool geometries.

Diameter Range
0.5-25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★	★★★★	★★★★	★★★★	★★★★★	★★★★★

Advantages

Mirror Finish
Lapped flutes & sharp cutting edges for excellent surface finish.

Wide Range
Available in square corner, ball nose, corner radius, 2 & 3 flute, ripper and long neck geometry.

Wave-Cut
Special wave-cut geometry available for ultra-high metal removal rates.

Versatile
Our best selling non-ferrous range for general and precision machining applications.

Features

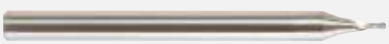
Lapped Flutes
Special lapped flutes provide an exceptional surface finish.

Sharp Cutting Edge
Improves cutting performance and prevents material build up on the cutting edge.

Micrograin Carbide
High quality carbide improves tool life and wear resistance.

Deep Flute Pockets
Combined with special helix prevents swarf clogging up the tool.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE 45° HELIX PLAIN SHANK • LAPPED		E5E48 E5D71	1-20	45°	**222**
2 FLUTE 45° HELIX PLAIN & WELDON SHANK		E5522 E5521	3-20	45°	**223**
3 FLUTE TVC GEOMETRY ALU-SPLITTER PLAIN SHANK		TVC	6-20	45°	**224**
3 FLUTE TVC GEOMETRY ALU-SPLITTER PLAIN SHANK • CORNER RADIUS		TVC-CR	6-16	45°	**224**
3 FLUTE HPC IC GEOMETRY ALU-SPLITTER PLAIN SHANK • THROUGH COOLANT		HPC-IC-3	4-16	40°	**225**
4 FLUTE HPC IC GEOMETRY ALU-SPLITTER PLAIN SHANK • THROUGH COOLANT		HPC-IC-4	6-20	45°	**225**
2 FLUTE LONG NECK PLAIN SHANK • LAPPED		E5E85	0.5-4	30°	**226**
2 FLUTE 50° HELIX PLAIN SHANK • LAPPED		APFE2 APLFE2	2.5-20	50°	**227**
3 FLUTE 50° HELIX PLAIN SHANK • LAPPED		APFE3 APLFE3	2.5-20	50°	**227**
3 FLUTE 45° HELIX PLAIN SHANK • LAPPED		E5E49 E5D70	1-20	45°	**228**
3 FLUTE 45° HELIX WITH NECK PLAIN SHANK • LAPPED		E5E50 E5E83	1-20	45°	**229**
3 FLUTE 45° HELIX WAVE CUT PLAIN SHANK		E5D74	6-20	45°	**230**
2 FLUTE CORNER RADIUS 25° HELIX PLAIN SHANK		E5930	2-20	25°	**230**
3 FLUTE CORNER RADIUS 45° HELIX PLAIN SHANK • LAPPED		E5E51 E5D72	3-20	45°	**231**
2 FLUTE CORNER RADIUS WITH NECK PLAIN SHANK		E5909	4-20	30°	**232**
3 FLUTE BALL NOSE 40° HELIX WITH NECK PLAIN SHANK • LAPPED		E5908	2-16	40°	**233**
2 FLUTE BALL NOSE PLAIN SHANK • LAPPED		E5D80	0.5-12	50°	**234**
2 FLUTE BALL NOSE LONG NECK PLAIN SHANK • LAPPED		E5E90	0.5-4	30°	**234**
2 FLUTE BALL NOSE 50° HELIX WITH NECK PLAIN SHANK • LAPPED		E5910	6-20	50°	**235**
2 FLUTE BALL NOSE 25° HELIX PLAIN SHANK • LAPPED		APBE	1-12	25°	**235**
3 FLUTE ROUGHER PLAIN & WELDON SHANK		E5742 E5711	6-25	30°	**236**
3 FLUTE ROUGHER WITH NECK PLAIN SHANK • LAPPED		E5E39	6-20	30°	**239**
3 FLUTE ROUGHER 45° HELIX A+ PLAIN & WELDON SHANK		APRE3	4-25	45°	**237**

2 FLUTE 45° HELIX ALU POWER LAPPED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Wide cut geometry, ideal for plastics such as ABS, acrylic and non-ferrous material
- Mirror finish machining
- Superior chip evacuation
- Cylindrical relief reduces chipping of corner edges

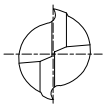
Series		Cutting Data
E5E48 YG-1	E5D71 YG-1	P238

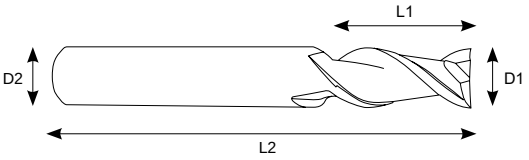
E5E48



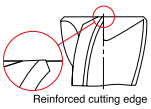
E5D71

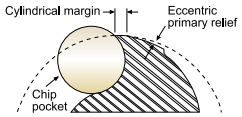






MG SC | 2 | 45° | PLAIN | LAPPED





TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.015mm	h6

D1	D2	L1	L2	★★★★ Performance Order Code	Price
1	6	3	50	E5D71010	£24.82
		6	60	E5D7101006	£28.20
1.5		5	50	E5D71015	£24.82
		8	60	E5D7101508	£25.64
2		6	50	E5D71020	£22.64
		10	60	E5D7102010	£25.64
2.5		8	55	E5D71025	£22.64
3		5	50	E5E48030	£16.47
		15	65	E5D7103015	£26.32
4		8	54	E5E48040	£22.36
		16	65	E5D7104016	£26.32
5		9	54	E5E48050	£22.36
		22	60	E5D7105022	£27.19
6		10	54	E5E48060	£22.36
		25	70	E5D7106025	£26.87
7	8	22	65	E5D71070	£40.92
8	8	12	58	E5E48080	£33.72
		30	80	E5D7108030	£43.66
10	10	14	66	E5E48100	£53.15
		35	90	E5D7110035	£64.25
12	12	16	73	E5E48120	£72.86
		40	95	E5D7112040	£87.85
14	14	18	75	E5E48140	£102.47
		37	90	E5D71140	£124.31
16	16	22	82	E5E48160	£129.20
		52	110	E5D7116052	£169.94
18	18	24	84	E5E48180	£168.01
20	20	26	92	E5E48200	£216.57
		55	110	E5D7120055	£285.96

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

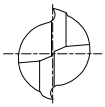
2 FLUTE 45° HELIX ALU POWER, CHAMFER PREP

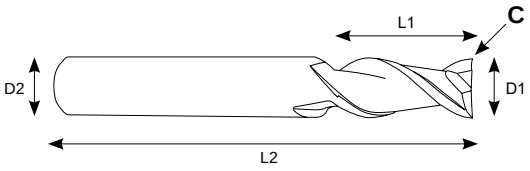
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

Series	Cutting Data
E5522/21 YG-1	P238

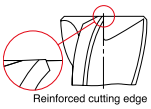
- Suitable for high speed machining in aluminium and other non-ferrous material
- Provides mirror surface finishes
- Superior chip evacuation
- Cylindrical relief reduces chipping of corner edges
- Chamfer corner prep prevents tool chipping

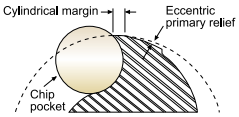






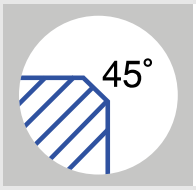
MG SC | 2 | 45° | PLAIN | WELDON | C x 45°





TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.015mm	h6

D1	D2	L1	L2	C	★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
3	6	8	57	0.05	E5522030	E5521030	£10.93
4		11			E5522040	E5521040	£14.93
5		13			E5522050	E5521050	£14.93
6		13			E5522060	E5521060	£14.93
8	8	19	63	0.05	E5522080	E5521080	£23.80
10	10	22	72	0.1	E5522100	E5521100	£35.91
12	12	26	83	0.1	E5522120	E5521120	£50.37
14	14	26	83	0.1	E5522140	E5521140	£68.65
16	16	32	92	0.1	E5522160	E5521160	£86.58
18	18	32	92	0.1	E5522180	E5521180	£112.55
20	20	38	104	0.1	E5522200	E5521200	£145.70



CHAMFER PREP CORNER

45 degree chamfer edge preparation helps prevent the cutting edge from chipping during the first impact with the workpiece.

This geometry is highly recommended for less stable machines.

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

3 FLUTE 45° HELIX ALU-SPLITTER TVC GEOMETRY - 3.5xD

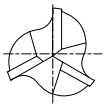
Ultra N Pro-Coated Solid Carbide with Axial Chip Dividers

Cutting Data

View Online

- Roughing or finishing at cutting depths up to 3.5xD
- Superior chip management at large cut depths
- ULTRA-N PRO special smooth coating enables the longest tool life whilst maintaining an ultra-sharp cutting edge for non-ferrous machining
- 0.2mm edge protection chamfer prep
- Designed for machining aluminium, plastic, brass, bronze and copper







Radial chip dividers



Face geometry

MG SC | 3 | 45° | WELDON | PLAIN | ULTRA-N PRO COATED | TVC

Dia.	Shank	Flute Length	Overall Length	★★★★ Performance Order Code			
				Plain Shank	Price	Weldon Shank	Price
6	6	21	62	16665700	**£56.46**	16665701	**£55.43**
8	8	28	68	16665705	**£63.67**	16665706	**£62.50**
10	10	35	80	16665710	**£82.84**	16665711	**£81.33**
12	12	42	93	16665715	**£116.94**	16665716	**£116.76**
16	16	56	108	-	-	16665720	**£176.52**
20	20	70	126	-	-	16665725	**£282.60**

Material Applications & Cutting Speed (m/min)

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Aluminium Short	Aluminium Long	Brass Short	Brass Long	Bronze Short	Bronze Long	Plastic
										<220	<470	<210	<275	<195	<230	<385

Maximum axial depth of cut 3.5xD. Recommended radial depth of cut: start at 0.15-0.5xD and increase according to machine load and chip management.

3 FLUTE 45° HELIX ALU-SPLITTER TVC GEOMETRY - 3.5xD

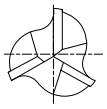
Ultra N Pro-Coated Solid Carbide with Chip Dividers & Corner Radius

Cutting Data

View Online

- Roughing or finishing at cutting depths up to 3.5xD
- Plain shank
- Superior chip management at large depth of cut due to chip dividers
- ULTRA-N PRO special smooth coating enables the longest tool life whilst maintaining an ultra-sharp cutting edge for non-ferrous machining
- Corner radius
- Designed for machining aluminium, plastic, brass, bronze and copper







Radial chip dividers



Face geometry

MG SC | 3 | 45° | PLAIN | ULTRA-N PRO COATED | TVC | R +/- 0.01 mm

Dia.	Radius	Shank	Flute Length	Overall Length	★★★★ Performance Order Code	Price
6	0.5	6	25	71	16666200	**£58.86**
6	1	6	25	71	16666205	**£58.86**
8	0.5	8	33	80	16666210	**£66.07**
8	1	8	33	80	16666215	**£66.07**
8	2	8	33	80	16666220	**£66.07**
10	0.5	10	41	95	16666225	**£93.44**
10	1	10	41	95	16666230	**£93.44**
10	2	10	41	95	16666235	**£93.44**
12	0.5	12	49	109	16666240	**£118.92**
12	1	12	49	109	16666245	**£118.92**
12	2	12	49	109	16666250	**£118.92**
16	2	16	65	132	16666255	**£210.22**
16	3	16	65	132	16666260	**£210.22**

Material Applications & Cutting Speed (m/min)

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Aluminium Short	Aluminium Long	Brass Short	Brass Long	Bronze Short	Bronze Long	Plastic
										<200	<425	<190	<250	<175	<210	<350

Maximum axial depth of cut 3.5xD. Recommended radial depth of cut: start at 0.15-0.5xD and increase according to machine load and chip management.

3 FLUTE 40° HELIX ALU-SPLITTER HPC IC GEOMETRY - THROUGH COOLANT

High Gloss Polished Solid Carbide with Axial Chip Dividers

Cutting Data

View Online

- Roughing or finishing at cutting depths up to 2xD
- Plain shank
- Internal coolant
- Superior chip management in all milling applications due to chip dividers on front face
- High gloss polished flutes
- Edge protection corner radius
- Designed for machining aluminium, plastic, brass, bronze and copper







Axial chip dividers

MG SC | 3 | 40° | PLAIN | HIGH GLOSS | HPC | INTERNAL COOLANT | R +/- 0.01 mm

Dia.	Radius	Shank	Flute Length	Overall Length	★★★★ Performance Order Code	Price
4	0.005	6	12	50	16655010	**£24.06**
5	0.005	6	15	50	16655020	**£25.24**
6	0.005	6	16	50	16655030	**£50.97**
8	0.005	8	20	64	16655040	**£59.57**
10	0.1	10	22	70	16655050	**£72.87**
12	0.1	12	25	75	16655060	**£112.81**
16	0.1	16	32	90	16655070	**£156.49**

Material Applications & Cutting Speed (m/min)

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Aluminium Short	Aluminium Long	Brass Short	Brass Long	Bronze Short	Bronze Long	Plastic
										<385	<605	<200	<250	<200	<250	<385

Maximum axial depth of cut 2xD in slotting/profiling applications.
Recommended radial depth of cut for side cutting: start at 0.15-0.5xD and increase according to machine load and chip management.

4 FLUTE 45° HELIX ALU-SPLITTER HPC IC GEOMETRY - THROUGH COOLANT

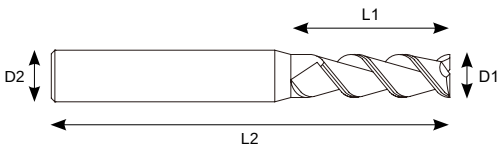
High Gloss Polished Solid Carbide with Chip Dividers

Cutting Data

View Online

- Roughing or finishing at cutting depths up to 2xD
- Plain shank
- Internal coolant
- 4 flutes for extreme performance
- Superior chip management in all milling applications due to chip dividers on front face and flutes
- High gloss polished flutes
- Edge protection chamfer prep
- Designed for machining aluminium, plastic, brass, bronze and copper





MG SC | 3 | 45° | PLAIN | HIGH GLOSS | HPC | INTERNAL COOLANT

Dia.	Shank	Flute Length	Overall Length	Chamfer Prep	★★★★ Performance Order Code	Price
6	6	13	57	0.1	16655300	**£73.52**
8	8	20	64	0.1	16655310	**£91.84**
10	10	22	72	0.2	16655320	**£116.30**
12	12	26	83	0.2	16655330	**£142.04**
16	16	32	92	0.2	16655340	**£230.56**
20	20	38	104	0.3	16655350	**£353.25**

Material Applications & Cutting Speed (m/min)

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Aluminium Short	Aluminium Long	Brass Short	Brass Long	Bronze Short	Bronze Long	Plastic
										<680	<850	<220	<270	<220	<270	700

Maximum axial depth of cut 2xD. Recommended radial depth of cut: start at 0.15-0.5xD and increase according to machine load and chip management.
Recommended radial depth of cut for side cutting: start at 0.15-0.5xD and increase according to machine load and chip management.

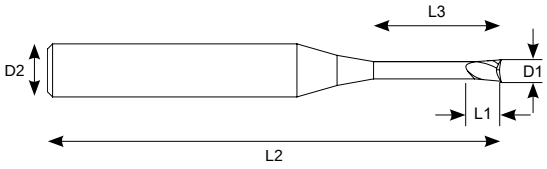
2 FLUTE LONG NECK ALU POWER LAPPED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium, copper and plastic
- Provides mirror surface finishes
- Long neck design for deep pocket machining

Series	Cutting Data
ESE85 YG-1	P238





MG SC | 2 | 30° | PLAIN | LAPPED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	L3	★★★★ Performance Order Code	Price
0.5	4	1	45	5	E5E8500505	£31.98
				10	E5E8500510	£32.94
				16	E5E8500516	£38.47
1	4	2	50	3	E5E8501003	£28.25
			50	8	E5E8501008	£29.10
			50	16	E5E8501016	£28.25
			60	26	E5E8501026	£35.31
1.5	4	3	50	4	E5E8501504	£28.25
			50	10	E5E8501510	£29.10
			50	20	E5E8501520	£28.25
			70	30	E5E8501530	£33.36
2	4	4	50	6	E5E8502006	£28.25
			50	10	E5E8502010	£29.10
			50	20	E5E8502020	£28.25
			80	40	E5E8502040	£37.39
2.5	4	5	50	10	E5E8502510	£28.25
			50	20	E5E8502520	£29.10
			80	40	E5E8502540	£37.39
3	6	6	50	10	E5E8503010	£31.98
			60	20	E5E8503020	£33.99
			80	40	E5E8503040	£46.54
4	6	8	50	10	E5E8504010	£31.98
			60	20	E5E8504020	£33.99
			80	40	E5E8504040	£46.54

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

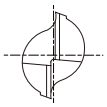
2 & 3 FLUTE 50° HELIX A+ LAPPED

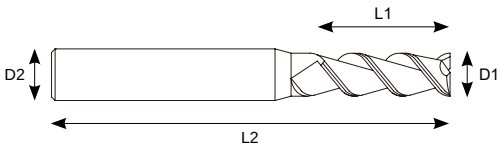
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Uncoated micrograin carbide
- Excellent chip evacuation even in high feed machining
- U-Shaped flute design for extreme quality surface finish
- High rigidity of the cutting edge ensures high productivity
- Not suitable for plunging

Series		Cutting Data
APLFE2/LFE3 Korloy	APFE2/FE3 Korloy	P239







MG SC | 2&3 | 50° | h6 | PLAIN | LAPPED

Size	TOLERANCE	
	Mill Dia.	Shank Dia.
Up to Ø12	0~-0.02mm	h6
Over Ø12	0~-0.03mm	

KORLOY

D1	D2	L1	L2	★★★★★ Performance Order Code		Price
				2 Flute	3 Flute	
2.5	6	8	50	APFE2025-050	APFE3025-050	£28.06
3		9	50	APFE2030-050	APFE3030-050	£28.06
		12	60	APLFE2030-060	APLFE3030-060	£28.72
4		12	50	APFE2040-050	APFE3040-050	£28.06
		16	60	APLFE2040-060	APLFE3040-060	£28.72
5		15	50	APFE2050-050	APFE3050-050	£29.07
		20	60	APLFE2050-060	APLFE3050-060	£37.77
6		18	50	APFE2060-050	APFE3060-050	£29.07
		25	75	APLFE2060-075	APLFE3060-075	£45.48
8	8	20	60	APFE2080-060	APFE3080-060	£40.02
		32	75	APLFE2080-075	APLFE3080-075	£54.60
10	10	30	75	APFE2100-075	APFE3100-075	£55.65
		45	100	APLFE2100-100	APLFE3100-100	£90.66
12	12	32	75	APFE2120-075	APFE3120-075	£68.72
		45	100	APLFE2120-100	APLFE3120-100	£111.79
16	16	45	100	APFE2160-100	APFE3160-100	£135.35
		65	150	APLFE2160-150	APLFE3160-150	£142.40
20	20	45	100	APFE2200-100	APFE3200-100	£173.68
		75	150	APLFE2200-150	APLFE3200-150	£230.10

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

3 FLUTE 45° HELIX ALU POWER LAPPED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

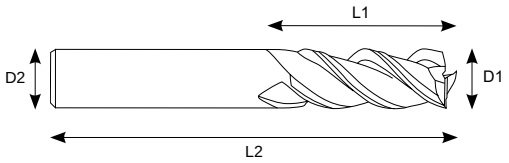
- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Cylindrical relief reduces chipping of corner edges
- Superior chip evacuation
- Provides mirror surface finish

Series		Cutting Data
E5D70 YG-1	E5E49 YG-1	P240

E5E49



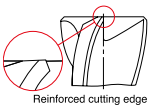


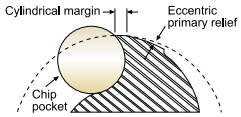


E5D70









TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.015mm	h6

D1	D2	L1	L2	★★★★ Performance Order Code	Price
1	6	3	50	E5D70010	£25.23
		6	60	E5D7001006	£28.98
1.5	6	5	50	E5D70015	£25.48
		10	60	E5D7001510	£26.32
2	6	6	50	E5D70020	£22.97
		12	60	E5D7002012	£26.32
2.5	6	8	40	E5D7002508	£21.17
		12	60	E5D7002512	£26.32
3	6	12	57	E5E49030	£18.00
		30	80	E5D7003030	£27.51
3.5	6	12	55	E5D70035	£23.20
4	6	15	57	E5E49040	£24.82
		30	80	E5D7004030	£33.31
5	6	20	57	E5E49050	£24.82
		45	90	E5D7005045	£32.95
6	6	20	65	E5E49060	£28.12
		35	80	E5D7006035	£33.31
		50	100	E5D7006050	£33.59
7	8	22	65	E5D70070	£40.92
8	8	22	65	E5E49080	£42.66
		30	80	E5D7008030	£43.66
		65	100	E5D7008065	£64.81
9	10	27	70	E5D70090	£54.14
10	10	25	75	E5E49100	£55.85
		32	90	E5D7010032	£77.79
		65	120	E5D7010065	£105.14
12	12	25	75	E5E49120	£78.31
		40	95	E5D7012040	£90.36
		65	120	E5D7012065	£106.64
14	14	37	90	E5D70140	£124.31
16	16	35	90	E5E49160	£134.64
		75	150	E5D7016075	£177.30
20	20	40	100	E5E49200	£226.64
		75	150	E5D7020075	£300.20

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

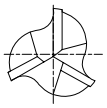
3 FLUTE 45° HELIX WITH NECK ALU POWER LAPPED

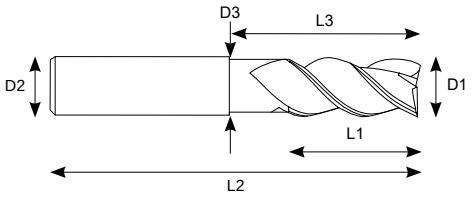
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- High metal removal rate
- Superior chip evacuation
- Provides mirror surface finish

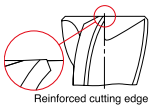
Series	Cutting Data
E5E83/50 YG-1	P240

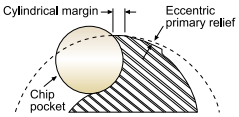






MG SC | 3 | 45° | PLAIN | LAPPED





TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.015mm	h6

D1	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price
1	4	0.9	2.5	60	3	E5E8301003	£26.48
					6	E5E8301006	£30.54
					10	E5E8301010	£30.54
1.5	4	1.35	4	60	6	E5E8301506	£30.54
					10	E5E8301510	£30.54
					16	E5E8301516	£30.54
2	4	1.8	6	60	10	E5E8302010	£30.54
					16	E5E8302016	£30.54
2.5	6	2.3	7	60	12	E5E8302512	£32.18
					20	E5E8302520	£32.18
3	6	2.7	8	57	12	E5E50030	£20.08
				60	20	E5E8303020	£32.13
				80	30	E5E8303030	£40.94
4	6	3.7	11	57	18	E5E50040	£24.61
			10	60	20	E5E8304020	£32.13
			10	80	30	E5E8304030	£40.94
5	6	4.7	13	57	18	E5E50050	£24.61
6	6	5.7	13	57	18	E5E50060	£24.61
			15	90	25	E5E8306025	£40.91
			15	90	45	E5E8306045	£40.91
8	8	7.4	21	63	25	E5E50080	£39.22
			20	100	30	E5E8308030	£60.72
			20	100	50	E5E8308050	£60.72
10	10	9.2	22	72	30	E5E50100	£56.78
			25	100	55	E5E8310055	£79.90
12	12	11	26	83	36	E5E50120	£86.16
			30	110	60	E5E8312060	£112.28
16	16	15	36	92	42	E5E50160	£136.73
20	20	19	41	104	52	E5E50200	£230.19

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

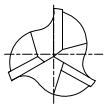
3 FLUTE 45° HELIX ALU POWER WAVE-CUT

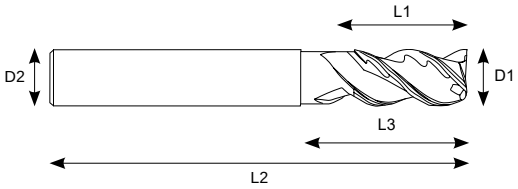
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Reduced vibration and increased tool life due to wave cutting edge
- Superior chip evacuation
- Provides mirror surface finish

Series	Cutting Data
E5D74 YG-1	P239







MG SC | 3 | 45° | PLAIN

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	L3	★★★★ Performance Order Code	Price
6	6	13	70	20	E5D74060	£31.40
8	8	19	80	26	E5D74080	£47.32
10	10	22	80	32	E5D74100	£63.46
12	12	26	90	36	E5D74120	£81.01
16	16	32	120	46	E5D74160	£126.32
20	20	38	120	52	E5D74200	£199.65

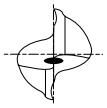
2 FLUTE CORNER RADIUS 25° HELIX ALU POWER

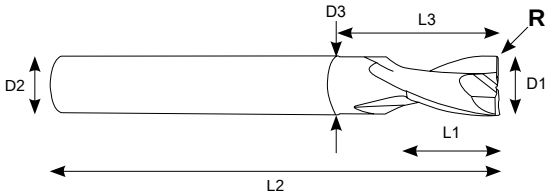
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Increased tool life and higher cutting accuracy
- High metal removal rate
- Superior chip evacuation
- Corner radius edge prep to prevent tool chipping
- Provides mirror surface finish

Series	Cutting Data
E5930 YG-1	P241







MG SC | 2 | 25° | PLAIN

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price
2	0.2	3	1.9	3	40	6	E5930020	£19.57
3		3	2.9	4	40	8	E5930030	£19.57
4		4	3.8	5	50	12	E5930040	£21.83
5		5	4.8	8	50	14	E5930050	£22.84
6		6	5.7	8	65	18	E5930060	£35.98
8		8	7.7	10	70	22	E5930080	£36.92
10		10	9.7	14	80	28	E5930100	£41.45
12		12	11.5	16	90	35	E5930120	£58.30
16		16	15.5	20	90	40	E5930160	£100.64
20		20	19.5	25	100	50	E5930200	£162.61

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

3 FLUTE CORNER RADIUS 45° HELIX ALU POWER LAPPED

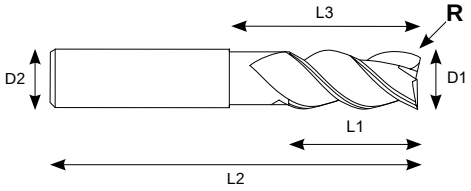
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- High metal removal rate
- Superior chip evacuation
- Provides mirror surface finish

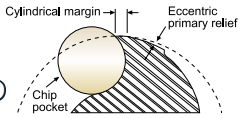
Series		Cutting Data
E5E51 YG-1	E5D72 YG-1	P242







MG SC | 3 | 45° | PLAIN | LAPPED



TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.015mm	h6

D1	R	D2	L1	L2	L3	★★★★ Performance Order Code	Price
3	0.5	6	12	57	-	E5E51030	£15.13
	1					E5E51901	£15.13
4	0.5	6	15	57	-	E5E51040	£22.73
	1					E5E51902	£22.73
5	0.5	6	20	57	-	E5E51050	£22.73
	1					E5E51903	£22.73
6	0.5	6	20	65	-	E5E51060	£26.74
	1					E5E51904	£26.74
	0.5		10	70	20	E5D7206005	£51.31
	1					E5D7206010	£51.31
8	0.5	8	22	65	-	E5E51080	£42.86
	1					E5E51905	£42.86
	0.5		12	80	25	E5D7208005	£51.31
	1					E5D7208010	£51.31
	2					E5D7208020	£51.31
10	0.5	10	25	70	-	E5E51100	£52.43
	1					E5E51906	£52.43
	2					E5E51907	£52.43
	0.5		15	100	30	E5D7210005	£95.21
	1					E5D7210010	£95.21
	2					E5D7210020	£95.21
	3					E5D7210030	£95.21
12	0.5	12	25	75	-	E5E51120	£73.32
	1					E5E51908	£73.32
	2					E5E51909	£73.32
	0.5		20	110	35	E5D7212005	£107.74
	1					E5D7212010	£107.74
	2					E5D7212020	£107.74
	3					E5D7212030	£107.74
16	0.5	16	35	90	-	E5E51160	£122.58
	1					E5E51910	£122.58
	2					E5E51911	£122.58
20	0.5	20	40	100	-	E5E51200	£158.36
	1					E5E51912	£158.36
	2					E5E51913	£158.36

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

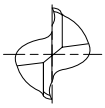
2 FLUTE CORNER RADIUS WITH NECK ALU POWER

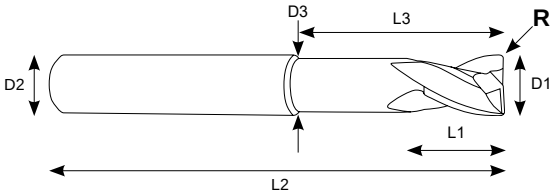
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish
- Reduced neck diameter

Series	Cutting Data
E5909 YG-1	**P241**







MG SC | 2 | 30° | PLAIN

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price
4	0.3	6	3.6	5	50	10	E5909040	**£30.64**
6	0.5	6	5.4	8	60	20	E5909060	**£30.64**
8	0.6	8	7.2	10	70	30	E5909080	**£41.63**
10	0.8	10	9	12	80	36	E5909100	**£64.31**
12	1	12	11	14	90	40	E5909120	**£101.94**
16	1.3	16	14.5	18	100	45	E5909160	**£164.73**
20	1.6	20	18	24	100	45	E5909200	**£259.20**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

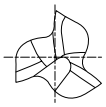
3 FLUTE BALL NOSE WITH NECK ALU POWER

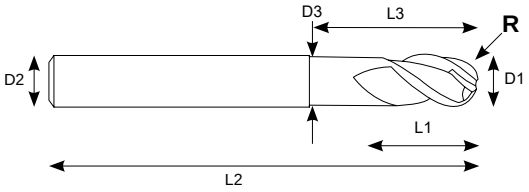
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish

Series	Cutting Data
E5908 YG-1	P243







MG SC | 3 | 40° | R ±0.01 | PLAIN | LAPPED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price
2	1	6	1.9	3	60	5	E5908020	£30.52
2.5	1.25	6	2.4	4	60	6	E5908025	£30.52
3	1.5	6	2.8	4.5	60	6.5	E5908030	£30.52
3.5	1.75	6	3.2	5	65	7	E5908035	£30.73
4	2	6	3.7	6	65	8	E5908040	£30.73
5	2.5	6	4.6	7.5	65	10	E5908050	£30.73
6	3	6	5.6	9	75	12	E5908060	£30.73
8	4	8	7.4	12	75	25	E5908080	£45.93
10	5	10	9.4	15	80	30	E5908100	£69.85
12	6	12	11.4	18	90	36	E5908120	£98.54
16	8	16	15.4	24	100	40	E5908160	£145.30

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

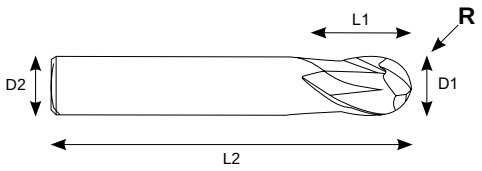
2 FLUTE BALL NOSE 50° HELIX ALU POWER LAPPED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish

Series	Cutting Data
E5D80 YG-1	P242





MG SC | 2 | 50° | R ±0.02 | PLAIN | LAPPED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★ Performance Order Code	Price
0.5	0.25	6	1	40	E5D80005	£17.57
1	0.5	3	2.5	50	E5D800103S	£12.88
		6	6		E5D8001006	£14.81
1.5	0.75	3	4	50	E5D800153S	£12.88
		6	8		E5D8001508	£14.81
2	1	3	5	50	E5D800203S	£12.88
		6	5		E5D80020	£14.81
		6	10		E5D8002010	£14.81
3	1.5	3	8	60	E5D800303S	£13.68
		6	8		E5D80030	£15.45
		6	12		E5D8003012	£15.45
4	2	4	10	70	E5D800404S	£15.72
		6	16		E5D8004016	£17.57
6	3	6	12	90	E5D80060	£17.57
8	4	8	14	100	E5D80080	£20.80
10	5	10	18	100	E5D80100	£33.42
12	6	12	22	110	E5D80120	£45.38

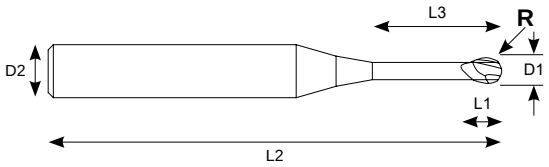
2 FLUTE BALL NOSE LONG NECK ALU POWER LAPPED

Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Metals

- Designed for machining aluminium, copper and plastic
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish
- Long neck design for deep pocket machining

Series	Cutting Data
E5E90 YG-1	P242





MG SC | 2 | 30° | R ±0.01 | PLAIN | LAPPED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	L3	★★★★ Performance Order Code	Price
0.5	0.25	4	1	45	5	E5E9000505	£35.69
					10	E5E9000510	£35.69
					16	E5E9000516	£41.22
1	0.5	4	2	50	3	E5E9001003	£31.35
				50	8	E5E9001008	£31.35
				50	16	E5E9001016	£31.35
				60	26	E5E9001026	£38.11
1.5	0.75	4	3	50	4	E5E9001504	£31.35
				50	10	E5E9001510	£31.35
				50	20	E5E9001520	£31.35
2	1	4	4	50	6	E5E9002006	£31.35
				50	10	E5E9002010	£31.35
				50	20	E5E9002020	£31.35

D1	R	D2	L1	L2	L3	★★★★ Performance Order Code	Price
2	1	4	4	80	40	E5E9002040	£40.50
				110	60	E5E9002060	£50.95
2.5	1.25	4	5	50	10	E5E9002510	£31.35
				70	30	E5E9002530	£36.43
				100	50	E5E9002550	£46.89
3	1.5	6	6	50	8	E5E9003008	£35.59
				60	20	E5E9003020	£36.57
				80	40	E5E9003040	£48.71
				100	60	E5E9003060	£61.08
4	2	6	8	50	10	E5E9004010	£35.59
				60	20	E5E9004020	£36.57
				80	40	E5E9004040	£48.71
				100	60	E5E9004060	£61.08

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

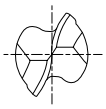
2 FLUTE BALL NOSE 50° HELIX ALU POWER LAPPED

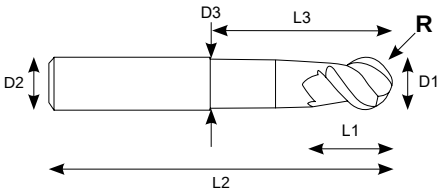
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Designed for machining aluminium and copper
- Increased tool life and higher cutting accuracy
- Provides mirror surface finish

Series	Cutting Data
E5910 YG-1	P243







MG SC | 2 | 50° | R ±0.01 | PLAIN | LAPPED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.02mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price
6	3	6	5.4	5.5	55	25	E5910060	£33.56
8	4	8	7.2	7	65	30	E5910080	£52.58
10	5	10	9	8.5	75	35	E5910100	£79.39
12	6	12	11	10.5	75	40	E5910120	£88.61
16	8	16	14.5	14	90	50	E5910160	£115.87
20	10	20	18	17	100	50	E5910200	£165.78

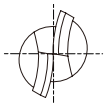
2 FLUTE BALL NOSE 25° HELIX A+ LAPPED

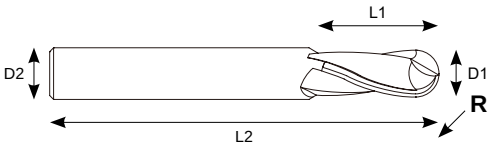
Uncoated Carbide for Mirror Finish Machining of Aluminium & Non-Ferrous Material

- Uncoated micrograin carbide
- Excellent chip evacuation even in high feed machining
- High rigidity of the cutting edge ensures high productivity

Series	Cutting Data
APBE Korloy	P239







MG SC | 2 | 25° | h6 | PLAIN | LAPPED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.02mm	h6

D1	R	D2	L1	L2	★★★★ Performance Order Code	Price
1	0.5	4	2	50	APBE2010-050	£25.99
1.5	0.75		3		APBE2015-050	£25.99
2	1		4		APBE2020-050	£25.99
2.5	1.25		5		APBE2025-050	£25.99
3	1.5		6		APBE2030-050	£25.99
3.5	1.75		7		APBE2035-050	£25.99
4	2		8		APBE2040-050	£25.99
4.5	2.25	6	9	50	APBE2045-050	£32.10
5	2.5		10		APBE2050-050	£32.10
5.5	2.75		11		APBE2055-050	£32.10
6	3		12		APBE2060-050	£32.10
8	4	8	16	60	APBE2080-060	£35.52
10	5	10	20	75	APBE2100-075	£46.75
12	6	12	24	75	APBE2120-075	£61.67

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

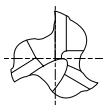
3 FLUTE ROUGHER ALU POWER CHAMFER PREP

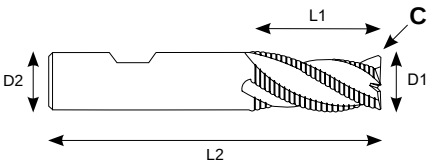
Uncoated Carbide Ripper for Rough Machining Of Aluminum & Non-Ferrous Metals

- Designed for machining aluminium and copper
- Superior chip evacuation
- Aluminium pitch prevents built up edge
- Chamfer corner prep prevents tool chipping

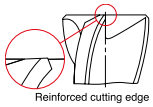
Series	Cutting Data
E5742/11 YG-1	P243







MG SC | 3 | 30° | ALU | DIN 6535HA | DIN 6535HB | C x 45°



D1	D2	L1	L2	C	★★★★ Performance Order Code		Price
					Plain Shank	Weldon Shank	
6	6	16	57	0.6	E5742060	E5711060	£32.84
7	8	16	63		E5742070	E5711070	£37.22
8	8	16	63		E5742080	E5711080	£35.45
9	10	19	72		E5742090	E5711090	£59.43
10	10	22	72		E5742100	E5711100	£56.60
12	12	26	83		E5742120	E5711120	£56.77
14	14	26	83	0.91	E5742140	E5711140	£69.33
16	16	32	92		E5742160	E5711160	£95.57
18	18	32	92		E5742180	E5711180	£123.26
20	20	38	104		E5742200	E5711200	£151.02
25	25	45	121		E5742250	E5711250	£244.61

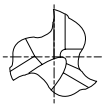
3 FLUTE ROUGHER WITH NECK ALU POWER CHAMFER PREP

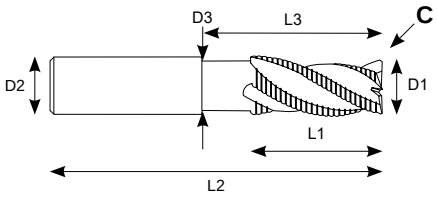
Uncoated Carbide Ripper for Rough Machining Of Aluminum & Non-Ferrous Metals

- Designed for machining aluminium and copper
- Superior chip evacuation
- Aluminium pitch prevents built up edge
- Reduced neck diameter for deep pocket machining
- Chamfer corner prep prevents tool chipping

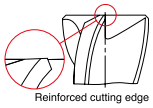
Series	Cutting Data
E5E39 YG-1	P243







MG SC | 3 | 30° | ALU | DIN 6535HA | DIN 6535HB | C x 45° | LAPPED



D1	D2	D3	L1	L2	L3	C	★★★★ Performance Order Code	Price
6	6	5	16	57	20	0.6	E5E39060	£39.68
8	8	7	16	63	25		E5E39080	£41.84
10	10	9	22	72	30		E5E39100	£66.37
12	12	10.5	26	83	36		E5E39120	£84.65
16	16	14.5	32	92	42	0.91	E5E39160	£123.97
20	20	18.5	38	104	52		E5E39200	£196.25

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●			

3 FLUTE ROUGHER 45° HELIX A+

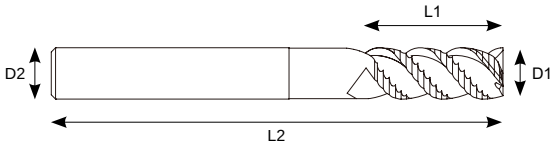
For Roughing of Aluminium at High Speeds with High Metal Removal Rates

- Uncoated micrograin carbide
- Excellent chip evacuation even in high feed machining
- High rigidity of the cutting edge ensures high productivity
- Not suitable for plunging

Series	Cutting Data
APRE Korloy	P239









KORLOY

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	8	50	APRE3040-050	£33.94
5		13		APRE3050-050	£33.94
6		15		APRE3060-050	£33.94
6.5	8	16	60	APRE3065-060	£41.95
7		16		APRE3070-060	£41.95
7.5		20		APRE3075-060	£41.95
8		20		APRE3080-060	£41.95
8.5	10	20	75	APRE3085-075	£50.92
9		20		APRE3090-075	£50.92
9.5		22		APRE3095-075	£50.92
10		25		APRE3100-075	£50.92
11	12	30	75	APRE3110-075	£61.68
12		30		APRE3120-075	£61.68
13	14	30	75	APRE3130-075	£135.92
14	16	32	75	APRE3140-075	£135.92
15		32	75	APRE3150-075	£135.92
16		35	100	APRE3160-100	£161.11
17	20	35	100	APRE3170-100	£202.32
18		35		APRE3180-100	£202.32
20		45		APRE3200-100	£204.74
25	25	50	105	APRE3250-105	£384.05

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
											●			

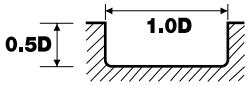
2 FLUTE 45° HELIX ALU POWER

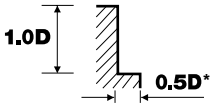
E5D71, E5E48, E5522 & E5521 Series

CUTTING DATA

Slotting & Side Cutting

MATERIAL	ALUMINIUM & ALUMINIUM ALLOY							
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	16870	505	53	0.015	16870	845	53	0.025
1.5	13150	525	62	0.020	13150	790	62	0.030
2	11300	565	71	0.025	11300	790	71	0.035
2.5	10565	635	83	0.030	10565	845	83	0.040
3	10000	700	95	0.035	10000	900	95	0.035
4	10000	900	125	0.045	10000	1100	125	0.055
5	10000	1000	155	0.050	10000	1300	155	0.065
6	10000	1200	190	0.060	10000	1500	190	0.075
8	8000	1400	200	0.088	8000	1800	200	0.113
10	8000	1700	250	0.106	8000	2100	250	0.131
12	8000	2100	300	0.131	8000	2600	300	0.163
14	6000	1800	265	0.150	6000	2200	265	0.183
16	6000	1900	300	0.158	6000	2400	300	0.200
18	4000	1400	225	0.175	4000	1800	225	0.225
20	4000	1600	250	0.200	4000	1900	250	0.238





*up to 10mm Diameter **0.25D**

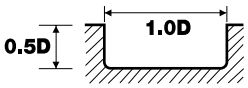
2 FLUTE LONG NECK ALU POWER

E5E85 Series

CUTTING DATA

Slotting

MATERIAL	ALUMINIUM & ALUMINIUM ALLOY	
Diameter	RPM	Feed
0.2	40000	80
0.4	40000	160
0.5	38400	190
0.6	32000	190
0.8	24000	190
1	19200	190
2	9600	190
3	6400	190
4	4800	190



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 & 3 FLUTE A+, 2 FLUTE BALL NOSE A+

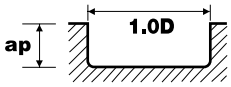
APFE2, APLFE2, APFE3, APLFE3, APBE & APRE Series

CUTTING DATA

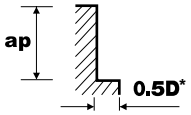
Slotting & Side Cutting

MATERIAL	ALUMINIUM ALLOY (A7075)		ALUMINIUM ALLOY (CAST - AC4B)		ALUMINIUM ALLOY (A7075)		ALUMINIUM ALLOY (CAST - AC4B)	
Dia.	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	40,000	368	40,000	280	40,000	480	40,000	368
2	38,000	680	32,000	440	40,000	880	38,000	680
3	25,000	760	21,000	480	32,000	1,120	25,000	760
4	19,000	800	13,000	520	24,000	1,200	19,000	800
5	15,000	800	13,000	560	19,000	1,280	15,000	880
6	13,000	880	11,000	600	16,000	1,520	13,000	960
8	9,500	960	8,000	640	12,000	1,520	9,500	960
10	7,600	960	6,400	640	9,500	1,520	7,600	960
12	6,400	960	5,300	640	8,000	1,520	6,400	960
16	4,800	800	4,000	576	6,000	1,520	4,800	960
20	3,800	776	3,200	528	4,800	1,200	3,800	800

ap≤D (Max :12mm)



ap up to max flute length
*up to 3mm diameter 0.2D



* Clamp the workpiece rigidly. In case of vibration, reduce RPM and feed rate by the same ratio.

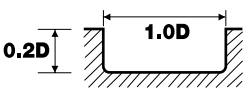
3 FLUTE 45° HELIX ALU POWER, WAVE CUT

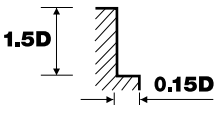
E5D74 Series

CUTTING DATA

Slotting & Side Cutting

MATERIAL	ALUMINIUM & Non-Ferrous metal			
Diameter	RPM	Feed	RPM	Feed
6	13000	1125	13000	1405
8	10400	1300	10400	1600
10	10400	1585	10400	1950
12	10400	1950	10400	1640
14	7800	1675	7800	2055
16	7800	1755	7800	2250
18	5200	1300	5200	1690
20	5200	1495	5200	1775





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

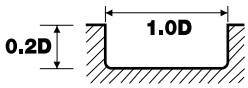
3 FLUTE 45° HELIX (LAPPED) **ALU POWER**

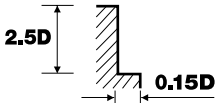
E5D70 & E5E83 Series

CUTTING DATA

Slotting & Side Cutting

MATERIAL	ALUMINIUM & Non-Ferrous metal			
Diameter	RPM	Feed	RPM	Feed
1	17000	550	17000	900
1.5	13000	500	13000	850
2	10000	400	10000	640
2.5	8000	380	8000	520
3	7000	350	7000	455
3.5	7000	350	7000	550
4	7000	441	7000	546
5	7000	504	7000	651
6	7000	606	7000	756
7	6000	700	6000	820
8	5600	700	5600	861
9	5600	800	5600	900
10	5600	854	5600	1050
12	5600	1050	5600	882
14	4200	903	4200	1106
16	4200	945	4200	1211
20	2800	805	2800	956





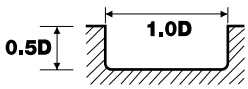
3 FLUTE 45° HELIX (LAPPED) **ALU POWER**

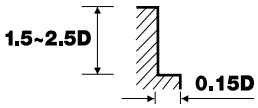
E5E49 & E5E50 Series

CUTTING DATA

Slotting & Side Cutting

MATERIAL	ALUMINIUM & ALUMINIUM ALLOY							
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	7000	730	65	0.035	7000	940	65	0.045
4	7000	940	90	0.045	7000	1150	90	0.055
5	7000	1050	110	0.050	7000	1360	110	0.065
6	7000	1250	130	0.060	7000	1580	130	0.075
8	5600	1470	140	0.088	5600	1900	140	0.113
9	5600	1630	160	0.097	5600	2050	160	0.122
10	5600	1780	175	0.106	5600	2200	175	0.131
12	5600	2200	210	0.131	5600	2740	210	0.163
16	4200	1990	210	0.158	4200	2520	210	0.200
20	2800	1680	175	0.200	2800	2000	175	0.238





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

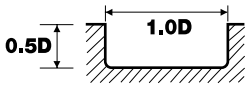
2 FLUTE CORNER RADIUS 25° HELIX ALU POWER

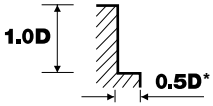
E5930 Series

CUTTING DATA

Slotting & Side Cutting

MATERIAL	ALUMINIUM & ALUMINIUM ALLOY							
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	10400	460	65	0.022	10400	810	65	0.039
3	10400	720	100	0.035	10400	960	100	0.046
4	10400	960	130	0.046	10400	1120	130	0.054
5	10400	1040	165	0.050	10400	1360	165	0.065
6	10400	1200	195	0.058	10400	1600	195	0.077
8	8000	1440	200	0.090	8000	1840	200	0.115
10	8000	1760	250	0.110	8000	2160	250	0.135
12	8000	2160	300	0.135	8000	2720	300	0.170
16	6400	2000	320	0.156	6400	2480	320	0.194
20	4000	1600	250	0.200	4000	2000	250	0.250





*up to 10mm Diameter **0.25D**

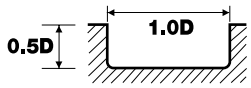
2 FLUTE CORNER RADIUS WITH NECK ALU POWER

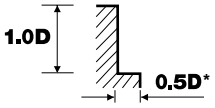
E5909 Series

CUTTING DATA

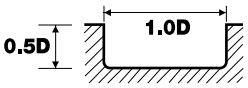
Slotting & Side Cutting

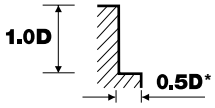
MATERIAL	ALUMINIUM & ALUMINIUM ALLOY								COPPER ALLOY							
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
4	10400	960	130	0.046	10400	1120	130	0.054	3120	240	40	0.038	3120	280	40	0.045
6	10400	1200	195	0.058	10400	1600	195	0.077	3120	305	60	0.049	3120	400	60	0.064
8	8000	1440	200	0.090	8000	1840	200	0.115	2400	360	60	0.075	2400	465	60	0.097
10	8000	1760	250	0.110	8000	2160	250	0.135	2400	440	75	0.092	2400	545	75	0.114
12	8000	2160	300	0.135	8000	2720	300	0.170	2400	545	90	0.114	2400	680	90	0.142
16	6400	2000	320	0.156	6400	2480	320	0.194	1920	505	95	0.132	1920	625	95	0.163
20	4000	1600	250	0.200	4000	2000	250	0.250	1200	400	75	0.167	1200	505	75	0.210





*up to 10mm Diameter **0.25D**





*up to 10mm Diameter **0.25D**

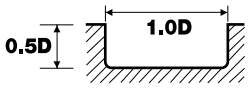
3 FLUTE CORNER RADIUS 45° HELIX (LAPPED) ALU POWER

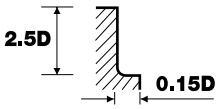
E5E51 & E5D72 Series

CUTTING DATA

Slotting & Side Cutting

MATERIAL	ALUMINIUM & ALUMINIUM ALLOY							
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
3	10000	1160	95	0.039	10000	1490	95	0.050
4	10000	1490	125	0.050	10000	1820	125	0.061
5	10000	1650	155	0.055	10000	2150	155	0.072
6	10000	1980	190	0.066	10000	2480	190	0.083
8	8000	2310	200	0.096	8000	3000	200	0.125
10	8000	2810	250	0.117	8000	3470	250	0.145
12	8000	3470	300	0.145	8000	4290	300	0.179
16	6000	3140	300	0.174	6000	3960	300	0.220
20	4000	2640	250	0.220	4000	3140	250	0.262



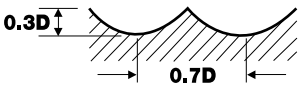


2 FLUTE BALL NOSE LAPPED ALU POWER

E5D80 Series

Stepover Cutting

MATERIAL	Non-Ferrous metal	
Diameter	RPM	Feed
0.2	50000	70
0.4	50000	130
1.6	50000	190
1.8	50000	260
1	43000	280
2	21500	280
3	14300	280
4	10900	280
6	7260	330
8	5500	380
10	4300	380
12	3600	380
16	2700	380
20	2100	380

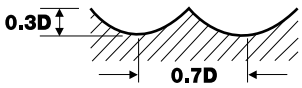


2 FLUTE BALL NOSE LONG NECK ALU POWER

E5E90 Series

Stepover Cutting

MATERIAL	Non-Ferrous metal	
Diameter	RPM	Feed
0.2	37500	55
0.4	37500	100
0.6	37500	145
0.8	37500	200
1	32250	210
2	16130	210
3	10730	210
4	8180	210



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

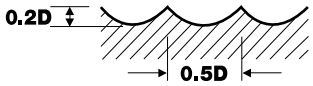
2 FLUTE BALL NOSE 50° HELIX WITH NECK ALU POWER

E5910 Series

CUTTING DATA

Stepover Cutting

MATERIAL		ALUMINIUM & ALUMINIUM ALLOY				COPPER ALLOY			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	3	14400	1400	270	0.049	4400	350	85	0.040
8	4	11200	1600	280	0.071	3360	400	85	0.060
10	5	11200	1880	350	0.084	3360	465	105	0.069
12	6	11200	2400	420	0.107	3360	600	125	0.089
16	8	8800	2160	440	0.123	2640	535	135	0.101
20	10	5600	1760	350	0.157	1680	440	105	0.131



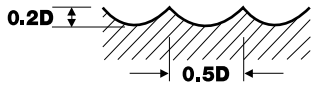
3 FLUTE BALL NOSE 40° HELIX WITH NECK ALU POWER

E5908 Series

CUTTING DATA

Stepover Cutting

MATERIAL		ALUMINIUM & ALUMINIUM ALLOY				COPPER ALLOY			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
2	1	21600	760	135	0.018	6400	190	40	0.015
2.5	1.25	17600	760	140	0.022	5200	190	40	0.018
3	1.5	14400	760	135	0.026	4400	190	40	0.022
3.5	1.75	14400	800	160	0.028	4400	190	50	0.022
4	2	14400	1000	180	0.035	4400	250	55	0.028
5	2.5	14400	1080	225	0.038	4400	270	70	0.031
6	3	14400	1400	270	0.049	4400	350	85	0.040
8	4	11200	1600	280	0.071	3360	400	85	0.060
10	5	11200	1880	350	0.084	3360	465	105	0.069
12	6	11200	2400	420	0.107	3360	600	125	0.089
16	8	8800	2160	440	0.123	2640	535	135	0.101



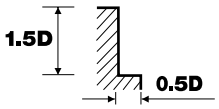
3 FLUTE ROUGHER ALU POWER

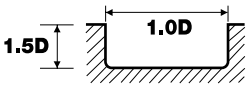
E5742, E5711 & E5E39 Series

CUTTING DATA

Side Cutting & Slotting

MATERIAL	ALUMINIUM & ALUMINIUM ALLOY							
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	13500	6800	200	0.168	10500	5300	198	0.168
8	10500	5300	200	0.168	8000	4000	201	0.167
10	8500	4300	205	0.169	6500	3500	204	0.179
12	8500	4200	320	0.165	6400	3200	241	0.167
16	6400	3200	322	0.167	4800	2400	241	0.167
20	5100	2500	320	0.163	3850	1900	242	0.165





RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

Alu-Power HPC Milling Cutters

Performance
★★★★★

N

ULTIMATE high metal removal on aluminium & aluminium alloys

Ultra-micrograin carbide milling cutters for high speed HPC machining of aluminium, aluminium alloys, die cast aluminium, non-ferrous alloys and plastic.

Diameter Range
3-25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Unique Flute Design
Effective chip evacuation at high feed rates with lower cutting forces.

Ultimate Chip Flow
Polished flutes help with excellent chip flow and surface finish.

Versatile Performance
Cut deeper and run at both faster and slower cutting speeds & feeds.

Ramp & Plunge
Great for vertical ramping up to 20° and step over plunging applications.

Features

3 Flute Centre Match
All 3 flutes come to the centre, designed for high spindle speeds.

Sharp Cylindrical Land
Razor sharp performance with reduced vibration & chatter.

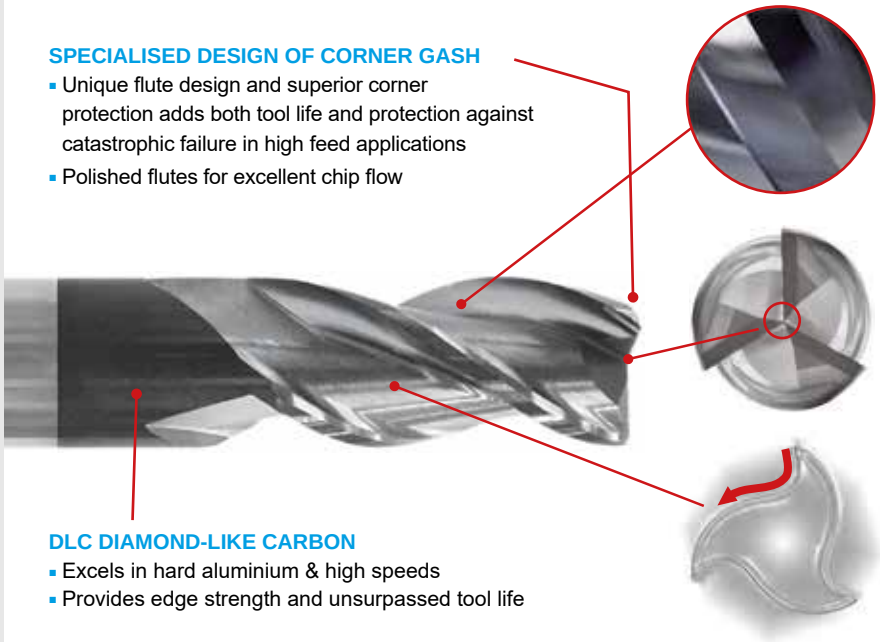
Multipurpose Machining
From side cuts, to rough cuts to aggressive ramping.

Optional Coating
DLC coating excels in hard aluminium and high speeds.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
3 FLUTE 37° HELIX PLAIN SHANK		E5H22	3-25	37°	**248**
3 FLUTE 37° HELIX COATED • PLAIN SHANK		JAH22	3-25	37°	**248**
3 FLUTE WITH NECK 37° HELIX UNCOATED • PLAIN SHANK		E5H23	6-20	37°	**249**
3 FLUTE WITH NECK 37° HELIX COATED • PLAIN SHANK		JAH23	6-20	37°	**249**
3 FLUTE CORNER RADIUS 37° HELIX UNCOATED • PLAIN SHANK		E5H24	6-20	37°	**250**
3 FLUTE CORNER RADIUS 37° HELIX COATED • PLAIN SHANK		JAH24	6-20	37°	**250**
3 FLUTE CORNER RADIUS WITH NECK 37° HELIX UNCOATED • PLAIN SHANK		E5H25	6-20	37°	**251**
3 FLUTE CORNER RADIUS WITH NECK 37° HELIX COATED • PLAIN SHANK		JAH25	6-20	37°	**251**
3 FLUTE CHIP SPLITTER PLAIN SHANK • WELDON SHANK		E5186 E5187	6-20	37°	**252**

THE ANATOMY OF EFFICIENCY



SPECIALISED DESIGN OF CORNER GASH

- Unique flute design and superior corner protection adds both tool life and protection against catastrophic failure in high feed applications
- Polished flutes for excellent chip flow

CYLINDRICAL LAND

- Increased performance in a variety of cutting conditions
- Also helps reduce vibration & chatter

IDEAL SYMMETRICAL SHAPE

- 3-flute design “to the center” (all 3 flutes come to center)
- Designed for high spindle speeds
- Highly effective in vertical ramping up to 20 degrees and step-over plunging applications

DLC DIAMOND-LIKE CARBON

- Excels in hard aluminium & high speeds
- Provides edge strength and unsurpassed tool life

ENGINEERED FLUTE DESIGN

- Effective chip evacuation at high feed rates with lower cutting forces than competitors products

YG

Speed, Strength, Sharpness.

Alu-Power HPC keeps its edge under tough conditions.

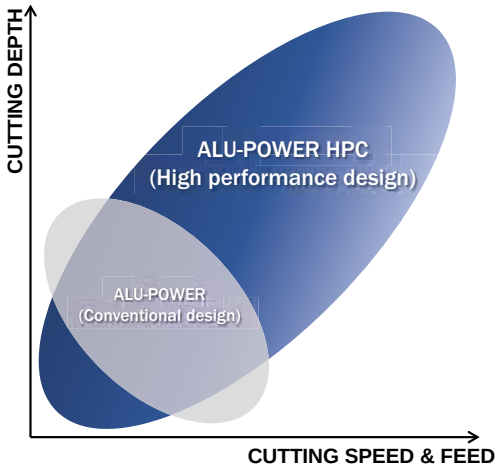


What do you get when you add 3 flutes to the centre of the tools, polished ultra-micrograin carbide, extra-large chip pockets and a razor-sharp cylindrical land design?

In technical terms, it's called the ALU-POWER HPC. In a machinist's terms, it's called an extremely sharp, highly durable milling monster that won't back down, cut after cut after cut.

Compared to conventional aluminium-specific end mills, the ALU-POWER HPC provides more versatile performance. Its high-performance design allows you to cut deeper and run at both faster and slower cutting speeds and feeds.

FROM SIDE CUTS TO ROUGH CUTS TO AGGRESSIVE RAMPING, NO CUTTER WITHSTANDS EXTREME RADIAL FORCES BETTER - OR LONGER!



WORK MATERIALS: ALUMINIUM, NON-FERROUS & NON-METALLIC MATERIALS



ROUGH CUTTING

Ultra-micrograin carbide supplies the rigidity to keep the chips flying. Highly polished 3-flute design ensures they'll keep flying – cut after cut.



RAMPING

In steep, aggressive ramping conditions, the ALU-POWER HPC holds its own to resist the torsional stress from extreme helical output.



SIDE CUTTING

There is no cooler-running super high-speed end mill. While others melt the materials they're cutting, ALU-POWER HPC keeps cutting cool in aluminium & softer alloys.

THE BENEFITS OF BALANCED CUTTING

When you lock an ALU-POWER HPC into your milling machine, you've unleashed the fastest-running, lowest heat-producing end mill in the business. And that means you've got the speed and sharpness to take on not only the tough materials but even more fragile mixed alloy castings with ease. Discover the ALU-POWER HPC and start pushing your productivity higher.



ANOTHER ADVANTAGE OF YG-1'S PERFECT GEOMETRY & SUPERIOR COATING

Whether you're running parts in today's most advanced 5-axis machining centers or in machines built decades ago, ALU-POWER HPC makes the most of your manufacturing assets. That's because its unique 3-flute, 37-degree helix design can operate at lower speeds with higher efficiency.

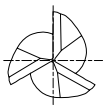
3 FLUTE 37° HELIX

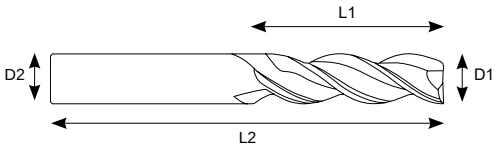
Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- 3 flute 'centre match' HPC geometry for high feed rates & large depth of cut
- Extreme metal removal rates
- Superior chip evacuation
- Available with lapped finish or DLC (diamond like carbon) coating for aerospace aluminium alloy
- Recommended for use with high performance tool holders

Series		Cutting Data
E5H22 YG-1	JAH22 YG-1	P253







MG SC | 3 | 37° | PLAIN | DLC COATED | HPC

D1	D2	L1	L2	Uncoated ★★★★★ Performance		DLC Coated ★★★★★ Performance	
				Order Code	Price	Order Code	Price
3	6	8	52	E5H22030	£19.12	JAH22030	£26.80
4		11	55	E5H22040	£28.00	JAH22040	£35.46
5		13	57	E5H22050	£28.00	JAH22050	£35.46
6	6	13	57	E5H22060	£29.84	JAH22060	£37.27
		13	72	E5H22901	£33.75	JAH22901	£41.07
		24	75	E5H22902	£40.51	JAH22902	£47.65
8	8	19	63	E5H22080	£40.54	JAH22080	£50.38
		32	75	E5H22903	£47.69	JAH22903	£56.13
10	10	22	72	E5H22100	£44.10	JAH22100	£57.49
		40	100	E5H22904	£58.32	JAH22904	£71.32
12	12	26	83	E5H22120	£65.85	JAH22120	£82.49
		48	100	E5H22905	£102.87	JAH22905	£118.41
14	14	30	89	E5H22140	£116.81	JAH22140	£139.20
16	16	32	92	E5H22160	£121.62	JAH22160	£154.10
		64	125	E5H22906	£154.21	JAH22906	£191.82
20	20	38	104	E5H22200	£212.91	JAH22200	£255.99
		80	150	E5H22907	£291.19	JAH22907	£332.05
25	25	50	125	E5H22250	£385.42	JAH22250	£428.17

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

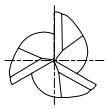
3 FLUTE WITH NECK 37° HELIX

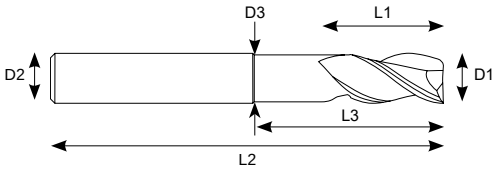
Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- 3 flute 'centre match' HPC geometry for high feed rates & large depth of cut
- Extreme metal removal rates
- Superior chip evacuation
- Available with lapped finish or DLC (diamond like carbon) coating for aerospace aluminium alloy

Series		Cutting Data
E5H23 YG-1	JAH23 YG-1	P253







MG SC | 3 | 37° | PLAIN | DLC COATED | HPC

D1	D2	D3	L1	L2	L3	Uncoated ★★★★★ Performance		DLC Coated ★★★★★ Performance	
						Order Code	Price	Order Code	Price
6	6	5.7	10	75	20	E5H23060	**£36.28**	JAH23060	**£43.45**
8	8	7.4	12	75	25	E5H23080	**£64.02**	JAH23080	**£74.51**
10	10	9.2	14	100	35	E5H23100	**£88.51**	JAH23100	**£106.95**
12	12	11	16	100	40	E5H23120	**£157.25**	JAH23120	**£179.20**
16	16	15	20	125	50	E5H23160	**£233.31**	JAH23160	**£286.63**
20	20	19	25	150	65	E5H23200	**£439.38**	JAH23200	**£496.96**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

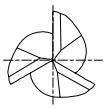
3 FLUTE CORNER RADIUS 37° HELIX

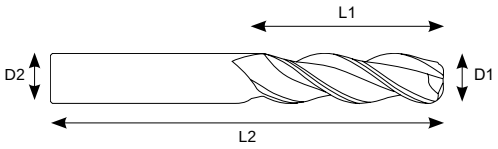
Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- 3 flute 'centre match' HPC geometry for high feed rates & large depth of cut
- Extreme metal removal rates
- Superior chip evacuation
- Available with lapped finish or DLC (diamond like carbon) coating for aerospace aluminium alloy

Series		Cutting Data
E5H24 YG-1	JAH24 YG-1	P253







MG SC | 3 | 37° | PLAIN | DLC COATED | HPC

D1	R	D2	L1	L2	Uncoated ★★★★★ Performance		DLC Coated ★★★★★ Performance	
					Order Code	Price	Order Code	Price
6	0.5	6	13	57	E5H24060	£26.66	JAH24060	£33.35
	1.0				E5H24901	£26.66	JAH24901	£33.35
	1.5				E5H24902	£26.66	JAH24902	£33.35
	0.8		13	72	E5H24903	£30.04	JAH24903	£36.68
	1.2				E5H24904	£30.04	JAH24904	£36.68
	0.5		24	75	E5H24905	£36.33	JAH24905	£42.97
	1				E5H24906	£36.33	JAH24906	£42.97
8	0.3	8	19	63	E5H24080	£40.02	JAH24080	£49.82
	0.5				E5H24907	£40.02	JAH24907	£49.82
	1				E5H24908	£40.02	JAH24908	£49.82
	1.5				E5H24909	£40.02	JAH24909	£49.82
	0.5		32	75	E5H24910	£53.21	JAH24910	£62.98
	1				E5H24911	£53.21	JAH24911	£62.98
	1.5				E5H24912	£53.21	JAH24912	£62.98
	2				E5H24913	£53.21	JAH24913	£62.98
10	0.3	10	22	72	E5H24100	£55.03	JAH24100	£71.84
	0.5				E5H24914	£55.03	JAH24914	£71.84
	1				E5H24915	£55.03	JAH24915	£71.84
	1.5				E5H24916	£55.03	JAH24916	£71.84
	0.5		40	100	E5H24917	£68.32	JAH24917	£84.00
	1				E5H24918	£68.32	JAH24918	£84.00
	1.5				E5H24919	£68.32	JAH24919	£84.00
	2				E5H24920	£68.32	JAH24920	£84.00
12	1.5	12	26	83	E5H24120	£77.23	JAH24120	£97.17
	2				E5H24921	£77.23	JAH24921	£97.17
	2.5				E5H24922	£77.23	JAH24922	£97.17
	3				E5H24923	£77.23	JAH24923	£97.17
	0.5		48	100	E5H24924	£113.87	JAH24924	£132.45
	1				E5H24925	£113.87	JAH24925	£132.45
	1.5				E5H24926	£113.87	JAH24926	£132.45
	2				E5H24927	£113.87	JAH24927	£132.45
	2.5				E5H24928	£113.87	JAH24928	£132.45
	3				E5H24929	£113.87	JAH24929	£132.45
14	1	14	30	89	E5H24140	£131.40	JAH24140	£159.45
	2				E5H24930	£131.40	JAH24930	£159.45
	3				E5H24931	£131.40	JAH24931	£159.45
16	1.5	16	32	92	E5H24160	£99.85	JAH24160	£127.29
	2				E5H24932	£99.85	JAH24932	£127.29
	2.5				E5H24933	£99.85	JAH24933	£127.29
	3				E5H24934	£99.85	JAH24934	£127.29
	4				E5H24935	£99.85	JAH24935	£127.29
	0.5		64	125	E5H24936	£182.25	JAH24936	£228.04
	1				E5H24937	£182.25	JAH24937	£228.04
	1.5				E5H24938	£182.25	JAH24938	£228.04
	2				E5H24939	£182.25	JAH24939	£228.04
	2.5				E5H24940	£182.25	JAH24940	£228.04
	3				E5H24941	£182.25	JAH24941	£228.04
	4				E5H24942	£182.25	JAH24942	£228.04
20	2	20	38	104	E5H24200	£176.38	JAH24200	£213.94
	2.5				E5H24943	£176.38	JAH24943	£213.94
	3				E5H24944	£176.38	JAH24944	£213.94
	4				E5H24945	£176.38	JAH24945	£213.94
	0.5		80	150	E5H24946	£342.26	JAH24946	£395.94
	1				E5H24947	£342.26	JAH24947	£395.94
	1.5				E5H24948	£342.26	JAH24948	£395.94
	2				E5H24949	£342.26	JAH24949	£395.94
	2.5				E5H24950	£342.26	JAH24950	£395.94
	3				E5H24951	£342.26	JAH24951	£395.94
	4				E5H24952	£342.26	JAH24952	£395.94

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

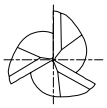
3 FLUTE CORNER RADIUS WITH NECK 37° HELIX

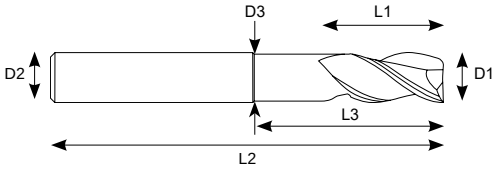
Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- 3 flute 'centre match' HPC geometry for high feed rates & large depth of cut
- Extreme metal removal rates
- Superior chip evacuation
- Available with lapped finish or DLC (diamond like carbon) coating for aerospace aluminium alloy

Series		Cutting Data
E5H25 YG-1	JAH25 YG-1	P253







MG SC | 3 | 37° | PLAIN | DLC COATED | HPC

D1	R	D2	D3	L1	L2	L3	Uncoated ★★★★★ Performance		DLC Coated ★★★★★ Performance	
							Order Code	Price	Order Code	Price
6	0.5	6	5.7	13	63	30	E5H25060	£38.64	JAH25060	£37.20
	1						E5H25901	£30.91	JAH25901	£37.20
	0.5			10	72	20	E5H25902	£30.91	JAH25902	£37.20
	1						E5H25903	£30.91	JAH25903	£37.20
8	0.3	8	7.4	12	75	25	E5H25080	£54.56	JAH25080	£63.95
	0.5						E5H25904	£54.56	JAH25904	£63.95
	0.8						E5H25905	£54.56	JAH25905	£63.95
	1						E5H25906	£54.56	JAH25906	£63.95
	1.2			12	75	25	E5H25907	£54.56	JAH25907	£63.95
	1.5						E5H25908	£54.56	JAH25908	£63.95
	1.6						E5H25909	£54.56	JAH25909	£63.95
10	0.3	10	9.2	14	100	35	E5H25100	£73.99	JAH25100	£90.01
	0.5						E5H25910	£73.99	JAH25910	£90.01
	0.8						E5H25911	£73.99	JAH25911	£90.01
	1						E5H25912	£73.99	JAH25912	£90.01
	1.2			14	100	35	E5H25913	£73.99	JAH25913	£90.01
	1.5						E5H25914	£73.99	JAH25914	£90.01
	1.6						E5H25915	£73.99	JAH25915	£90.01
	2.4						E5H25916	£73.99	JAH25916	£90.01
12	0.5	12	11	16	100	40	E5H25120	£133.04	JAH25120	£153.24
	0.8						E5H25917	£133.04	JAH25917	£153.24
	1						E5H25918	£133.04	JAH25918	£153.24
	1.2						E5H25919	£133.04	JAH25919	£153.24
	1.5						E5H25920	£133.04	JAH25920	£153.24
	1.6						E5H25921	£133.04	JAH25921	£153.24
	2						E5H25922	£133.04	JAH25922	£153.24
	2.4			16	100	40	E5H25923	£133.04	JAH25923	£153.24
	2.5						E5H25924	£133.04	JAH25924	£153.24
	3						E5H25925	£133.04	JAH25925	£153.24
	4						E5H25926	£133.04	JAH25926	£153.24
14	1	14	13	18	125	45	E5H25140	£135.97	JAH25140	£170.19
	2						E5H25927	£135.97	JAH25927	£170.19
	3						E5H25928	£135.97	JAH25928	£170.19
	4						E5H25929	£135.97	JAH25929	£170.19
16	0.8	16	15	20	125	50	E5H25160	£169.61	JAH25160	£209.72
	1.2						E5H25930	£169.61	JAH25930	£209.72
	1.6						E5H25931	£169.61	JAH25931	£209.72
	2						E5H25932	£169.61	JAH25932	£209.72
	2.4			20	125	50	E5H25933	£169.61	JAH25933	£209.72
	2.5						E5H25934	£169.61	JAH25934	£209.72
	3						E5H25935	£169.61	JAH25935	£209.72
	3.2						E5H25936	£169.61	JAH25936	£209.72
	4						E5H25937	£169.61	JAH25937	£209.72
20	0.8	20	19	25	150	65	E5H25200	£317.65	JAH25200	£364.56
	1.2						E5H25938	£317.65	JAH25938	£364.56
	1.6						E5H25939	£317.65	JAH25939	£364.56
	2						E5H25940	£317.65	JAH25940	£364.56
	2.4			25	150	65	E5H25941	£317.65	JAH25941	£364.56
	2.5						E5H25942	£317.65	JAH25942	£364.56
	3						E5H25943	£317.65	JAH25943	£364.56
	3.2						E5H25944	£317.65	JAH25944	£364.56
	4						E5H25945	£317.65	JAH25945	£364.56

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

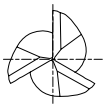
3 FLUTE END MILLS ALU POWER HPC CHIP SPLITTER

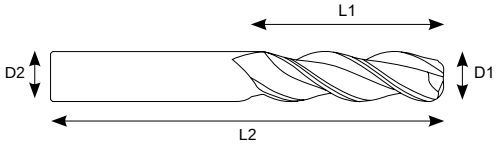
Extreme Machining of Aluminium (Standard, Alloys & Die Cast) & Non-Ferrous Alloy

- Unique geometry provides the balance cutting with less vibration during the high speed machining
- Provides long tool life and high productivity on aluminum by chip breaker releasing stresses on the tool and prevents acceleration rate of wear on the cutting edge
- Chip breaker Improves chip evacuation by shortening the chip length during the high speed machining

Series		Cutting Data
E5186 YG-1	E5187 YG-1	P255







MG SC | 3 | 37° | PLAIN | WELDON | HPC

D1	R	D2	L1	L2	★★★★★ Performance Order Code		Price
					Plain Shank	Flat Shank	
6	0.25	6	13	57	E5I86060	E5I87060	£27.52
			24	75	E5I86902	E5I87902	£37.45
8		8	19	63	E5I86080	E5I87080	£41.27
			32	75	E5I86905	E5I87905	£54.80
10	0.5	10	22	72	E5I86100	E5I87100	£56.77
			40	100	E5I86908	E5I87908	£75.13
12		12	26	83	E5I86120	E5I87120	£84.94
			48	100	E5I86911	E5I87911	£134.15
16	1	16	32	92	E5I86160	E5I87160	£154.44
			64	125	E5I86914	E5I87914	£197.31
20		20	38	104	E5I86200	E5I87200	£272.77
			80	150	E5I86917	E5I87917	£370.51
6		6	13	57	E5I86901	E5I87901	£27.52
			24	75	E5I86903	E5I87903	£37.45
8	2	8	19	63	E5I86904	E5I87904	£41.27
			32	75	E5I86906	E5I87906	£54.80
10		10	22	72	E5I86907	E5I87907	£56.77
			40	100	E5I86909	E5I87909	£75.13
12	3	12	26	83	E5I86910	E5I87910	£84.94
			48	100	E5I86912	E5I87912	£134.15
16	4	16	32	92	E5I86913	E5I87913	£154.44
			64	125	E5I86915	E5I87915	£197.31
20		20	38	104	E5I86916	E5I87916	£272.77
			80	150	E5I86918	E5I87918	£370.51

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	●		○	

3 FLUTE 37° HELIX

E5H22, JAH22, E5H23, JAH23, E5H24, JAH24, E5H25 & JAH25 Series

CUTTING DATA

Slotting, Profiling & HSM Cutting

SPEED AND FEED RECOMMENDATIONS						DIAMETER (D)						
WORKPIECE	Coolant	Cutting Method	Ap	Ae	Parameters	3	6	10	12	16	20	25
< 18% SILICON Aluminium Alloys: 2024, 5052, 5086, 6061,6073,7075	Emulsion	Slotting 	1	1	RPM	51778	25889	15533	12945	9708	7767	6213
					Vc	488	488	488	488	488	488	488
					Fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254
					Feed	3946	5918	5326	5918	4883	4439	4735
		Profiling 	1.5	0.5	RPM	64723	32361	19417	16181	12136	9708	7767
					Vc	610	610	610	610	610	610	610
					Fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254
					Feed	4932	7398	6658	7398	6103	5548	5918
		High Speed Machining 	2	0.05	RPM	106740	53370	32022	26685	20014	16011	12809
					Vc	1006	1006	1006	1006	1006	1006	1006
					Fz	0.053	0.140	0.267	0.356	0.381	0.419	0.495
					Feed	17080	22367	25621	28467	22876	20131	19033
> 18% SILICON Aluminium Die Cast Alloys: A-390, A392, B-390	Emulsion	Slotting 	1	1	RPM	19417	9708	5825	4854	3641	2913	2330
					Vc	183	183	183	183	183	183	183
					Fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254
					Feed	1480	2219	1997	2219	1831	1665	1775
		Profiling 	1.5	0.5	RPM	25889	12945	7767	6472	4854	3883	3107
					Vc	244	244	244	244	244	244	244
					Fz	0.025	0.076	0.114	0.152	0.168	0.191	0.254
					Feed	1973	2959	2663	2959	2441	2219	2367
		High Speed Machining 	2	0.05	RPM	38834	19417	11650	9708	7281	5825	4660
					Vc	366	366	366	366	366	366	366
					Fz	0.053	0.140	0.267	0.356	0.381	0.419	0.495
					Feed	6214	8138	9321	10357	8323	7324	6924
N Copper Alloys: Aluminium Bronze, Brass, Naval Brass, Red Brass	Emulsion	Slotting 	1	1	RPM	28436	14218	8531	7109	5332	4265	3412
					Vc	268	268	268	268	268	268	268
					Fz	0.020	0.051	0.102	0.127	0.140	0.152	0.178
					Feed	1733	2167	2600	2708	2235	1950	1820
		Profiling 	1.5	0.5	RPM	37242	18621	11173	9311	6983	5586	4469
					Vc	351	351	351	351	351	351	351
					Fz	0.020	0.051	0.102	0.127	0.140	0.152	0.178
					Feed	2270	2838	3405	3547	2927	2554	2384
		High Speed Machining 	2	0.05	RPM	59842	29921	17953	14961	11220	8976	7181
					Vc	564	564	564	564	564	564	564
					Fz	0.043	0.114	0.216	0.292	0.330	0.356	0.406
					Feed	7752	10260	11628	13110	11115	9576	8755

3 FLUTE 37° HELIX

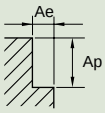
E5H22, JAH22, E5H23, JAH23, E5H24, JAH24, E5H25 & JAH25 Series

CUTTING DATA

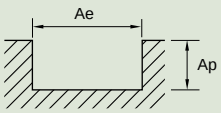
Slotting, Profiling & HSM Cutting

SPEED AND FEED RECOMMENDATIONS						DIAMETER (D)						
WORKPIECE	Coolant	Cutting Method	Ap	Ae	Parameters	3	6	10	12	16	20	25
N Copper Alloys: Beryllium Copper, C110, Maganese Bronze, Tin Bronze	Emulsion	Slotting 	1	1	RPM	9655	4828	2897	2414	1810	1448	1159
					Vc	91	91	91	91	91	91	91
					Fz	0.020	0.051	0.102	0.127	0.140	0.152	0.178
					Feed	589	736	883	920	759	662	618
		Profiling 	1.5	0.5	RPM	14536	7268	4361	3634	2726	2180	1744
					Vc	137	137	137	137	137	137	137
					Fz	0.020	0.051	0.102	0.127	0.140	0.152	0.178
					Feed	886	1108	1329	1385	1142	997	930
		High Speed Machining 	2	0.05	RPM	24298	12149	7289	6074	4556	3645	2916
					Vc	229	229	229	229	229	229	229
					Fz	0.043	0.114	0.216	0.292	0.330	0.356	0.406
					Feed	3148	4166	4721	5323	4513	3888	3555
Plastics: ABS, Polycarbonate, PVC, Polypropylene	Air	Slotting 	1	1	RPM	53370	26685	16011	13342	10007	8005	6404
					Vc	503	503	503	503	503	503	503
					Fz	0.038	0.102	0.191	0.254	0.279	0.305	0.356
					Feed	6100	8134	9150	10167	8388	7320	6832
		Profiling 	1.5	0.5	RPM	66314	33157	19894	16579	12434	9947	7958
					Vc	625	625	625	625	625	625	625
					Fz	0.038	0.102	0.191	0.254	0.279	0.305	0.356
					Feed	7580	10106	11370	12633	10422	9096	8489
		High Speed Machining 	2	0.05	RPM	108331	54166	32499	27083	20312	16250	13000
					Vc	1021	1021	1021	1021	1021	1021	1021
					Fz	0.086	0.229	0.432	0.584	0.635	0.699	0.813
					Feed	28066	37147	42100	47465	38695	34051	31699

Profiling/High Speed Machining



Slotting



NOTES

- All cutting data are target values
- Maximum recommended depth shown
- Finish cuts typically require reduced feed rates and/or higher spindle speed, with radial width of 2% x D or less
- Reduce speed and feed recommendations for materials harder than listed
- Reduce cut depth and feed by 50% for long-flute or long-reach tools
- Above recommendations are based on ideal conditions. Adjust parameters accordingly for smaller taper machining centers or less rigid conditions

RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

3 FLUTE CHIP SPLITTER

E5186, E5187 Series

CUTTING DATA

Slotting, Side Cutting & HSM Cutting

SPEED AND FEED RECOMMENDATIONS					DIAMETER (D)				
WORKPIECE	Cutting Method	Ap	Ae	Parameters	6	10	12	16	20
Aluminum wrought alloy 21-22	Slotting 	1	1	RPM	25889	15533	12945	9708	7767
				Vc	488	488	488	488	488
				Fz	0.076	0.114	0.152	0.168	0.191
				Feed	5918	5326	5918	4883	4439
	Side Cutting 	1.5	0.5	RPM	32361	19417	16181	12136	9708
				Vc	610	610	610	610	610
				Fz	0.076	0.114	0.152	0.168	0.191
				Feed	7398	6658	7398	6103	5548
	High Speed Machining 	2	0.05	RPM	53370	32022	26685	20014	16011
				Vc	1006	1006	1006	1006	1006
				Fz	0.140	0.267	0.356	0.381	0.419
				Feed	22367	25621	28467	22876	20131
Aluminum-cast alloyed 23-25	Slotting 	1	1	RPM	9708	5825	4854	3641	2913
				Vc	183	183	183	183	183
				Fz	0.076	0.114	0.152	0.168	0.191
				Feed	2219	1997	2219	1831	1665
	Side Cutting 	1.5	0.5	RPM	12945	7767	6472	4854	3883
				Vc	244	244	244	244	244
				Fz	0.076	0.114	0.152	0.168	0.191
				Feed	2959	2663	2959	2441	2219
	High Speed Machining 	2	0.05	RPM	19417	11650	9708	7281	5825
				Vc	366	366	366	366	366
				Fz	0.140	0.267	0.356	0.381	0.419
				Feed	8138	9321	10357	8323	7324
Copper and Copper Alloys (Bronze / Brass) 26-28	Slotting 	1	1	RPM	14218	8531	7109	5332	4265
				Vc	268	268	268	268	268
				Fz	0.051	0.102	0.127	0.140	0.152
				Feed	2167	2600	2708	2235	1950
	Side Cutting 	1.5	0.5	RPM	18621	11173	9311	6983	5586
				Vc	244	244	244	244	244
				Fz	0.051	0.102	0.127	0.140	0.152
				Feed	2838	3405	3547	2927	2554
	High Speed Machining 	2	0.05	RPM	29921	17953	14961	11220	8976
				Vc	625	625	625	625	625
				Fz	0.114	0.216	0.292	0.330	0.356
				Feed	10260	11628	13110	11115	9576
Non Metallic Materials 29.1	Slotting 	1	1	RPM	26685	16011	13342	10007	8005
				Vc	503	503	503	503	503
				Fz	0.102	0.191	0.254	0.279	0.305
				Feed	8134	9150	10167	8388	7320
	Side Cutting 	1.5	0.5	RPM	33157	19894	16579	12434	9947
				Vc	625	625	625	625	625
				Fz	0.102	0.191	0.254	0.279	0.305
				Feed	10106	11370	12633	10422	9096
	High Speed Machining 	2	0.05	RPM	54166	32499	27083	20312	16250
				Vc	1021	1021	1021	1021	1021
				Fz	0.229	0.432	0.584	0.635	0.699
				Feed	37147	42100	47465	38695	34051

YG Karnasch ATORN® LMT

Plastic-Cut Milling Cutters

Performance
★★★★★

N

High performance routing & milling tools for plastic & aluminium

Uncoated lapped carbide tools ideal for acrylic, ABS, PMMA, PE, PP & soft aluminium with up-cut and downcut geometries.

Diameter Range
0.1-20mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Router Syles
Router geometries prevent chip build up improving surface finish.

Lapped Flutes
Combined with ultra sharp cutting edges improves cutting performance.

Uncoated Carbide
Uncoated tools prevent material building up on the cutting edge.

Precision Machining
A tailored dedicated range for high accuracy plastic machining.

Features

1 Flute Geometry
Allows for excellent surface finish and maximum chip evacuation.

Polished Flutes
Reduces friction and elevates surface finish quality, resulting in improved machining performance.

Down Cut
Specialised geometry designed specifically for vacuum clamping applications.

Solid Carbide
Engineered to enhance tool life and provide superior wear resistance, ensuring lasting performance and durability.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
1 FLUTE UP CUT PLASTIC-CUT LAPPED PLAIN SHANK		E5E47 E5E88	0.5-12	30°	**258**
1 FLUTE UP CUT PLASTIC-CUT LAPPED PLAIN SHANK		29.1652	0.1-10	30°	**259**
1 FLUTE DOWN CUT PLASTIC-CUT LAPPED PLAIN SHANK		29.1654	1-10	30°	**260**
2 FLUTE - PLASTIC-CUT LAPPED PLAIN SHANK		E5D78	0.5-16	30°	**261**
1 FLUTE BALL NOSE - PLASTIC-CUT LAPPED PLAIN SHANK		29.1658	2-10	30°	**262**
1 FLUTE STRAIGHT FLUTE - PLASTIC-CUT LAPPED PLAIN SHANK		29.1661	1-10	0°	**262**
1 FLUTE MCD FACING TOOL PLAIN SHANK • MONO-CRYSTAL DIAMOND		29.6837	12-20	-	**263**
1 FLUTE MCD PROFILING TOOL PLAIN SHANK • MONO-CRYSTAL DIAMOND		29.6839	6-10	0°	**263**
1 FLUTE DOWN CUT PLAIN SHANK		16656	2-12	30°	**264**
1 FLUTE UP CUT & DOWN CUT PLAIN SHANK		16656	2-12	30°	**264**
1 FLUTE, CHAMFER PLAIN SHANK		EDAC	4	-	**265**
3 FLUTE WITH CHIPBREAKER PLAIN SHANK		STRATR	6-8	-	**265**
2 FLUTE SOLID CARBIDE CHAMFER ROUTER PLAIN SHANK		NPR	20	-	**265**
CONICAL END MILLS PLAIN SHANK		PLI	8-16	-	**265**

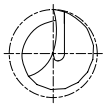
1 FLUTE UP CUT PLASTIC-CUT LAPPED CHAMFER PREP

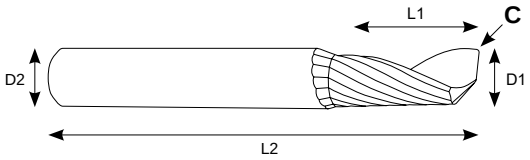
Uncoated Solid Carbide Milling Cutters of Aluminium, Plastic & Non-Ferrous Metals

- 1 flute allows for excellent workpiece finishes and chip evacuation
- Wide cut geometry, ideal for plastic such as ABS, acrylic and non-ferrous metal
- Drawing cut (up cut)

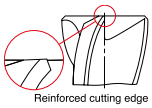
Series	Cutting Data
E5E88/47 YG-1	View Online







MG SC | 1 | 30° | PLAIN | LAPPED



TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	Chamfer Prep	★★★★★ Performance Order Code	Price
0.5	4	1	40	-	E5E88005	£25.34
0.6		1.2			E5E88006	£25.34
0.7		1.4			E5E88007	£25.34
0.8		1.6			E5E88008	£25.34
0.9		1.8			E5E88009	£25.34
1	6	3	50	-	E5E88010	£23.42
		6			E5E8801006	£23.65
1.5	6	4	50	-	E5E88015	£23.42
		8			E5E8801508	£23.65
2	3	8	50	0.04	E5E47020	£13.09
	6	8		-	E5E8802008	£23.69
	6	12		-	E5E8802012	£23.01
2.5	6	8	50	-	E5E8802508	£22.77
		12		-	E5E8802512	£23.01
3	3	12	50	0.05	E5E47030	£13.43
	6	26	60	-	E5E8803026	£23.65
4	4	15	60	0.07	E5E47040	£15.02
	6	37	75	-	E5E8804037	£25.34
5	5	17	60	0.09	E5E47050	£18.08
	6	28	70	-	E5E8805028	£25.34
6	6	20	65	0.1	E5E47060	£18.95
		55	120	-	E5E8806055	£38.86
8	8	22	65	0.14	E5E47080	£40.57
		32	70	-	E5E8808032	£47.30
10	10	25	75	0.14	E5E47100	£80.84
		35		-	E5E8810030	£84.47
12	12	30	80	0.14	E5E47120	£100.64
		35		-	E5E8812035	£104.74

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○		●	

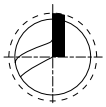
1 FLUTE UP CUT PLASTIC-CUT LAPPED

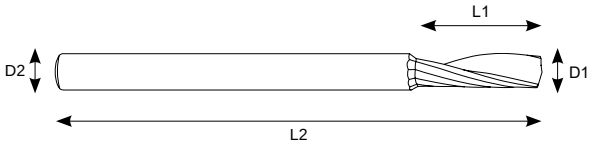
Uncoated Solid Carbide Milling Cutters for Mirror Finish Machining of Plastic Metals

- 1 flute allows for excellent workpiece finishes and chip evacuation
- First choice for mirror finish machining of plastic including acrylic, ABS, PMMA, PE, PP etc
- Drawing cut (up cut)
- Mirror finish machining

Series	Cutting Data
29.1652 Karnasch	View Online







MG SC | 1 | 30° | DIN 6535HA | HSC | LAPPED

Mill Dia.	Tolerance	Shank Dia.
up to 3mm	-0.000/-0.040	h6
4 - 6mm	-0.000/-0.048	
over 6mm	-0.000/-0.058	

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.1	3	0.3	30	291652001000303030	£47.30
0.2	3	0.6	30	291652002000603030	£35.76
0.3	3	1	30	291652003001003030	£30.49
0.4	3	1	30	291652004001003030	£30.49
0.5	3	1.5	30	291652005001503030	£28.39
0.6	3	3	30	291652006003003030	£28.39
0.8	3	5	30	291652008005003030	£28.39
1	3	4	30	291652010004003030	£30.28
1.5	3	6	30	291652015006003030	£30.28
2	3	6	30	291652020006003030	£30.28
	4	6	50	291652020006004050	£37.03
	6	6	50	291652020006006050	£38.90
	3	8	30	291652020008003030	£28.39
	3	11	38	291652020011003038	£34.71
3	3	6	30	291652030006003030	£28.39
	6	6	50	291652030006006050	£42.07
	4	11	50	291652030011004050	£42.07
	6	11	50	291652030011006050	£46.27
	6	22	60	291652030022006060	£62.60
4	4	8	50	291652040008004050	£36.81
	6	8	50	291652040008006050	£43.11
	4	12	50	291652040012004050	£36.81
	6	12	50	291652040012006050	£43.11
	4	14	50	291652040014004050	£36.81
	6	14	50	291652040014006050	£43.11
	4	22	50	291652040022004050	£39.96
	6	22	50	291652040022006050	£46.27
	4	32	64	291652040032004064	£42.07
5	6	12	50	291652050012006050	£45.22
		16	50	291652050016006050	£45.22
		22	50	291652050022006050	£45.22
6	6	12	50	291652060012006050	£43.11
		22	50	291652060022006050	£47.30
		22	58	291652060022006058	£43.81
		32	64	291652060032006064	£57.82
		32	100	291652060032006100	£51.53
8	8	22	64	291652080022008064	£54.69
		32	64	291652080032008064	£59.94
		42	75	291652080042008075	£64.25
		42	100	291652080042008100	£74.66
		55	100	291652080055008100	£78.87
10	10	22	64	291652100022010064	£80.99
		32	75	291652100032010075	£87.27
		55	100	291652100055010100	£98.84

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
													●	

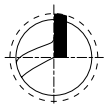
1 FLUTE UP CUT PLASTIC-CUT LAPPED

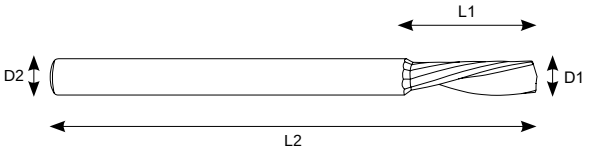
Uncoated Solid Carbide Milling Cutters for Mirror Finish Machining of Plastic

- 1 flute allows for excellent workpiece finishes and chip evacuation
- First choice for mirror finish machining of plastics including acrylic, ABS, PMMA, PE, PP etc.
- Pushing cut (down cut) prevents workpiece lift, especially with vacuum clamping
- Mirror finish machining

Series	Cutting Data
29.1654 Karnasch	View Online







DOWNCUT PREVENTS WORKPIECE LIFT

MG SC | 1 | 30° | DIN 6535HA | HSC | LAPPED

Mill Dia.	Tolerance	Shank Dia.
up to 3mm	-0.000/-0.040	h6
4 - 6mm	-0.000/-0.048	
over 6mm	-0.000/-0.058	

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1	3	4	40	29165401000403040	£32.57
1.5	3	6	40	29165401500603040	£32.57
2	3	3	50	29165402000303050	£34.71
	6	6	50	29165402000606050	£36.81
	3	8	40	29165402000803040	£38.90
3	3	4	50	29165403000403050	£33.64
	6	12	50	29165403001206050	£41.01
	8	15	75	29165403001508075	£51.53
	8	18	100	29165403001808100	£60.05
4	4	5	50	29165404000504050	£36.81
	6	14	50	29165404001406050	£41.01
	8	18	75	29165404001808075	£50.47
	8	22	100	29165404002208100	£62.21
5	6	16	50	29165405001606050	£43.11
	8	25	75	29165405002508075	£51.53
	8	25	100	29165405002508100	£64.35
	6	30	70	29165405003006070	£46.27
6	6	7	50	29165406000706050	£37.85
	6	20	60	29165406002006060	£39.96
	8	30	100	29165406003008100	£58.98
	6	40	80	29165406004006080	£43.11
8	8	10	50	29165408001008050	£53.62
		20	60	29165408002008060	£53.55
		35	100	29165408003508100	£72.93
10	10	25	70	29165410002510070	£73.61
		35	90	29165410003510090	£83.07

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
													●	

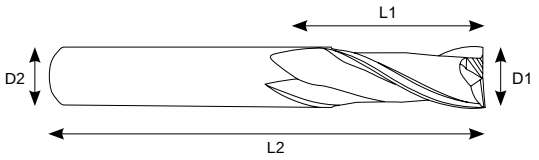
2 FLUTE PLASTIC-CUT LAPPED

Uncoated Carbide for Mirror Finish Machining of Aluminium, Plastic & Non-Ferrous Materials

- Wide cut geometry, ideal for plastics such as ABS, acrylic and non-ferrous metal
- Mirror finish machining

Series	Cutting Data
ED578 YG-1	View Online





MG SC | 2 | 30° | PLAIN | LAPPED

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.5	4	1	40	E5D78005	£14.87
1	6	6	60	E5D7801006	£14.14
		12		E5D7801012	£14.57
1.5	6	8	60	E5D7801508	£14.14
		16		E5D7801516	£14.57
2	6	8	60	E5D7802008	£14.14
		16		E5D7802016	£14.57
2.5	6	12	60	E5D7802512	£14.57
		26		E5D7802526	£14.57
3	6	8	50	E5D78030	£13.64
		16	70	E5D7803016	£15.19
		30	70	E5D7803030	£19.08
		16	100	E5D78030163S	£21.87
3.5	6	10	50	E5D78035	£14.05
4	6	10	50	E5D78040	£13.64
	6	20	70	E5D7804020	£15.19
	6	30	70	E5D7804030	£15.19
	4	20	100	E5D78040204S	£22.38
4.5	6	14	50	E5D78045	£14.05
5	6	15	60	E5D78050	£14.14
		25	70	E5D7805025	£17.92
		40	100	E5D7805040	£27.36
6	6	15	60	E5D78060	£17.00
		30	100	E5D7806030100	£27.36
		45	150	E5D7806045	£38.88
8	8	20	70	E5D78080	£29.02
		30	100	E5D7808030100	£37.43
		50	150	E5D7808050150	£56.06
10	10	25	75	E5D78100	£40.31
		40	120	E5D7810040120	£55.86
		55	150	E5D7810055	£71.81
12	12	30	80	E5D78120	£51.72
		40	120	E5D7812040120	£62.33
		50	150	E5D7812050150	£81.50
16	16	40	100	E5D78160	£136.09
		70	150	E5D7816070150	£170.31

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○		●	

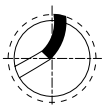
1 FLUTE CORNER RADIUS RIGHT HAND SPIRAL PLASTIC-CUT

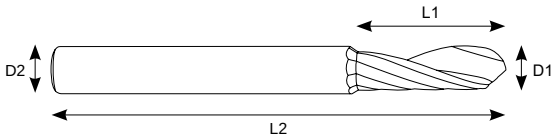
Uncoated Solid Carbide Milling Cutters for Mirror Finish Machining of Plastic

- 1 flute allows for excellent workpiece finishes and chip evacuation
- First choice for mirror finish machining of plastics including acrylic, ABS, PMMA, PE, PP etc
- Drawing cut (up cut)
- Mirror finish machining

Series	Cutting Data
29.1658 Karnasch	View Online







MG SC | 1 | 30° | DIN 6535HA | HSC | LAPPED

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	R	L2	★★★★★ Performance Order Code	Price
2	6	6	1	60	291658020006	£54.09
3	6	9	1.5	60	291658030009	£53.04
4	6	12	2	60	291658040012	£51.98
5	6	15	2.5	60	291658050015	£60.46
6	6	18	3	70	291658060018	£58.33
8	8	24	4	80	291658080024	£66.81
10	10	30	5	80	291658100030	£77.43

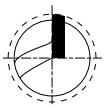
1 FLUTE STRAIGHT FLUTE PLASTIC-CUT LAPPED

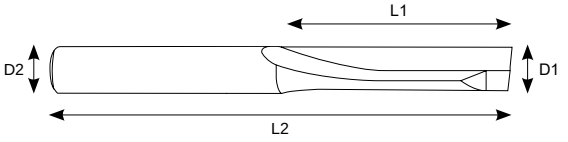
Uncoated Solid Carbide Milling Cutters for Mirror Finish Machining of Plastic

- 1 flute allows for excellent workpiece finishes and chip evacuation
- First choice for mirror finish machining of plastics including acrylic, ABS, PMMA, PE, PP etc
- Straight flute design, ideal for finish profile machining where the ultimate surface finish is required
- Mirror finish machining

Series	Cutting Data
29.1661 Karnasch	View Online







MG SC | 1 | 0° | DIN 6535HA | HSC | LAPPED

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1	3	4	40	291661010004040	£26.83
1.5	3	6	40	291661015006040	£26.83
2	3	3	50	291661020003050	£26.53
	6	6	50	291661020006050	£37.13
	3	8	40	291661020008040	£26.53
2.5	3	9	40	291661025009040	£26.83
3	3	6	40	291661030006040	£26.53
	3	10	30	291661030010030	£25.46
	3	10	60	291661030010060	£27.88
	6	12	50	291661030012050	£37.13
	8	15	75	291661030015075	£48.25
	8	18	100	291661030018100	£54.09
4	4	5	50	291661040005050	£32.85
	4	8	40	291661040008040	£32.18
	6	14	50	291661040014050	£39.24
	8	18	75	291661040018075	£48.25
	4	20	60	291661040020060	£32.85
	8	22	100	291661040022100	£54.69
	4	30	70	291661040030070	£33.94
5	5	6	50	291661050006050	£40.30
5	5	10	40	291661050010040	£39.68
	6	16	50	291661050016050	£40.30
	5	22	60	291661050022060	£41.36
	8	25	75	291661050025075	£48.25
	8	25	100	291661050025100	£54.69
	5	30	70	291661050030070	£42.43
6	6	7	50	291661060007050	£39.24
	6	18	50	291661060018050	£41.36
	6	20	60	291661060020060	£42.91
	6	25	65	291661060025065	£43.48
	8	25	75	291661060025075	£48.25
	8	30	100	291661060030100	£54.69
	6	40	80	291661060040080	£45.61
8	8	9	50	291661080009050	£47.71
		20	50	291661080020050	£46.67
		20	60	291661080020060	£48.77
		30	75	291661080030075	£53.04
		35	100	291661080035100	£59.39
10	10	25	70	291661100025070	£84.84
		35	90	291661100035090	£91.20

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
													●	

1 FLUTE MCD (MONO-CRYSTAL DIAMOND) FACING TOOL

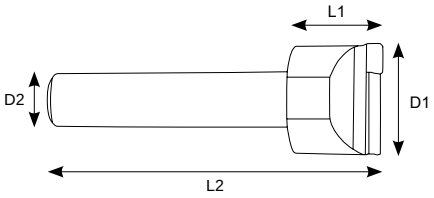
For a High Gloss Mirror Finish on Acrylic, Aluminium, Plexiglass, PMMA, Gold & Copper

Series	Cutting Data
29.6837 Karnasch	View Online

- Mono-crystal diamond for extreme tool life
- Mirror finish high gloss machining
- Price on application (due to fluctuations in diamond prices)
- End cutting design for face milling applications







MCD 1 DIN 6535HA HSC HPC LAPPED

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
12	8	15	60	2968371200	£1,857.01
16	10			2968371600	£1,886.41
20	10			2968372000	£1,919.07

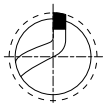
1 FLUTE MCD (MONO-CRYSTAL DIAMOND) PROFILING TOOL

For a High Gloss Mirror Finish on Acrylic, Aluminium, Plexiglass, PMMA, Gold & Copper

Series	Cutting Data
29.6839 Karnasch	View Online

- Mono-crystal diamond for extreme tool life
- Mirror finish high gloss machining
- Price on application (due to fluctuations in diamond prices)
- Side cutting design for profiling applications
- Balanced to 40,000RPM







MCD 1 0° DIN 6535HA HSC LAPPED

Karnasch PROFESSIONAL TOOLS

D1/D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
6	5.4	20	50	3	296839060003	£661.47
				4	296839060004	£739.05
				5	296839060005	£1,148.16
				6	296839060006	£1,500.12
8	7.4	25	60	4	296839080004	£784.79
				5	296839080005	£1,193.92
				6	296839080006	£1,545.87
				8	296839080008	£2,922.69
				10	296839080010	£5,270.50
				11	296839080011	£5,757.19
				12	296839080012	£6,543.60
10	9.4	25	60	4	296839100004	£830.51
				5	296839100005	£1,309.07
				6	296839100006	£1,591.60
				8	296839100008	£2,968.42
				11	296839100011	£5,803.75
				12	296839100012	£6,590.15

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●	●		●	

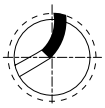
1 FLUTE DOWN CUT

Suitable for Soft Plastic

Series	Cutting Data
16656 Atorn	View Online

- Lapped solid carbide
- 1 flute allows for excellent workpiece finishes and chip evacuation
- Polished flutes for excellent surface finish
- Wide cut geometry, ideal for soft plastics such as ABS, acrylic and ultra soft aluminium
- Down cut geometry (ideal for vacuum clamping)







MG SC | 1 | 30° | DIN 6535HA | HSC | LAPPED

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
2	6	8	64	16656400	£66.56
3	3	12	64	16656410	£49.14
3	6	12	64	16656420	£35.60
4	4	12	64	16656430	£50.68
4	6	20	64	16656440	£35.60
5	6	16	64	16656450	£35.60
6	6	12	64	16656460	£55.04
6	6	38	76	16656470	£87.56
8	8	25	64	16656480	£77.32
8	8	38	76	16656490	£46.58
10	10	30	76	16656500	£92.16
12	12	38	76	16656510	£180.98

1 FLUTE UP CUT & DOWN CUT

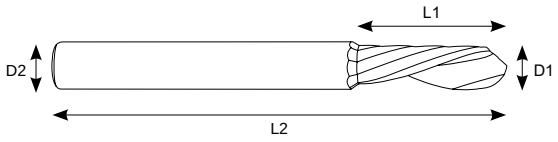
Suitable for Hard Plastic

Series	Cutting Data
16656 Atorn	View Online

- Lapped solid carbide
- 1 flute allows for excellent workpiece finishes and chip evacuation
- Polished flutes for excellent surface finish
- Hard plastic geometry, ideal for durolastic, bakelite, MF, MPF etc
- Drawing cut (up cut) and down cut geometries available







MG SC | 1 | 30° | DIN 6535HA | HSC | LAPPED

D1	D2	L1	L2	Up Cut ★★★★★ Performance Order Code	Up Cut Price	Down Cut ★★★★★ Performance Order Code	Down Cut Price
2	6	8	64	16656200	£30.19	16656010	£66.56
3	3	12	64	16656210	£28.65	16656020	£49.37
3	6	12	64	16656220	£30.19	16656030	£35.60
4	4	12	64	16656230	£30.19	16656040	£50.68
4	6	20	64	16656240	£35.60	16656050	£35.60
5	6	16	64	16656250	£30.19	16656060	£35.60
6	6	12	64	16656260	£29.67	16656070	£92.91
6	6	38	76	16656270	£36.07	16656080	£45.57
8	8	25	64	16656280	£44.53	16656090	£45.57
8	8	38	76	16656290	£46.58	16656100	£46.58
10	10	30	76	16656300	£55.81	16656110	£105.99
12	12	38	76	16656310	£126.98	16656120	£170.22

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
													●	

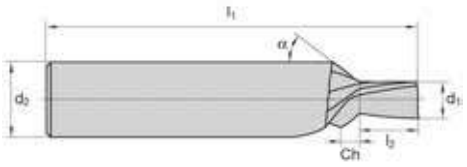
1 FLUTE, CHAMFER

Suitable for Aluminium, Wood, Foamboard, PVC & High Pressure Composites

- Cutting end mills for non-ferrous metals and aluminium with a chamfer (can also cut plastics)
- This cutter allows to cut materials and make a chamfer at the same time. These tools avoid delamination on laminated sheets

Series	Cutting Data
EDAC LMT Belin	View Online





D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	50	1.9	99291	£60.15
4	6	50	2.3	99203	£67.22
4	6	50	2.9	99292	£60.15
4	6	50	3.3	00198	£65.70

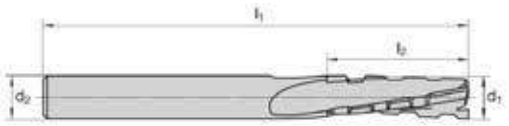
3 FLUTE SOLID CARBIDE ROUTER, WITH CHIPBREAKERS

Suitable for High Pressure Laminates & Phenolic Materials

- End mills for HPL and phenolic materials (very abrasives materials)
- Three flutes allow improved tool life whereas chipbreakers reduce stress on the spindle

Series	Cutting Data
STRATR LMT Belin	View Online





D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6	6	60	20	STRATR6	£81.88
8	8	40	20	STRATR8	£96.67

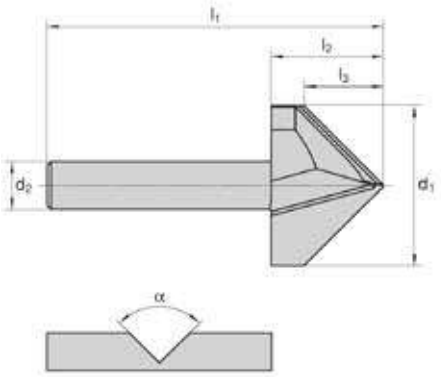
2 FLUTE SOLID CARBIDE CHAMFER ROUTER

Suitable for Plastic, Wood, Foamboard & High Pressure Laminates

- Carbide tipped milling cutters to chamfer workpieces
- For chamfering applications on a range of materials including: plastics, wood, foamboard and high pressure laminates

Series	Cutting Data
NPR LMT Belin	View Online





D1	D2	L1	L2	L3	a°	★★★★★ Performance Order Code	Price
20	6	48	20.5	17.3	60	80039	£108.09
	6	42	14	10	90	77310	£108.09
	6	40	12.4	8.4	100	77311	£106.70
	6	38	9.8	5.8	120	77313	£102.33
	6	37	9	4	140	77315	£102.33

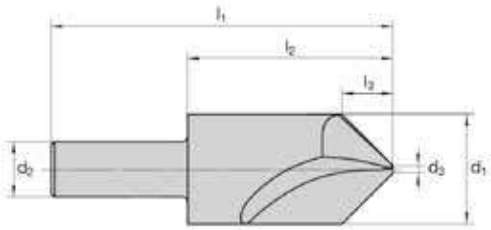
2 FLUTE SOLID CARBIDE CHAMFER ROUTER

Suitable for Plastic, Wood, Foamboard & High Pressure Laminates

- For grooving & folding
- Suitable for 45° chamfering/deburring and grooving applications where folding is required

Series	Cutting Data
PLI LMT Belin	View Online





D1	D2	L1	L2	★★★★★ Performance Order Code	Price
8	8	50	-	91106	£130.62
10	6	50	25	31015014	£167.87
12	12	50	-	91105	£149.84
16	8	50	30	96188	£179.09
16	8	50	30	00210	£179.09

D-Power Milling Cutters

Performance
★★★★★

N

First choice for high performance machining of graphite

Diamond coating has high lubricity and low coefficient of friction which prevents the tool from fast wear.

Diameter Range
0.2-12mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

High Speed Machining
Extreme hardness means cutters can be pushed harder and for longer.

Wear Resistance
Diamond coating means cutter can withstand increased forces common in abrasive machining.

Number 1 for Graphite
Also suitable for abrasive aluminium, plastic, brass, copper and composites.

Cutter Geometry
Range of geometries including 2,3 & 4flutes, square corner, ball nose, corner radius long reach taper neck.

Features

Diamond Coating
Ultrafine coating ensures smooth and excellent surface finish on graphite.

High Accuracy
Micrograin carbide substrate and special coating give reliable performance and finish.

Self Lubrication
Self-lubrication in dry wear conditions extends tool life and helps dissipate heat.

Profile Machining
Special ball nose range for precision copy milling applications.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE WITH NECK PLAIN SHANK		EIB04	0.5-12	30°	**268**
2 FLUTE CORNER RADIUS WITH NECK PLAIN SHANK		EI996	0.2-6	30°	**269**
2 FLUTE CORNER RADIUS TAPER NECK PLAIN SHANK		EIB86	1-2	30°	**270**
3 FLUTE CORNER RADIUS PLAIN SHANK		EIA13 EIA14	2-12	40°	**270**
4 FLUTE CORNER RADIUS WITH NECK PLAIN SHANK		EIB88	6-12	30°	**271**
2 FLUTE BALL NOSE WITH NECK PLAIN SHANK • SHORT LENGTH		EI880	2-12	30°	**271**
2 FLUTE BALL NOSE WITH NECK PLAIN SHANK • SHORT LENGTH		EI450 EI451	2-12	30°	**272**
2 FLUTE MINI BALL NOSE WITH NECK PLAIN SHANK		EI997 EIB93	0.2-6	30°	**273**
2 FLUTE BALL NOSE WITH TAPER NECK PLAIN SHANK		EIB87	1-2	30°	**274**
3 FLUTE BALL NOSE WITH NECK PLAIN SHANK		EI881	2-12	30°	**274**

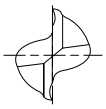
2 FLUTE WITH NECK

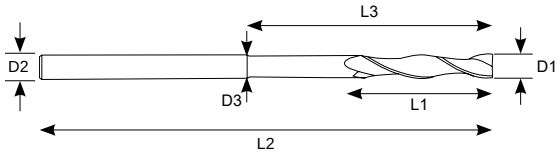
Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal
- High precision machining

Series	Cutting Data
EIB04 YG-1	**P276**







MG SC | 2 | 30° | PLAIN | DIAMOND COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.5	3	0.45	1	40	2	EIB0400502040	**£33.05**
0.6	3	0.55	2	40	3	EIB0400603040	**£33.05**
0.7	3	0.65	2	40	4	EIB0400704040	**£31.00**
0.8	3	0.75	2	40	5	EIB0400805040	**£31.00**
0.9	3	0.85	2	40	6	EIB0400906040	**£31.00**
1	4	0.95	3	75	8	EIB0401008075	**£45.58**
1.5	4	1.45	4	75	10	EIB0401510075	**£45.58**
2	4	1.9	6	100	16	EIB0402016100	**£47.67**
2.5	4	2.4	8	100	20	EIB0402520100	**£47.67**
3	6	2.8	8	100	30	EIB0403030100	**£55.34**
3.5	6	3.2	10	100	35	EIB0403535100	**£55.34**
4	6	3.7	20	100	40	EIB0404040100	**£59.25**
5	6	4.6	25	125	50	EIB0405050125	**£88.14**
6	6	5.6	30	140	60	EIB0406060140	**£97.16**
7	6	-	35	140	-	EIB0407000140	**£150.05**
8	8	7.4	40	150	80	EIB0408080150	**£154.10**
9	8	-	45	150	-	EIB0409000150	**£184.38**
10	10	9.4	50	150	80	EIB0410080150	**£184.38**
11	10	-	50	150	-	EIB0411000150	**£218.26**
12	12	11.4	55	150	80	EIB0412080150	**£218.26**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○	●	○	○

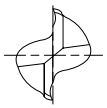
2 FLUTE CORNER RADIUS WITH NECK

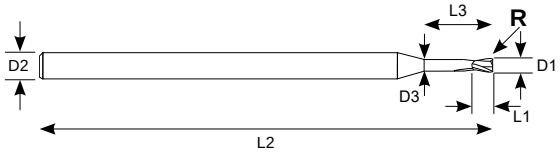
Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal

Series	Cutting Data
EI996 YG-1	P276







MG SC | 2 | 30° | PLAIN | DIAMOND COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.02mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.2	-	3	-	0.3	40	-	EI99600200000	£50.67
0.3	-	3	-	0.5	40	-	EI99600300000	£43.66
0.4	-	3	-	0.6	40	-	EI99600400000	£40.46
0.5	0.05	3	0.45	0.7	40	2.5	EI99600505025	£40.46
						4	EI99600505040	£40.46
0.6	0.05	3	0.55	0.9	40	3	EI996006	£40.46
						5	EI99600605050	£40.46
0.8	0.05	3	0.75	1.2	40	4	EI996008	£38.61
						7	EI99600805070	£38.61
1	0.1	3	0.95	1.5	40	5	EI996010	£36.07
						8.5	EI996904	£36.07
						12	EI99601010120	£36.07
1.2	0.1	3	1.15	1.8	50	6	EI996012	£36.26
						10	EI99601210100	£36.26
1.5	0.15	3	1.4	2.2	50	7.5	EI996015	£36.26
						12	EI996907	£37.51
						18	EI99601515180	£37.51
2	0.15	3	1.9	2.2	60	10	EI996020	£35.35
						16	EI996909	£36.81
						25	EI99602015250	£36.81
3	0.2	4	2.9	3	65	10	EI99603020100	£45.47
					65	15	EI99603020150	£45.47
					65	20	EI99603020200	£45.47
					75	25	EI99603020250	£45.47
					75	30	EI99603020300	£45.47
4	0.2	6	3.9	4	65	20	EI99604020200	£56.02
					75	30	EI99604020300	£56.02
					90	40	EI99604020400	£60.12
5	0.3	6	4.9	5	75	20	EI99605030200	£56.02
					75	30	EI99605030300	£56.02
					90	40	EI99605030400	£60.12
					90	50	EI99605030500	£68.02
6	0.3	6	5.9	6	75	30	EI99606030300	£60.12
					90	40	EI99606030400	£60.12
					90	50	EI99606030500	£68.02
					100	60	EI99606030600	£69.60

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○	●	○	○

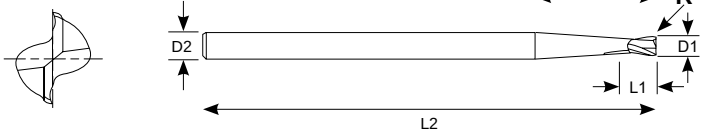
2 FLUTE CORNER RADIUS WITH TAPER NECK

Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

Series	Cutting Data
EIB86 YG-1	P276

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal
- High precision machining, radius tolerance +0.01mm





MG SC | 2 | 30° | PLAIN | DIAMOND COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.02mm	h6

D1	R	D2	L1	L2	L3	Neck Taper Angle	★★★★★ Performance Order Code	Price
1	0.1	3	2	60	30	2°	EIB86010	£38.99
				100	70	1°	EIB86901	£45.01
1.5	0.15	3	3	60	30	1° 30´	EIB86015	£38.20
				100	50	1°	EIB86902	£44.10
2	0.15	3	4	60	30	1°	EIB86020	£36.58
		4		100	70		EIB86903	£50.48

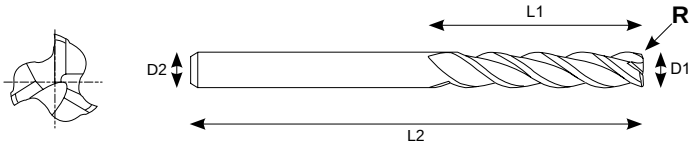
3 FLUTE CORNER RADIUS 40° HELIX

Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

Series	Cutting Data
EIA13/14 YG-1	P275

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal





MG SC | 3 | 40° | PLAIN | DIAMOND COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
2	0.15	3	6	40	EIA13020	£30.22
			9	60	EIA14020	£35.25
3	0.15	3	12	40	EIA13030	£31.42
			30	60	EIA14030	£38.61
4	0.2	4	14	50	EIA13040	£43.11
			30	60	EIA14040	£49.99
5	0.3	5	16	50	EIA13050	£45.68
			35	70	EIA14050	£62.17
6	0.3	6	20	65	EIA13060	£60.14
			40	100	EIA14060	£74.67
8	0.5	8	20	65	EIA13080	£89.34
			40	100	EIA14080	£109.05
10	0.5	10	25	75	EIA13100	£109.33
			40	100	EIA14100	£128.49
12	0.5	12	25	75	EIA13120	£133.95
			45	100	EIA14120	£162.56

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○	●	○	○

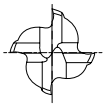
4 FLUTE CORNER RADIUS WITH NECK

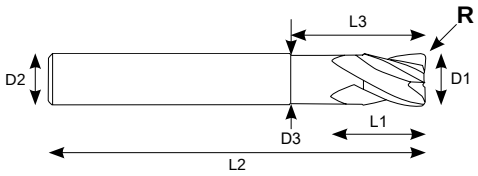
Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

Series	Cutting Data
EIB88 YG-1	P275

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal









TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
6	0.5	6	5.9	10	80	40	EIB88060	£77.17
8	0.5	8	7.8	10	80	40	EIB88080	£103.20
	1				100	60	EIB88901	£114.78
10	0.5	10	-	25	75	-	EIB88100	£109.33
	0.5		9.8	12	80	40	EIB88902	£132.78
	1		9.8	12	80	40	EIB88903	£132.78
	0.5		9.8	12	125	80	EIB88904	£180.45
12	0.5	12	-	25	80	-	EIB88120	£133.95
	0.5		11.8	15	80	40	EIB88905	£163.91
	1		11.8	15	80	40	EIB88906	£163.91
	1		11.8	15	125	80	EIB88907	£216.71

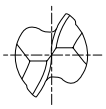
2 FLUTE BALL NOSE WITH NECK

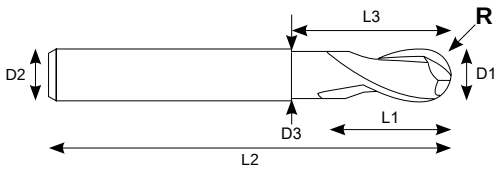
Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

Series	Cutting Data
EI880 YG-1	P277

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, Bakelite, plastic, wood, brass and non-ferrous metal
- High precision machining, radius tolerance +0.01mm









TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	1	6	1.9	3	60	5	EI880020	£72.88
2.5	1.25	6	2.4	4	60	6	EI880025	£72.88
3	1.5	6	2.8	4.5	60	6.5	EI880030	£72.88
3.5	1.75	6	3.2	5	65	7	EI880035	£72.88
4	2	6	3.7	6	65	8	EI880040	£72.88
5	2.5	6	4.6	7.5	65	10	EI880050	£72.88
6	3	6	5.6	9	75	12	EI880060	£72.88
8	4	8	7.4	12	75	25	EI880080	£111.25
10	5	10	9.4	15	80	30	EI880100	£148.12
12	6	12	11.4	18	90	36	EI880120	£173.27

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○	●	○	○

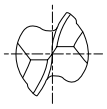
2 FLUTE BALL NOSE WITH NECK, LONG LENGTH

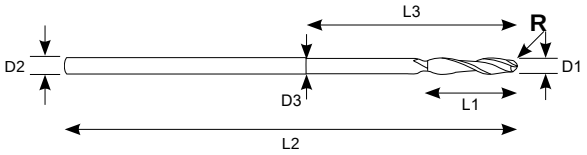
Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

Series	Cutting Data
EI450/51 YG-1	P277

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal
- High precision machining, radius tolerance +0.01mm









TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	1	4	1.95	10	80	20	EI451020	£57.52
					100		EI450020	£60.37
3	1.5	4	2.9	15	80	25	EI451030	£57.52
					100		EI450030	£60.37
4	2	4	3.9	20	80	30	EI451040	£57.52
					100		EI450040	£60.37
5	2.5	6	4.9	30	100	50	EI451050	£84.73
					120		EI450050	£91.66
6	3	6	5.5	30	100	50	EI451060	£84.73
					150		EI450060	£91.66
7	3.5	6	5.5 -	30	100	-	EI451070	£119.98
					150		EI450070	£132.78
8	4	8	7.5	40	110	60	EI451080	£128.66
					150		EI450080	£135.38
9	4.5	8	-	40	110	-	EI451090	£157.15
					150		EI450090	£182.59
10	5	10	9.5	50	120	70	EI451100	£157.15
					180		EI450100	£188.65
12	6	12	11.5	55	130	75	EI451120	£210.82
					200		EI450120	£258.36

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○	●	○	○

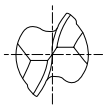
2 FLUTE MINIATURE BALL NOSE WITH NECK

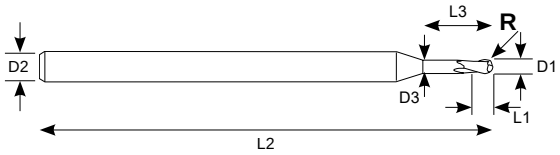
Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal
- High precision machining, radius tolerance +0.01mm

Series	Cutting Data
EI997/EIB93 YG-1	P277







MG SC | 2 | 30° | R ±0.01 | PLAIN | DIAMOND COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.02mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
0.2	0.1	3	-	0.2	40	-	EI997002000040	£64.11
0.3	0.15	3	-	0.3	40	-	EI997003000040	£55.07
0.4	0.2	3	-	0.4	40	-	EI997004000040	£51.90
		4	0.36	0.6	45	4	EIB93004040	£62.84
		4	0.36	0.6	45	6	EIB93004060	£62.84
0.5	0.25	3	0.45	0.5	40	2.5	EI997005025040	£51.90
0.6	0.3	3	0.55	0.6	40	3	EI997006	£51.90
		3	0.55	0.6	40	5	EI997006050040	£51.90
		4	0.56	1	45	4	EIB93006040	£60.24
		4	0.56	1	45	6	EIB93006060	£60.24
		4	0.56	1	45	8	EIB93006080	£60.24
0.8	0.4	3	0.75	0.8	40	4	EI997008	£43.17
						7	EI997008070040	£43.17
1	0.5	3	0.95	1	40	5	EI997010	£40.99
		3		1	40	8.5	EI997903	£40.99
		3		1	40	12	EI997010120040	£40.99
		4		1.5	45	6	EIB93010060	£51.60
		4		1.5	45	8	EIB93010080	£51.60
		4		1.5	45	12	EIB93010120	£53.48
1.2	0.6	3	1.15	1.2	50	6	EI997012	£41.06
						10	EI997012100050	£41.06
1.5	0.75	3	1.4	1.5	50	7.5	EI997015	£41.06
		3	1.4	1.5	50	12	EI997906	£42.75
		3	1.4	1.5	50	18	EI997015180050	£42.75
		4	1.45	1.75	45	12	EIB93015120	£52.93
2	1	3	1.9	2.2	60	10	EI997020	£39.54
		3	1.9	2.2		16	EI997908	£41.04
		3	1.9	2.2		25	EI997020250060	£41.04
		4	1.95	3		8	EIB93020080	£44.90
		4	1.95	3		12	EIB93020120	£44.90
		4	1.95	3		16	EIB93020160	£46.30
3	1.5	4	2.9	3	65	10	EI997030100065	£54.88
					65	15	EI997030150065	£54.88
					65	20	EI997030200065	£54.88
					75	25	EI997030250075	£54.88
					75	30	EI997030300075	£54.88
4	2	4	3.9	6	60	16	EIB93040160	£46.30
				4	65	20	EI997040200065	£65.04
				4	75	30	EI997040300075	£65.04
				4	90	40	EI997040400090	£70.72
5	2.5	6	4.9	5	65	20	EI997050200065	£65.04
					75	30	EI997050300075	£65.04
					90	40	EI997050400090	£70.72
					90	50	EI997050500090	£74.65
6	3	6	5.9	6	75	30	EI997060300075	£65.04
					90	40	EI997060400090	£70.72
					90	50	EI997060500090	£74.65
					100	60	EI997060600100	£76.51

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○	●	○	○

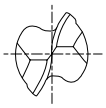
2 FLUTE BALL NOSE WITH TAPER NECK

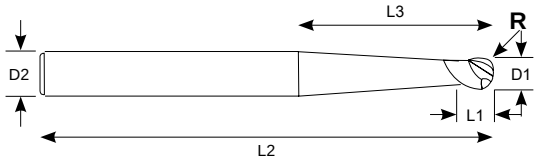
Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

Series	Cutting Data
EIB87 YG-1	P277

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal
- High precision machining, radius tolerance +0.01mm







MG SC | 2 | 30° | R ±0.01 | PLAIN | DIAMOND COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.02mm	h6

D1	R	D2	L1	L2	L3	Neck Taper Angle	★★★★★ Performance Order Code	Price
1	0.5	3	2	40	-	8.5°	EIB87010	£35.44
				60	30	2°	EIB87901	£48.64
				100	70	1°	EIB87902	£56.46
1.5	0.75	3	3	40	-	6.25°	EIB87015	£35.52
				60	30	1.5°	EIB87903	£46.57
				100	58	0.75°	EIB87904	£53.99
2	1	3	4	40	-	4.25°	EIB87020	£35.60
		3		60	30	1°	EIB87905	£48.81
		4		100	70	1°	EIB87906	£64.74

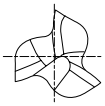
3 FLUTE BALL NOSE WITH NECK

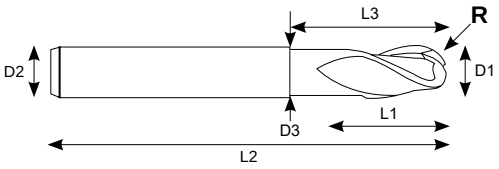
Diamond Coated Carbide Milling Cutters for High Performance Machining of Graphite

Series	Cutting Data
EI881 YG-1	P275

- Ultrafine diamond coating ensures smooth and excellent surface finish on graphite
- HSC = Suitable for high speed machining
- Also suitable for high speed machining of wrought aluminium, bakelite, plastic, wood, brass and non-ferrous metal
- High precision machining, radius tolerance +0.01mm







MG SC | 3 | 30° | R ±0.01 | PLAIN | DIAMOND COATED | HSC

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	1	6	1.9	3	60	5	EI881020	£72.88
2.5	1.25	6	2.4	4	60	6	EI881025	£72.88
3	1.5	6	2.8	4.5	60	6.5	EI881030	£72.88
3.5	1.75	6	3.2	5	65	7	EI881035	£72.88
4	2	6	3.7	6	65	8	EI881040	£72.88
5	2.5	6	4.6	7.5	65	10	EI881050	£72.88
6	3	6	5.6	9	75	12	EI881060	£72.88
8	4	8	7.4	12	75	25	EI881080	£111.25
10	5	10	9.4	15	80	30	EI881100	£148.12
12	6	12	11.4	18	90	36	EI881120	£173.27

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○	●	○	○

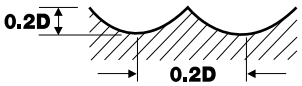
3 FLUTE BALL NOSE WITH NECK

EI881 Series

CUTTING DATA

Slotting

MATERIAL		GRAPHITE			
Hardness		-			
Strength		-			
Dia.	Rad.	RPM	Feed	Vc	Fz
2	1	16000	1200	100	0.025
2.5	1.25	16000	1700	125	0.035
3	1.5	16000	2150	150	0.045
3.5	1.75	16000	2650	175	0.055
4	2	16000	3100	200	0.065
5	2.5	15500	3800	245	0.082
6	3	15000	4450	285	0.099
8	4	13000	4500	325	0.115
10	5	11500	4600	360	0.133
12	6	10500	4750	395	0.151



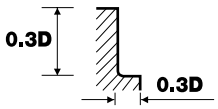
3 FLUTE CORNER RADIUS 40° HELIX

EIA13 & EIA14 Series

CUTTING DATA

Side Cutting

MATERIAL	GRAPHITE			
Hardness	-			
Strength	-			
Dia.	RPM	Feed	Vc	Fz
2	40000	3000	250	0.025
3	40000	4200	375	0.035
4	40000	6000	505	0.050
5	40000	7200	630	0.060
6	40000	8400	755	0.070
8	32000	8400	805	0.088
10	26000	8600	815	0.110
12	21000	8200	790	0.130



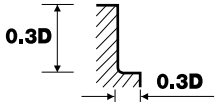
4 FLUTE CORNER RADIUS WITH NECK

EIB88 Series

CUTTING DATA

Side Cutting

MATERIAL	GRAPHITE			
Hardness	-			
Strength	-			
Dia.	RPM	Feed	Vc	Fz
6	40000	5600	755	0.035
8	32000	5600	805	0.044
10	26000	5700	815	0.055
12	21000	5450	790	0.065



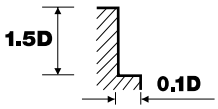
2 FLUTE WITH NECK

EIB04 Series

CUTTING DATA

Side Cutting

MATERIAL	GRAPHITE			
Hardness	-			
Strength	-			
Dia.	RPM	Feed	Vc	Fz
0.4	40000	200	50	0.003
0.6	40000	350	75	0.004
0.8	40000	550	100	0.007
1	40000	700	125	0.009
1.5	40000	800	190	0.010
2	25000	800	155	0.016
3	20000	800	190	0.020
4	18000	950	225	0.026
5	14000	1200	220	0.043
6	11000	1400	205	0.064
8	8000	1300	200	0.081
10	6500	1200	205	0.092
12	5500	1200	205	0.109



NOTE: For long & extra long types the feed should be reduced by around 50%.

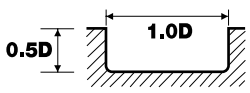
2 FLUTE CORNER RADIUS WITH NECK & TAPER NECK

EI996 & EIB86 Series

CUTTING DATA

Slotting

MATERIAL	GRAPHITE			
Hardness	-			
Strength	-			
Dia.	RPM	Feed	Vc	Fz
0.4	40000	640	50	0.008
0.6	40000	640	75	0.008
0.8	40000	800	100	0.010
1	40000	960	125	0.012
1.2	40000	1200	150	0.015
1.5	40000	1440	190	0.018
2	40000	1600	250	0.020
3	27000	1900	255	0.035
4	20000	2300	250	0.058
5	16000	2300	250	0.072
6	14000	2300	265	0.082



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

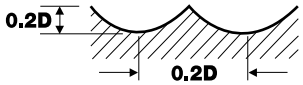
2 FLUTE BALL NOSE WITH NECK

EI880, EI450 & EI451 Series

CUTTING DATA

Slotting

MATERIAL		GRAPHITE			
Hardness		-			
Strength		-			
Dia.	Rad.	RPM	Feed	Vc	Fz
2	1	16000	800	100	0.025
2.5	1.25	16000	1120	125	0.035
3	1.5	16000	1450	150	0.045
3.5	1.75	16000	1750	175	0.055
4	2	16000	2100	200	0.066
5	2.5	15500	2550	245	0.082
6	3	15000	2950	285	0.098
8	4	13000	3000	325	0.115
10	5	11500	3050	360	0.133
12	6	10500	3150	395	0.150



NOTE: For long & extra long types the feed should be reduced by around 50%.

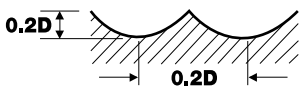
2 FLUTE MINIATURE BALL NOSE WITH NECK
2 FLUTE BALL NOSE WITH TAPER NECK

EI997, EIB93 & EIB87 Series

CUTTING DATA

Slotting

MATERIAL		GRAPHITE			
Hardness		-			
Strength		-			
Dia.	Rad.	RPM	Feed	Vc	Fz
0.4	0.2	40000	600	50	0.008
0.6	0.3	40000	800	75	0.010
0.8	0.4	40000	960	100	0.012
1	0.5	40000	1200	125	0.015
1.2	0.6	40000	1440	150	0.018
1.5	0.75	40000	1600	190	0.020
2	1	40000	2000	250	0.025
3	1.5	27000	2200	255	0.041
4	2	20000	2900	250	0.073
5	2.5	16000	2900	250	0.091
6	3	14000	2900	265	0.104



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

CRX-S Milling Cutters

Performance
★★★★★

N

Extreme wear resistance in copper and abrasive non-ferrous machining

Diamond Like Carbon coating has exceptional hardness and lubricity, making it ideal for machining highly abrasive and sticky materials.

Diameter Range
0.5-12mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Close to Diamond Hardness
Double the tool life of conventional general purpose carbide.

Wear Resistance
Depths of cut up to 0.8xD when slotting & 0.3xD when side cutting.

Number 1 for Copper
Designed for copper & copper alloy machining, as well as carbon/glass fibres or abrasive plastic.

Excellent Chip Control
The deep flute pockets provide superior chip control, optimising machining performance for precision.

Features

Diamond Like Carbon (DLC) Plus Coating
Provides exceptional hardness & low coefficient of friction, preventing fast wear.

Nanograin Carbide
Higher heat resistance and hardness for tackling abrasive non-ferrous materials.

Self Lubrication
Self-lubrication in dry wear conditions extends tool life and helps dissipate heat.

Extreme Machining
Surface speeds up to 940m/min with feed rates up to 8,400mm/min for extreme machining performance.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
2 FLUTE PLAIN SHANK		SGED31	1-12	30°	**280**
2 FLUTE LONG NECK PLAIN SHANK		SGED30	0.5-12	30°	**281**
2 FLUTE CORNER RADIUS EXTENDED NECK PLAIN SHANK		SGED29	1-12	30°	**282**
2 FLUTE BALL NOSE PLAIN SHANK		SGED28	1-12	30°	**283**
2 FLUTE BALL NOSE LONG NECK PLAIN SHANK		SGED27	0.5-12	30°	**284**

CRX-S APPLICATION

CRX-S Mills are coated with DLC (Diamond-Like Carbon film) which has exceptional hardness combined with extreme lubricity which makes it ideal for machining both highly abrasive and sticky materials.

It is primarily designed for high performance machining of COPPER & COPPER ALLOYS, with excellent performance in machining of abrasive non-ferrous materials such as high silicon or wrought aluminium, carbon/glass fibres or abrasive plastics.

DLC stands for diamond-like carbon and is a nanocomposite coating that has unique properties of natural diamond low friction, high hardness, and high corrosion resistance. The CRX-S range can be used at surface speeds up to 940m/min with feed rates up to 8,400mm/min for extreme machining performance.

DLC PLUS COATING
CLOSE TO DIAMOND HARDNESS!

With hardness of 6000-7000HV, DLC coating is 3-4 times harder than conventional CVD and PCD coatings and almost as hard as diamond coating.



	DLC Plus	Diamond	TiN
Hardness (HV)	6000-7000	7000-10000	2000
Wear Coefficient	0.1	0.4	0.4

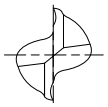
2 FLUTE

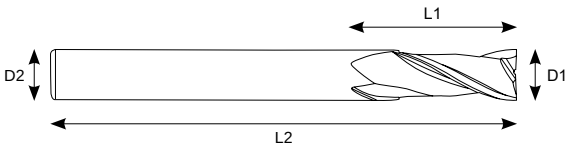
For Copper (& Alloy), Graphite, Reinforced Plastic, Abrasive Aluminium & Non-Ferrous Metal

- DLC Coated carbide (diamond-like carbon film) with superior anti-adhesion properties
- High hardness of coating prevents premature tool wear in high speed machining of abrasive materials
- Up to 4 times tool life of TiAlN coated tools
- Excellent chip control on long chipping materials
- Designed for copper, copper alloy, soft graphite, reinforced plastics and materials affiliated with non-ferrous metal

Series	Cutting Data
SGED31 YG-1	**P285**







CARBIDE | 2 | 30° | PLAIN | DLC PLUS

Size	TOLERANCE	
	Mill Dia.	Shank Dia.
Up to Ø6	0~-0.012mm	h6
Over Ø6	0~-0.015mm	

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1	6	2.5	50	SGED31010	**£43.23**
1.5	6	4	50	SGED31015	**£43.23**
2	6	6	50	SGED31020	**£39.64**
2.5	6	8	50	SGED31025	**£39.64**
3	6	10	50	SGED31030	**£39.64**
4	6	12	50	SGED31040	**£39.64**
5	6	15	60	SGED31050	**£43.42**
6	6	15	60	SGED31060	**£43.42**
8	8	20	65	SGED31080	**£50.33**
10	10	25	70	SGED31100	**£80.32**
12	12	30	80	SGED31120	**£110.43**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●	●	○	●	○

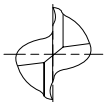
2 FLUTE LONG NECK

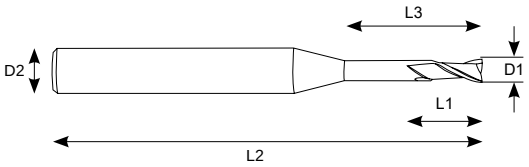
For Copper (& Alloy), Graphite, Reinforced Plastic, Abrasive Aluminium & Non-Ferrous Metal

Series	Cutting Data
SGED30 YG-1	P285

- DLC Coated carbide (diamond-like carbon film) with superior anti-adhesion properties
- High hardness of coating prevents premature tool wear in high speed machining of abrasive materials
- Up to 4 times tool life of TiAlN coated tools
- Excellent chip control on long chipping materials
- Designed for copper, copper alloy, soft graphite, reinforced plastics and materials affiliated with non-ferrous metal







CARBIDE | 2 | 30° | PLAIN | DLC PLUS

Size	TOLERANCE	
	Mill Dia.	Shank Dia.
Up to Ø6	0~-0.012mm	h6
Over Ø6	0~-0.015mm	

D1	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.5	4	0.7	45	2	SGED3000502	£41.33
				4	SGED3000504	£41.33
				6	SGED3000506	£41.33
				8	SGED3000508	£47.27
				10	SGED3000510	£47.50
0.6	4	0.9	45	2	SGED3000602	£41.33
				4	SGED3000604	£41.33
				6	SGED3000606	£41.33
				8	SGED3000608	£47.27
				10	SGED3000610	£47.50
0.8	4	1.2	45	4	SGED3000804	£37.55
				6	SGED3000806	£37.55
				8	SGED3000808	£37.55
				10	SGED3000810	£43.15
				12	SGED3000812	£47.50
1	4	1.5	45	4	SGED3001004	£33.70
				6	SGED3001006	£33.70
				8	SGED3001008	£37.57
				10	SGED3001010	£37.57
				12	SGED3001012	£37.57
1.5	4	2.3	45	6	SGED3001506	£33.70
				8	SGED3001508	£33.70
				10	SGED3001510	£37.57
				12	SGED3001512	£37.57
				16	SGED3001516	£37.57
2	4	3	45	8	SGED3002008	£32.46
			45	10	SGED3002010	£32.46
			45	12	SGED3002012	£32.46
			50	16	SGED3002016	£35.01
3	6	4.5	50	8	SGED3003008	£49.89
			50	10	SGED3003010	£49.89
			50	12	SGED3003012	£49.89
			60	16	SGED3003016	£51.01
			60	20	SGED3003020	£51.01
4	6	6	50	10	SGED3004010	£49.89
			50	12	SGED3004012	£49.89
			60	16	SGED3004016	£51.01
			60	20	SGED3004020	£51.01
			60	25	SGED3004025	£51.01
6	6	8	60	20	SGED3006020	£54.54
			90	30	SGED3006030	£71.80
8	8	12	70	20	SGED3008020	£58.24
10	10	15	80	25	SGED3010025	£83.15
12	12	18	80	25	SGED3012025	£117.51

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●	●	○	●	○

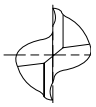
2 FLUTE CORNER RADIUS EXTENDED NECK

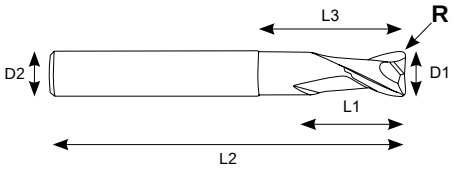
For Copper (& Alloy), Graphite, Reinforced Plastic, Abrasive Aluminium & Non-Ferrous Metal

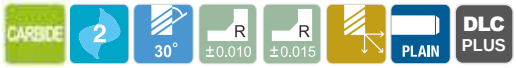
Series	Cutting Data
SGED29 YG-1	P286

- DLC Coated carbide (diamond-like carbon film) with superior anti-adhesion properties
- High hardness of coating prevents premature tool wear in high speed machining of abrasive materials
- Up to 4 times tool life of TiAlN coated tools
- Excellent chip control on long chipping materials
- Designed for copper, copper alloy, soft graphite, reinforced plastics and materials affiliated with non-ferrous metal









Size	TOLERANCE		
	Corner Rad.	Mill Dia.	Shank Dia.
Up to Ø6	±0.010	0~-0.012mm	h6
Over Ø6	±0.015	0~-0.015mm	

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
1	0.1	4	1.5	45	4	SGED290100104	£38.08
	0.1				6	SGED290100106	£38.08
	0.1				8	SGED290100108	£42.79
	0.2				4	SGED290100204	£38.08
	0.2				6	SGED290100206	£38.08
	0.2				8	SGED290100208	£42.79
1.5	0.1	4	2.3	45	6	SGED290150106	£38.08
	0.1				8	SGED290150108	£38.08
	0.1				10	SGED290150110	£42.79
	0.2				6	SGED290150206	£38.08
	0.2				8	SGED290150208	£38.08
	0.2				10	SGED290150210	£42.79
2	0.2	4	3	45	8	SGED290200208	£36.70
	0.2				10	SGED290200210	£36.70
	0.2				12	SGED290200212	£36.70
	0.5				8	SGED290200508	£36.70
	0.5				10	SGED290200510	£36.70
	0.5				12	SGED290200512	£36.70
3	0.2	6	4.5	50	10	SGED290300210	£56.61
	0.2			50	12	SGED290300212	£56.61
	0.2			60	16	SGED290300216	£56.61
	0.3			50	10	SGED290300310	£56.61
	0.3			50	12	SGED290300312	£56.61
	0.3			60	16	SGED290300316	£56.61
4	0.2	6	6	50	12	SGED290400212	£56.61
	0.2			60	16	SGED290400216	£56.61
	0.2			60	20	SGED290400220	£56.61
	0.5			50	12	SGED290400512	£56.61
	0.5			60	16	SGED290400516	£56.61
	0.5			60	20	SGED290400520	£56.61
6	0.3	6	9	60	20	SGED290600320	£61.89
	0.5					SGED290600520	£61.89
	1					SGED290601020	£61.89
8	0.3	8	12	65	25	SGED290800325	£64.24
	0.5					SGED290800525	£64.24
	1					SGED290801025	£64.24
10	0.5	10	15	70	30	SGED291000530	£81.14
	1					SGED291001030	£81.14
12	0.5	12	18	80	32	SGED291200532	£126.82
	1					SGED291201032	£126.82

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●	●	○	●	○

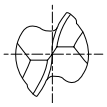
2 FLUTE BALL NOSE

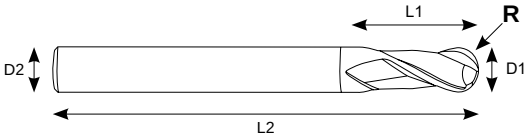
For Copper (& Alloy), Graphite, Reinforced Plastic, Abrasive Aluminium & Non-Ferrous Metal

- DLC Coated carbide (diamond-like carbon film) with superior anti-adhesion properties
- High hardness of coating prevents premature tool wear in high speed machining of abrasive materials
- Up to 4 times tool life of TiALN coated tools
- Excellent chip control on long chipping materials
- Designed for copper, copper alloy, soft graphite, reinforced plastics and materials affiliated with non-ferrous metal

Series	Cutting Data
SGED28 YG-1	P287









Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to Ø6	±0.005	0~-0.012mm	h6
Over Ø6		0~-0.015mm	

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
1	0.5	6	2.5	50	SGED28010	£58.26
1.5	0.75	6	4	50	SGED28015	£58.26
2	1	6	5	50	SGED28020	£54.35
3	1.5	6	8	60	SGED28030	£54.35
4	2	6	8	70	SGED28040	£54.35
5	2.5	6	12	90	SGED28050	£57.47
6	3	6	12	90	SGED28060	£61.43
8	4	8	16	100	SGED28080	£97.22
10	5	10	20	100	SGED28100	£120.93
12	6	12	25	110	SGED28120	£183.45

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●	●	○	●	○

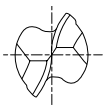
2 FLUTE BALL NOSE LONG NECK

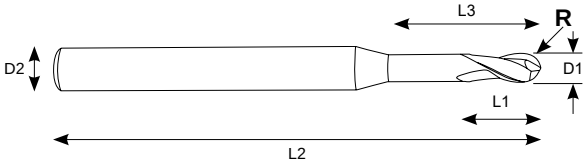
For Copper (& Alloy), Graphite, Reinforced Plastic, Abrasive Aluminium & Non-Ferrous Metal

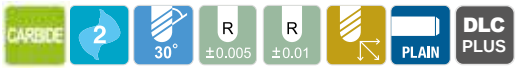
- DLC Coated carbide (diamond-like carbon film) with superior anti-adhesion properties
- High hardness of coating prevents premature tool wear in high speed machining of abrasive materials
- Up to 4 times tool life of TiAlN coated tools
- Excellent chip control on long chipping materials
- Designed for copper, copper alloy, soft graphite, reinforced plastics and materials affiliated with non-ferrous metal

Series	Cutting Data
SGED27 YG-1	P287









Size	TOLERANCE		
	Radius	Mill Dia.	Shank Dia.
Up to Ø6	±0.005	0~-0.012mm	h6
Over Ø6	±0.010	0~-0.015mm	

D1	R	D2	L1	L2	L3	★★★★★ Performance Order Code	Price
0.5	0.25	4	0.5	45	2	SGED2700502	£63.92
					4	SGED2700504	£63.92
					6	SGED2700506	£73.56
					8	SGED2700508	£73.56
					10	SGED2700510	£73.56
0.6	0.3	4	0.6	45	2	SGED2700602	£63.92
					4	SGED2700604	£63.92
					6	SGED2700606	£63.92
					8	SGED2700608	£73.56
					10	SGED2700610	£73.56
0.8	0.4	4	0.8	45	4	SGED2700804	£51.11
					6	SGED2700806	£51.11
					8	SGED2700808	£51.11
					10	SGED2700810	£61.95
					12	SGED2700812	£61.95
1	0.5	4	1	45	4	SGED2701004	£48.01
					6	SGED2701006	£48.01
					8	SGED2701008	£48.01
					10	SGED2701010	£48.01
					12	SGED2701012	£48.01
1.5	0.75	4	1.5	45	6	SGED2701506	£48.01
					8	SGED2701508	£48.01
				45	10	SGED2701510	£48.01
				45	12	SGED2701512	£50.37
				50	16	SGED2701516	£50.37
2	1	4	3	45	6	SGED2702006	£45.54
				45	8	SGED2702008	£45.54
				45	10	SGED2702010	£45.54
				45	12	SGED2702012	£45.54
				50	16	SGED2702016	£47.52
3	1.5	6	4	50	10	SGED2703010	£66.75
				50	12	SGED2703012	£66.75
				60	16	SGED2703016	£67.98
				60	20	SGED2703020	£67.98
4	2	6	5	50	10	SGED2704010	£66.75
				50	12	SGED2704012	£66.75
				60	16	SGED2704016	£67.98
				60	20	SGED2704020	£67.98
				60	25	SGED2704025	£67.98
6	3	6	8	60	20	SGED2706020	£67.98
				90	30	SGED2706030	£73.07
8	4	8	10	70	20	SGED2708020	£76.28
10	5	10	12	80	25	SGED2710025	£103.88
12	6	12	14	80	25	SGED2712025	£137.79

Material Applications

● Excellent ○ Good

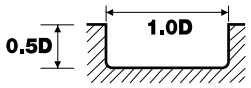
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●	●	○	●	○

2 FLUTE
SGED31 & SGED30 Series

CUTTING DATA
Slotting & Side Cutting

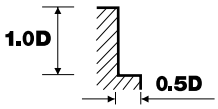
Slotting

MATERIAL	WROUGHT ALUMINIUM				UNALLOYED COPPER				THERMOPLASTICS			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.5	50000	480	80	0.005	50000	480	80	0.005	50000	140	80	0.001
0.6	50000	600	95	0.006	50000	570	95	0.006	50000	170	95	0.002
0.8	50000	780	125	0.008	43000	675	105	0.008	50000	220	125	0.002
1	50000	990	155	0.010	35000	690	110	0.010	50000	280	155	0.003
2	50000	990	315	0.010	25400	495	160	0.010	50000	429	315	0.004
3	35200	1590	330	0.023	17400	795	165	0.023	50000	689	470	0.007
4	26000	1680	325	0.032	13000	840	160	0.032	39000	728	490	0.009
6	17400	1680	325	0.048	8700	840	165	0.048	26100	728	490	0.014
8	13200	1680	330	0.064	6600	840	165	0.064	19800	728	500	0.018
10	10400	1680	325	0.081	5200	840	160	0.081	15600	728	490	0.023
12	8800	1710	330	0.097	4400	855	165	0.097	13200	741	495	0.028



Side Cutting

MATERIAL	WROUGHT ALUMINIUM				UNALLOYED COPPER				THERMOPLASTICS			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.5	50000	510	80	0.005	50000	480	80	0.005	50000	390	80	0.004
0.6	50000	630	95	0.006	45000	525	85	0.006	50000	480	95	0.005
0.8	50000	840	125	0.008	34000	510	85	0.008	50000	630	125	0.006
1	41250	864	130	0.010	27500	540	85	0.010	50000	789	155	0.008
2	41100	864	260	0.011	27400	540	170	0.010	50000	864	315	0.009
3	27900	1368	260	0.025	18600	855	175	0.023	37200	1368	350	0.018
4	21000	1440	265	0.034	14000	900	175	0.032	28000	1440	350	0.026
6	14400	1536	270	0.053	9600	960	180	0.050	19200	1536	360	0.040
8	10500	1440	265	0.069	7000	900	175	0.064	14000	1440	350	0.051
10	8400	1440	265	0.086	5600	900	175	0.080	11200	1440	350	0.064
12	7200	1536	270	0.107	4800	960	180	0.100	9600	1536	360	0.080



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE CORNER RADIUS EXTENDED NECK

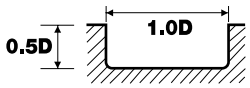
SGED29 Series

CUTTING DATA

Slotting & Side Cutting

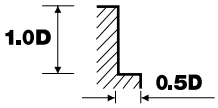
Slotting

MATERIAL	WROUGHT ALUMINIUM				UNALLOYED COPPER				THERMOPLASTICS			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	50000	1000	155	0.010	50000	1000	155	0.010	50000	700	155	0.007
2	50000	1800	315	0.018	50000	1700	315	0.017	50000	1400	315	0.014
3	50000	2600	470	0.026	44500	2350	420	0.026	50000	2100	470	0.021
4	50000	3680	630	0.037	33400	2100	420	0.031	50000	2600	630	0.026
5	50000	4300	785	0.043	27000	2100	425	0.039	50000	3400	785	0.034
6	44500	4670	840	0.052	22300	2100	420	0.047	50000	4200	940	0.042
8	33400	4560	840	0.068	16700	2100	420	0.063	50000	5700	1255	0.057
10	26700	4770	840	0.089	13370	2100	420	0.079	40000	5500	1255	0.069
12	22200	4660	835	0.105	11100	2100	420	0.095	33500	5600	1265	0.084



Side Cutting

MATERIAL	WROUGHT ALUMINIUM				UNALLOYED COPPER				THERMOPLASTICS			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	50000	1400	155	0.014	50000	1200	155	0.012	50000	1200	155	0.012
2	50000	2800	315	0.028	50000	2500	315	0.025	50000	2500	315	0.025
3	50000	4200	470	0.042	50000	3700	470	0.037	50000	3700	470	0.037
4	50000	5300	630	0.053	50000	4700	630	0.047	50000	5000	630	0.050
5	50000	6500	785	0.065	40000	4800	630	0.060	50000	6500	785	0.065
6	50000	7850	940	0.079	33400	4900	630	0.073	50000	7500	940	0.075
8	37500	7850	940	0.105	25000	4700	630	0.094	50000	8400	1255	0.084
10	30000	7850	940	0.131	20000	4800	630	0.120	40000	8400	1255	0.105
12	25000	7850	940	0.157	16700	4700	630	0.141	33500	8400	1265	0.125



FREE next day delivery on orders above £59* placed before 6pm.

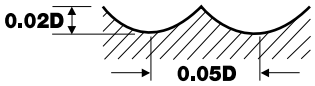
*Exclusions apply.

RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

2 FLUTE BALL NOSE
SGED28 Series

CUTTING DATA
Stepover Cutting

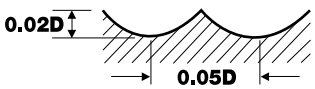
MATERIAL		WROUGHT ALUMINIUM				UNALLOYED COPPER				THERMOPLASTICS			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
1	0.5	50000	1000	155	0.010	42000	930	130	0.011	50000	750	155	0.008
2	1	47520	2068	300	0.022	24000	940	150	0.020	50000	1500	315	0.015
3	1.5	31200	1914	295	0.031	15800	870	150	0.028	47400	1800	445	0.019
4	2	22800	1936	285	0.042	11500	880	145	0.038	34500	1825	435	0.026
5	2.5	18500	1936	290	0.052	9300	880	145	0.047	28000	1825	440	0.033
6	3	15600	1892	295	0.061	7800	860	145	0.055	23500	1800	445	0.038
8	4	12000	1892	300	0.079	6000	860	150	0.072	18000	1800	450	0.050
10	5	9600	1936	300	0.101	4800	880	150	0.092	14500	1825	455	0.063
12	6	8000	1914	300	0.120	4000	870	150	0.109	12000	1825	450	0.076



2 FLUTE BALL NOSE EXTENDED NECK
SGED27 Series

CUTTING DATA
Stepover Cutting

MATERIAL		WROUGHT ALUMINIUM				UNALLOYED COPPER				THERMOPLASTICS			
Dia.	Rad.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
0.5	0.25	50000	500	80	0.005	50000	500	80	0.005	50000	380	80	0.004
0.6	0.3	50000	700	95	0.007	50000	650	95	0.007	50000	450	95	0.005
0.8	0.4	50000	850	125	0.009	44000	770	110	0.009	50000	600	125	0.006
1	0.5	50000	1000	155	0.010	35000	770	110	0.011	50000	630	155	0.006
2	1	39600	1716	250	0.022	19800	780	125	0.020	50000	1250	315	0.013
3	1.5	26000	1584	245	0.030	13000	720	125	0.028	39000	1512	370	0.019
4	2	19000	1606	240	0.042	9500	730	120	0.038	28500	1533	360	0.027
5	2.5	15400	1606	240	0.052	7700	730	120	0.047	23100	1533	365	0.033
6	3	13000	1584	245	0.061	6500	720	125	0.055	19500	1512	370	0.039
8	4	10000	1584	250	0.079	5000	720	125	0.072	15000	1512	375	0.050
10	5	8000	1606	250	0.100	4000	730	125	0.091	12000	1533	375	0.064
12	6	6600	1606	250	0.122	3300	730	125	0.111	9900	1533	375	0.077



RPM: revolutions per minute **Feed:** mm per minute **Vc:** surface speed (metres per minute) **Fz:** feed per tooth

YG Karnasch

Composite Milling Cutters

Performance
★★★★★

N

For high performance machining of composite materials

Huge range of uncoated and diamond coated carbide, PCD and CVD tools for composite machining.

Diameter Range
1.6-20mm

Machining Solutions



Metal Removal Rates	Material Versatility	Cutting Resistance	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Cutting Edge
Ultra-sharp cutting edges are designed to prevent delamination, ensuring a smooth machining process.

Tool Life
CVD diamond offers 2-3 times more tool life compared to PCD.

Compression Geometry
Compression tools prevent layered materials from separating during machining.

Cycle Times
Multi tooth CVD tools improve cycle times increasing productivity.

Features

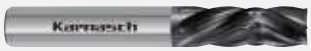
Diamond Coating
The diamond coating improves tool life in abrasive material machining.

Material Versatility
Suitable for machining a huge range of composite materials.

Tool Geometry
Wide range of geometries suitable for layered, honeycomb and abrasive materials.

Special Helix
Combined with unequal flute spacing prevents vibration at high speeds.

Tool Selection

Description		Series	Sizes ØD	Helix	Page
4 & 6 FLUTE V STYLE COMPRESSION TOOL PLAIN SHANK • DIAMOND COATED		29.0412	6-16	-	**291**
4 & 6 FLUTE V.R. STYLE COMPRESSION TOOL PLAIN SHANK • DIAMOND COATED • SOLID & AIR COOLING		29.0416 29.0417	6-12	-	**291**
4-8 FLUTE END MILL UNEQUAL INDEXING PLAIN SHANK • DIAMOND COATED		29.0305	3-20	15°	**292**
4 FLUTE CORNER RADIUS PLAIN SHANK • DIAMOND COATED		GUF39	6-12	15°	**292**
SOLID CARBIDE FIBREGLASS ROUTER PLAIN SHANK • POLISHED		11.6001/2/3/4	1.6-12	-	**293**
SOLID CARBIDE HONEYCOMB ROUTER PLAIN SHANK • POLISHED		29.1783	4-20	-	**293**
8 FLUTE NHC700 COATED ROUGHER FINISHER PLAIN SHANK • STRAIGHT CUT, DRAWING CUT & PUSHING CUT		29.1751/2/3	4-20	-	**294**
8 FLUTE DIAMOND COATED ROUGHER FINISHER PLAIN SHANK • STRAIGHT CUT, DRAWING CUT & PUSHING CUT		29.1761/2/3	4-20	-	**295**
2 FLUTE PCD 'EXTREME' END MILL PLAIN SHANK		30.6524	3-12	0°	**296**
2 FLUTE PCD 'EXTREME' BALL NOSE PLAIN SHANK		30.6522	3-12	0°	**296**
2 FLUTE PCD 'EXTREME' CORNER RADIUS PLAIN SHANK		30.6523	3-12	0°	**297**
2 FLUTE PCD 'EXTREME' V TYPE PLAIN SHANK		30.6528	10-12	-	**297**
2 FLUTE CVD DIAMOND WITH NECK PLAIN SHANK		29.6524	2-12	0°	**298**
2 FLUTE CVD DIAMOND LONG CUTTING EDGE PLAIN SHANK		29.6525	3-16	0°	**298**
2 FLUTE CVD DIAMOND LONG CUTTING EDGE PLAIN SHANK • WITH NECK		29.6526	4-16	0°	**299**
2 FLUTE CVD DIAMOND CORNER RADIUS PLAIN SHANK		29.6523	2-12	0°	**299**
2 FLUTE CVD DIAMOND BALL NOSE PLAIN SHANK		29.6522	2-12	0°	**300**
3 - 5 FLUTE CVD DIAMOND SPIKED CUTTER PLAIN SHANK • WITH COOLING CHANNELS		29.6553	8-20	25°	**300**
3 & 4 FLUTE CVD DIAMOND 'UP & DOWN' END MILL PLAIN SHANK		29.6562	8-16	-	**301**
5 - 9 TOOTH CVD DIAMOND SUPERFINISH END MILL PLAIN SHANK • STRAIGHT CUT, DRAWING CUT & PUSHING CUT		29.6572/3/4	8-16	-	**301**

Selecting the best diamond tool for your application

YG Karnasch

For higher tool life in applications with highly abrasive materials, milling/routing tools with diamond coating are required.

Our range features 3 levels of diamond tools:

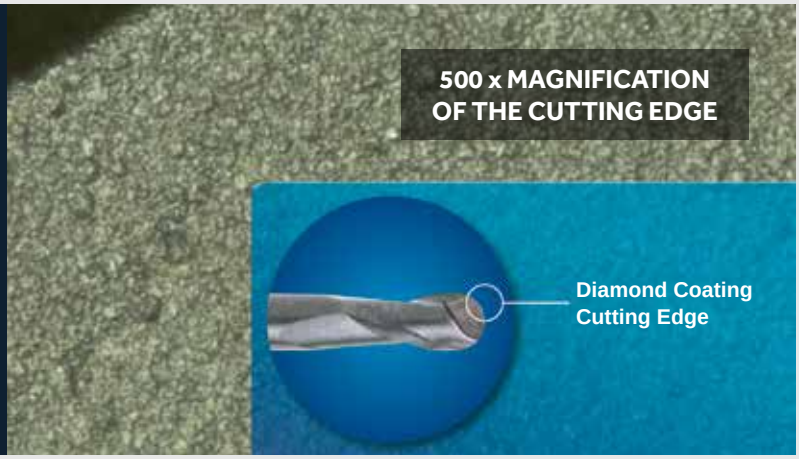
Diamond Coated
Most economical

PCD Extreme
Highest quality PCD available

CVD Diamond
The hardest (99.9% diamond)

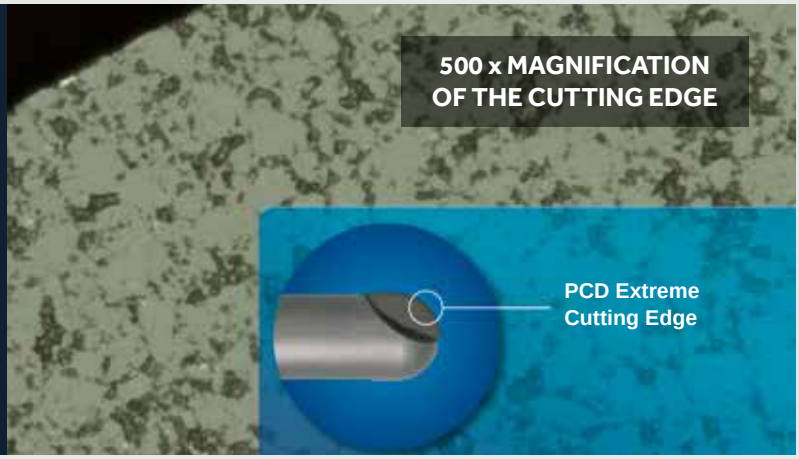
Diamond Coated

- Solid carbide with DIAMOND coating
- Ideal for short batch runs or composites with low glass/carbon content
- Also suitable for graphite machining
- Stronger cutting edge, suitable for less stable applications



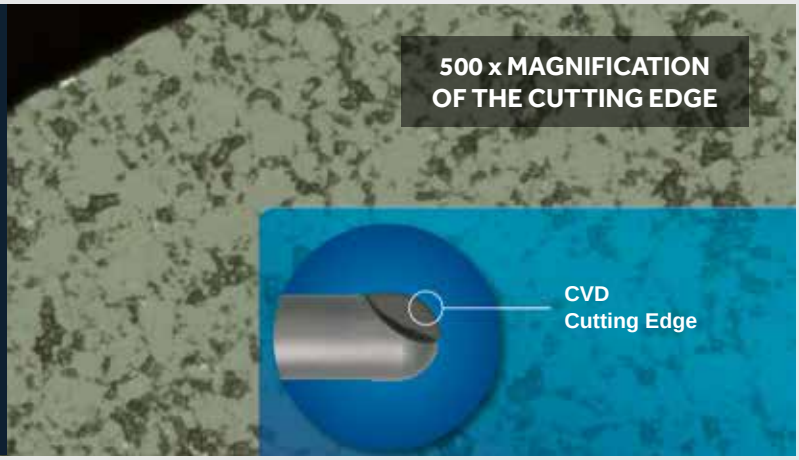
PCD Extreme

- PCD substrate with higher hardness than standard PCD
- Sharp cutting edge
- Excellent performance on composites and aluminium



CVD

- Ultra hard DIAMOND with 3-4 times tool life of PCD
- These composite tools are extremely sharp due to their laser-cut cutting edges and ensure a smooth cut with a high-precision cutting tolerance of up to 1µ
- Suitable for the most abrasive composite materials such as Aramid
- Only suitable for the most rigid applications

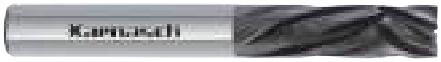


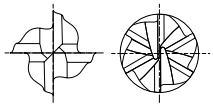
4 & 6 FLUTE DIAMOND COATED V STYLE COMPRESSION TOOL

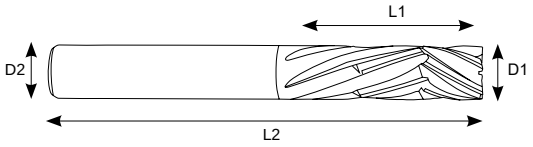
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid & Abrasive Engineered Plastic

- Diamond coated carbide
- V style compression geometry prevents delamination on upper and lower edges in fibre-reinforced plastics

Series	Cutting Data
29.0412 Karnasch	View Online







MG SC | 4&6 | DIN 6535HA | DIA | HPC

Mill Dia.	Tolerance	Shank Dia.
6mm	-0.000/-0.048	h5
8 - 10mm	-0.000/-0.058	
over 10mm	-0.000/-0.070	

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	No. of Flutes	★★★★★ Performance Order Code	Price
6	6	16	58	4	290412060016	£95.51
		21	65		290412060021	£101.98
8	8	22	70	6	290412080022	£116.55
		28	85		290412080028	£148.92
10	10	25	72	6	290412100025	£147.31
		32	85		290412100032	£173.21
12	12	28	85	6	290412120028	£188.58
		36	92		290412120036	£252.45
16	16	35	92	6	290412160035	£308.54
		48	110		290412160048	£353.80

4 & 6 FLUTE DIAMOND COATED V.R. STYLE COMPRESSION TOOL

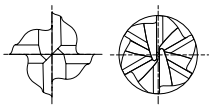
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid & Abrasive Engineered Plastic

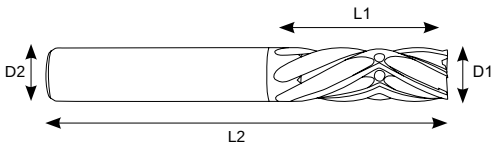
- Diamond coated carbide
- V.R. style compression geometry prevents delamination on upper and lower edges in fibre-reinforced plastics
- Available with air cooling channels (29.0417)

Series	Cutting Data
29.0416/17 Karnasch	View Online









MG SC | 4&6 | DIN 6535HA | DIA | HPC

Mill Dia.	Tolerance	Shank Dia.
6mm	-0.000/-0.048	h5
8 - 10mm	-0.000/-0.058	
12mm	-0.000/-0.070	

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	No. of Flutes	★★★★★ Performance Order Code			
					Solid	Price	Air Cooling	Price
6	6	16	58	4	290416060016	£98.74	290417060016	£144.08
8	8	22	70	6	290416080022	£123.02	290417080022	£192.62
10	10	25	72	6	290416100025	£161.87	290417100025	£244.42
12	12	28	85	6	290416120028	£236.70	290417120028	£296.20

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
														●

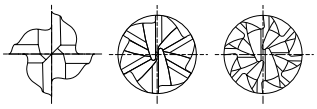
4 - 8 FLUTE DIAMOND COATED END MILL UNEQUAL INDEXING

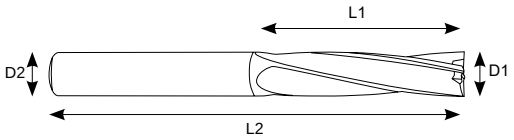
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid & Abrasive Engineered Plastic

- Diamond coated carbide
- 15° helix & unequal indexing prevent vibration at high speeds
- Optimal machining data must be determined during the run in phase

Series	Cutting Data
29.0305 Karnasch	View Online







MG SC | 4-8 | 15° | DIN 6535HA | DIA | HPC | HSC

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	No. of Flutes	★★★★★ Performance Order Code	Price
3	4	10	40	4	29030503001004	£93.32
4	6	15	50	4	29030504001504	£115.19
5	6	15	50	4	29030505001504	£115.19
6	6	15	50	4	29030506001504	£115.19
		25	64		29030506002504	£130.44
		26	64		29030506352604	£147.59
8	8	15	60	4	29030508001504	£147.59
		30	76		29030508003004	£164.74
10	10	30	64	4	29030509533004	£251.05
		20	73		29030510002004	£179.95
		40	93		29030510004004	£200.61
12	12	20	73	4	29030512002004	£165.00
		40	96		29030512004004	£206.50
16	16	20	80	4	29030516002004	£222.58
				6	29030516002006	£231.00
20	20	20	80	4	29030520002004	£300.08
		20	80	8	29030520002008	£314.66
		42	105	4	29030520004204	£355.19
		42	105	8	29030520004208	£356.11

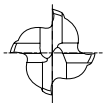
4 FLUTE DIAMOND COATED CORNER RADIUS END MILL

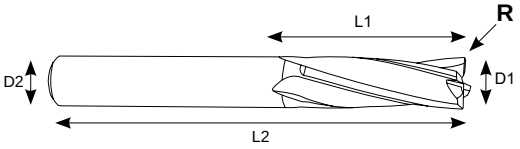
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid & Abrasive Engineered Plastic

- Diamond coated carbide
- 15° helix
- Corner radius protects the cutting edge

Series	Cutting Data
GUF39 YG-1	View Online







MG SC | 4 | 15° | PLAIN | DIA

TOLERANCE	
Mill Dia.	Shank Dia.
0~-0.03mm	h6

YG

D1	R	D2	L1	L2	★★★★★ Performance Order Code	Price
10	0.3	10	30	80	GUF39100	£151.57
12	0.3	12	36	100	GUF39120	£181.53

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●		○		●

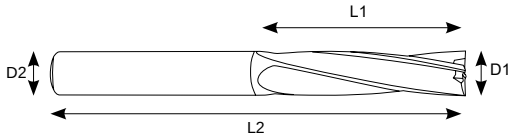
SOLID CARBIDE FIBREGLASS ROUTER

For Fibreglass, Kevlar, Sandwich Materials, CFRP & Aramid

- Uncoated polished carbide
- These routers are for contouring, grooving, drilling of a wide range of GFK, CFK, fiberglass reinforced plastic, as well as MMC (Metal Matrix Composites). ceramic with glass fiber, graphite, carbon etc
- Available in 4 geometries

Series	Cutting Data
11.600 Karnasch	View Online





MG SC | PLAIN | POLISHED

Mill Dia.	up to 2.4mm	over 2.4mm
Tolerance	+0.00/-0.10	+0.00/-0.13

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code: No End Cut	Price	Burr End Cut	Price	End Mill Cut	Price	135° Drill Point	Price
1.6	3	5	38	-	-	116002001	£12.26	116003001	£10.76	116004001	£11.36
2.4	3	9.5	38	-	-	116002003	£13.62	116003003	£11.66	-	-
3	3	12	38	116001005	£25.00	116002005	£12.43	116003005	£12.72	116004005	£12.64
4	4	16	50	-	-	116002010	£17.56	116003010	£17.09	116004010	£16.97
	6			-	-	116002012	£20.98	116003012	£19.50	116004012	£20.20
6	6	19	50	116001013	£18.20	116002013	£20.98	116003013	£19.50	116004013	£20.20
		19	63	116001015	£25.84	116002015	£29.30	116003015	£27.23	116004015	£27.03
		25	75	116001017	£22.57	116002017	£25.27	116003017	£23.18	116004017	£23.71
8	8	25	63	116001020	£37.42	116002020	£40.70	116003020	£37.07	116004020	£36.81
10	10	25	63	116001025	£36.58	-	-	-	-	116004025	£29.53
			75	116001027	£47.06	116002027	£52.68	116003027	£47.78	116004027	£49.26
12	12	25	75	116001029	£64.51	116002029	£73.29	116003029	£67.06	116004029	£69.61
		30		116001030	£64.90	-	-	-	-	-	-

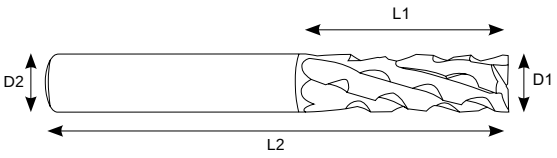
SOLID CARBIDE HONEYCOMB ROUTER

Special Geometry With Right Hand Twisted Drawing Cut for Honeycomb

- Uncoated polished carbide
- Special teeth profile for high speed honeycomb routing
- Also suitable for carbon fibre

Series	Cutting Data
29.1783 Karnasch	View Online





MG SC | DIN 6535HA | POLISHED

Mill Dia.	4 - 6mm	8 - 10mm	12 - 16mm	20mm
Tolerance	-0.000/-0.030	-0.000/-0.036	-0.000/-0.043	-0.000/-0.052

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	4	16	50	291783040016	£26.63
5	5	16	50	291783050016	£23.32
		20	75	291783050020	£26.79
6	6	19	60	291783060019	£31.09
		30	75	291783060030	£34.54
8	8	25	63	291783080025	£44.04
		35	75	291783080035	£50.95
10	10	25	72	291783100025	£63.89
12	12	32	83	291783120032	£69.94
20	20	45	104	291783200045	£190.91

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●		○		●

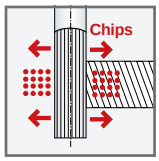
8 FLUTE NHC7000 COATED ROUGHER FINISHER

For Carbon Fibre, Glass Reinforced Plastic, Honeycomb, Aluminium & Abrasive Engineered Plastic

- NHC7000 coated carbide - For up to 900°C operating temperature
- 8 flutes, suitable for roughing and finishing

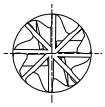
Series	Cutting Data
29.175 Karnasch	View Online

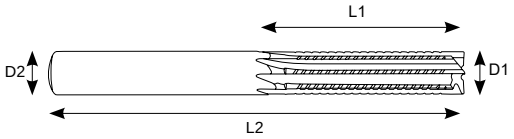
STRAIGHT CUT





MG SC | 8 | 0° | DIN 6535HA | NHC 7000 | HPC



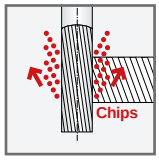


Mill Dia.	4 - 6mm	8 - 10mm	12 - 16mm	20mm
Tolerance	-0.000/-0.048	-0.000/-0.058	-0.000/-0.070	-0.000/-0.084

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	16	60	291751040016	£87.42
5	6	18	60	291751050018	£90.15
6	6	20	60	291751060020	£93.80
		25	65	291751060025	£100.16
		30	75	291751060030	£104.69
		50	100	291751060050	£120.20
8	8	22	63	291751080022	£117.52
		32	75	291751080032	£120.20
		50	100	291751080050	£137.48
10	10	32	72	291751100032	£160.24
		60	120	291751100060	£186.65
12	12	32	82	291751120032	£172.09
		70	120	291751120070	£235.84
16	16	36	92	291751160036	£209.08
		80	150	291751160080	£287.50
20	20	45	104	291751200045	£242.61
		80	150	291751200080	£378.15

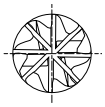
Karnasch PROFESSIONAL TOOLS

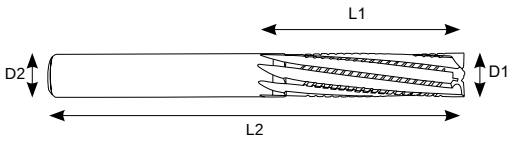
DRAWING CUT





MG SC | 8 | 8°R | DIN 6535HA | NHC 7000 | HPC



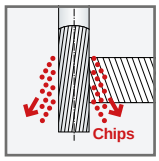


Mill Dia.	4 - 6mm	8 - 10mm	12 - 16mm	20mm
Tolerance	-0.000/-0.048	-0.000/-0.058	-0.000/-0.070	-0.000/-0.084

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	16	60	291752040016	£87.42
5	6	18	60	291752050018	£90.15
6	6	20	60	291752060020	£93.80
		25	65	291752060025	£100.16
		30	75	291752060030	£104.69
		50	100	291752060050	£120.20
8	8	22	63	291752080022	£102.87
		32	75	291752080032	£120.20
		50	100	291752080050	£137.48
10	10	32	72	291752100032	£160.24
		60	120	291752100060	£186.65
12	12	32	82	291752120032	£196.57
		70	120	291752120070	£235.84
16	16	36	92	291752160036	£209.08
		80	150	291752160080	£287.50
20	20	45	104	291752200045	£277.11
		80	150	291752200080	£378.15

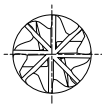
Karnasch PROFESSIONAL TOOLS

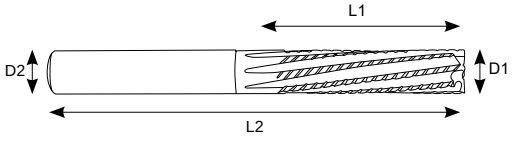
PUSHING CUT





MG SC | 8 | L 8° | DIN 6535HA | NHC 7000 | HPC





Mill Dia.	4 - 6mm	8 - 10mm	12 - 16mm	20mm
Tolerance	-0.000/-0.048	-0.000/-0.058	-0.000/-0.070	-0.000/-0.084

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	16	60	291753040016	£87.42
5	6	18	60	291753050018	£102.96
6	6	20	60	291753060020	£93.80
		25	65	291753060025	£100.16
		30	75	291753060030	£104.69
		50	100	291753060050	£120.20
8	8	22	63	291753080022	£102.87
		32	75	291753080032	£120.20
		50	100	291753080050	£137.48
10	10	32	72	291753100032	£183.03
		60	120	291753100060	£186.65
12	12	32	82	291753120032	£172.09
		70	120	291753120070	£235.84
16	16	36	92	291753160036	£209.08
		80	150	291753160080	£287.50
20	20	45	104	291753200045	£277.11
		80	150	291753200080	£378.15

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										○	○		●	●

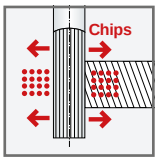
8 FLUTE DIAMOND COATED ROUGHER FINISHER

For Carbon Fibre, Glass Reinforced Plastic, Honeycomb, Aluminium & Abrasive Engineered Plastic

- Diamond coated carbide
- 8 flutes, suitable for roughing and finishing

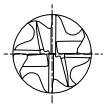
Series	Cutting Data
29.176 Karnasch	View Online

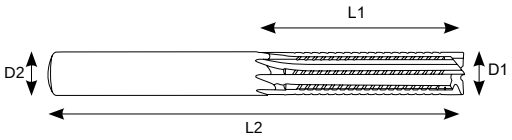
STRAIGHT CUT





MG SC | 8 | 0° | DIN 6535HA | DIA | HPC





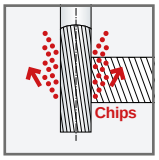
Mill Dia.	4 - 6mm	8 - 10mm	12 - 16mm	20mm
Tolerance	-0.000/-0.048	-0.000/-0.058	-0.000/-0.070	-0.000/-0.084

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	16	60	291761040016	£125.64
5	6	18	60	291761050018	£128.39
6	6	20	60	291761060020	£132.04
		25	65	291761060025	£138.38
		30	75	291761060030	£142.93
		50	100	291761060050	£158.43
8	8	22	63	291761080022	£156.59
		32	75	291761080032	£172.99
		50	100	291761080050	£191.19

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
10	10	32	72	291761100032	£222.15
		60	120	291761100060	£248.59
12	12	32	82	291761120032	£241.28
		70	120	291761120070	£305.01
16	16	36	92	291761160036	£295.29
		80	150	291761160080	£399.76
20	20	45	104	291761200045	£379.88
		80	150	291761200080	£515.43

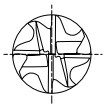
Karnasch PROFESSIONAL TOOLS

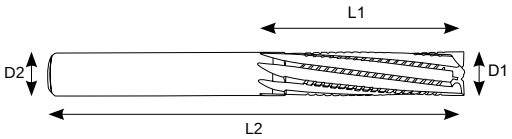
DRAWING CUT





MG SC | 8 | 8°R | DIN 6535HA | DIA | HPC





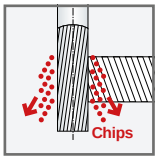
Mill Dia.	4 - 6mm	8 - 10mm	12 - 16mm	20mm
Tolerance	-0.000/-0.048	-0.000/-0.058	-0.000/-0.070	-0.000/-0.084

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	16	60	291762040016	£125.64
5	6	18	60	291762050018	£128.39
6	6	20	60	291762060020	£132.04
		25	65	291762060025	£138.38
		30	75	291762060030	£142.93
		50	100	291762060050	£158.43
8	8	22	63	291762080022	£156.59
		32	75	291762080032	£172.99
		50	100	291762080050	£191.19

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
10	10	32	72	291762100032	£222.15
		60	120	291762100060	£248.59
12	12	32	82	291762120032	£241.28
		70	120	291762120070	£305.01
16	16	36	92	291762160036	£295.29
		80	150	291762160080	£399.76
20	20	45	104	291762200045	£379.88
		80	150	291762200080	£515.43

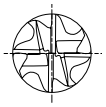
Karnasch PROFESSIONAL TOOLS

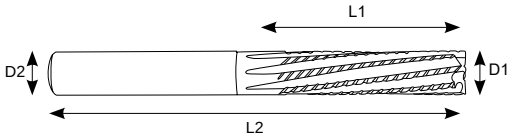
PUSHING CUT





MG SC | 8 | L 8° | DIN 6535HA | DIA | HPC





Mill Dia.	4 - 6mm	8 - 10mm	12 - 16mm	20mm
Tolerance	-0.000/-0.048	-0.000/-0.058	-0.000/-0.070	-0.000/-0.084

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4	6	16	60	291763040016	£125.64
5	6	18	60	291763050018	£128.39
6	6	20	60	291763060020	£132.04
		25	65	291763060025	£138.38
		30	75	291763060030	£142.93
		50	100	291763060050	£158.43
8	8	22	63	291763080022	£178.86
		32	75	291763080032	£172.99
		50	100	291763080050	£191.19

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
10	10	32	72	291763100032	£253.74
		60	120	291763100060	£248.59
12	12	32	82	291763120032	£241.28
		70	120	291763120070	£305.01
16	16	36	92	291763160036	£295.29
		80	150	291763160080	£399.76
20	20	45	104	291763200045	£379.88
		80	150	291763200080	£515.43

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
												●	○	●

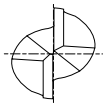
2 FLUTE PCD 'EXTREME' END MILL

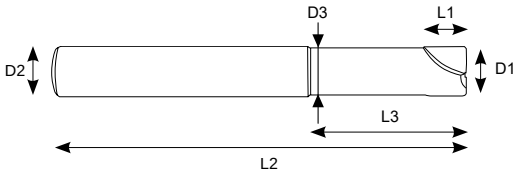
For Carbon Fibre, Glass Reinforced Plastic, Aluminium, Copper & Brass

- PCD EXTREME diamond
- The special PCD EXTREME has a higher hardness than standard PCD and is laser ground to produce an ultra sharp cutting edge

Series	Cutting Data
30.6524 Karnasch	View Online







PCD DIAMOND | 2 | 0° | DIN 6535HA | POLISHED | HSC

Mill Dia.	3mm	4 - 6mm	8 - 10mm	12mm
Tolerance	-0.000/-0.010	-0.000/-0.012	-0.000/-0.015	-0.000/-0.018

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
3	6	2.9	2.5	75	9	306524030009	£184.23
					21	306524030021	£184.23
4	6	3.8	2.5	75	12	306524040012	£188.53
					28	306524040028	£188.53
5	6	4.6	3	75	15	306524050015	£194.99
					35	306524050035	£194.99
6	6	5.5	6	100	18	306524060018	£252.09
					42	306524060042	£252.09
8	8	7.4	7	100	24	306524080024	£312.44
					40	306524080040	£312.44
10	10	9.2	8	100	30	306524100030	£349.03
					50	306524100050	£349.03
12	12	11.2	9	105	36	306524120036	£375.97
					60	306524120060	£375.97

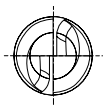
2 FLUTE PCD 'EXTREME' BALL NOSE

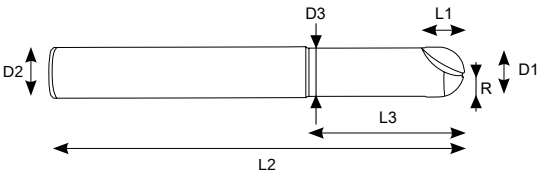
For Carbon Fibre, Glass Reinforced Plastic, Aluminium, Copper & Brass

- PCD EXTREME diamond
- The special PCD EXTREME has a higher hardness than standard PCD and is laser ground to produce an ultra sharp cutting edge

Series	Cutting Data
30.6522 Karnasch	View Online







PCD DIAMOND | 2 | 0° | DIN 6535HA | POLISHED | HSC

Karnasch PROFESSIONAL TOOLS

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
3	1.5	6	2.8	2.5	75	9	306522030009	£170.40
						15	306522030015	£170.40
						21	306522030021	£170.40
4	2	6	3.8	2.5	75	12	306522040012	£181.25
						20	306522040020	£181.25
						28	306522040028	£181.25
5	2.5	6	4.6	3	75	15	306522050015	£186.69
						25	306522050025	£186.69
						35	306522050035	£186.69
6	3	6	5.9	6	100	18	306522060018	£216.92
						30	306522060030	£216.91
6	3	6	5.9	6	100	42	306522060042	£183.42
						60	306522060060	£183.42
8	4	8	7.8	7	100	24	306522080024	£289.79
						40	306522080040	£289.79
						60	306522080060	£289.79
10	5	10	9.8	8	100	30	306522100030	£357.00
						50	306522100050	£347.29
						60	306522100060	£347.29
12	6	12	11.2	9	105	36	306522120036	£371.18
						60	306522120060	£371.18

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●	●	●		●

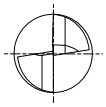
2 FLUTE PCD 'EXTREME' CORNER RADIUS END MILL

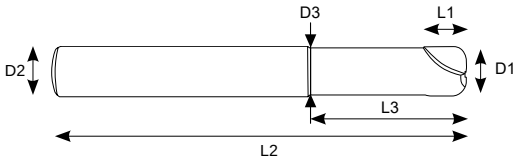
For Carbon Fibre, Glass Reinforced Plastic, Aluminium, Copper & Brass

- PCD EXTREME diamond
- The special PCD EXTREME has a higher hardness than standard PCD and is laser ground to produce an ultra sharp cutting edge

Series	Cutting Data
30.6523 Karnasch	View Online







PCD DIAMOND | 2 | 0° | DIN 6535HA | POLISHED | HSC

Mill Dia.	3mm	4 - 6mm	8 - 10mm	12mm
Tolerance	-0.000/-0.010	-0.000/-0.012	-0.000/-0.015	-0.000/-0.018

Karnasch PROFESSIONAL TOOLS

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
3	0.3	6	2.8	2.5	75	9	30652303000309	£185.61
	0.3					15	30652303000315	£185.61
	0.3					21	30652303000321	£185.61
	0.5					21	30652303000521	£185.61
4	0.3	6	3.8	2.5	75	12	30652304000312	£189.95
	0.3					20	30652304000320	£189.95
	0.3					28	30652304000328	£189.95
	0.5					28	30652304000528	£189.95
5	0.3	6	4.8	3	75	15	30652305000315	£196.42
	0.3					25	30652305000325	£196.42
	0.3					35	30652305000335	£196.42
	0.5					35	30652305000535	£196.42
6	0.3	6	5.9	6	100	18	30652306000318	£253.97
	0.3					30	30652306000330	£253.97
	0.3					42	30652306000342	£253.97
	0.5					18	30652306000518	£253.97
	0.5					30	30652306000530	£253.97
	0.5					42	30652306000542	£253.97
	1					18	30652306001018	£253.97

D1	R	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
6	1	6	5.9	6	100	30	30652306001030	£253.97
	1					42	30652306001042	£253.97
8	0.5	8	7.8	7	100	24	30652308000524	£314.75
	0.5					40	30652308000540	£314.75
	1					24	30652308001024	£314.75
	1					40	30652308001040	£314.75
10	0.5	10	9.8	8	100	30	30652310000530	£351.62
	0.5					50	30652310000550	£351.62
	1					30	30652310001030	£351.62
	1					50	30652310001050	£351.62
	1.5					30	30652310001530	£351.62
	1.5					50	30652310001550	£351.62
12	0.5	12	11.6	9	105	36	30652312000536	£378.75
	0.5					60	30652312000560	£378.75
	1					36	30652312001036	£378.75
	1					60	30652312001060	£378.75
	1.5					36	30652312001536	£378.75
	1.5					60	30652312001560	£378.75

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
										●	●	●		●

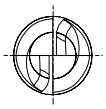
2 FLUTE PCD 'EXTREME' CORNER RADIUS END MILL

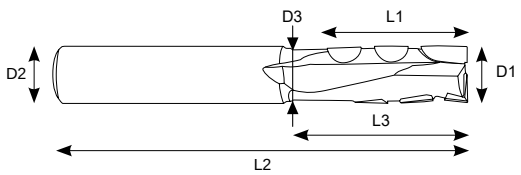
For Carbon Fibre, Glass Reinforced Plastic, Aluminium, Copper & Brass

- PCD EXTREME diamond
- The special PCD EXTREME has a higher hardness than standard PCD and is laser ground to produce an ultra sharp cutting edge
- "V" mill for burr-free milling of upper and lower edge of fibre-reinforced plastics

Series	Cutting Data
30.6528 Karnasch	View Online







PCD DIAMOND | 2 | DIN 6535HA | POLISHED | HPC

Mill Dia.	10mm	12mm
Tolerance	-0.000/-0.022	-0.000/-0.027

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
10	10	9.4	22	72	30	3065281000	£736.41
12	12	11.4	26	82	39	3065281200	£771.96

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
							○			●	●		●	●

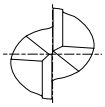
2 FLUTE CVD DIAMOND END MILL WITH NECK

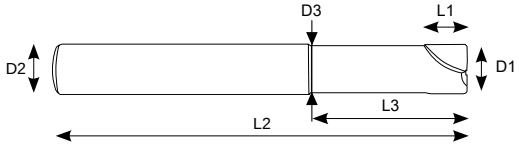
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid, Titanium & Abrasive Plastic

Series	Cutting Data
29.6524 Karnasch	View Online

- CVD 99.9% Diamond
- Laser cut diamond with ultra-sharp cutting edge
- 4-5 times tool life compared to PCD
- Smooth surface finish without delamination
- Long cutting edge with reduced neck for clearance
- 0.1mm chamfer edge preparation protects the cutting edge







CVD 99.9% DIAMOND | 2 | 0° | DIN 6535HA | HSC

Mill Dia.	2 - 3mm	4 - 6mm	8 - 10mm	12mm
Tolerance	-0.000/-0.010	-0.000/-0.012	-0.000/-0.015	-0.000/-0.018

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	4	1.92	2	50	4	296524020004	£220.32
					6	296524020006	£220.32
					8	296524020008	£220.32
					10	296524020010	£220.32
3	6	2.8	2	75	10	296524030010	£246.36
					15	296524030015	£246.36
					20	296524030020	£246.36
4	6	3.8	2	75	10	296524040010	£246.36
					30	296524040020	£246.36
5	6	4.6	2	75	15	296524050015	£260.47
					25	296524050025	£260.47
5	6	4.6	2	75	35	296524050035	£260.47
6	6	5.6	2	100	20	296524060020	£327.78
					30	296524060030	£327.78
					40	296524060040	£327.78
8	8	7.4	2	100	25	296524080025	£409.14
					40	296524080040	£409.14
10	10	9.6	2	100	30	296524100030	£464.50
					50	296524100050	£464.50
12	12	11.6	2	105	35	296524120035	£547.00
					60	296524120060	£547.00

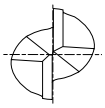
2 FLUTE CVD DIAMOND END MILL LONG CUTTING EDGE - CHAMFER PREP

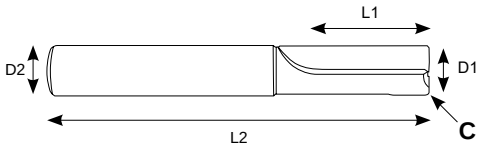
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid, Titanium & Abrasive Plastic

Series	Cutting Data
29.6525 Karnasch	View Online

- CVD 99.9% Diamond
- Laser cut diamond with ultra-sharp cutting edge
- 0.1mm chamfer edge preparation protects the cutting edge
- Smooth surface finish without delamination
- 4-5 times tool life compared to PCD







CVD 99.9% DIAMOND | 2 | 0° | DIN 6535HA | HSC

Mill Dia.	3mm	4 - 6mm	8 - 10mm	12 - 16mm
Tolerance	-0.000/-0.010	-0.000/-0.012	-0.000/-0.015	-0.000/-0.018

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
3	6	5	50	296525030005	£255.06
4	6	10	50	296525040010	£319.08
5	6	10	50	296525050010	£370.08
		20	60	296525050020	£566.53
6	6	10	50	296525060010	£395.05
		20	60	296525060020	£607.78
8	8	10	50	296525080010	£484.03
		20	60	296525080020	£734.72
10	10	10	55	296525100010	£566.53
		20	65	296525100020	£856.28
12	12	10	60	296525120010	£622.94
		20	70	296525120020	£988.69
16	16	10	65	296525160010	£690.23
		20	75	296525160020	£1,122.19

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
							○			●	●			●

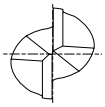
2 FLUTE CVD DIAMOND END MILL LONG CUTTING EDGE WITH NECK

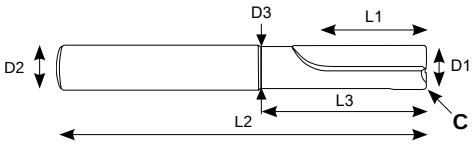
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid, Titanium & Abrasive Plastic

Series	Cutting Data
29.6526 Karnasch	View Online

- CVD 99.9% Diamond
- Laser cut diamond with ultra-sharp cutting edge
- 0.1mm chamfer edge preparation protects the cutting edge
- Smooth surface finish without delamination
- 4-5 times tool life compared to PCD







CVD 99.9% DIAMOND | 2 | 0° | DIN 6535HA | HSC

Mill Dia.	4 - 6mm	8 - 10mm	12 - 16mm
Tolerance	-0.000/-0.012	-0.000/-0.015	-0.000/-0.018

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	L2	L3	C	★★★★★ Performance Order Code	Price
4	6	3.9	8	50	10	0.1	296526040008	£316.92
			15		20		296526040015	£455.83
6	6	5.8	10	65	15		296526060010	£395.05
			15		20		296526060015	£526.36
			20		25		296526060020	£558.93
8	8	7.6	10	70	15		296526080010	£484.03
			15		20		296526080015	£622.94
			20		30		296526080020	£676.14
10	10	9.6	10	85	15		296526100010	£566.53
			15		20		296526100015	£759.70
			20		30		296526100020	£856.28
12	12	11.8	10	92	15		296526120010	£622.94
			15		20		296526120015	£845.44
			20		30		296526120020	£988.69
16	16	15.8	10	92	30		296526160010	£690.23
			15	92	35		296526160015	£906.20
			20	102	40		296526160020	£1,122.19

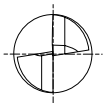
2 FLUTE CVD DIAMOND CORNER RADIUS END MILL

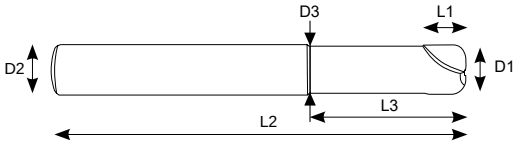
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid, Titanium & Abrasive Plastic

Series	Cutting Data
29.6523 Karnasch	View Online

- CVD 99.9% Diamond
- Laser cut diamond with ultra-sharp cutting edge
- 4-5 times tool life compared to PCD
- Smooth surface finish without delamination
- Corner radius geometry







CVD 99.9% DIAMOND | 2 | 0° | DIN 6535HA | HSC

Mill Dia.	2 - 3mm	4 - 6mm	8 - 10mm	12mm
Tolerance	-0.000/-0.010	-0.000/-0.012	-0.000/-0.015	-0.000/-0.018

Karnasch PROFESSIONAL TOOLS

D1	R	D2	D3	L1	L3	L2	★★★★★ Performance Order Code	Price
2	0.2	4	1.92	2.5	4	50	296523020002004	£220.32
					6		296523020002006	£220.32
					8		296523020002008	£220.32
					10		296523020002010	£220.32
3	0.3	6	2.8	2.5	10	75	296523030003010	£246.36
	0.3				15		296523030003015	£246.36
	0.3				20		296523030003020	£246.36
	0.5				10		296523030005010	£246.36
	0.5				15		296523030005015	£246.36
	0.5				20		296523030005020	£246.36
4	0.3	6	3.8	2.5	10	75	296523040003010	£246.36
	0.3				20		296523040003020	£246.36
	0.3				30		296523040003030	£246.36
	0.5				10		296523040005010	£246.36
	0.5				20		296523040005020	£246.36
	0.5				30		296523040005030	£246.36
5	0.3	6	4.6	3.0	15	75	296523050003015	£260.47
	0.3				25		296523050003025	£260.47
	0.3				35		296523050003035	£260.47
	0.5				15		296523050005015	£260.47
	0.5				25		296523050005025	£260.47
	0.5				35		296523050005035	£260.47

D1	D2	D3	L1	L3	L2	R	★★★★★ Performance Order Code	Price
6	6	5.6	6.0	20	100	0.3	296523060003020	£327.78
				30		0.3	296523060003030	£327.78
				40		0.3	296523060003040	£327.78
				20		0.5	296523060005020	£327.78
				30		0.5	296523060005030	£327.78
				40		0.5	296523060005040	£327.78
				20		1.0	296523060010020	£327.78
				30		1.0	296523060010030	£327.78
				40		1.0	296523060010040	£327.78
8	8	7.6	7.0	25	100	0.3	296523080003025	£409.14
				40		0.3	296523080003040	£409.14
				25		0.5	296523080005025	£409.14
				40		0.5	296523080005040	£409.14
				25		1.0	296523080010025	£409.14
				40		1.0	296523080010040	£409.14
10	10	9.6	8.0	30	100	0.5	296523100005030	£464.50
				50		0.5	296523100005050	£464.50
				30		1.0	296523100010030	£464.50
				50		1.0	296523100010050	£464.50
12	12	11.6	9.0	35	105	0.5	296523120005035	£547.00
				60		0.5	296523120005060	£547.00
				35		1.0	296523120010035	£547.00
				60		1.0	296523120010060	£547.00

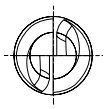
2 FLUTE CVD DIAMOND BALL NOSE

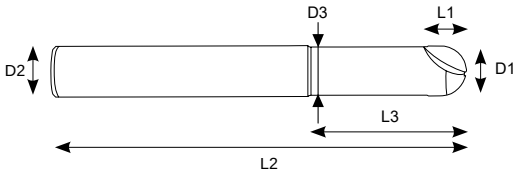
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid, Titanium & Abrasive Plastic

- CVD 99.9% Diamond
- Laser cut diamond with ultra-sharp cutting edge
- 0.1mm chamfer edge preparation protects the cutting edge
- Smooth surface finish without delamination
- 4-5 times tool life compared to PCD

Series	Cutting Data
29.6522 Karnasch	View Online







CVD 99.9% DIAMOND | 2 | 0° | DIN 6535HA | HSC

Mill Dia.	2 - 3mm	4 - 6mm	8 - 10mm	12mm
Tolerance	-0.000/-0.010	-0.000/-0.012	-0.000/-0.015	-0.000/-0.018

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	L2	L3	★★★★★ Performance Order Code	Price
2	4	1.92	2.5	50	6	29652202000604	£220.32
					8	29652202000804	£220.32
					10	29652202001004	£220.32
					12	29652202001206	£220.32
	6	1.92	2.5	50	6	29652202000606	£220.32
					8	29652202000806	£345.66
					10	29652202001006	£220.32
3	4	1.92	2.5	50	6	29652203000604	£236.59
					8	29652203000804	£236.59
					10	29652203001004	£236.59
	6	2.8	2.5	50	10	29652203001006	£236.59
					15	29652203001506	£247.80
					20	29652203002006	£236.59
4	6	3.8	2.5	75	10	29652204001006	£245.29
4	6	3.8	2.5	75	20	29652204002006	£260.92
					30	29652204003006	£245.29
5	6	4.6	3.0	75	15	29652205001506	£251.78
					25	29652205002506	£251.78
					35	29652205003506	£327.78
6	6	5.6	6.0	100	20	29652206002006	£327.78
					30	29652206003006	£327.78
					40	29652206004006	£327.78
8	8	7.4	7.0	100	25	29652208002508	£409.14
					40	29652208004008	£409.14
10	10	9.6	8.0	100	30	29652210003010	£464.50
					50	29652210005010	£464.50
12	12	11.6	9.0	105	35	29652212003512	£547.00
					60	29652212006012	£606.68

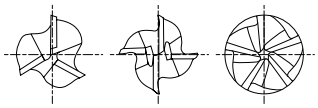
3 - 5 FLUTE CVD DIAMOND SPIKED CUTTER

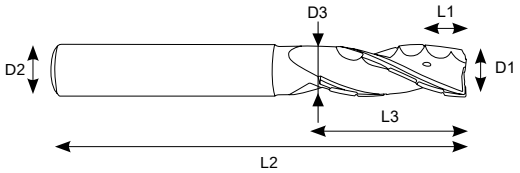
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid, Titanium & Abrasive Plastic

- CVD 99.9% Diamond
- Laser cut diamond with ultra-sharp cutting edge
- Unequal indexing prevents vibration and improves surface finish
- 4-5 times tool life compared to PCD
- With cooling channels

Series	Cutting Data
29.6553 Karnasch	View Online







CVD 99.9% DIAMOND | 3-5 | 25° | DIN 6535HAK | HPC | HSC

Mill Dia.	8 - 10mm	12 - 16mm	20mm
Tolerance	-0.000/-0.022	-0.000/-0.027	-0.000/-0.033

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	L2	L3	No. of Flutes	★★★★★ Performance Order Code	Price
8	8	7.8	15	65	30	3	296553080002015	£907.30
			25	75	40		296553080002025	£1,158.86
10	10	9.8	20	75	30	3	296553100002020	£1,100.86
			30	85	40		296553100002030	£1,392.49
12	12	11.8	20	80	30	4	296553120002020	£1,430.01
			30	90	40		296553120002030	£1,858.08
16	16	15.8	20	80	30	5	296553160003020	£1,660.26
			30	100	40		296553160003030	£2,007.28
20	20	19.8	20	80	30	5	296553200003020	£1,925.45
			30	100	40		296553200003030	£2,280.18

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
							○			●	●			●

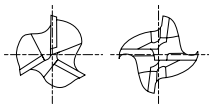
3 & 4 FLUTE CVD DIAMOND 'UP & DOWN' END MILL

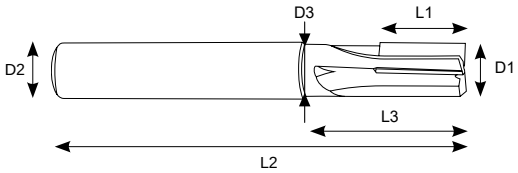
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid, Titanium & Abrasive Plastic

Series	Cutting Data
29.6562 Karnasch	View Online

- CVD 99.9% Diamond
- Laser cut diamond with ultra-sharp cutting edge
- 4-5 times tool life compared to PCD
- Smooth surface finish without delamination
- Unequal indexing with up and down geometry for ultra-high performance machining with perfect finish







CVD 99.9% DIAMOND | 3&4 | DIN 6535HA

Karnasch PROFESSIONAL TOOLS

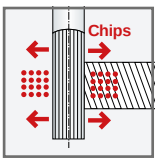
D1	D2	D3	L1	L2	L3	No. of Flutes	★★★★★ Performance Order Code	Price
8	8	7.4	15	65	28	3	2965620800153	£539.78
			15	65	28	4	2965620800154	£867.21
			24	75	37	4	2965620800244	£1,169.94
10	10	9.2	15	70	28	3	2965621000153	£586.70
			15	70	28	4	2965621000154	£961.86
			24	80	37	4	2965621000244	£1,282.50
			25	80	38	3	2965621000253	£812.65
12	12	11.2	15	75	28	4	2965621200154	£988.30
			24	85	37	4	2965621200244	£1,308.93
16	16	15.2	15	80	28	4	2965621600154	£1,121.35
			24	90	37	4	2965621600244	£1,450.49

5-9 FLUTE CVD DIAMOND 'UP & DOWN' END MILL

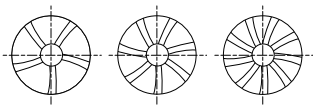
For Carbon Fibre, Glass Reinforced Plastic, Kevlar, Aramid, Titanium & Abrasive Plastic

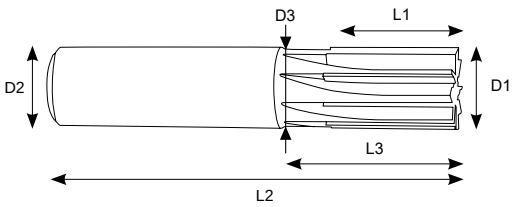
Series	Cutting Data
29.6572 Karnasch	View Online

- CVD 99.9% Diamond
- Laser cut diamond with ultra-sharp cutting edge
- 4-5 times tool life compared to PCD
- Smooth surface finish without delamination
- 5-9 flute super finish style for ultimate surface finish with straight cut geometry









CVD 99.9% DIAMOND | 5-9 | DIN 6535HA | HSC

Mill Dia.	8 - 10mm	12 - 16mm
Tolerance	-0.000/-0.022	-0.000/-0.027

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	L2	L3	No. of Flutes	★★★★★ Performance Order Code	Price
8	8	7.4	10	55	18	5	29657208001005	£641.24
			20	65	28		29657208002005	£959.31
10	10	9.2	12	60	20	5	29657210001205	£707.75
			22	70	30		29657210002205	£1,031.79
12	12	11.2	15	70	23	7	29657212001507	£1,152.89
			25	80	33		29657212002507	£1,629.53
16	16	15.7	25	80	33	7	29657216002507	£1,615.05
		15.2				9	29657216002509	£1,999.63

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	High Hard. Steels HRc55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
							○			●	●			●

Form Milling



YG KORLOY CUTWEL PRO TEKNIK SIMTEK Karnasch ORION Kaestner LMT · BELIN

Solid & Indexable Form Milling

Our comprehensive range of form milling tools include chamfer mills, T-Slot cutters, dovetail cutters, corner rounding, engraving & scribing tools.



Solid Chamfer Mills 304
Available in 30° or 45° angles for chamfering, deburring, v-grooves & countersinking



Indexable Chamfer Mills 308
Fixed or adjustable angle indexable chamfer mills for a wide range of applications



T-Slot & Woodruff Cutters 312
Designed for a range of applications to create T-slots and keys in a variety of workpiece materials



Solid Dovetail Cutters 314
45° & 60° male and female dovetail cutters for machining dovetail joints



Indexable Dovetail Cutters 315
Indexable milling cutters for 60° dovetail applications



Solid Corner Rounding Tools 316
2-4 flute corner rounding rools available in both HSS & carbide



Indexable Corner Rounding Tools 318
Indexable tools with adjustable settings for flexible corner rounding applications



Engraving Tools 320
30°, 60° and 90° point angles available



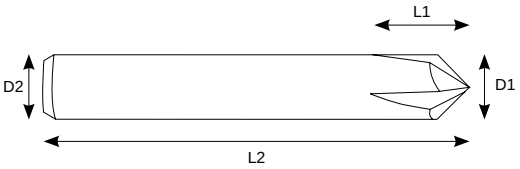
Scribing Tools 321
Fast marking without spindle rotation, for use on CNC machines for scribing part numbers, logo & product information

45° 4 FLUTE GENERAL PURPOSE SOLID CARBIDE CHAMFER MILL

Uncoated and TiAlN Coated Carbide

- Chamfer milling cutter suitable for general machining all materials up to HRC45
- Available in 45 degrees
- Plain shank





MG SC PLAIN 45°

CUTWEL PRO

D1	D2	L	Uncoated		Coated	
			Order Code	Price	Order Code	Price
6	6	38	CMC100-45-6	**£12.88**	CMC200-45-6	**£17.85**
8	8	43	CMC100-45-8	**£20.29**	CMC200-45-8	**£26.05**
10	10	50	CMC100-45-10	**£28.65**	CMC200-45-10	**£35.67**
12	12	60	CMC100-45-12	**£41.65**	CMC200-45-12	**£48.30**

3-5 FLUTE 30° SOLID CARBIDE CHAMFER MILL

- Ultra coated
- 30° per side
- Suitable for chamfering & deburring applications



MG SC PLAIN 30°

CUTWEL PRO

Dia.	Shank Dia.	Overall Length	No. of Flutes	Order Code	Price
1	3	39	3	CMC200-30-1	**£19.10**
2	3	39	3	CMC200-30-2	**£19.10**
3	3	39	3	CMC200-30-3	**£21.04**
4	4	54	4	CMC200-30-4	**£23.26**
6	6	57	5	CMC200-30-6	**£28.79**
8	8	63	5	CMC200-30-8	**£39.87**
10	10	72	5	CMC200-30-10	**£53.43**
12	12	83	5	CMC200-30-12	**£79.46**

60° 3-5 FLUTE SOLID CARBIDE CHAMFER MILL

- Ultra coated
- 60° per side
- Suitable for chamfering & deburring applications



MG SC PLAIN 60°

CUTWEL PRO

Dia.	Shank Dia.	Overall Length	No. of Flutes	Order Code	Price
1	3	39	3	CMC200-60-1	**£19.10**
2	3	39	3	CMC200-60-2	**£19.10**
3	3	39	3	CMC200-60-3	**£21.04**
4	4	54	4	CMC200-60-4	**£23.26**
6	6	57	5	CMC200-60-6	**£27.96**
8	8	63	5	CMC200-60-8	**£39.87**
10	10	72	5	CMC200-60-10	**£53.43**
12	12	83	5	CMC200-60-12	**£79.46**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●	○								●			

HIGH PERFORMANCE SOLID CARBIDE CHAMFER MILL

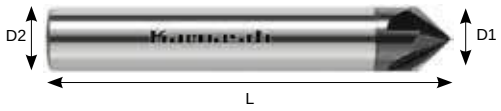
4-6 Flute 30° & 45° Coated Carbide

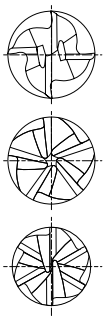
- Chamfer milling cutter suitable for high performance machining all materials up to HRC65
- Available in 30 or 45 degree per side
- Plain shank

30 Degree



45 Degree





MG SC | PLAIN | UFX-3 COATED | 30° | 45°

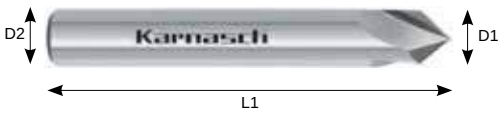
Karnasch PROFESSIONAL TOOLS

D1	D2	L	No. of Flutes	Order Code	Price
30 Degree					
4	4	54	4	3064920400	**£39.17**
6	6	57	4	3064920600	**£46.10**
8	8	63	5	3064920800	**£57.60**
10	10	72	6	3064921000	**£78.30**
12	12	83	6	3064921200	**£119.78**
45 Degree					
4	4	54	4	3064930400	**£39.17**
6	6	57	4	3064930600	**£46.10**
8	8	63	5	3064930800	**£57.60**
10	10	72	6	3064931000	**£76.77**
12	12	83	6	3064931200	**£117.43**

HIGH PERFORMANCE SOLID CARBIDE ALU CHAMFER MILL

3 Flute 45° Polished Carbide for Aluminium

- Lapped 3 flute design for aluminium, copper, plastic & brass
- Available in 45 degree per side
- Plain shank





MG SC | PLAIN | 45° | LAPPED

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	Order Code	Price
4	4	54	3062000400	**£57.55**
6	6	57	3062000600	**£74.48**
8	8	63	3062000800	**£86.33**
10	10	72	3062001000	**£116.80**
12	12	83	3062001200	**£181.13**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
COATED CARBIDE 30.6492 & 30.6493 Series														
●	●	●	●	●	○	●	●	●	●					
UNCOATED CARBIDE 30.6200 Series														
										●	●		●	●

30/45/60° 2 FLUTE SOLID CARBIDE "CHAMFER-DRILL-SPOT" MILL

- 1 tool for multiple applications: v-slot milling, countersinking, angle milling, chamfering, spot drilling, drilling, profiling and bevel milling
- Uncoated solid carbide
- Angle refers to chamfer angle not inclusive angle





CUTWEL PRO

Dia.	Flute Length	Shank Dia.	Overall Length	Order Code					
				30°	Price	45°	Price	60°	Price
1	2	3	39	-	-	DM200-45-1	**£18.11**	-	-
1.2	2.4	3	39	-	-	DM200-45-1.2	**£18.11**	-	-
1.5	3	3	39	-	-	DM200-45-1.5	**£18.11**	-	-
2	4	3	39	-	-	DM200-45-2	**£18.11**	-	-
2.5	5	3	39	-	-	DM200-45-2.5	**£18.11**	-	-
3	6	4	50	DM200-30-3	**£22.33**	DM200-45-3	**£22.33**	DM200-60-3	**£22.33**
4	8	5	50	DM200-30-4	**£23.74**	DM200-45-4	**£23.74**	DM200-60-4	**£23.74**
5	10	6	50	DM200-30-5	**£23.74**	DM200-45-5	**£23.74**	DM200-60-5	**£23.74**
6	12	8	60	DM200-30-6	**£35.73**	DM200-45-6	**£35.73**	DM200-60-6	**£37.85**
8	16	10	70	DM200-30-8	**£45.60**	DM200-45-8	**£45.60**	DM200-60-8	**£45.60**
10	18	12	70	DM200-30-10	**£55.01**	DM200-45-10	**£55.01**	DM200-60-10	**£55.01**
12	20	12	70	DM200-30-12	**£59.47**	DM200-45-12	**£59.47**	DM200-60-12	**£59.47**
16	26	16	80	-	-	DM200-45-16	**£76.69**	-	-
20	32	20	100	-	-	DM200-45-20	**£127.31**	-	-

2 FLUTE 90° TIALN COATED SOLID CARBIDE DRILL MILL

- Plain shank
- Suitable for Drilling, V-Slotting, Profiling & Chamfering
- 45 Degree per side





YG

Dia	Shank	Length of Cut	Overall Length	Order Code	Price
3	4	6	50	G9400030	**£29.67**
4	5	8	50	G9400040	**£30.66**
5	6	10	50	G9400050	**£34.74**
6	8	12	60	G9400060	**£40.55**
8	10	16	70	G9400080	**£55.07**
10	12	18	70	G9400100	**£68.64**
12	12	20	70	G9400120	**£68.64**
14	14	24	80	G9400140	**£68.92**
16	16	26	80	G9400160	**£97.07**
20	20	32	100	G9400200	**£172.20**

45° 3-4 FLUTE SOLID CARBIDE FRONT & BACK CHAMFER MILL

- 1 tool for multiple applications: chamfering, back chamfering, groove milling, countersinking & deburring
- TiAlN coated





CUTWEL PRO

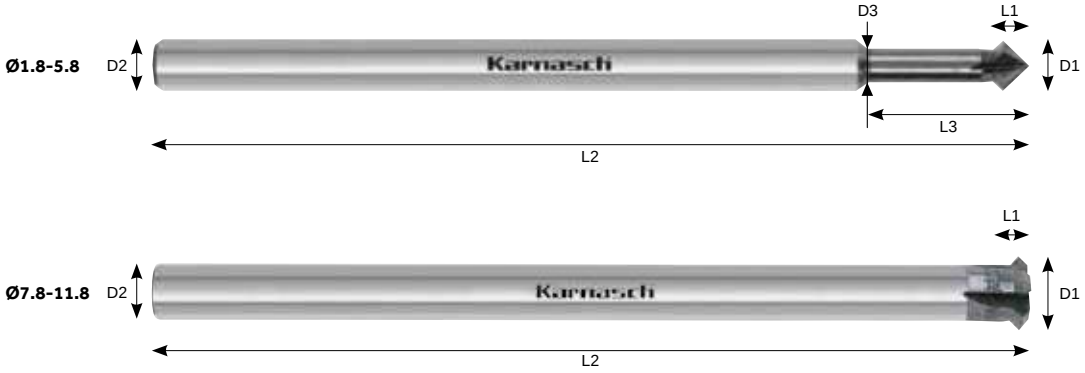
Dia.	Neck Dia	Shank Dia.	Neck Length	Overall Length	No. of Flutes	Order Code	Price
1.4	0.9	3	3.8	39	3	CMFB-45-1.4	**£22.84**
1.9	1.2	3	5	39	3	CMFB-45-1.9	**£22.84**
2.4	1.5	3	6.2	39	3	CMFB-45-2.4	**£22.84**
2.9	1.8	3	7.4	39	3	CMFB-45-2.9	**£22.84**
3.4	2.1	4	8.6	54	3	CMFB-45-3.4	**£28.15**
3.9	2.4	4	9.8	54	3	CMFB-45-3.9	**£28.15**
4.4	2.7	5	11	55	3	CMFB-45-4.4	**£33.61**
4.9	3	5	12.2	55	3	CMFB-45-4.9	**£33.61**
5.9	3.6	6	14.6	57	3	CMFB-45-5.9	**£35.63**
7.8	-	6	-	100	4	CMFB-45-7.8	**£70.96**
9.8	-	6	-	100	4	CMFB-45-9.8	**£91.30**
11.8	-	6	-	100	4	CMFB-45-11.8	**£100.43**
13.8	-	6	-	100	4	CMFB-45-13.8	**£126.06**
15.8	-	6	-	100	4	CMFB-45-15.8	**£157.92**

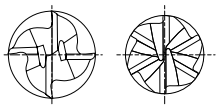
45° 4 & 6 TOOTH COATED CARBIDE CHAMFER MILL

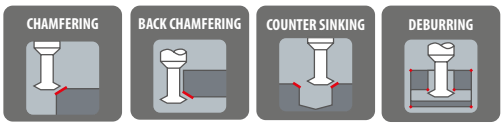
Front & Back Cutting

- Plain shank

Series
30.6491
Karnasch







MG SC | 4&6 | PLAIN | UFX-3 COATED | 45°

Karnasch PROFESSIONAL TOOLS

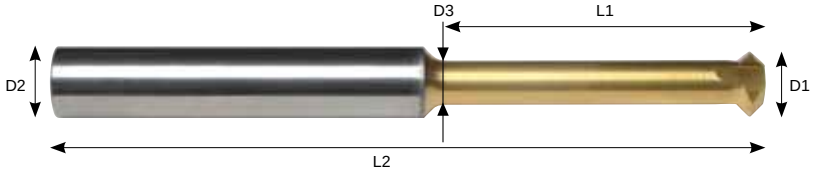
D1	D2	D3	L1	L2	L3	No. of Teeth	Order Code	Price
1.8	6	1.4	1.4	80	8	4	3064910180	**£73.52**
2.8	6	2.2	2	100	10	4	3064910280	**£76.81**
3.8	6	2.9	2.7	100	13	4	3064910380	**£78.99**
4.8	6	3.9	3	100	15	4	3064910480	**£76.81**
5.8	6	3.9	4	100	15	4	3064910580	**£74.60**
7.8	6	-	2	100	-	4	3064910780	**£117.40**
9.8	6	-	4	100	-	6	3064910980	**£134.94**
11.8	6	-	6	100	-	6	3064911180	**£162.37**

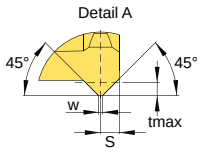
45° 3 TOOTH COATED CARBIDE CHAMFER MILLS

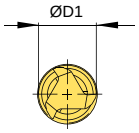
Front & Back Cutting

- Plain shank

Series
MA3.45
Simtek









MG SC | 3 | PLAIN | 45°

SIMTEK

D1	D2	D3	D min bore	w	L1	L2	S	t max	Description	Order Code	Price
5.8	6	4.2	6	0.2	15	58	1	0.6	MA3.4545.02.15.06	AHTPX800	**£47.98**
5.8	6	4.2	6	0.2	25	68	1	0.6	MA3.4545.02.25.06	AC3UX800	**£60.19**
7.8	8	5	8	0.2	25	68	1.5	1.2	MA3.4545.02.25.08	AKDEX800	**£72.44**
7.8	8	5	8	0.2	35	78	1.5	1.2	MA3.4545.02.35.08	AKCWX800	**£76.12**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				●	●	●	●		○			

45 DEGREE INDEXABLE CHAMFER MULTI MILL

45° Chamfer Milling, Counter Sinking & Groove Milling

- Chamfering, grooving and centering with 1 tool
- Available with 16mm or 22mm insert
- Brilliant multifunctional tool

Series
CE - Multifunctional Korloy



Fig. 1

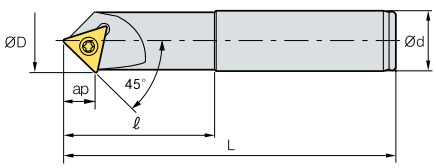
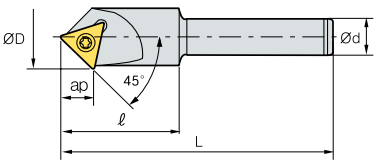


Fig. 2

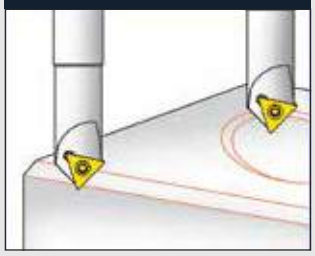




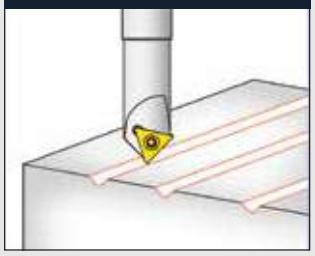
ØD	Ød	ℓ	L	ap	Fig.	Machining Range	Order Code				Inserts	Spares	
							Korloy	Price	Teknik	Price		Screw	Wrench
22	12	40	90	10	2	Ø0 ~ Ø20	CE45-1600R-S12	**£44.78**	-	-	TWX16R	FTNA0408	TW15L
	20	50	110		1	Ø0 ~ Ø20	CE45-1600R-S20	**£47.04**	CM45-1600R-S20	**£43.98**			
	20	60	200		1	Ø0 ~ Ø20	CE45-1600R-L20	**£55.31**	-	**-**			
29	12	40	90	14	2	Ø0 ~ Ø27	CE45-2200R-S12	**£51.98**	-	-	TWX22R		
	25	50	110		1	Ø0 ~ Ø27	CE45-2200R-S25	**£55.42**	-	-			
	25	60	200		1	Ø0 ~ Ø27	CE45-2200R-L25	**£64.55**	-	-			

APPLICATION EXAMPLES

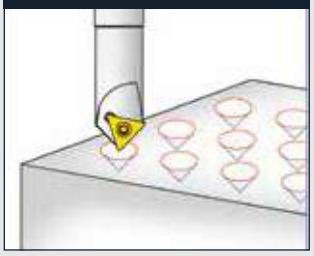
CHAMFERING



GROOVING



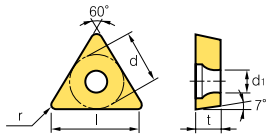
CENTERING



RECOMMENDED CUTTING CONDITIONS

Workpice			Grade	Centring, Grooving		Chamfering	
Group	Material	Hardness		vc (m/min)	fz (mm/t)	vc (m/min)	fz(mm/t)
P	Mild Steel, Carbon Steel, Alloy Steel	<HRC 30	PC3700	80 ~ 200	0.01 ~ 0.04	100 ~ 250	0.04 ~ 0.06
	High Carbon Steel, Alloy Steel	HRC 30 ~ 40	PC3700	150 ~ 250	0.02 ~ 0.06	150 ~ 300	0.05 ~ 0.10
M	Stainless Steel	-	PC5300	60 ~ 120	0.01 ~ 0.03	60 ~ 150	0.03 ~ 0.06
S	HRSA	-	PC5300	60 ~ 80	0.01 ~ 0.03	60 ~ 100	0.03 ~ 0.06
K	Cast Iron	-	PC5300	80 ~ 150	0.02 ~ 0.06	100 ~ 250	0.05 ~ 0.10
N	Aluminium, Copper	-	PC5300	150 ~ 300	0.04 ~ 0.08	150 ~ 350	0.05 ~ 0.10

CE45 CHAMFER MULTI MILL INSERTS



Dimensions					Grades		Order Code	Price
L	D	T	R	D1	PC3700	PC5300		
16.5	9.52	4.45	0.8	3.97	●	●	TWX16R-KC	**£16.39**
22	12.7	4.45	0.8	4.75	●	●	TWX22R-KC	**£18.90**

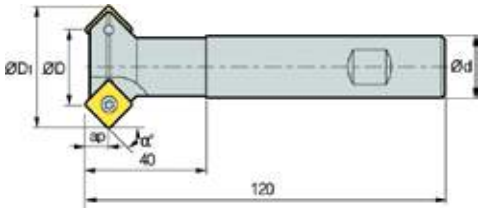
INDEXABLE CHAMFER MILL FRONT & BACK

15, 30, 45 & 60° Chamfer Mill

- Different geometries available for front, back and front/back chamfering
- Available in 15-60°

Series
CE - Back & Front Korloy



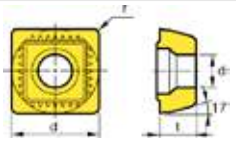


15-60°

KORLOY

ØD	Teeth	Ød	ØD1	AP	Angle a°		Application	Order Code	Price	Inserts	Spares	
					Front	Back					Screw	Wrench
7	1	20	21.9	7	45°	-	Front Chamfering	CE45-1107R-S20	**£74.68**	SPMT11	FTKA0408	TW15S
25	2	20	30.5	9.5	15°	-	Front Chamfering	CE15-1125R-S20	**£91.55**			
19	2	20	33.9	7	45°	45°	Front & Back Chamfering	CE45-1119R-S20	**£100.74**			
25	2	20	35.5	8.5	30°	60°	Front & Back Chamfering	CE30-1125R-S20	**£100.57**			
25	3	20	39.9	7	45°	45°	Front & Back Chamfering	CE45-1125R-S20	**£114.40**			
25	3	32	43.3	5	60°	30°	Front & Back Chamfering	CE60-1125R-S32	**£127.30**			

BACK & FRONT CHAMFER MILL INSERTS



Dimensions					Grades			Order Code	Price
L	D	T	R	D1	PC3700	PC5300	PC6510		
-	11.5	4.8	0.8	4.5	●	●	●	SPMT110408-KC	**£12.04**

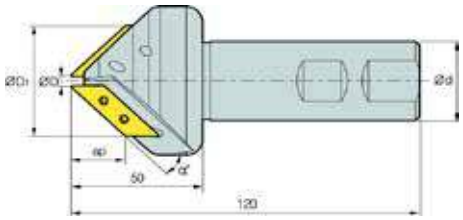
INDEXABLE COUNTERSINK / CHAMFER MILL LONG EDGE

Ideal for Both Chamfering and Countersinking all Materials

- Cutting edge length 31mm, for machining large chamfers in 1 pass
- Ground inserts for exceptional surface finish

Series
CE - Long Chamfer Korloy



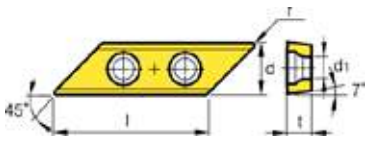


30-60°

KORLOY

ØD	Teeth	Ød	ØD1	AP	Chamfer Angle a°	Machining Range	Order Code	Price	Inserts	Spares	
										Screw	Wrench
5	1	32	35	26	30°	Ø5~Ø35	CE30-3105R-S32	**£116.69**	XCET31	FTKA03510	TW15S
	2		48	21	45°	Ø5~Ø48	CE45-3105R-S32	**£189.00**			
	2		57	15	60°	Ø5~Ø57	CE60-3105R-S32	**£218.81**			

LONG EDGE CHAMFER MILL INSERTS



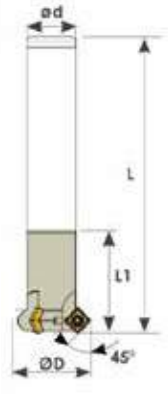
Dimensions					Grades	Order Code	Price
L	D	T	R	D1	PC3700		
30.9	9.525	4.5	0.4	4.4	●	XCET310404ER-KC	**£67.50**

45° FRONT AND BACK CHAMFERING TOOL

SPMG0904 Inserts

- Suitable for front or back chamfer milling allowing you to remove the burr or machine a 45 degree edge on the underside of your workpiece
- This can also be used for machining V grooves





TEKNIK Cutting Tools

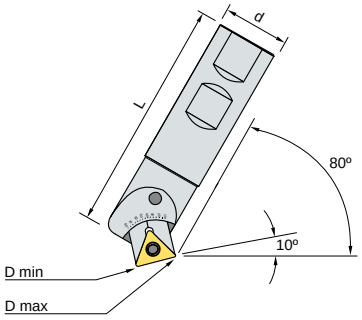
ØD	Ød	L	L1	Teeth	Order Code	Price	Inserts
32	25	150	30	2	S060	**£44.37**	SPMG0904
40	25	150	50	3	S062	**£45.91**	

INDEXABLE CHAMFER MILL ADJUSTABLE, 10-80°

For Small Conventional Milling Machines & Machining Centres

- Adjustable chamfering milling cutter for specific operations
- TCMT/TCGT style Inserts







CUTWEL PRO

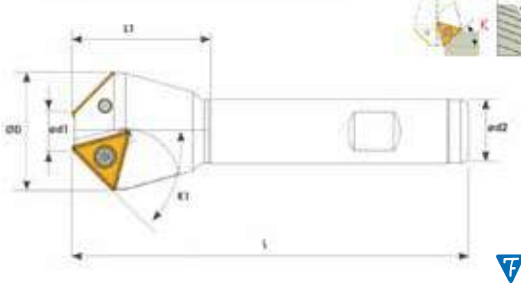
ØD	Teeth	d	L	Order Code	Price	Inserts
23	1	25	100	1634.07.025	**£107.47**	TCMT16T3
			176	1634.27.025	**£130.44**	

TCMT INDEXABLE CHAMFER MILLING TOOL

With Options of 30°, 45° & 60°

- TCMT1102/TCMT16T3 Inserts
- Suitable for indexable chamfer milling
- Diameters from 16mm – 53mm
- Nose diameters from 2mm





TEKNIK Cutting Tools

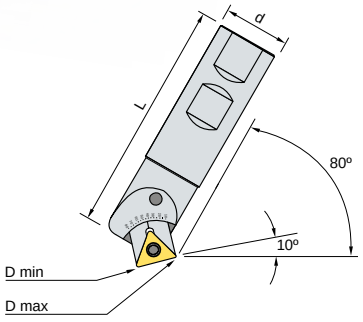
ØD	Ød1	Teeth	K	K1	Ød2	L	L1	Order Code	Price	Inserts
18	2	1	60°	120°	16	100	35	S335	**£65.00**	TCMT1102
16	4	1	45°	90°	16	100	35	S334	**£65.00**	
31	10	2	60°	120°	16	100	35	S339	**£65.00**	TCMT16T3
20	6	1	30°	60°	16	100	30	S337	**£65.00**	
31	10	2	45°	90°	16	100	35	S336	**£65.00**	
35	14	2	45°	90°	20	100	35	S338	**£65.00**	
43	22	3	45°	90°	25	100	35	S340	**£65.00**	
24	6	1	45°	90°	20	100	30	S341	**£65.00**	
53	32	3	45°	90°	25	100	32.5	S342	**£65.00**	
39	24	2	30°	60°	20	100	29.5	S343	**£65.00**	
34	10	2	30°	60°	20	100	34	S345	**£65.00**	

INDEXABLE CHAMFER MILL ADJUSTABLE, 10-80°

For Small Conventional Milling Machines & Machining Centres

- Adjustable chamfer milling cutter for specific operations
- TCMT/TCGT style Inserts
- Through coolant







TEKNIK Cutting Tools

ØD	Teeth	d	L	Order Code	Price	Inserts
5-27	1	20	100	AH10	**£80.20**	TCMT1102
5-34		25		AH15	**£80.17**	TCMT16T3

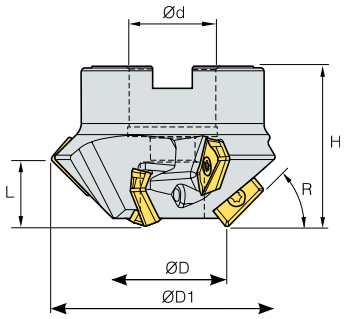
CEC INDEXABLE CHAMFER MILL 6 TOOTH

For Precise Centering Work on NC/CNC & Conventional Machines

- Indexable chamfering with wide range of chamfer angles
- 6 tooth design ensures the highest cutting performance
- Overlapping tooth design enables long chamfers to be produced in one pass

Series
CEC-RA Korloy







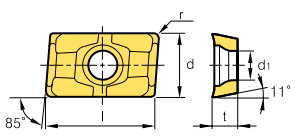
KORLOY

ØD	ØD1	Ød	H	R	L	Order Code	Price	Inserts	Spares	
									Screw	Wrench
35	92.2	27	50	15°	7.5	CEC15-1635RA	**£392.19**	APFT16	FTKA0410	TW15S
	89.5	27	50	20°	9.8	CEC20-1635RA	**£383.58**			
	86	27	50	30°	14.5	CEC30-1635RA	**£392.19**			
	82.5	27	50	35°	16.6	CEC35-1635RA	**£392.19**			
	80	27	50	40°	18.5	CEC40-1635RA	**£392.19**			
	76.5	27	50	45°	20.5	CEC45-1635RA	**£392.19**			
	72.6	27	50	50°	22.2	CEC50-1635RA	**£392.19**			
	63.9	27	50	60°	25.1	CEC60-1635RA	**£392.19**			
	59.6	22	50	65°	26.3	CEC65-1635RA	**£392.19**			
	49	22	60	75°	28	CEC75-1635RA	**£392.19**			

RECOMMENDED CUTTING CONDITIONS

Workpiece			Grade		Chamfering	
Group	Material	Hardness			vc (m/min)	fz (mm/t)
P	Mild Steel, Carbon Steel, Alloy Steel	<HRC30	PC5300		160 ~ 290	0.05 ~ 0.25
	High Carbon Steel, Alloy Steel	HRC 30 ~ 40	PC5400		130 ~ 210	0.05 ~ 0.20
M	Stainless Steel	-	PC5300	PC5400	80 ~ 160	0.10 ~ 0.30
S	HRSA	-	PC5300	PC5400	40 ~ 85	0.05 ~ 0.30
K	Cast Iron	-	PC5300	PC5400	85 ~ 230	0.30 ~ 0.50
N	Aluminium, Copper	-	PC5300	PC5400	300 ~ 750	0.20 ~ 0.70

CEC CHAMFER CUTTER INSERTS



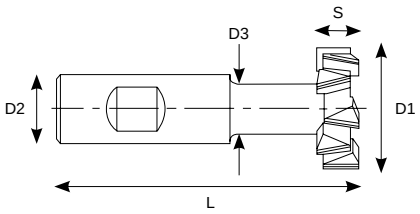
Dimensions					Grade		Order Code	Price
L	D	T	R	D1	PC5300	PC5400		
8.2	10	5.5	2	4.5	●	●	APFT1604PDSR	**£11.40**

HSSE & CARBIDE T-SLOT MILLING CUTTERS

- YG-1 uncoated HSSE for general use
- Kaestner micrograin carbide TiAlN coated for high performance machining
- Weldon shank

Series		Cutting Data
ML172 YG-1	A6N-P1U Kaestner	View Online



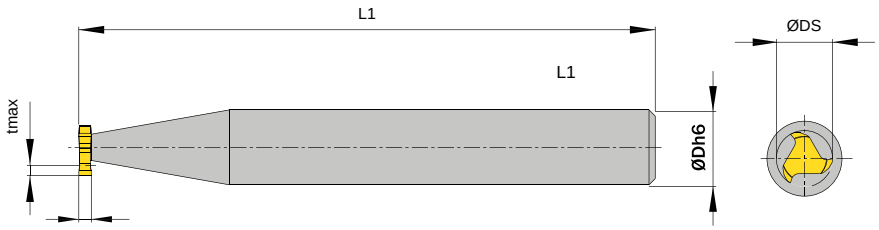


S	D1	D2	D3	L	No. of Flutes	Order Code	Price
HSSE Uncoated							
6	12.5	10	5	57	6	ML17212E01	**£32.94**
8	16	10	6.5	62	6	ML17201601	**£41.51**
8	18	12	8	70	6	ML17201801	**£43.51**
9	19	12	8	71	6	ML17201901	**£45.66**
9	21	12	10	74	6	ML17202101	**£59.48**
10	22	12	10	75	8	ML17202201	**£59.48**
11	25	16	12	82	8	ML17202501	**£71.58**
12	28	16	13	83	8	ML17202801	**£79.78**
Solid Carbide Coated							
6	12.5	10	5	57		A6NVP1U333	**£457.15**
8	16	10	7	62		A6NXP1U333	**£575.46**
8	18	12	8	70		A6NZP1U333	**£587.93**
9	21	12	10	74	6	A6N1P1U333	**£674.79**
11	25	16	12	82		A6N3P1U333	**£778.05**
12	28	16	13	85		A6N5P1U333	**£862.21**
14	32	16	15	90		A6N7P1U333	**£1,009.64**

SOLID CARBIDE KEYWAY MILLING CUTTER

- Plain shank
- 3 flute design

Series	Cutting Data
MA3 Simtek	View Online



W ±0.02	ØDS	ØDh6	L1	t max	Order Code	Price
1	4.5	6	50	1	AK0Y	**£71.46**
2	7.5	8	50	1.8	AK6Z	**£89.27**
2	10.5	12	60	2.9	AEH6	**£71.46**
2.5	10.5	12	60	2.9	ACMK	**£208.87**
3	10.5	12	60	2.5	AM42	**£121.77**
3	13.5	16	70	3.8	AF2J	**£250.57**
4	13.5	16	70	3.5	AE01	**£250.57**
3	16.5	16	70	5.3	ADT5	**£255.40**
4	16.5	16	70	5	AJXW	**£255.40**
5	16.5	16	70	4.5	AGAJ	**£148.91**
4	19.5	16	70	6	ANKE	**£272.05**
5	19.5	16	70	5.5	AM0X	**£158.61**
6	19.5	16	70	5.1	AB59	**£158.61**
5	22.5	16	70	7	ANVG	**£276.95**
6	22.5	16	70	6.6	AHC5	**£161.47**
8	22.5	16	70	6.2	ADG7	**£161.47**
6	25.5	16	70	7.6	AH8A	**£164.89**

Material Applications

● Excellent ○ Good

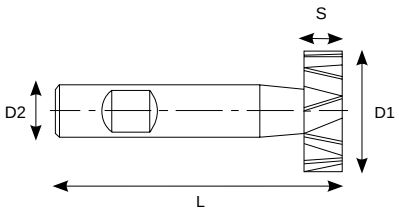
Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	○				●					●			

HSSE & CARBIDE WOODRUFF KEYWAY CUTTERS

- YG-1 uncoated HSSE for general use
- Kaestner micrograin carbide TiAlN coated for high performance machining
- Weldon shank

Series		Cutting Data
ML162 YG-1	A-P1U333 Kaestner	View Online





Kaestner TOOLS YG

S	D1	D2	L	No. of Flutes	Order Code	Price
HSSE Uncoated						
2	10.5	6	50	8	ML16210E01	£28.79
2	13.5	10	56	8	ML16213E01	£33.35
2.5	10.5	6	50	8	ML16210E02	£28.79
2.5	13.5	10	56	8	ML16213E02	£33.35
2.5	16.5	10	56	8	ML16216E01	£33.35
3	10.5	6	50	8	ML16210E03	£28.79
3	13.5	10	56	8	ML16213E03	£33.35
3	16.5	10	56	8	ML16216E02	£36.46
3	19.5	10	56	8	ML16219E01	£46.47
4	13.5	10	56	8	ML16213E04	£33.35
4	16.5	10	56	8	ML16216E03	£36.46
4	19.5	10	56	8	ML16219E02	£46.47
4	22.5	10	63	10	ML16222E01	£49.25
5	16.5	10	56	8	ML16216E04	£36.46
5	19.5	10	56	8	ML16219E03	£46.47
5	22.5	10	63	10	ML16222E02	£49.25
5	25.5	10	63	10	ML16225E01	£59.70
5	28.5	10	63	10	ML16228E01	£64.98
5	32.5	12	71	12	ML16232E01	£71.44
6	19.5	10	56	8	ML16219E04	£46.47
6	22.5	10	63	10	ML16222E03	£49.25
6	25.5	10	63	10	ML16225E02	£59.70
6	28.5	10	63	10	ML16228E02	£64.98
6	32.5	12	71	12	ML16232E02	£71.44
7	25.5	10	63	10	ML16225E03	£59.70
7	28.5	10	63	10	ML16228E03	£64.98
7	32.5	12	71	12	ML16232E03	£71.44
7	38.5	12	71	12	ML16238E01	£104.98
8	22.5	10	63	10	ML16222E04	£49.25
8	25.5	10	63	10	ML16225E04	£59.70
8	28.5	10	63	10	ML16228E04	£64.98
8	32.5	12	71	12	ML16232E04	£71.44
8	38.5	12	71	12	ML16238E02	£104.98
9	38.5	12	71	12	ML16238E03	£104.98
10	28.5	12	71	10	ML16228E05	£64.98
10	32.5	12	71	12	ML16232E05	£71.44
10	38.5	12	71	12	ML16238E04	£104.98
Solid Coated Carbide						
2	10.5	6	50	6	A599P1U333	£278.27
2	13.5	10	56	8	A6ADP1U333	£375.94
3	10.5	6	50	6	A6ABP1U333	£301.61
3	13.5	10	56	8	A6AFP1U333	£400.70
3	16.5	10	56	10	A6AKP1U333	£431.11
3	19.5	10	63	10	A6AQP1U333	£438.17
4	13.5	10	56	8	A6AHP1U333	£421.40
4	16.5	10	56	10	A6ANP1U333	£455.92
4	19.5	10	63	10	A6ATP1U333	£467.04
4	22.5	10	63	10	A6AVP1U333	£547.08
5	25.5	10	63	10	A6AXP1U333	£622.89
5	28.5	10	63	10	A6AZP1U333	£708.33
5	32.5	12	71	10	A6A1P1U333	£832.54
10	38.5	12	71	10	A6A3P1U333	£921.31
10	45.5	12	71	10	A6A5P1U333	£713.06

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	High Hard. Steels HRC55~70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	●	●				○			●		●			

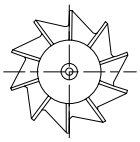
45° & 60° 6-16 FLUTE DOVETAIL CUTTER

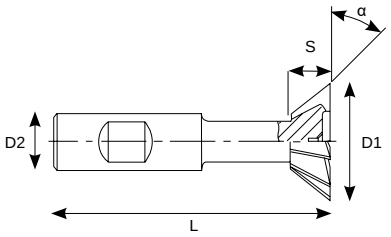
HSS 5% Cobalt - For Aluminium, Carbon Steel, Alloy Steel & Pre-Hardened Steel <HRC40

- Uncoated HSS 5% cobalt

Series	Cutting Data
ML112/122 YG-1	View Online







HSS Co5 | DIN 1833 | 6-16 | DIN 1835B

D1	D2	L	S	α ±15'	No. of Flutes	Order Code	Price
45 Degree							
16	12	60	4	45°	6	ML11201601	**£34.47**
20	12	63	5		6	ML11202001	**£43.76**
22	12	67	6		6	ML11202201	**£63.43**
25	16	67	6.3		8	ML11202501	**£64.93**
28	16	67	7.5		8	ML11202801	**£72.13**
32	16	71	8		10	ML11203201	**£79.27**
38	16	80	10		12	ML11203801	**£116.99**
60 Degree							
16	12	60	6.3	60°	6	ML12201601	**£34.47**
20	12	63	8		6	ML12202001	**£43.76**
22	12	67	9		6	ML12202201	**£63.43**
25	16	67	10		8	ML12202501	**£64.93**
28	16	67	11		8	ML12202801	**£72.13**
32	16	71	12.5		10	ML12203201	**£79.27**
38	16	80	16		12	ML12203801	**£116.99**
40	25	85	13		12	ML12204001	**£134.18**
50	25	100	16		16	ML12205001	**£272.00**

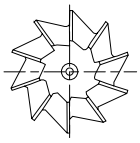
45° & 60° 6-12 FLUTE DOVETAIL CUTTER

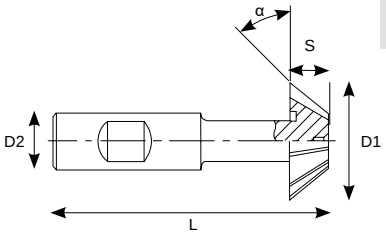
HSS 5% Cobalt - For Aluminium, Carbon Steel, Alloy Steel & Pre-Hardened Steel <HRC40

- Uncoated HSS 5% cobalt

Series	Cutting Data
ML132/142 YG-1	View Online







HSS Co5 | 6-12 | DIN 1835B

D1	D2	L	S	α ±15'	No. of Flutes	Order Code	Price
45 Degree							
16	12	60	4	45°	6	ML13201601	**£34.47**
20	12	63	5		6	ML13202001	**£43.76**
22	12	67	6		6	ML13202201	**£63.43**
25	16	67	6.3		8	ML13202501	**£64.93**
28	16	67	7.5		8	ML13202801	**£72.13**
32	16	71	8		10	ML13203201	**£79.27**
38	16	80	10		12	ML13203801	**£116.99**
60 Degree							
16	12	60	6.3	60°	6	ML14201601	**£34.47**
20	12	63	8		6	ML14202001	**£43.76**
22	12	67	9		6	ML14202201	**£63.43**
25	16	67	10		8	ML14202501	**£64.93**
28	16	67	11		8	ML14202801	**£72.13**
32	16	71	12.5		10	ML14203201	**£79.27**
38	16	80	16		12	ML14203801	**£116.99**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	○										●			

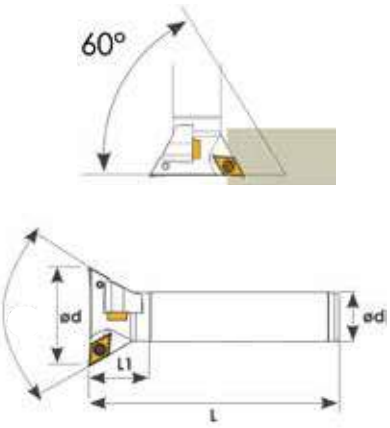
60° INDEXABLE DOVETAIL END MILL

60 Degree Dovetail End Mill Style Cutter

- Uses DCMT11T3 inserts

Series	Cutting Data
TKC250 Teknik	View Online





60°

TEKNIK Cutting Tools

ØD	Teeth	L	Ød	L1	ap	Order Code	Price	Inserts	Spares	
									Clamp Screw	Torx Key
50	4	120	25	30	18	TKC250	**£131.26**	DCMT11T3	TC 067 M3.5 x8.5	T15

45° HSS DOVETAIL SHELL TYPE MILLING CUTTERS

- Uncoated HSSE for general use
- Spigot connection



ORION®

Dia	Spigot	Thickness	α	No.of Flutes	Order Code	Price
50	13	13	45°	16	14314050	**£63.63**
63	16	18		18	14314063	**£68.01**
80	22	22		20	14314080	**£107.91**
100	27	28		22	14314100	**£176.74**
125	32	36		24	14314125	**£309.44**

HSS V-GROOVE SHELL TYPE MILLING CUTTERS

- Uncoated HSSE for general use
- Spigot connection
- 45°/60°/90° (Inclusive angle)



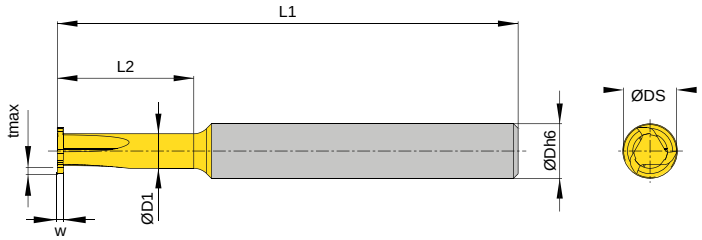
ORION®

Dia	Spigot	Thickness	Inclusive Angle	No. of Flutes	Order Code	Price
50	16	8	45°	22	14312011	**£53.50**
63	22	10		24	14312021	**£63.98**
80	27	12		26	14312031	**£76.66**
100	32	18		28	14312041	**£132.46**
50	16	10	60°	18	14312051	**£56.24**
63	22	14		20	14312061	**£67.19**
80	27	18		22	14312071	**£80.53**
100	32	25		24	14312081	**£136.80**
50	16	14	90°	16	14312091	**£59.05**
63	22	20		18	14312101	**£70.49**
80	27	22		20	14312111	**£84.44**
100	32	32		24	14312121	**£141.20**

SOLID CARBIDE GROOVE MILLING CUTTER

- Plain shank
- 3 flute design

Series	Cutting Data
MA3 Simtek	View Online



MG SC 3

SIMTEK®

W ±0.02	ØD1	ØD Min Bore	ØDh6	ØDS	L1	L2	t max	Order Code	Price
0.5	3.8	6	6	5.8	58	15	0.8	AVT1	**£53.75**
0.6	3.8	6	6	5.8	58	15	0.8	AVT3	**£53.75**
0.7	3.8	6	6	5.8	58	15	0.8	ACW4	**£53.75**
0.9	3.8	6	6	5.8	58	15	0.8	AF94	**£53.75**
1.5	3.8	6	6	5.8	58	15	0.8	AN5F	**£53.75**
0.7	5	8	8	7.8	68	25	1.2	AJ2V	**£67.89**
0.8	5	8	8	7.8	68	25	1.2	AFCH	**£67.89**
0.9	5	8	8	7.8	68	25	1.2	AMAC	**£67.89**
1	5	8	8	7.8	68	25	1.2	ANEA	**£67.89**
1.5	5	8	8	7.8	68	25	1.2	AF41	**£67.89**
2	5	8	8	7.8	68	25	1.2	AFXY	**£67.89**

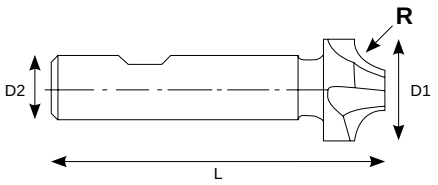
4 FLUTE HSS CORNER ROUNDING CUTTER

Weldon Shank

- Uncoated HSSCo8
- Corner rounding for machining external radius

Series
E2498
YG-1





HSS-E | HSS Co8 | DIN 6518 | 4 | DIN 1835B

R	D1	D2	L	Order Code	Price
1	8	10	60	E2498010	**£33.43**
1.5	9	10	60	E2498015	**£33.43**
2	10	10	60	E2498020	**£33.43**
2.5	11	10	60	E2498025	**£34.76**
3	12	12	60	E2498030	**£38.55**
3.5	13	12	60	E2498035	**£38.55**
4	14	12	60	E2498040	**£41.06**
4.5	15	12	60	E2498045	**£43.20**
5	16	12	60	E2498050	**£44.57**
5.5	19	16	67	E2498055	**£44.57**
6	20	16	67	E2498060	**£48.83**
6.5	21	16	71	E2498065	**£57.45**
7	22	16	71	E2498070	**£57.45**
7.5	23	16	71	E2498075	**£57.45**
8	24	16	71	E2498080	**£64.21**
8.5	25	25	85	E2498085	**£82.93**
9	26	25	85	E2498090	**£82.93**
9.5	27	25	85	E2498095	**£82.93**
10	28	25	85	E2498100	**£82.93**
10.5	31	25	90	E2498105	**£90.50**
11	32	25	90	E2498110	**£90.50**
12	34	25	90	E2498120	**£90.50**
12.5	41	25	100	E2498125	**£108.64**
13	42	25	100	E2498130	**£108.64**
14	44	25	100	E2498140	**£108.64**
15	46	25	100	E2498150	**£158.25**
16	48	25	100	E2498160	**£158.25**
18	52	32	112	E2498180	**£158.25**
20	56	32	112	E2498200	**£225.19**

Material Applications

● **Excellent** ○ **Good**

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	○					○			○		●		○	

4 FLUTE CORNER ROUNDING TOOLS

- YG-1 Uncoated HSSE for general use
- Cutwel Pro TiAlN coated carbide for high performance machining

Series	Cutting Data
CRT200 Cutwel Pro	View Online





CUTWEL PRO

Rad	Tool Dia.	Shank Dia.	Overall Length	Order Code	Price
0.5	5	6	58	CRT200--R0.5	**£38.05**
1	4	6	58	CRT200--R1	**£38.05**
1.5	5	8	64	CRT200--R1.5	**£51.50**
2	6	10	72	CRT200--R2	**£69.08**
2.5	5	10	72	CRT200--R2.5	**£69.08**
3	6	12	74	CRT200--R3	**£81.96**
3.5	5	12	74	CRT200--R3.5	**£81.96**
4	8	16	80	CRT200--R4	**£103.00**
4.5	7	16	80	CRT200--R4.5	**£103.00**
5	6	16	80	CRT200--R5	**£103.00**
5.5	9	20	80	CRT200--R5.5	**£142.82**
6	8	20	80	CRT200--R6	**£142.82**

2 FLUTE CORNER ROUNDING TOOLS COMPACT DESIGN

- With reduced overall diameter it can be used even in confined working conditions
- Uncoated solid carbide



ORION®

Rad	Tool Dia.	Shank Dia.	Overall Length	Order Code	Price
0.25	1	3		16711625	**£45.47**
0.3	1.2	3		16711630	**£49.11**
0.4	1.4	3		16711640	**£46.59**
0.5	1.6	3		16711650	**£49.11**
0.6	1.8	3		16711660	**£46.59**
0.7	2.1	3		16711670	**£49.11**
0.8	2.5	3		16711680	**£48.12**
0.9	2.9	3	50	16711690	**£46.59**
1	2.9	3		16711700	**£49.11**
1.25	3.4	5		16711725	**£55.22**
1.5	4.6	5		16711750	**£55.03**
1.75	5.6	6		16711775	**£50.63**
2	5.6	6		16711800	**£54.68**
2.25	6.6	8		16711825	**£60.42**
2.5	6.6	8		16711850	**£60.81**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225-325	Pre Hard. Steels HRC30-40	Hardened Steels HRC40-45	Hardened Steels HRC45-55	High Hard. Steels HRC55-70	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Plastic	Composites CFRP/GFRP
●	○					○			○		●		○	

INDEXABLE CORNER ROUNDING TOOL

R1.0-5.0mm in 0.5mm Increments

- Indexable corner rounding tool for external radii from R1-R5
- Recommended for small conventional milling machines and machining centres
- For steel, alloyed steel, stainless steel and cast iron

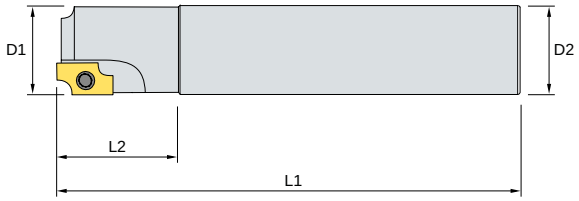
Series
1235 Cutwel Pro

1 Tooth



2 Tooth





CUTWEL PRO

D1	D2	L1	L2	r min	r max	Teeth	Order Code	Price	Inserts	Spares	
										Insert Screw	Wrench
17	16	120	30	1.0	2.5	1	1235.01.01701	**£51.23**	ADMT 1503R1.0 - 2.5	1440	5515
22	20		35			2	1235.07.02201	**£77.23**			
17	16	120	30	3.0	5.0	1	1235.01.01703	**£51.30**	ADMT 1503R3.0 - 5.0		
22	20		35			2	1235.07.02203	**£86.17**			

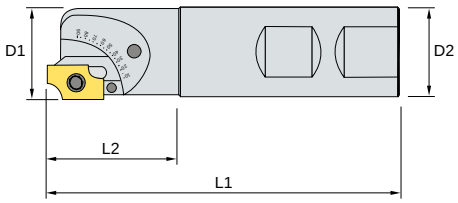
INDEXABLE CORNER ROUNDING TOOL

For Concave Corner Radius Milling - R1.0-5.0mm in 0.5mm Increments

- Adjustable corner rounding tool for external radii from R1-R5
- For steel, alloyed steel, stainless steel and cast iron

Series
1725 Cutwel Pro





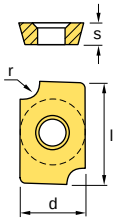
0-90°

CUTWEL PRO

D1	D2	L1	L2	Dmin	Dmax	Teeth	Order Code	Price	Inserts	Spares			
										Seat	Seat Screw	Insert Screw	Wrench
25.5	25	104	37	26.5	33	1	1725.07.025	**£107.26**	ADMT 1503R	6925	1240	1296	5515
		178					1725.27.025	**£127.32**					

INSERTS





Dimensions			Order Code	Price
R	S	D		
1.0	3.18	9.52	ADMT1503R1.0TIN25	**£16.94**
1.5	3.18	9.52	ADMT1503R1.5TIN25	
2.0	3.18	9.52	ADMT1503R2.0TIN25	
2.5	3.18	9.52	ADMT1503R2.5TIN25	
3.0	3.18	9.52	ADMT1503R3.0TIN25	
3.5	3.18	9.52	ADMT1503R3.5TIN25	
4.0	3.18	9.52	ADMT1503R4.0TIN25	
4.5	3.18	9.52	ADMT1503R4.5TIN25	
5.0	3.18	9.52	ADMT1503R5.0TIN25	

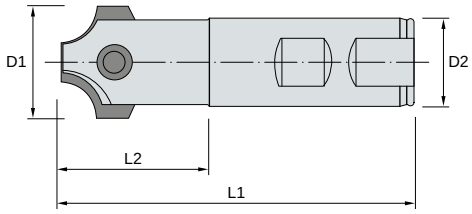
INDEXABLE CORNER ROUNDING TOOL

R6, 8 & 10mm

Series
1345.07 Cutwel Pro

- Indexable corner rounding tool for external radii R6, R8 & R10
- Fully ground double cutting edge inserts offer an economical alternative to conventional corner rounding tools





CUTWEL PRO

D1	D2	L1	L2	Teeth	Order Code	Price	Inserts	Spares	
								Insert Screw	Wrench
25	25	100	33	2	1345.07.012	**£96.61**	HPKW 2504	1609	5530

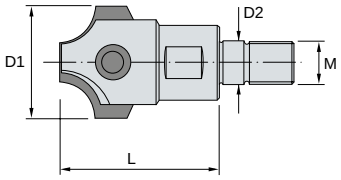
INDEXABLE CORNER ROUNDING TOOL, SCREWED SHANK

R6, 8 & 10mm

Series
1345.06 Cutwel Pro

- Indexable corner rounding tool for external radii R6, R8 & R10
- Fully ground double cutting edge inserts offer an economical alternative to conventional corner rounding tools



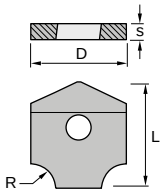


CUTWEL PRO

D1	D2	L	M	Teeth	Order Code	Price	Inserts	Spares	
								Insert Screw	Wrench
25	12.5	45	M12 x 1.75	2	1345.06.012	**£96.61**	HPKW 2504	1609	5530

INSERTS





Dimensions				Order Code	Price
R	L	S	D		
6	26.5	4.0	25	HPKW2504R06TL40	**£88.89**
8	26.5	4.0	25	HPKW2504R08TL40	**£88.89**
10	26.5	4.0	25	HPKW2504R10TL40	**£93.62**

60° & 90° 1 FLUTE SOLID CARBIDE ENGRAVING TOOL

Uncoated

- For all types of materials
- 60° and 90° chamfer angles
- Sharp point
- Plain shank

Series

ETSC
Cutwel Pro



MG SC 1 PLAIN

CUTWEL PRO

D1	L1	L2	Order Code		Price
			60 Degree	90 Degree	
3	4	50	ETSC60-3	ETSC90-3	**£22.62**
4	5	50	ETSC60-4	ETSC90-4	**£27.13**
6	7	60	ETSC60-6	ETSC90-6	**£33.92**
8	9	80	ETSC60-8	ETSC90-8	**£49.74**
10	11	100	ETSC60-10	ETSC90-10	**£75.35**
12	12	100	ETSC60-12	ETSC90-12	**£102.50**

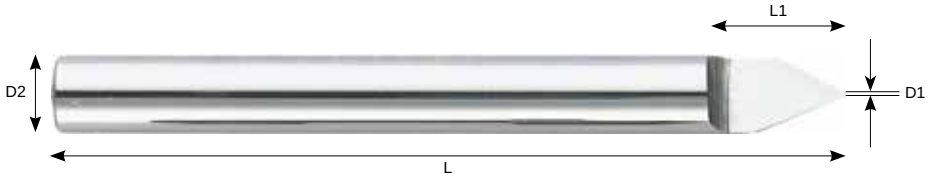
30° - 90° 1 FLUTE SOLID CARBIDE ENGRAVING TOOL

Uncoated

- For all types of materials
- Chamfer angles from 30° to 90°
- Flat point
- Plain shank

Series

100-80
LMT Belin



MG SC 1 PLAIN

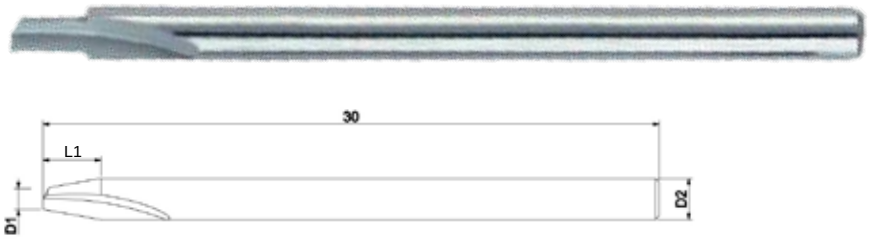
LMT • BELIN

D1	D2	L	L1	Angle	Order Code	Price
0.1	3	60	30	60°	94161	**£29.11**
0.1	4	60	60	90°	92175	**£42.07**
0.1	6	60	60	90°	92176	**£55.17**
0.2	4	60	60	60°	91096	**£42.07**
0.3	3	30	30	30°	94163	**£29.11**
0.3	4	60	60	30°	91100	**£42.07**
0.3	3	30	30	40°	94162	**£29.11**
0.4	6	60	60	60°	91097	**£55.17**
0.5	6	60	60	30°	91101	**£55.17**
0.5	6	60	60	40°	91099	**£55.17**

10° & 90° SOLID CARBIDE FLAT TIP ENGRAVING TOOL

Uncoated

- For all types of materials
- 10° and 90° chamfer angles
- Flat tip
- Plain shank



MG SC | 1 | PLAIN

LMT • BELIN

D1	D2	L1	Overall Length	Angle	Order Code	Price
0.5	3	7	30	10°	LMT-94083	**£54.79**
0.8	3	2		90°	LMT-93071	**£54.79**
1	3	2		90°	LMT-93070	**£54.79**
1.5	3	3		90°	LMT-93069	**£54.79**
2	3	4		90°	LMT-93068	**£54.79**
0.5	2	2		10°	LMT-79599	**£34.13**

SCRIBEWRITER® FORCE II SCRIBING TOOL

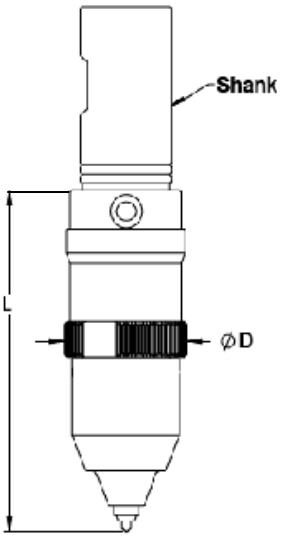
CNC Scribing Tool for Fast Marking Without Spindle Rotation

- Ideal for marking materials up to 62HRC
- Suitable for workpiece surface variations up to 5mm
- Knurled sleeve for adjustable marking force and resulting depth
- 7 force settings to suit various material hardnesses
- High pressure through coolant capabilities
- Available with 90° or 60° carbide stylus (also sold separately)

Scan to Watch



Example marking at different settings in 28HRC material.





TAPMATIC

Shank	L	ØD	Order Code		Price	Spare Stylus
			90 Degree	60 Degree		
16	95	32	57616-90	57625-60	**£1,096.80**	60° - 7361611 90° - 7361608
20			57620-90	57620-60		
25			57625-90	57616-60		

Indexable Milling



KORLOY

90 Degree, 45 Degree, High Feed & Copy Milling

Our range features high performance grades for machining steel, hardened steel <HRC65, titanium, inconel, stainless steel & aerospace aluminium alloy, complemented by a wide range of tools for general machining.



Alpha Mill 90° Milling System
The best all round 90° milling system for a wide range of applications
328



Rich Mill RM3 90° Milling System
Offering true perpendicularity in shoulder milling applications
342



Rich Mill RM6 90° Milling System
True 90° perpendicular milling system with double sided 6 corner inserts
348



SM3 TPKT 90° Milling System
True 90° system which excels in both shoulder and slot milling applications
352



TP2P Tangential Shoulder Milling System
Tangential shoulder milling tool improves stability in steel and cast iron machining
356



Pro-X Mill 90° Milling System
High speed aluminium machining with ultra high metal removal & mirror finish
360



Pro-V Mill 90° Milling System
Premium high speed milling of aluminium with maximum productivity
368



Rich Mill RM8 45° Face Milling System
45° face milling system with double sided inserts & 8 cutting edges
372



Rich Mill RM8-X 45° Face Milling System
High helix face milling tool with 8 corner double sided inserts
376



PNMU 36° Face Milling System
With 10 cutting edges for unrivalled performance in face milling applications
380



HFM High Feed Milling System
High performance and high accuracy high feed milling from Ø8mm
384



HFMD High Feed Milling System
High feed machining with positive cutting action for ultra high metal removal rates Ø16-63mm
392



HF4 High Feed Milling System
Revolutionary high feed milling system
398



HRM Double High Feed Milling System
High feed milling with double sided 6 corner inserts
404



FMR-P Positive Copy Milling System
High performance copy milling system with positive button style insert
414



RMR Copy Milling System
Premium copy milling system dedicated to stainless steel & HRSA machining
426



i-X Mill Copy Milling System
High precision dedicated milling system for copy & high feed milling
430



Miscellaneous Milling Bodies & Inserts
90° & 45° milling from Korloy & Teknik
444

Indexable Milling Systems

KEY

- **90° Indexable Milling Systems**
  For a wide range of applications, from general machining to high performance solutions.
- **Face Milling Systems**
  36° and 45° Indexable milling systems for high performance face milling applications.
- **High Feed Indexable Milling**
  High feed milling achieves higher metal removal rates than conventional milling methods with less stress on the machine tool.
- **Copy Milling Systems**
  High performance and high precision copy milling systems for 3D machining, high feed milling and high metal removal applications.

KORLOY — P H M S K N

Alpha Mill
90° Milling System

The BEST all round 90° milling system for a wide range of applications.



PAGE 328 ★★★ Performance

KORLOY — P H M S K N

Rich Mill RM3
90° Milling System

Offering true perpendicularity in shoulder milling applications.



PAGE 342 ★★★★★ Performance

KORLOY — P M S K N

Rich Mill RM6
90° Milling System

True 90° perpendicular milling system with double sided 6 corner inserts.



PAGE 348 ★★★★★ Performance

YG — P H M S K

SM3 TPKT
90° Milling System

True 90° system which excels in both shoulder and slot milling applications.



PAGE 352 ★★★★★ Performance

KORLOY — P K

TP2P Tangential
Shoulder Milling System

Tangential shoulder milling tool improves stability in steel and cast iron machining.



PAGE 356 ★★★★★ Performance

KORLOY — N

Pro-X Mill
90° Milling System

High speed aluminium machining with ultra high metal removal & mirror finish.



PAGE 360 ★★★★★ Performance

KORLOY — N

Pro-V Mill
90° Milling System

Premium high speed milling of aluminium with maximum productivity.



PAGE 368 ★★★★★ Performance

KORLOY — P M S K N

Rich Mill RM8
45° Face Milling System

45° face milling system with double sided inserts & 8 cutting edges.



PAGE 372 ★★★★ Performance

KORLOY

P M S K

Rich Mill RM8-X
Face Milling System

High helix face milling tool with 8 corner double sided inserts.

PAGE 376

★★★★★ Performance



YG

P M S K N

PNMU 36°
Face Milling System

With 10 cutting edges for unrivalled performance in face milling applications.

PAGE 380

★★★★ Performance



KORLOY

P H M S K

HFM High Feed
Milling System

High performance and high accuracy high feed milling from Ø8mm.

PAGE 384

★★★★★ Performance



KORLOY

P H M S K

HFMD High Feed
Milling System

High feed machining with positive cutting action for ultra high metal removal rates Ø16-63mm.

PAGE 392

★★★★★ Performance



YG

P H M S K

HF4 High Feed
Milling System

Revolutionary high feed milling system.

PAGE 398

★★★★★ Performance



KORLOY

P H M S K

HRM Double High Feed
Milling System

High feed milling with double sided 6 corner inserts.

PAGE 404

★★★★★ Performance



KORLOY

P H M S K N

FMR-P Positive
Copy Milling System

High performance copy milling system with positive button style insert.

PAGE 414

★★★★★ Performance



KORLOY

M S

RMR
Copy Milling System

Premium copy milling system dedicated to stainless steel & HRSA machining.

PAGE 426

★★★★★ Performance



YG

P H M K N

i-X Mill
Copy Milling System

High precision dedicated milling system for copy & high feed milling.

PAGE 430

★★★★★ Performance



KORLOY TEKNIK

Miscellaneous
Milling Bodies

90° & 45° milling from Korloy & Teknik.

PAGE 444



Indexable Milling Systems

PVD/CVD COATED GRADES

Workpiece	ISO	Application	Recommended Cutting Speed (m/min)	Application Range (Hard → Tough)
Steel	P20	Continuous Cutting	200 (150~250)	PC3700/YG713, YG602, NCM325/YG622, PC5300/PC5400, NCM335
	P30			
	P40	Interrupted Cutting	120 (100~150)	
	P50			
Stainless Steel	M20	Continuous Cutting	120 (100~150)	PC5300/PC5400, YG613, NCM325, PC9530, NCM335, PC9540
	M30		130 (50~200)	
	M30	Interrupted Cutting	130 (50~200)	
	M40		120 (100~150)	
Cast Iron	K10	Continuous & Interrupted Cutting	165 (120~210)	PC6510, PC5300/PC5400
	K20			
HSRA	S20	Continuous Cutting	70 (40~100)	PC5300/PC5400, UNC840/UPC845
	S30	Interrupted Cutting	50 (30~70)	
Hardened Steel	H01	Continuous Cutting	(40~120)	YG602/YG622
	H10			

UNCOATED GRADES

Workpiece	ISO	Recommended Cutting Speed (m/min)	Application Range (Hard → Tough)
Aluminium Alloy	K20	500 (300 ~ 800)	H01, PD2000
Copper Alloy	K30	200 (150 ~ 300)	

Korloy Milling Grades								
Insert Grade	Application	Finish	Steel	Hardened Steel	Stainless Steel	HRSA's	Cast Iron	Non-Ferrous
PC5300	Tough multi application grade suitable for medium to low speed machining of a wide range of materials. Excellent perfromance on inconel and stainless steel.	PVD	★★	★★	★★★	★★★	★	
PC5400	The toughest PVD coated grade, ideal for low speed machining and rough applications. Excellent perfromance on inconel and stainless steel.	PVD	★★		★★★	★★★	★	
PC3700	Superior wear resistance for dedicated machining of steel.	PVD	★★★					
PC9530	Medium to low speed rough machining of stainless steel.	PVD			★★★	★		
PC9540	Dedicated grade for hard to cut stainless steel, PVD oxide film prevents wear caused by high temperature machining. Suitable for medium-heavy interrupted cutting at medium-low surface speeds.	PVD			★★★			
UNC840	Premium grade for machining of HRSA including inconel, hastelloy, titanium alloy etc. Ideal for continuous-light interrupted cutting at high speed-low feed machining.	CVD				★★★		
UPC845	PVD grade for medium-heavy interrupted cutting of HRSA's including Inconel, hastelloy, titanium alloy, etc. suitable for low-speed high-feed machining.	PVD				★★★		
PC6510	High speed milling grade dedicated for cast iron machining.	PVD					★★★	
NCM325	Hard wearing CVD coated grade for high speed machining on steel and stainless steel with long cycle times.	CVD	★★★		★★			
NCM335	Tough CVD coated grade for high speed machining on steel and stainless steel with long cycle times.	CVD	★★★		★★			
H01	First choice for aluminium and plastic machining.	Uncoated						★★★
PD2000	DLC Diamond coated carbide, hard wearing grade with 3-6 times more tool life compared to H01.	DLC						★★★

YG-1 Milling Grades								
Insert Grade	Application	Finish	Steel	Hardened Steel	Stainless Steel	HRSA's	Cast Iron	Non-Ferrous
YG602	First choice general purpose PVD coated grade from YG-1. Excellent for steel milling and also suitable for stainless steel and HRSA machining applications.	PVD	★★		★★	★★	★★	
YG622	General purpose grade excellent for the toughest and most demanding conditions, designed for steels and cast iron.	PVD	★★				★★★	
YG713	Dedicated steel grade with advanced multi layer TiAlN structure for improved wear resistance.	PVD	★★	★				
YG613	1st choice grade for stainless steel milling, tough substrate provides excellent cutting performance and stable tool life.	PVD	★★		★★★			

Alpha Mill 90° Milling System

Performance ★★★

P H M S K N

The BEST all round 90° milling system for a wide range of applications

90° helical milling system with the widest range of diameters, insert sizes, holder types, grades & geometries.

Diameter Range
10-100mm

Insert Sizes
6, 11, 16mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★	★★★★★	★★★	★★★	★★★★	★★★★

Advantages

Wide Chip Pockets
To prevent swarf build up and allow effective chip control.

Low Cutting Load
Ideal for lightweight machines or difficult to cut materials.

Strong Cutting Edge
Suitable for large depths of cut and higher feed rates.

All Round Machining
Optimal chip breakers for general machining, light cutting, finishing, aluminium, stainless steel & exotics.

Features

Alpha Curve Insert
Unique geometry with 15° positive rake for smooth chip flow.

Various Edge Lengths
APMT Inserts available in:
6mm, 11mm or 16mm.

Multifunctional Tool
Wide range of holders that use the same inserts for reduced costs.

Versatile Materials
Ideal for general purpose 90° milling a wide range of materials.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
ALPHA MILL END MILL		AMS	10-63	90°	**332**
ALPHA MILL FACE MILL		AMCM	32-100	90°	**333**
ALPHA MILL SCREWED SHANK END MILL		AMM	12-40	90°	**334**
SCREWED SHANK ADAPTERS		MAT-S MAT-C	M6-M16	-	**335**
ALPHA MILL PORCUPINE		AMS-M	16-40	90°	**336**
ALPHA MILL PORCUPINE		AMCM-M	50-100	90°	**336**
ALPHA MILL PLUNGE MILL		AMS-MH	14-32	90°	**337**
ALPHA MILL FACE MILL		AMS-SE	25-63	75°	**338**
ALPHA MILL FACE MILL		AMCM-SE	40-100	75°	**338**

ALPHA MILL HOLDER FEATURES

KORLOY



STRONG CUTTER BODY
- Rigid alloy steel body with nickel coating

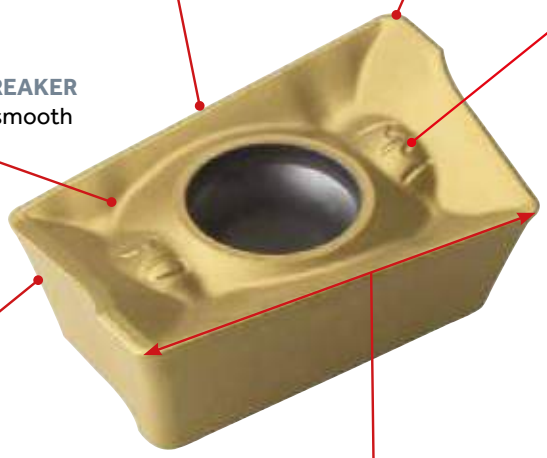
WIDE CHIP POCKET
- For better chip control

DIAMETER RANGE
- Face Mills 25-100mm
- End Mills 10-63mm
- Porcupine Mills 16-100mm
- Plunge Mills 14-32mm

THROUGH COOLANT DESIGN
- Reduces cutting heat for improved chip control and tool life

ALPHA MILL INSERT FEATURES

KORLOY



STRONG CUTTING EDGE
- Suitable for large depths of cut and high feed rates

CORNER RADIUS
- From 0.2-6.4mm

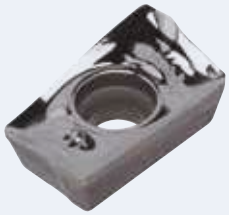
OPTIMAL CHIP BREAKERS
- Specific chip breakers for general, light cutting, finishing, aluminium, stainless steel & exotic machining

ALPHA CURVE CHIP BREAKER
- For low cutting load & smooth chip flow

HIGH POSITIVE RAKE
- 15° positive angle

VARIOUS CUTTING EDGE LENGTHS
- 6, 11 or 16mm insert

SPECIAL ALUMINIUM INSERT
- High polished uncoated K grade with MA chip breaker for aluminium machining



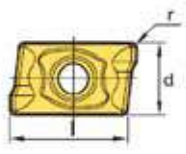
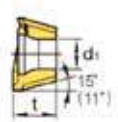
CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
MA 		**Aluminium**	▪ Optimal cutting edge, high positive rake and buffed surface prevents built up edge and smooth chip flow in aluminium machining
ML 		**Stainless / HRSA's**	▪ Chip breaker with low cutting load is ideal for machining hard-to-cut materials such as stainless steel, titanium, inconel and hastelloy
MF 		**Light Cutting / finishing / soft steel**	▪ Chip breaker with low cutting load and sharper cutting edge ▪ Excellent for finishing operations, general milling of soft steel and also ideal for low power machines due to low cutting resistance
MM 		**General Machining**	▪ Optimal for milling in general machining conditions

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		H		M	S	K	N
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 40-50 HRC	Hardened Steel 50-60 HRC	Stainless Steel	Titanium/ Inconel	Cast Iron	Non-Ferrous
Chip Breaker	First Choice	MF	MM	MM		ML	ML	MM	MA
	Second Choice	MM	MF			MM	MM	MF	
Grade	High Speed Machining	PC3700		PC2510	PC2505	PC5300	UNC840	PC6510	H01
	General Machining	PC3700/PC5300				PC5300	PC5300		
	Interrupted Machining	PC5400				PC5400/PC9540	PC5400	PC5300	

ALPHA MILL INSERT SELECTION

APMT	Dimensions (mm) l	d	t	d1	r	Grades PC3700	PC5300	PC5400	PC2505	PC2510	PC9540	UNC840	PC6510	H01	Insert Size	Chip Breaker	Order Code	Price
 	6	4.24	2.6	2	0.4									●	APMT06	MA	APMT0602PDFR-MA	£8.44
					0.8									●			APMT060208PDFR-MA	£8.44
					0.2	●	●	●								MM	APMT060202PDSR-MM	£9.38
					0.4	●	●	●	●	●	●		●				APMT0602PDSR-MM	£9.38
					0.8	●	●	●									APMT060208PDSR-MM	£9.38
					1.2		●	●									APMT060212R-MM	£9.38
					1.6		●	●									APMT060216R-MM	£9.38
	11.2	6.467	3.6	2.85	0.5									●	APMT11	MA	APMT11T3PDFR-MA	£9.38
					0.5	●	●	●					●			MF	APMT11T3PDSR-MF	£9.38
					0.5		●	●				●				ML	APMT11T3PDER-ML	£9.38
					0.8		●	●				●					APMT11T308PDER-ML	£9.38
					0.5	●	●	●	●	●	●		●			MM	APMT11T3PDSR-MM	£9.38
					0.8	●	●	●			●						APMT11T308PDSR-MM	£9.38
					1.2	●	●	●			●						APMT11T312PDSR-MM	£9.38
	11				1.6	●	●	●									APMT11T316R-MM	£9.38
					1.8		●										APMT11T318R-MM	£9.38
					2.4	●	●	●									APMT11T324R-MM	£9.38
	16.4	9.41	5.76	4.5	0.8									●	APMT16	MA	APMT1604PDFR-MA	£10.98
					0.8		●	●								ML	APMT1604PDER-ML	£10.98
					0.8	●	●	●								MF	APMT1604PDSR-MF	£10.98
					0.8	●	●	●	●	●	●		●			MM	APMT1604PDSR-MM	£10.98
					1	●	●	●									APMT160410PDSR-MM	£10.98
					1.6	●	●	●									APMT160416PDSR-MM	£10.98
	16				2.4	●	●	●									APMT160424R-MM	£10.98
					3	●	●	●									APMT160430R-MM	£10.98
					3.2	●	●	●									APMT160432R-MM	£10.98
					5	●	●	●									APMT160450R-MM	£10.98
					6.4		●	●									APMT160464R-MM	£10.98

ALPHA MILL END MILL 90° APPROACH

90° Square Shoulder Milling with Low Cutting Resistance and Smooth Chip Flow

- Helical cutting 90° end mill
- Low cutting resistance, ideal for lightweight machines or difficult to cut materials
- Choice of 3 insert sizes: APMT06, APMT11 & APMT16

Series		Cutting Data
AMS Korloy	AM-EM Teknik	P339



Fig. 1

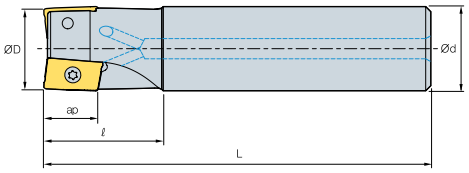
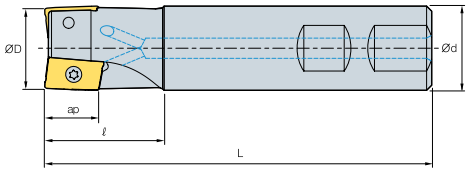


Fig. 2



90°

*Teknik holders not through coolant

ØD	Ød	Teeth	ℓ	L	ap	Kg	Fig.	Order Code				Inserts	Spares	
								Korloy	Price	Teknik*	Price		Screw	Wrench
10	10	2	20	80		0.04	2	AMS1010HS	**£50.41**	S003	**£35.64**			
11	10	2	20	80		0.04	2	AMS1011HS	**£50.41**	-	-			
12	12	2	25	80		0.06	2	AMS1012HS-2	**£50.41**	-	-			
12	12	3	25	80		0.06	2	AMS1012HS-3	**£50.90**	S004	**£40.50**			
14	16	2	25	90		0.11	2	AMS1014HS-2	**£61.60**	-	-			
14	16	3	25	90		0.11	2	AMS1014HS-3	**£62.19**	-	-			
15	16	3	25	90		0.11	2	AMS1015HS	**£62.19**	-	-			
16	16	3	25	90		0.12	2	AMS1016HS-3	**£62.19**	-	-			
16	16	4	25	90	5.6	0.12	2	AMS1016HS-4	**£62.83**	S005	**£46.98**	APMT06	FTKA01842	TW06S-A
17	16	4	25	90		0.12	2	AMS1017HS	**£67.83**	-	-			
18	16	4	25	90		0.12	2	AMS1018HS	**£67.83**	-	-			
20	20	4	30	110		0.23	2	AMS1020HS-4	**£67.83**	-	-			
21	20	5	30	110		0.24	2	AMS1021HS	**£69.12**	-	-			
22	20	5	30	110		0.27	2	AMS1022HS	**£69.12**	-	-			
25	25	7	30	120		0.31	2	AMS1025HS	**£82.16**	S007	**£59.94**			
26	25	7	30	120		0.39	2	AMS1026HS	**£82.16**	-	-			
32	32	8	35	120		0.65	2	AMS1032HS	**£109.57**	S008	**£68.04**			
10	10	1	20	85		0.04	2	AMS2010HS	**£46.16**	S222	**£22.68**			
10	16	1	30	160		0.21	2	AMS2010HS-1L16	**£51.33**	-	-			
12	16	1	25	85		0.1	2	AMS2012HS	**£46.16**	S224	**£22.68**			
12	16	1	30	160		0.21	2	AMS2012HS-1L16	**£51.33**	-	-			
14	16	1	25	90		0.12	2	AMS2014HS	**£56.41**	S226	**£22.68**			
14	16	1	30	160		0.21	2	AMS2014HS-1L16	**£62.73**	-	-			
16	16	2	25	90		0.12	2	AMS2016HS	**£56.41**	S228	**£29.16**			
16	16	2	30	180		0.21	1	AMS2016HS-2L16	**£62.73**	-	-			
18	16	2	25	90		0.12	2	AMS2018HS	**£58.11**	-	-			
18	16	2	30	180		0.21	2	AMS2018HS-2L16	**£64.62**	-	-			
20	20	2	30	100	11	0.21	2	AMS2020HS	**£61.52**	S232	**£34.02**	APMT11	FTKA02555S (10-14mm) FTKA02565S (16-50mm)	TW08S
20	20	2	30	210		0.49	1	AMS2020HS-2L20	**£68.41**	-	-			
22	20	3	35	115		0.25	2	AMS2022HS	**£71.78**	-	-			
22	20	3	35	180		0.38	2	AMS2022HS-3L20	**£79.83**	-	-			
25	25	3	35	115		0.40	2	AMS2025HS	**£71.78**	S236	**£37.26**			
25	25	3	40	180		0.59	1	AMS2025HS-3L25	**£79.68**	-	-			
32	32	4	40	125		0.7	2	AMS2032HS	**£95.73**	S240	**£42.12**			
32	32	4	50	180		1	1	AMS2032HS-4L32	**£109.04**	-	-			
40	32	5	42	130		0.84	2	AMS2040HS	**£112.78**	-	-			
40	32	5	50	200		1.2	1	AMS2040HS-5L32	**£125.19**	-	-			
50	32	6	45	135		1.06	2	AMS2050HS	**£158.32**	-	-			
25	25	2	35	115		0.4	2	AMS3025HS	**£86.11**	S244	**£32.40**			
25	25	2	35	180		0.65	1	AMS3025HS-2M25	**£92.13**	-	-			
25	25	2	60	220		0.75	1	AMS3025HS-2L25	**£95.57**	-	-			
32	32	3	40	125		0.69	2	AMS3032HS	**£111.61**	S247	**£34.02**			
32	32	2	40	200		1.13	1	AMS3032HS-2M32	**£104.56**	-	-			
32	32	3	65	260	16	1.48	1	AMS3032HS-3L32	**£139.85**	-	-	APMT16	FTKA0408 (25mm) FTKA0410 (32-63mm)	TW15S
40	32	4	42	130		0.8	2	AMS3040HS	**£138.16**	S250	**£40.50**			
40	32	3	42	200		1.24	1	AMS3040HS-3M32	**£123.83**	-	-			
40	32	4	42	260		1.58	1	AMS3040HS-4L32	**£162.45**	-	-			
50	32	5	45	135		1	2	AMS3050HS	**£163.33**	-	-			
63	32	6	45	135		1.25	2	AMS3063HS	**£187.78**	-	-			

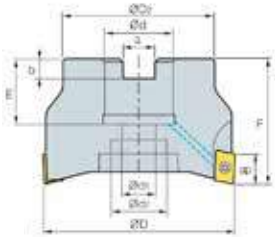
ALPHA MILL FACE MILL 90° APPROACH

90° Square Shoulder Milling with Low Cutting Resistance and Smooth Chip Flow

- Helical cutting 90° face mill
- Low cutting resistance, ideal for lightweight machines or difficult to cut materials
- Choice of 3 insert sizes: APMT06, APMT11 & APMT16

Series		Cutting Data
AMCM Korloy	AM-FM Teknik	P339





90°

*Teknik holders not through coolant

ØD	Ød	Teeth	ØD2	Ød1	a	F	ap	kg	Order Code				Inserts	Spares	
									Korloy	Price	Teknik*	Price		Screw	Wrench
32	16	8	30	9	8.4	40		0.15	AMCM1032HS	**£176.78**	-	**-**			
40	16	10	34	9	8.4	40		0.24	AMCM1040HS-16	**£180.09**	T596	**£84.24**			
40	22	10	34	11	10.4	40	5.6	0.24	AMCM1040HS-22	**£180.09**	-	**-**	APMT06	FTKA01842	TW06S-A
50	22	12	42	11	10.4	40		0.36	AMCM1050HS	**£212.58**	T597	**£102.06**			
63	22	14	49	11	10.4	40		0.61	AMCM1063HS	**£271.92**	T598	**£119.88**			
40	16	5	34	9	8.4	40		0.2	AMCM2040HS	**£157.36**	T250	**£45.36**			
50	22	6	42	11	10.4	40		0.3	AMCM2050HS	**£185.73**	T252	**£48.60**			
63	22	8	49	11	10.4	40	11	0.6	AMCM2063HS	**£237.59**	T254	**£51.84**	APMT11	FTKA02565S	TW08S
80	27	8	57	14	12.4	50		1.2	AMCM2080HS	**£260.72**	T256	**£69.66**			
100	32	10	67	18	14.4	63		2.5	AMCM2100HS	**£324.28**	T258	**£84.24**			
40	16	4	34	9	8.4	40		0.2	AMCM3040HS	**£157.36**	T241	**£35.64**			
50	22	5	42	11	10.4	40		0.3	AMCM3050HS	**£185.21**	T243	**£45.36**			
63	22	6	49	11	10.4	40	16	0.5	AMCM3063HS	**£218.37**	T245	**£51.84**	APMT16	FTKA0410	TW15S
80	27	7	57	14	12.4	50		1.2	AMCM3080HS	**£251.84**	T247	**£59.94**			
100	32	8	67	18	14.4	63		2.5	AMCM3100HS	**£290.89**	T249	**£74.52**			

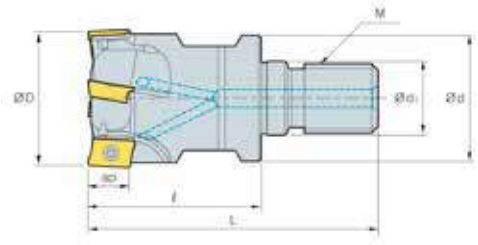
ALPHA MILL SCREWED SHANK END MILL 90° APPROACH

90° Square Shoulder Milling with Low Cutting Resistance and Smooth Chip Flow

Series	Cutting Data
AMM Korloy	P339

- Helical cutting 90° end mill with screwed shank
- For long reach applications
- Low cutting resistance, ideal for lightweight machines or difficult to cut materials
- Choice of 2 insert sizes: APMT06 & APMT11







KORLOY

ØD	M	Teeth	Ød	Ød1	ℓ	L	ap	Order Code	Price	Inserts	Spares	
											Screw	Wrench
12	M06	3	11	6.5	25	40	5.6	AMM1012HR-M06	**£83.30**	APMT06	FTKA01842	TW06S-A
16	M08	4	14.5	8.5	25	42		AMM1016HR-M08	**£104.23**			
20	M10	5	18	10.5	30	51		AMM1020HR-M10	**£130.69**			
25	M12	7	23	12.5	35	59		AMM1025HR-M12	**£176.98**			
32	M16	8	29	17	40	67		AMM1032HR-M16	**£207.33**			
16	M08	2	14.5	8.5	25	42	11	AMM2016HR-M08	**£131.07**	APMT11	FTKA02565S	TW08S
20	M10	2	18	10.5	30	51		AMM2020HR-M10	**£137.91**			
25	M12	3	23	12.5	35	59		AMM2025HR-M12	**£170.87**			
32	M16	4	29	17	40	67		AMM2032HR-M16	**£209.18**			
40	M16	5	29	17	40	67		AMM2040HR-M16	**£255.20**			

SCREWED SHANK ADAPTERS HSS SHANK & CARBIDE SHANK

Ideal for Holding and Extending the Reach of Screwed Shank End Mills

Series	Cutting Data
MATC / MATS Korloy	P339

Fig. 1

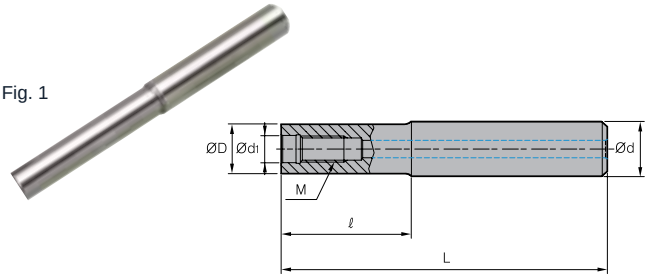


Fig. 2

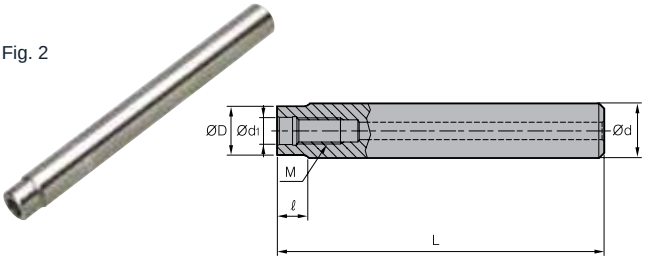


Fig. 1

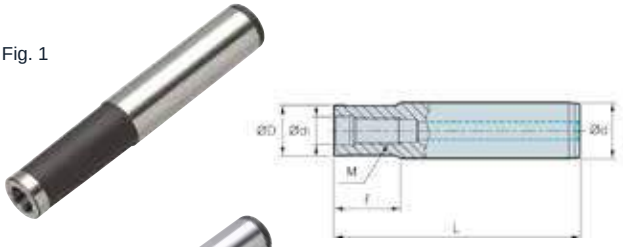
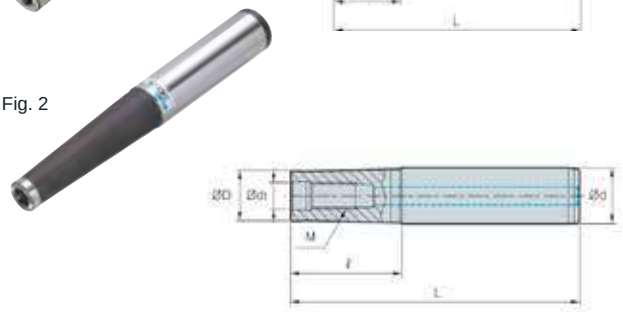


Fig. 2



CARBIDE SHANK

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
16	M08	150	80	14.5	8.5	1	MAT-M08-080-S16S-C	£246.19
16	M08	180	110	14.5	8.5	1	MAT-M08-110-S16S-C	£320.06
16	M08	250	150	14.5	8.5	1	MAT-M08-150-S16S-C	£430.85
16	M08	150	10	14.5	8.5	2	MAT-M08-010-S16S-C-150	£246.19
16	M08	180	10	14.5	8.5	2	MAT-M08-010-S16S-C-180	£320.06
16	M08	250	10	14.5	8.5	2	MAT-M08-010-S16S-C-250	£430.85
20	M10	170	90	18	10.5	1	MAT-M10-090-S20S-C	£381.60
20	M10	200	110	18	10.5	1	MAT-M10-110-S20S-C	£435.27
20	M10	300	175	18	10.5	1	MAT-M10-175-S20S-C	£585.96
20	M10	170	10	18	10.5	2	MAT-M10-010-S20S-C-170	£381.60
20	M10	200	10	18	10.5	2	MAT-M10-010-S20S-C-200	£435.27
20	M10	300	10	18	10.5	2	MAT-M10-010-S20S-C-300	£585.96
25	M12	170	90	22.5	12.5	1	MAT-M12-090-S25S-C	£467.78
25	M12	200	110	22.5	12.5	1	MAT-M12-110-S25S-C	£551.49
25	M12	300	175	22.5	12.5	1	MAT-M12-175-S25S-C	£669.67
25	M12	170	15	22.5	12.5	2	MAT-M12-015-S25S-C-170	£467.78
25	M12	200	15	22.5	12.5	2	MAT-M12-015-S25S-C-200	£551.49
25	M12	300	15	22.5	12.5	2	MAT-M12-015-S25S-C-300	£669.67
32	M16	180	90	28.5	17	1	MAT-M16-090-S32S-C	£686.41
32	M16	210	120	28.5	17	1	MAT-M16-120-S32S-C	£837.08
32	M16	300	175	28.5	17	1	MAT-M16-175-S32S-C	£1,067.27
32	M16	210	20	28.5	17	2	MAT-M16-020-S32S-C-210	£837.08
32	M16	300	20	28.5	17	2	MAT-M16-020-S32S-C-300	£1,067.27

STEEL SHANK

KORLOY

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
10	M06	70	20	9.5	6.5	1	MAT-M06-020-S10S	£73.86
12	M06	76	20	11	6.5	1	MAT-M6B-020-S12S	£74.13
12	M06	96	40	11	6.5	1	MAT-M6B-040-S12S	£76.76
16	M08	80	20	14.5	8.5	1	MAT-M08-020-S16S	£91.48
20	M10	100	30	18	10.5	1	MAT-M10-030-S20S	£131.57
25	M12	110	29	22.5	12.5	1	MAT-M12-030-S25S	£158.17
32	M16	125	35	28.5	17	1	MAT-M16-035-S32S	£205.02
12	M06	96	40	9.5	6.5	2	MAT-M06-040-S12T	£76.76
16	M06	125	65	9.5	6.5	2	MAT-M06-065-S16T	£89.61
16	M06	125	65	11	6.5	2	MAT-M6B-065-S16T	£89.61
16	M06	140	80	11	6.5	2	MAT-M6B-080-S16T	£103.27
16	M08	100	40	14.5	8.5	2	MAT-M08-040-S16T	£111.43
16	M08	125	65	14.5	8.5	2	MAT-M08-065-S16T	£126.15
20	M08	150	80	14.5	8.5	2	MAT-M08-080-S20T	£152.64
25	M08	190	110	14.5	8.5	2	MAT-M08-110-S25T	£193.76
20	M10	120	50	18	10.5	2	MAT-M10-050-S20T	£142.30
20	M10	140	70	18	10.5	2	MAT-M10-070-S20T	£160.94
25	M10	170	90	18	10.5	2	MAT-M10-090-S25T	£202.72
25	M10	190	110	18	10.5	2	MAT-M10-110-S25T	£229.04
32	M10	220	130	18	10.5	2	MAT-M10-130-S32T	£270.96
25	M12	130	50	22.5	12.5	2	MAT-M12-050-S25T	£174.50
25	M12	150	70	22.5	12.5	2	MAT-M12-070-S25T	£185.54
25	M12	170	90	22.5	12.5	2	MAT-M12-090-S25T	£211.65
32	M12	200	110	22.5	12.5	2	MAT-M12-110-S32T	£249.43
40	M12	300	175	22.5	12.5	2	MAT-M12-175-S40T	£351.53
32	M16	145	55	28.5	17	2	MAT-M16-055-S32T	£219.80
32	M16	170	80	28.5	17	2	MAT-M16-080-S32T	£250.98
32	M16	210	120	28.5	17	2	MAT-M16-120-S32T	£271.70
40	M16	300	175	28.5	17	2	MAT-M16-175-S40T	£350.87



CARBIDE SHANK ADAPTERS

Carbide shank modular adapters can vastly reduce vibration or deflection in long reach milling applications. This can improve surface finish, tool life and precision compared to Steel shank tool holders.

For best results only high accuracy tool holders should be used with carbide shank adapters, ideally with 3 microns run-out or less. When used with standard accuracy ER collet chucks, run-out can be as high as 50 microns at 10xD tool length and tool deflection can easily occur. This can have serious effects on tool life, accuracy and surface finish.

When carbide shank adapters and milling heads are used with a 3 micron run-out tool holder (such as the WTE HPH High Performance chuck), run-out is less than 10 microns at 10xD tool length. Tool life, surface finish and accuracy will be vastly improved whilst deflection will be eliminated.

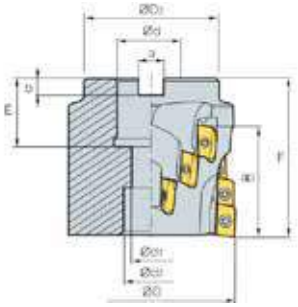
ALPHA MILL PORCUPINE 90° APPROACH

90° Square Shoulder Milling with Low Cutting Resistance and Smooth Chip Flow

- Porcupine style for heavy metal removal and large cut depths
- Choice of 2 insert sizes: APMT11 & APMT16

Series	Cutting Data
AMCM-M Korloy	P339





90°

KORLOY

ØD	Teeth	ØD2	Ød	Ød1	Ød2	a	b	E	F	No. of Flutes	ap	kg	Order Code	Price	Inserts	Spares	
																Screw	Wrench
50	16	40	22	11	18	10.4	6.3	21	58	4	39	0.7	AMCM2050M	**£524.85**	APMT11	FTKA02565S	TW08S
63	16	50	27	13.5	20	12.4	7	25	58	4	39	0.8	AMCM2063M	**£527.94**			
80	20	60	32	-	45	14.4	8	28	63	5	39	0.96	AMCM2080M	**£685.11**			
100	24	80	40	-	56	16.4	9	30	63	6	39	1.2	AMCM2100M	**£836.10**			
63	16	57	27	14	20	12.4	7	38	85	4	57	1.1	AMCM3063M	**£554.34**	APMT16	FTKA0410	TW15S
80	20	67	32	14	26	14.4	8	40	100	4	71	2.23	AMCM3080M	**£719.35**			
100	30	87	40	22	32	16.4	9	40	100	6	71	3.59	AMCM3100M	**£1,137.09**			

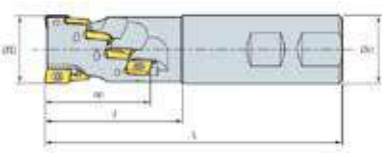
ALPHA MILL PORCUPINE 90° APPROACH

90° Square Shoulder Milling with Low Cutting Resistance and Smooth Chip Flow

- Porcupine style for heavy metal removal and large cut depths
- Choice of 2 insert sizes: APMT06 & APMT11

Series	Cutting Data
AMS-M Korloy	P339

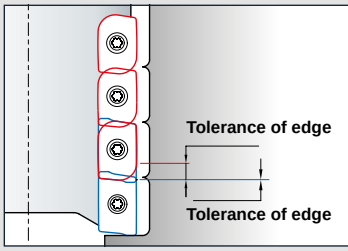




90°

KORLOY

ØD	Teeth	Ød	ℓ	L	No. of Flutes	ap	kg	Order Code	Price	Inserts	Spares	
											Screw	Wrench
20	12	20	32	85	3	20.5	0.3	AMS1020M	**£405.49**	APMT06	FTKA01842	TW06S-A
25	20	25	39	95	4	25.5	0.3	AMS1025M	**£645.62**			
20	3	20	45	120	1	29.4	0.32	AMS2020M	**£147.06**	APMT11	FTKA02565S	TW08S
25	8	25	55	130	2	38.9	0.4	AMS2025M	**£293.53**			
32	10	32	65	140	2	48.5	0.65	AMS2032M	**£374.53**			
40	14	40	75	150	2	58	0.75	AMS2040M	**£450.48**			



RECOMMENDED INSERTS

When using APMT06 inserts we recommend using inserts with a corner radius of 0.8mm.

When using APMT11 inserts we recommend using inserts with a corner radius of 0.5mm.

When using APMT16 inserts we recommend using inserts with a corner radius of 0.8mm.

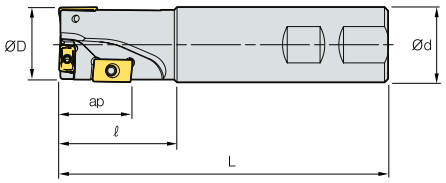
ALPHA MILL PLUNGE MILL 90° APPROACH

90° Square Shoulder Milling with Low Cutting Resistance and Smooth Chip Flow

- Low cutting resistance, ideal for lightweight machines or difficult to cut materials
- AMS-MH style suitable for plunge milling
- Choice of 3 insert sizes: APMT06, APMT11 & APMT16

Series	Cutting Data
AMS-MH Korloy	P339







KORLOY

ØD	Teeth	Ød	ℓ	L	ap	kg	Order Code	Price	Inserts			Spares	
									APMT06	APMT11	APMT16	Screw	Wrench
14	3	12	30	120		0.16	AMS1014MH	**£68.49**	x 3	-	-		
16	3	14	30	140	11	0.2	AMS1016MH	**£76.70**	x 3	-	-	FTKA01842	TW06S-A
18	3	16	30	140		0.21	AMS1018MH	**£76.70**	x 3	-	-		
25	3	25	40	130	20	0.45	AMS2025MH	**£89.72**	-	x 3	-	FTKA02565S	TW08S
32	3	32	50	140	30	0.75	AMS2032MH	**£119.65**	-	x 1	x 2		

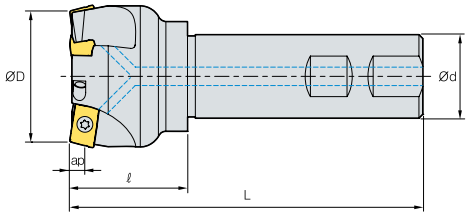
ALPHA MILL FACE MILL 75° APPROACH

90° Square Shoulder Milling with Low Cutting Resistance and Smooth Chip Flow

- Low cutting resistance, ideal for lightweight machines or difficult to cut materials
- AMS-SE style uses the other 2 corners of the insert
- Choice of 3 insert sizes: APMT06, APMT11 & APMT16

Series	Cutting Data
AMS-SE Korloy	P339





75°

KORLOY

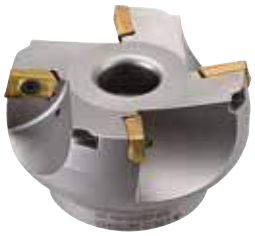
ØD	Teeth	Ød	ℓ	L	ap	kg	Order Code	Price	Inserts	Spares	
										Screw	Wrench
25	3	25	30	115	2.5	0.41	AMS1025HSE	**£107.12**	APMT06	FTKA01842	TW06S-A
25	2	25	30	115	4	0.4	AMS2025HSE	**£100.12**	APMT11	FTKA02565S	TW08S
32	3	32	40	125		0.72	AMS2032HSE	**£128.27**			
40	3	32	40	130		0.86	AMS2040HSE	**£138.94**			
40	3	40	40	130		1.2	AMS2040HSE-S40	**£140.33**			
50	4	32	40	135		0.98	AMS2050HSE	**£177.41**			
50	4	40	40	135		1.3	AMS2050HSE-S40	**£179.18**			
63	5	32	40	135		1.24	AMS2063HSE	**£213.64**			
63	5	40	40	135		1.57	AMS2063HSE-S40	**£215.81**			
50	3	32	45	135	6	1	AMS3050HSE	**£140.63**	APMT16	FTKA0410	TW15S
50	3	40	45	135		1.3	AMS3050HSE-S40	**£142.03**			
63	4	32	45	135		1.3	AMS3063HSE	**£175.13**			
63	4	40	45	135		1.6	AMS3063HSE-S40	**£176.87**			

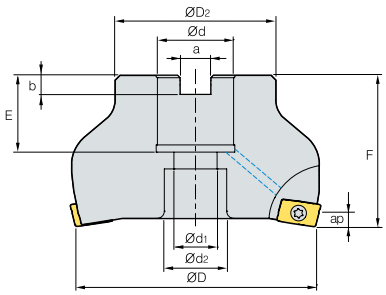
ALPHA MILL FACE MILL 75° APPROACH

90° Square Shoulder Milling with Low Cutting Resistance and Smooth Chip Flow

- Low cutting resistance, ideal for lightweight machines or difficult to cut materials
- AMCM-SE style uses the other 2 corners of the insert
- Choice of 3 insert sizes: APMT06, APMT11 & APMT16

Series	Cutting Data
AMCM-SE Korloy	P339





75°

KORLOY

ØD	Teeth	ØD2	Ød	Ød1	Ød2	a	b	E	F	ap	kg	Order Code	Price	Inserts	Spares	
															Screw	Wrench
40	4	34	16	9	14	8.4	5.6	19	40	2.5	0.26	AMCM1040HSE	**£134.13**	APMT06	FTKA01842	TW06S-A
50	5	42	22	11	18	104	6.3	21	40		0.39	AMCM1050HSE	**£158.35**			
80	5	57	27	14	20	12.4	7	22	50	4	1.2	AMCM2080HSE	**£194.20**	APMT11	FTKA02565S	TW08S
100	6	67	32	18	26	14.4	8	28	63		2.33	AMCM2100HSE	**£233.13**			
100	5	67	32	18	26	14.4	8	28	63	6	2.3	AMCM3100HSE	**£207.08**	APMT16	FTKA0410	TW08S

ALPHA MILL
RECOMMENDED DEPTH OF CUT

CUTTING DATA

Fig. 1
Slotting

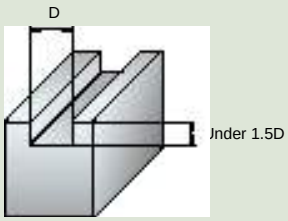


Fig. 2
Shouldering

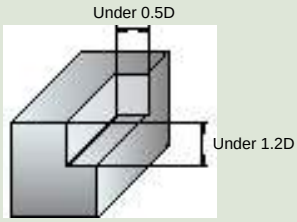
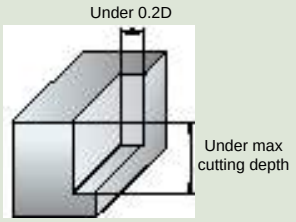


Fig. 3
Shouldering



SINGLE EDGE HOLDERS

Material	Grade	Fig	Ø10-18		Ø20-25		Ø32-40		Ø50-63		Ø80-100	
			vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)
P Steel	PC3700 PC5300 PC5400	1	35-90	0.05-0.08	50-120	0.05-0.08	80-180	0.05-0.08	80-140	0.05-0.08	70-150	0.05-0.08
		2		0.05-0.10		0.05-0.10		0.05-0.10		0.05-0.10		0.05-0.10
		3		0.1-0.15		0.1-0.15		0.1-0.15		0.1-0.15		0.1-0.15
H Hardened Steel	PC2505 PC2510	1	35-80	0.03	50-100	0.03	60-100	0.03	60-100	0.03	60-100	0.03
		2		0.05-0.08		0.05-0.08		0.05-0.08		0.05-0.08		0.05-0.08
		3										
M Stainless Steel	PC9530 PC5300 PC5400	1	35-70	0.05	50-100	0.05	80-150	0.05	70-130	0.05	70-130	0.05
		2		0.05-0.08		0.05-0.08		0.05-0.08		0.05-0.08		0.05-0.08
		3		0.1-0.15		0.1-0.15		0.1-0.15		0.1-0.15		0.1-0.15
S HRSA's	UNC840 PC5300 PC5400	1	25-60	0.03-0.05	30-60	0.03-0.05	30-60	0.03-0.05	30-60	0.03-0.05	30-60	0.03-0.05
		2		0.08-0.2		0.08-0.2		0.08-0.2		0.08-0.2		0.08-0.2
		3										
K Cast Iron	PC6510 PC5300 PC5400	1	50-90	0.08-0.12	80-120	0.08-0.12	80-130	0.15	90-150	0.1-0.12	90-150	0.1-0.12
		2		0.12-0.15		0.12-0.15		0.15-0.18		0.12		0.12
		3		0.15-0.2		0.15-0.2		0.15-0.2		0.15-0.2		0.15-0.2
N Non Ferrous	H01	1	200-650	0.15-0.2	250-900	0.15-0.2	300-950	0.15-0.2	400-1000	0.15-0.2	400-1000	0.15-0.2
		2		0.2-0.25		0.2-0.25		0.2-0.25		0.1-0.4		0.1-0.4
		3		0.25-0.3		0.25-0.3		0.25-0.3		0.1-0.4		0.1-0.4

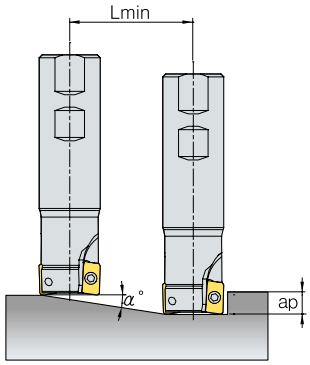
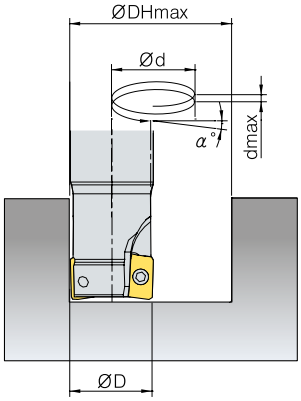
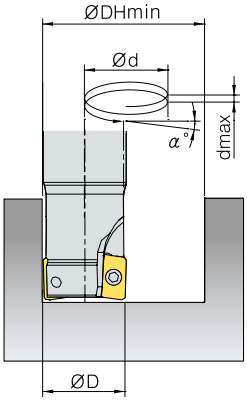
MULTI EDGE HOLDERS

Material	Grade	Fig	Ø10-18		Ø20-25		Ø32-40		Ø50-63		Ø80-100	
			vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)	vc(m/min)	fz(mm/t)
P Steel	PC3700 PC5300 PC5400	1	40-90	0.05-0.08	60-120	0.05-0.08	70-140	0.05-0.08	80-140	0.05-0.08	70-150	0.05-0.08
		2		0.05-0.10		0.05-0.10		0.05-0.10		0.05-0.10		0.05-0.10
		3		0.1-0.18		0.1-0.15		0.1-0.15		0.1-0.15		0.1-0.15
H Hardened Steel	PC2505 PC2510	1	35-80	0.03	50-100	0.03	60-100	0.03	60-100	0.03	60-100	0.03
		2		0.05-0.08		0.05-0.08		0.05-0.08		0.05-0.08		0.05-0.08
		3										
M Stainless Steel	PC9530 PC5300 PC5400	1	35-75	0.05	50-110	0.05	70-130	0.05	70-130	0.05	70-130	0.05
		2		0.05-0.08		0.05-0.08		0.05-0.08		0.05-0.08		0.05-0.08
		3		0.1-0.15		0.1-0.15		0.1-0.15		0.1-0.15		0.1-0.15
S HRSA's	UNC840 PC5300 PC5400	1	30-60	0.05-0.08	30-60	0.03-0.05	30-60	0.03-0.05	30-60	0.03-0.05	30-60	0.03-0.05
		2				0.08-0.15		0.08-0.15		0.08-0.15		0.08-0.15
		3										
K Cast Iron	PC6510 PC5300 PC5400	1	50-80	0.1-0.12	70-100	0.1-0.12	70-130	0.1-0.12	90-150	0.1-0.12	90-150	0.1-0.12
		2		0.12		0.12		0.12		0.12		0.12
		3		0.15-0.2		0.15-0.2		0.15-0.2		0.15-0.2		0.15-0.2
N Non Ferrous	H01	1	160-650	0.1-0.2	200-900	0.1-0.2	300-950	0.1-0.2	400-1000	0.1-0.2	400-1000	0.1-0.2
		2		0.15-0.3		0.15-0.3		0.15-0.3		0.1-0.4		0.1-0.4
		3		0.15-0.3		0.15-0.3		0.15-0.3		0.1-0.4		0.1-0.4

ALPHA MILL

CUTTING DATA

RAMPING • HELICAL CUTTING BLIND HOLES • HELICAL CUTTING THROUGH HOLES

Ramping	Helical Cutting Blind Holes	Helical Cutting Through Holes
		

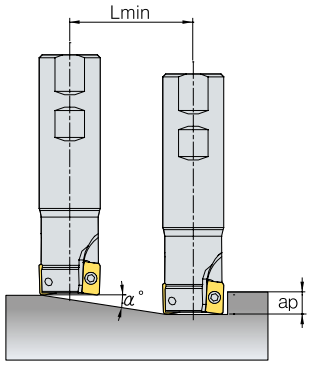
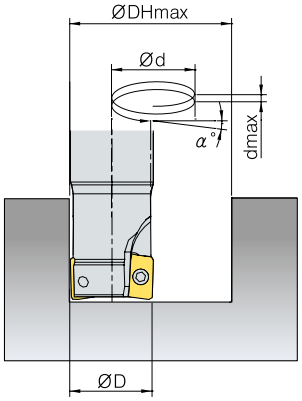
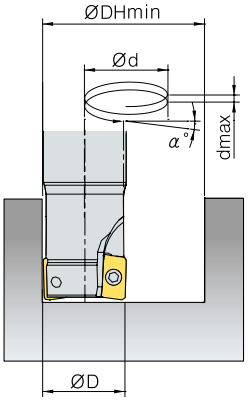
$$L_{min} = \frac{ap}{\tan \alpha^\circ} \text{ (mm)}$$

ORDER CODE	Tool Dia. ØD(min)	ap	Maximum angle α°	Lmin(mm)	Max. desirable hole Dia. ØDHmax(mm)	Max. pitch dmax(mm)	Min. desirable hole Dia. ØDHmin(mm)	Max. pitch dmax(mm)	Min. desirable hole Dia. ØDHmin(mm)	Max. pitch dmax(mm)
AMS1010HS	10	5	6.5	44	18.8	2.1	17.6	2	13	1.5
AMS1011HS	11		5.6	51	20.8	2	19.6	1.9	15	1.5
AMS1012HS	12		4.9	58	22.8	2	21.6	1.9	17	1.5
AMS1014HS	14		3.9	73	26.8	1.8	25.6	1.8	21	1.4
AMS1015HS	15		3.6	80	28.8	1.8	27.6	1.7	23	1.4
AMS1016HS	16		3.3	87	30.8	1.8	29.6	1.7	25	1.4
AMS1017HS	17		3	94	32.8	1.7	31.6	1.7	27	1.4
AMS1018HS	18		2.8	101	34.8	1.7	33.6	1.7	29	1.4
AMS1020HS	20		2.5	115	38.8	1.7	37.6	1.6	33	1.4
AMS1021HS	21		2.3	123	40.8	1.7	39.6	1.6	35	1.4
AMS1022HS	22		2.2	130	42.8	1.6	41.6	1.6	37	1.4
AMS1025HS	25		1.9	151	48.8	1.6	47.6	1.6	43	1.4
AMS1026HS	26		1.8	158	50.8	1.6	49.6	1.6	45	1.4
AMS1032HS	32		1.4	201	62.8	1.6	61.6	1.5	57	1.4
AMS1033HS	33		1.4	208	64.8	1.6	63.6	1.5	59	1.4
AMC1032HS	32		1.4	201	62.8	1.6	61.6	1.5	57	1.4
AMC1040HS	40		1.1	258	78.8	1.5	77.6	1.5	73	1.4
AMC1050HS	50		0.9	330	98.8	1.5	97.6	1.5	93	1.4
AMC1063HS	63		0.7	423	124.8	1.5	123.6	1.5	119	1.4
AMS1510HS	10	9	7.5	68	18.8	2.5	17.4	2.3	11	1.5
AMS1512HS	12		6.5	79	22.8	2.6	21.4	2.4	15	1.7
AMS1513HS	13		5.7	90	24.8	2.5	23.4	2.3	17	1.7
AMS1514HS	14		6.3	82	26.8	2.9	25.4	2.8	19	2.1
AMS1516HS	16		5	102	30.8	2.7	29.4	2.6	23	2
AMS1517HS	17		4.6	112	32.8	2.6	31.4	2.5	25	2
AMS1518HS	18		4.2	122	34.8	2.6	33.4	2.5	27	2
AMS1519HS	19		3.9	132	36.8	2.5	35.4	2.4	29	2
AMS1520HS	20		3.6	142	38.8	2.5	37.4	2.4	31	2
AMS1521HS	21		3.4	152	40.8	2.4	39.4	2.3	33	2
AMS1522HS	22		3.2	162	42.8	2.4	41.4	2.3	35	1.9
AMS1524HS	24		2.8	182	46.8	2.3	45.4	2.2	39	1.9
AMS1525HS	25		2.7	192	48.8	2.3	47.4	2.2	41	1.9
AMS1528HS	28		2.3	222	54.8	2.2	53.4	2.2	47	1.9
AMS1530HS	30		2.1	242	58.8	2.2	57.4	2.1	51	1.9
AMS1532HS	32		2	262	62.8	2.2	61.4	2.1	55	1.9
AMS1535HS	35		1.8	292	68.8	2.1	67.4	2.1	61	1.9
AMS1540HS	40		1.5	342	78.8	2.1	77.4	2	71	1.9
AMC15040HS	40		1.5	342	78.8	2.1	77.4	2	71	1.9
AMC15050HS	50		1.2	442	98.8	2	97.4	2	91	1.9
AMC15063HS	63		0.9	572	124.8	2	123.4	1.9	117	1.8
AMC15080HS	80		0.7	742	158.8	1.9	157.4	1.9	151	1.8
AMC15100HS	100		0.5	942	198.8	1.9	197.4	1.9	191	1.8

ALPHA MILL

RAMPING • HELICAL CUTTING BLIND HOLES • HELICAL CUTTING THROUGH HOLES

CUTTING DATA

	Ramping	Helical Cutting Blind Holes	Helical Cutting Through Holes
			

$$Lmin = \frac{ap}{\tan \alpha^\circ} \text{ (mm)}$$

ORDER CODE	Tool Dia. ØD(min)	ap	Maximum angle α°	Lmin(mm)	Max. desirable hole Dia. ØDHmax(mm)	Max. pitch dmax(mm)	Min. desirable hole Dia. ØDHmin(mm)	Max. pitch dmax(mm)	Min. desirable hole Dia. ØDHmin(mm)	Max. pitch dmax(mm)
AMS2010HS	10	10	16.82	33	18	5.4	16.4	5	11	3.3
AMS2012HS	12		11.69	48	22	4.6	20.4	4.2	15	3.1
AMS2014HS	14		7.55	75	26	3.4	24.4	3.2	19	2.5
AMS2016HS	16		10.3	55	30	5.5	28	5.1	23	4.2
AMS2018HS	18		8.23	69	34	4.9	32	4.6	27	3.9
AMS2020HS	20		5.6	102	38	3.7	36	3.5	31	3
AMS2022HS	22		5.15	111	42	3.8	40	3.6	35	3.2
AMS2025HS	25		3.92	146	48	3.3	46	3.2	41	2.8
AMS2032HS	32		2.7	212	62	2.9	60	2.8	55	2.6
AMS2040HS	40		1.98	289	78	2.7	76	2.6	71	2.5
AMS2050HS	50		1.48	386	98	2.5	96	2.5	91	2.4
AMS2063HS	63		1.11	514	124	2.4	122	2.4	117	2.3
AMC2050HS	50		0.36	1576	98	0.6	96	0.6	91	0.6
AMC2063HS	63		0.27	2104	124	0.6	122	0.6	117	0.6
AMC2080HS	80		0.21	2784	158	0.6	156	0.6	151	0.5
AMC2100HS	100		0.16	3584	198	0.6	196	0.5	191	0.5
AMS3025HS	25	10	4.72	121	48	4	46	3.8	36	3
AMS3032HS	32		3	191	62	3.2	60	3.1	50	2.6
AMS3040HS	40		2.29	250	78	3.1	76	3	66	2.6
AMS3050HS	50		1.64	350	98	2.8	96	2.7	86	2.5
AMS3063HS	63		1.22	470	124	2.6	122	2.6	112	2.4
AMC3040HS	40		1.99	288	78	2.7	76	2.6	66	2.3
AMC3050HS	50		1.67	343	98	2.9	96	2.8	86	2.5
AMC3063HS	63		1.22	470	124	2.6	122	2.6	112	2.4
AMC3080HS	80		0.9	636	158	2.5	156	2.5	146	2.3
AMC3100HS	100		0.69	830	198	2.4	196	2.4	186	2.2
AMS2025MH	25	10	1.5	764	48	1.3	46	1.2	-	-
AMS2032MH	32		1.5	1146	62	1.6	60	1.6	-	-
AMS3040MH	40	16	1.5	1528	78	2	76	2	-	-
AMS4020HS	20	16	9.5	98	38.8	6.5	37.4	6.2	31	5.2
AMS4021HS	21		5.2	179	40.8	3.7	39.4	3.6	33	3
AMS4025HS	25		7.6	122	48.8	6.5	47.4	6.3	41	5.5
AMS4026HS	26		7.1	130	50.8	6.4	49.4	6.2	43	5.4
AMS4032HS	32		3.4	276	62.8	3.7	61.4	3.6	55	3.3
AMS4033HS	33		3.2	288	64.8	3.7	63.4	3.6	57	3.2
AMS4040HS	40		2.5	376	78.8	3.4	77.4	3.4	71	3.1
AMS4050HS	50		1.9	502	98.8	3.2	97.4	3.2	91	3
AMS4063HS	63		1.4	665	124.8	3.1	123.4	3	117	2.9
AMC4050HS	50		1.9	502	98.8	3.2	97.4	3.2	91	3
AMC4063HS	63		1.4	665	124.8	3.1	123.4	3	117	2.9
AMC4080HS	80		1.1	878	158.8	2.9	157.4	2.9	151	2.8
AMC4100HS	100		0.8	1128	198.8	2.9	197.4	2.9	191	2.8
AMC4125HS	125		0.6	1442	248.8	2.8	247.4	2.8	241	2.7

Rich Mill RM3 90° Milling System

Performance ★★★★★

P H M S K N

Offering true perpendicularity in shoulder milling applications

Strong insert design with 3-face clamping offers maximum stability, tool life and exceptional surface finish.

Diameter Range
20-125mm

Insert Sizes
6, 8mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Cost-Efficient
Versatile component that can effectively replace both 45° and 90° holders.

Mirror Surface Finish
Mirror finish machining in face milling and shoulder milling operations.

High Accuracy
Wiper cutting edge on insert for high accuracy & better surface finish.

All Round Machining
Optimal chip breakers for general, light cutting, finishing, aluminium, stainless steel & exotics.

Features

True Perpendicularity
True 90° shouldering operation with perfect perpendicularity.

High Rake Angle
High positive rake angle offers exceptionally low cutting resistance.

No Step Over Marks
Minimum vertical or horizontal step over marks for exceptional finish.

Versatile Materials
Ideal for general purpose 90° milling a wide range of materials.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
RICH MILL RM3 FACE MILL		RM3PCM	40-125	90°	**345**
RICH MILL RM3 END MILL		RM3PS	20-63	90°	**346**

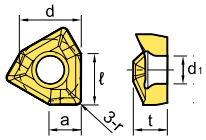
CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
MA 		**Aluminium**	▪ Superior cutting quality for aluminium due to sharp cutting edge and buffed surface
MM 		**General**	▪ Strong cutting edge ▪ 1st choice for general machining
ML 		**Light cutting, stainless, HRSA's**	▪ Sharp cutting edge, ideal for difficult to cut materials such as stainless steel & exotics ▪ 1st choice for lightweight machining centres

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		H		M	S	K	N
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 40-50 HRC	Hardened Steel 50-60 HRC	Stainless Steel	Titanium/ Inconel	Cast Iron	Non-Ferrous
Chip Breaker	First Choice	MM		MM		ML	ML	ML	MA
	Second Choice	ML				MM	MM	MM	
Grade	High Speed Machining	PC3700		PC2510	PC2505	PC5300	UNC840	PC6510	H01
	General Machining	PC3700/PC5300				PC5300/PC9540	PC5300		
	Interrupted Machining	PC5400				PC5400	PC5400	PC5300	

RM3 INSERT SELECTION

XNCT/XNKT	Dimensions (mm)						Grades								Insert Size	Chip Breaker	Order Code	Price
	l	d	t	d1	a	r	PC3700	PC5300	PC5400	PC2505	PC2510	PC9540	UNC840	PC6510	H01				
	5.7	6.5	4	3.4	1.8	0.5									●	XNCT06 XNKT06	MA	XNCT060405PNFR-MA	**£7.49**
						0.5	●	●	●		●	●		●			ML	XNKT060405PNER-ML	**£7.90**
						0.5	●	●	●	●	●			●			MM	XNKT060405PNSR-MM	**£7.90**
	8.2	10	5.5	4.5	2.9	0.8									●	XNCT08 XNKT08	MA	XNCT080508PNFR-MA	**£8.76**
						0.8	●	●	●		●	●		●			ML	XNKT080508PNER-ML	**£9.25**
						0.8	●	●	●	●	●		●	●			MM	XNKT080508PNSR-MM	**£9.25**
						1.2	●	●			●							XNKT080512PNSR-MM	**£9.25**
						1.6	●	●			●							XNKT080516PNSR-MM	**£9.25**
						2		●			●							XNKT080520PNSR-MM	**£9.25**

RICH MILL RM3 HOLDER FEATURES

KORLOY

DOUBLE STRENGTH CUTTER BODY
- Extremely rigid high strength steel body with nickel coating

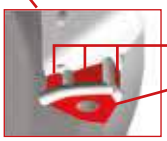


DIAMETER RANGE
- Face Mills 40-125mm
- End Mills 20-63mm

EXTRA WIDE CHIP POCKETS
- For supreme chip clearance in high feed milling



THROUGH COOLANT DESIGN
Reduces cutting heat for improved chip control and tool life



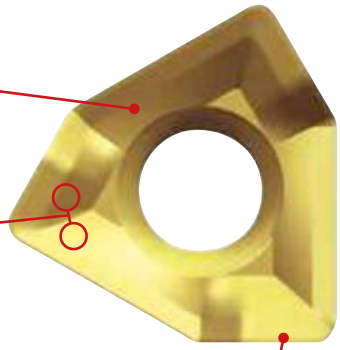
STRONG CLAMPING
- 3 face clamping seat
- Full flat bottom seat

RICH MILL RM3 INSERT FEATURES

KORLOY

CHIP BREAKER
- High rake angle
- Smooth chip flow

STEP DESIGN
- Low cutting force
- Excellent chip control





2 STEP CLEARANCE
- Strong clamping
- Increased rigidity

MAJOR CUTTING EDGE
- High rake angle
- Sharpened edge

SPECIAL ALUMINIUM INSERT
- High polished uncoated K grade with MA chip breaker for aluminium machining



3 CUTTING EDGES

HIGH POSITIVE INSERT
With 3 cutting edges and excellent price to performance ratio.



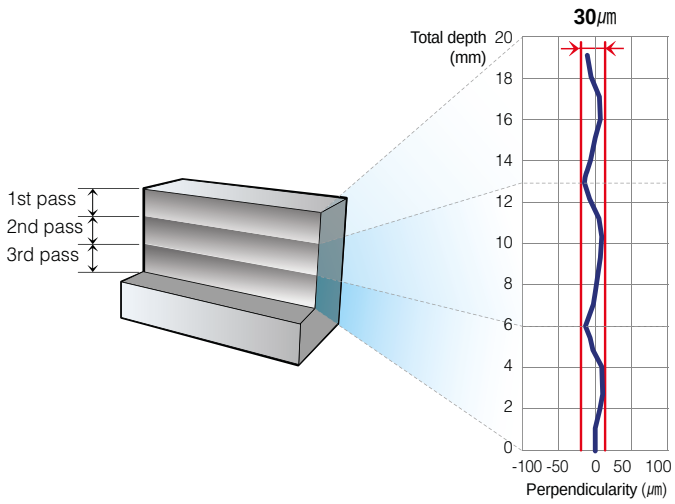
MINOR CUTTING EDGE
- Wiper action for better surface finish

PERFECT PERPENDICULARITY

RM3 guarantees perpendicularity within 30 microns, ensuring mirror finish machining in both vertical and horizontal planes.
RM3 offers extremely accurate 90 degree square shoulder milling performance due to the high accuracy insert and holder seating.



PERFECT 90°



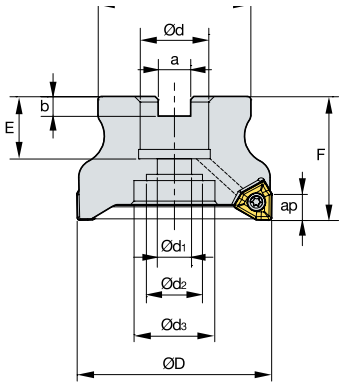
RICH MILL RM3 FACE MILL 90° APPROACH

True 90° Perpendicular Milling with Exceptional Surface Finish

- Perfect 90° square shoulder face mill
- Exceptionally low cutting resistance, low machine tool power requirement

Series		Cutting Data
RM3PCM Korloy	RM3-FM Teknik	P347





90°

*Teknik holders not through coolant

ØD	Teeth	Ød	ØD2	Ød1	Ød2	a	b	E	F	ap	kg	Order Code				Inserts	Spares	
												Korloy	Price	Teknik*	Price		Screw	Wrench
40	5	16	14	9	14	8.4	5.6	16	40	5.5	0.2	RM3PCM3040HR	**£144.70**	-	-	XNKT06	FTKA0306	TW09S
40	6	16	14	9	14	8.4	5.6	16	40		0.2	RM3PCM3040HR-M	**£156.29**	T853	**£51.84**			
50	6	22	18	11	18	10.4	6.3	20	40		0.3	RM3PCM3050HR	**£151.16**	-	-			
50	7	22	18	11	18	10.4	6.3	20	40		0.3	RM3PCM3050HR-M	**£163.24**	T854	**£56.70**			
63	7	22	18	11	18	10.4	6.3	20	40		0.49	RM3PCM3063HR	**£178.22**	-	-			
63	8	22	18	11	18	10.4	6.3	20	40		0.49	RM3PCM3063HR-M	**£192.48**	T855	**£68.04**			
80	8	25.4 (27)	25	14	25	9.5 (12.4)	6 (7)	25 (23)	50		0.87	RM3PCM3080HR	**£202.80**	-	-			
80	10	25.4 (27)	25	14	25	9.5 (12.4)	6 (7)	25 (23)	50		0.88	RM3PCM3080HR-M	**£227.13**	T856	**£84.24**			
40	3	16	35	16	14	8.4	5.6	19	40	8	0.19	RM3PCM4040HR	**£141.04**	-	-	XNCT08 XNKT08	FTNA0408	TW15S
40	4	16	35	16	14	8.4	5.6	19	40		0.19	RM3PCM4040HR-M	**£152.33**	T900	**£38.88**			
50	4	22	42	22	18	10.4	6.3	20	40		0.28	RM3PCM4050HR	**£147.32**	-	-			
50	5	22	42	22	18	10.4	6.3	20	40		0.29	RM3PCM4050HR-M	**£159.12**	T902	**£45.36**			
63	5	22	49	22	18	10.4	6.3	20	40		0.54	RM3PCM4063HR	**£173.70**	-	-			
63	6	22	49	22	18	10.4	6.3	20	40		0.53	RM3PCM4063HR-M	**£187.60**	T904	**£51.84**			
80	5	27	57	27	20	12.4	7	23	50		1.08	RM3PCM4080HR	**£193.18**	-	-			
80	7	27	57	27	20	12.4	7	23	50		1.06	RM3PCM4080HR-M	**£216.36**	T906	**£59.94**			
100	7	32	67	32	26	14.4	8	25	50		1.68	RM3PCM4100HR	**£223.13**	-	-			
100	8	32	67	32	26	14.4	8	25	50		1.67	RM3PCM4100HR-M	**£249.91**	T907	**£77.76**			
125	8	40	90	40	32	16.4	10	29	63		3.45	RM3PCM4125HR	**£277.74**	-	-			
125	10	40	90	40	32	16.4	10	29	63		3.45	RM3PCM4125HR-M	**£299.95**	-	-			

RICH MILL RM3 END MILL 90° APPROACH

True 90° Perpendicular Milling with Exceptional Surface Finish

- Perfect 90° square shoulder end mill
- Exceptionally low cutting resistance, low machine tool power requirement

Series		Cutting Data
RM3PS Korloy	RM3-EM Teknik	P347



Fig. 1

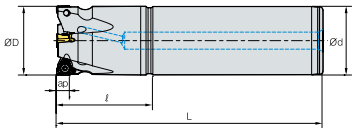
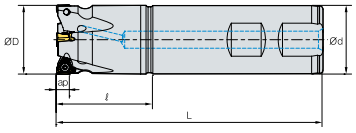


Fig. 2





*Teknik holders not through coolant

TEKNIK KORLOY

ØD	Teeth	Ød	ℓ	L	ap	Kg	Fig.	Order Code				Inserts	Spares	
								Korloy	Price	Teknik*	Price		Screw	Wrench
20	2	20	35	100	5.5	0.21	2	RM3PS3020HR-2S20	**£60.22**	S834	**£51.84**	XNKT06	FTNA0306	TW09S
20	2	20	35	200		0.43	1	RM3PS3020HR-2L20	**£66.97**	-	-			
21	2	20	30	100		0.21	2	RM3PS3021HR-2S20	**£62.04**	-	-			
21	2	20	30	200		0.43	1	RM3PS3021HR-2L20	**£68.99**	-	-			
25	2	20	35	115		0.27	2	RM3PS3025HR-3S20	**£70.29**	-	-			
25	2	20	35	200		0.46	1	RM3PS3025HR-3L20	**£78.16**	-	-			
25	3	25	40	115		0.36	2	RM3PS3025HR-3S25	**£72.39**	S838	**£55.08**			
25	3	25	40	200		0.66	1	RM3PS3025HR-3L25	**£80.50**	-	-			
26	2	20	35	115		0.29	2	RM3PS3026HR-2S20	**£67.65**	-	-			
26	2	20	35	200		0.47	1	RM3PS3026HR-2L20	**£75.24**	-	-			
26	3	20	35	115		0.28	2	RM3PS3026HR-3S20	**£70.29**	-	-			
26	3	20	35	200		0.47	1	RM3PS3026HR-3L20	**£78.16**	-	-			
26	2	25	35	115		0.37	2	RM3PS3026HR-2S25	**£69.50**	-	-			
26	2	25	35	200		0.68	1	RM3PS3026HR-2L25	**£77.29**	-	-			
26	3	25	35	115		0.37	2	RM3PS3026HR-3S25	**£72.39**	-	-			
26	3	25	35	200		0.68	1	RM3PS3026HR-3L25	**£80.50**	-	-			
32	3	25	42	125		0.48	2	RM3PS3032HR-3S25	**£88.18**	-	-			
32	3	25	42	200		0.74	1	RM3PS3032HR-3L25	**£100.44**	-	-			
32	4	25	42	125		0.48	2	RM3PS3032HR-4S25	**£91.86**	-	-			
32	4	25	42	200		0.74	1	RM3PS3032HR-4L25	**£104.62**	-	-			
32	4	32	42	125		0.68	2	RM3PS3032HR-4S32	**£93.69**	S841	**£55.08**			
32	4	32	42	200		1.13	1	RM3PS3032HR-4L32	**£106.71**	-	-			
33	3	25	42	125		0.49	2	RM3PS3033HR-3S25	**£88.18**	-	-			
33	3	25	42	200		0.75	1	RM3PS3033HR-3L25	**£100.44**	-	-			
33	4	25	42	125		0.49	2	RM3PS3033HR-4S25	**£91.86**	-	-			
33	4	25	42	200		0.75	1	RM3PS3033HR-4L25	**£104.62**	-	-			
33	4	32	42	125		0.7	2	RM3PS3033HR-4S32	**£93.69**	-	-			
33	4	32	42	200		1.14	1	RM3PS3033HR-4L32	**£106.71**	-	-			
40	4	32	45	130		0.83	2	RM3PS3040HR-4S32	**£106.02**	-	-			
40	4	32	45	200		1.24	1	RM3PS3040HR-4L32	**£120.75**	-	-			
40	5	32	45	130		0.83	2	RM3PS3040HR-5S32	**£110.42**	S842	**£55.08**			
40	5	32	45	200		1.24	1	RM3PS3040HR-5L32	**£125.77**	-	-			
32	3	32	42	125	8	0.67	2	RM3PS4032HR-3S32	**£94.43**	-	-	XNCT08 XNKT08	FTNA0408	TW15S
33	3	32	42	125		0.68	2	RM3PS4033HR-3S32	**£94.43**	-	-			
40	3	32	42	130		0.8	2	RM3PS4040HR-3S32	**£106.86**	-	-			
40	4	32	42	130		0.81	2	RM3PS4040HR-4S32	**£111.32**	-	-			
50	4	32	42	135		0.99	2	RM3PS4050HR-4S32	**£144.88**	-	-			
50	4	40	42	135		1.32	2	RM3PS4050HR-4S40	**£146.34**	-	-			
50	5	32	42	135		1.02	2	RM3PS4050HR-5S32	**£150.92**	-	-			
50	5	40	42	135		1.35	2	RM3PS4050HR-5S40	**£152.44**	-	-			
63	5	32	42	135		1.31	2	RM3PS4063HR-5S32	**£166.56**	-	-			
63	5	40	42	135		1.64	2	RM3PS4063HR-5S40	**£169.90**	-	-			
63	6	32	42	135		1.31	2	RM3PS4063HR-6S32	**£173.50**	-	-			
63	6	40	42	135		1.64	2	RM3PS4063HR-6S40	**£176.98**	-	-			

RICH MILL RM3
RECOMMENDED CUTTING CONDITIONS

CUTTING DATA

XNKT06

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)		Max ap (mm)
			XNKT06-MM	XNKT06-ML	
P Steel	PC3700	160-270	0.05-0.25	0.05-0.2	5.5
	PC5300	150-240		0.05-0.25	
	PC5400	130-210			
H Hardened Steel	PC2505/PC2510	35-80	0.05-0.08		
M Stainless Steel	PC9540	90-200	0.05-0.3	0.05-0.25	
	PC5300	90-150	0.05-0.2	0.05-0.1	
	PC5400	70-120			
S HRSA's	PC5300	40-70	0.05-0.15		
	PC5400	30-50			
K Cast Iron	PC6510	140-230	0.08-0.3	0.08-0.25	
	PC5300	120-200			

XNKT08

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)		Max ap (mm)
			XNKT08-MM	XNKT08-ML	
P Steel	PC3700	160-270	0.05-0.3	0.05-0.25	8
	PC5300	150-240			
	PC5400	130-210			
H Hardened Steel	PC2505/PC2510	35-80	0.05-0.08		
M Stainless Steel	PC9540	90-200	-	0.05-0.35	
	PC5300	90-150	0.05-0.3	0.05-0.2	
	PC5400	70-120	0.05-0.25		
S HRSA's	UNC840	30-80	0.05-0.2	-	
	PC5300	40-70	0.05-0.2		
	PC5400	30-50			
K Cast Iron	PC6510	140-230	0.08-0.35	0.08-0.3	
	PC5300	120-200			

XNCT06/XNCT08

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)			
			XNCT06-MA	Max ap (mm)	XNCT08-MA	Max ap (mm)
N Non Ferrous	H01	400-1200	0.1-0.35	5.5	0.1-0.4	8

Rich Mill RM6 90° Milling System

Performance
★★★★★

P M S K N

True 90° perpendicular milling system with double sided 6 corner inserts

Cost efficient extra thick insert offers stability across a range of milling applications.

Diameter Range
20-125mm

Insert Sizes
4, 8mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Perpendicular Edge
True 90° milling makes the RM6 the best performer in shoulder milling applications.

Minimal Step Over Marks
Unique design leaves minimal vertical and horizontal step over marks.

Streamlined Design
Enhancing chip evacuation during deep shouldering and slotting operations for improved machining efficiency.

High Stability
Wide clamping areas and strong clamping screws for rigid clamping.

Features

6 Cutting Edges
Utilises a double-sided insert with six functional cutting edges for cost-effective machining.

Multi-Application
Suitable for facing, shouldering, slotting, ramping and helical plunging.

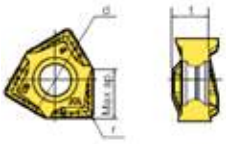
High Rake Angle
Maintains stable clamping and creates a smooth chip flow for longer tool life.

Through Coolant
Enhanced chip flow and prolonged tool life attributable to effective insert cooling.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
RICH MILL RM6 FACE MILL		RM6PCM	40-125	90°	**350**
RICH MILL RM6 END MILL		RM6PS	20-40	90°	**350**

RICH MILL RM6 INSERT SELECTION

WNGX	Dimensions (mm)				Grades								Insert Size	Chip Breaker	Order Code	Price
	d	t	r	Max. ap	PC3700	PC5300	PC5400	PC9540	UNC840	UPC845	PC6510	H01				
	7	3.46	0.4	4.3		●		●			●		WNGX04	ML	WNGX040304PNER	**£11.23**
			0.8			●		●	●	●					WNGX040308PNER	**£11.23**
			1.2			●		●							WNGX040312PNER	**£11.23**
			0.4			●					●			MM	WNGX040304PNSR	**£11.23**
			0.8			●									WNGX040308PNSR	**£11.23**
			1.2			●									WNGX040312PNSR	**£11.23**
			1.6			●									WNGX040316PNSR	**£11.23**
			0.4									●		MA	WNGX040304PNFR	**£11.23**
			0.8									●			WNGX040308PNFR	**£11.23**
			1.2									●			WNGX040312PNFR	**£11.23**
			1.6									●			WNGX040316PNFR	**£11.23**
	13	6.4	0.4	8.2	●	●		●			●		WNGX08	ML	WNGX080604PNER	**£12.21**
			0.8		●	●	●	●	●	●	●				WNGX080608PNER	**£12.21**
			1.2			●		●							WNGX080612PNER	**£12.21**
			0.4		●	●								MM	WNGX080604PNSR	**£12.21**
			0.8		●	●	●	●			●				WNGX080608PNSR	**£12.21**
			1.6			●									WNGX080616PNSR	**£12.21**
			2			●									WNGX080620PNSR	**£12.21**
			0.8									●		MA	WNGX080608PNFR	**£12.21**
			1.6									●			WNGX080616PNFR	**£12.21**
			2									●			WNGX080620PNFR	**£12.21**

CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
MA 		**Aluminium**	▪ Sharp cutting edges for excellent cutting performance in alumnium machining ▪ Buffed surface for excellent chip flow and welding resistance
ML 		**Light Cutting**	▪ Ideal or low cutting resistance, ideal for light cutting and machining hard to cut materials ▪ Excellent tool life and quality results
MM 		**General Machining**	▪ Ideal for general shoulder milling and most applications

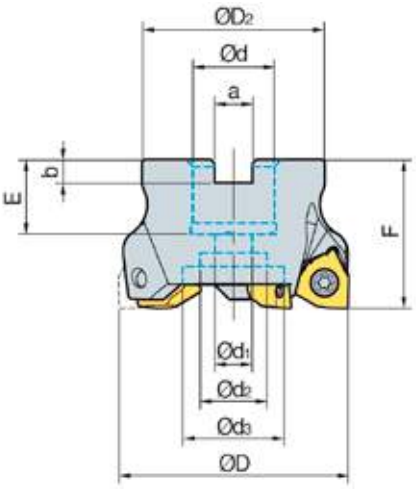
RICH MILL RM6 FACE MILL 90° APPROACH

High Performance Indexable Milling System for High Quality Workpieces

- High rake cutting edges
- High rake angle chip breaker
- Wide minor cutting edges
- True 90 degree milling
- Excels in shoulder and slot milling applications

Series		Cutting Data
RM6P Korloy	RM6-FM Teknik	P351





90°

TEKNIK KORLOY

ØD	Teeth	ØD2	Ød	Ød1	Ød2	Ød3	a	b	E	F	ap	kg	Order Code				Inserts	Spares	
													Korloy	Price	Teknik*	Price		Screw	Wrench
40	6	35	16	9	14	-	8.4	5.6	19	40	4.3	0.19	RM6PCM040R-16-6-WN04	**£141.33**	T692	**£48.60**	WNGX04	ETNA02506	TW07S
50	8	42	22	11	18	-	10.4	6.3	20	40	4.3	0.28	M6PCM050R-22-8-WN04	**£153.40**	T693	**£69.66**			
63	10	49	22	11	18	-	10.4	6.3	20	40	4.3	0.47	RM6PCM063R-22-10-WN04	**£187.70**	T694	**£105.30**			
80	11	-	27	-	-	-	-	-	-	50	-	1.306	-	**-**	T695	**£97.20**			
50	5	42	22	11	18	-	10.4	6.3	20	40	8.2	0.45	RM6PCM050R-22-5-WN08	**£156.28**	T775	**£45.36**	WNGX08	FTNA0512	TW20-100
63	6	49	22	11	18	-	10.4	6.3	20	40		0.45	RM6PCM063R-22-6-WN08	**£163.24**	T776	**£51.84**			
80	7	57	27	14	20	35	12.4	7	23	50		0.90	RM6PCM080R-27-7-WN0	**£220.68**	T777	**£59.94**			
80	9	57	32	14	20	35	12.4	7	25	50		0.89	RM6PCM080R-27-9-WN08	**£238.34**	-	**-**			
100	8	67	32	18	26	42	14.4	8	25	50		1.47	RM6PCM100R-32-8-WN08	**£254.90**	T778	**£77.76**			
100	11	67	32	18	26	42	14.4	8	25	50		1.45	RM6PCM100R-32-11-WN08	**£265.09**	-	**-**			
125	11	90	40	22	32	52	16.4	9	29	63		2.94	RM6PCM125R-40-11-WN08	**£317.94**	-	**-**			
125	14	90	40	22	32	52	16.4	9	29	63		2.91	RM6PCM125R-40-14-WN08	**£330.66**	-	**-**			

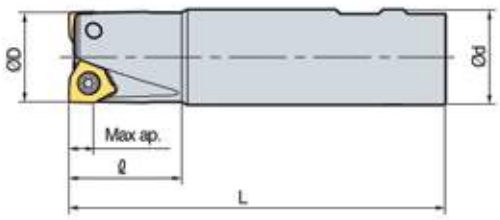
RICH MILL RM6 END MILL 90° APPROACH

High Performance Indexable Milling System for High Quality Workpieces

- High rake cutting edges
- High rake angle chip breaker
- Wide minor cutting edges
- True 90 degree milling
- Excels in shoulder and slot milling applications

Series		Cutting Data
RM6-EM Korloy	RM6PS Teknik	P351





90°

TEKNIK KORLOY

ØD	Teeth	Ød	ℓ	L	ap	Kg	Order Code				Inserts	Spares	
							Korloy	Price	Teknik*	Price		Screw	Wrench
20	3	20	35	110		0.22	RM6PS020R-3W20-110-WN04	**£56.64**	S944	**£45.36**			
25	4	25	35	110	4.3	0.35	RM6PS025R-4W25-110-WN04	**£68.08**	S945	**£51.84**	WNGX04	ETNA02506	TW07S
32	5	32	35	110		0.60	RM6PS032R-5W32-110-WN04	**£86.38**	S946	**£58.32**			
40	4	32	40	120	8.2	0.69	RM6PS040R-4W32-120-WN08	**£100.49**	S949	**£51.84**	WNGX08	FTNA0512	TW20-100

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		M	S	K	N
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Stainless Steel	Titanium/Inconel	Cast Iron	Non Ferrous
Chip Breaker	First Choice	MM		ML	ML	ML	MA
	Second Choice	ML		MM	MM	MM	
Grade	High Speed Machining	PC3700		PC5300	UNC840	PC6510	H01
	General Machining	PC5400	PC5300	PC9540/PC5300	UPC845/PC5300	PC5300	
	Interrupted Machining	PC5400		PC9540/PC5400	PC5300/PC5400		

RICH MILL RM6

CUTTING DATA

RECOMMENDED CUTTING CONDITIONS

WNGX04

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)		Max ap (mm)
			WNGX04-MM	WNGX04-ML	
P Steel	PC3700	160-270	0.05-0.25	0.05-0.2	4.3
	PC5300	150-240		0.05-0.25	
	PC5400	130-210			
M Stainless Steel	PC9540	90-200	-	0.05-0.35	
	PC5300	90-150	0.05-0.2	0.05-0.1	
	PC5400	70-120			
S HRSA's	UNC840	30-80	-	0.05-0.2	
	UPC845	20-50	-	0.07-0.3	
	PC5300	40-70	0.05-0.15		
	PC5400	30-50			
K Cast Iron	PC6510	140-230	0.08-0.3	0.08-0.25	
	PC5300	120-200			

WNGX08

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)		Max ap (mm)
			WNGX08-MM	WNGX08-ML	
P Steel	PC3700	160-270	0.05-0.25	0.05-0.2	8.2
	PC5300	150-240		0.05-0.25	
	PC5400	130-210			
M Stainless Steel	PC9540	90-200	0.05-0.35		
	PC5300	90-150	0.05-0.2	0.05-0.1	
	PC5400	70-120			
S HRSA's	UNC840	30-80	-	0.05-0.2	
	UPC845	20-50	-	0.07-0.3	
	PC5300	40-70	0.05-0.2		
	PC5400	30-50			
K Cast Iron	PC6510	140-230	0.08-0.3	0.08-0.25	
	PC5300	120-200			

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)			
			WNGX04-MA	Max ap (mm)	WNGX08-MA	Max ap (mm)
N Non Ferrous	H01	500-1000	0.05-0.2	4.3	0.05-0.2	8.2

SM3 True 90° Milling System

Performance
★★★★★

P H M S K

True 90° system which excels in both shoulder and slot milling applications

Excels in both shoulder and slot milling applications with excellent metal removal rates and surface finish.

Diameter Range
20-200mm

Insert Sizes
11, 16mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

True 90° Milling
Unique 3 cornered insert with special geometry for true perpendicularity.

High Rigidity
Larger core size of the holder significantly improves overall rigidity.

Smooth Cutting
High helix edge ensures smooth cutting with low cutting forces.

Optimal Chip Flow
The high positive rake angle geometry minimises burrs and ensures excellent chip flow.

Features

Curved Cutting Edge
Unique cutting edge designed to minimise mismatching in step machining.

Wiper Inserts
Incorporates a wide wiper edge to achieve excellent surface finish quality.

Multi-Nano Layer Coating
Special insert coating strengthens chipping and wear resistance.

3 Cutting Edges
A lower cost per edge compared to traditional 2 cutting edge 90° systems.

Tool Selection

Description		Sizes ØD	Approach Angle	Page
SM3 (TPKT) 90° END MILL		20-40	90°	**354**
SM3 (TPKT) 90° FACE MILL		40-200	90°	**355**



True 90° Shoulder Milling



Larger Core Size for Higher Rigidity



More Inserts for High Productivity

CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
GN 		**General**	▪ First choice for general machining applications
ST 		**Stainless Steel / HRSA's**	▪ Sharp geometry for stainless steel & HRSA's

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		H	M	S	K
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 50-60 HRC	Stainless Steel	Titanium/Inconel	Cast Iron
Chip Breaker	First Choice	GN		GN	ST	ST	GN
	Second Choice	ST			GN	GN	ST
Grade	First Choice	YG712		YG012	YG613	YG612	YG5020
	Second Choice	YG612			YG612		YG612

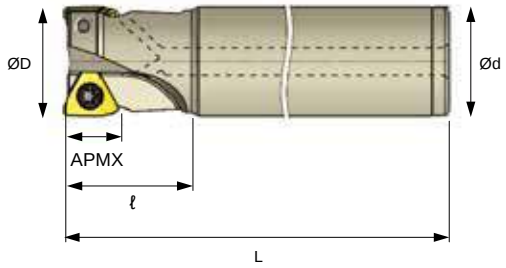
SM3 (TPKT) 90° END MILL

For TPKT inserts

- High helix cutting edge reduce cutting load
- Wide wiper design for improved surface finish
- True 90° geometry minimise surface imperfections
- Positive rake angle improves chip evacuation
- 3 cutting edges per inserts

Series	Cutting Data
SM3-EM YG-1	P355





90°

ØD	Teeth	Ød	ℓ	L	APMX	Order Code	Price	Inserts	Spares	
									Screw	Wrench
20	2	20	40	90	7	17000995	£80.54	TPKT1104	18000265	18000218
20	2	20	40	170		17001037	£97.23			
21	2	21	40	150		17001038	£99.26			
21	2	21	40	200		17001039	£105.15			
25	3	25	40	100		17001040	£101.43		18000259	18000218
25	3	25	60	200		17001026	£122.83			
26	2	26	40	200		17001041	£107.19			
26	2	26	40	200		17001042	£112.81			
26	3	26	40	150		17001043	£116.67			
26	3	26	40	200		17001044	£121.86			
32	3	32	60	230		17001045	£132.86			
32	4	32	40	110		17001046	£112.92			
33	3	33	40	200		17001047	£129.61			
40	4	40	60	200		17001048	£151.84			
40	5	40	40	115		17001049	£133.70			
32	2	32	40	150	11	17000941	£91.09	TPKT1605	18000264	18000256
32	2	32	80	250		17000942	£118.44			
33	2	32	40	200		17000929	£106.09			
33	2	32	40	250		17001010	£118.44			
40	3	32	40	110		17000944	£101.69			
40	4	32	40	200		17000945	£148.56			

SM3 TRUE 90° MILLING SYSTEMINSERT SELECTION

TPKT	Dimensions (mm)					Grades					Insert Size	Chip Breaker	Order Code	Price
	IC	S	APMX	BS	RE	YG612	YG012	YG712	YG613	YG5020				
	7.54	4.28	7	1.6	0.4	●	●	●		●	TPKT1104	GN	TPKT110404R-GN	£8.00
				1.15	0.8	●	●	●		●			TPKT110408R-GN	£8.00
				1.6	1.6	●	●	●		●			TPKT110416R-GN	£8.00
				1.6	0.4	●			●			ST	TPKT110404R-ST	£8.00
				1.15	0.8	●			●				TPKT110408R-ST	£8.00
	11.66	5.38	11	1.79	0.8	●	●	●		●	TPKT1605	GN	TPKT160508R-GN	£8.78
				1.2	1.6	●	●	●		●			TPKT160516R-GN	£8.78
				0.7	2.4	●	●	●		●			TPKT160524R-GN	£8.78
				1.79	0.8	●			●			ST	TPKT160508R-ST	£8.78

SM3 (TPKT) 90° FACE MILL

For TPKT inserts

- High helix cutting edge reduce cutting load
- Wide wiper design for improved surface finish
- True 90° geometry minimise surface imperfections
- Positive rake angle improves chip evacuation
- 3 cutting edges per inserts

Series	Cutting Data
SM3-FM YG-1	P355



90°

ØD	Teeth	Spigot	APMX	Order Code	Price	Inserts	Spares	
							Screw	Wrench
40	5	16	7	17001050	£143.65	TPKT1104	18000259	18000218
50	6	22		17001051	£156.65			
63	7	22		17001052	£181.48			
63	8	22		17001053	£197.53			
50	4	22	11	17000931	£123.92	TPKT1605	18000264	18000256
63	5	22		17000932	£147.31			
63	6	22		17000947	£164.73			
80	6	27		17000948	£181.81			
80	7	27		17000949	£198.66			
100	8	32		17000950	£237.22			
125	10	40		17000951	£316.79			
125	12	40		17000952	£350.58			
160	11	40		17000953	£410.11			
200	11	60		17000955	£501.94			

SM3 TRUE 90° MILLING SYSTEM

CUTTING DATA

RECOMMENDED CUTTING CONDITIONS

Material	Group	Cutting Speed Vc (m/min)				
		YG612	YG012	YG712	YG613	YG5020
P Steel	Non-alloyed steel	180-280	180-280	220-320	100-210	
	Low-alloyed steel	150-250	150-250	190-290	70-180	
	High-alloyed steel	70-140	80-150	90-155	40-90	
M Stainless Steel	Ferritic & Martensitic stainless steel	120-200			70-180	
	Austenitic stainless steel	130-250			70-200	
K Cast Iron	Cast Iron	120-250				150-350
S HRSA's	Super alloys & Titanium	25-45				
H Hardened Steel	Hardened steel		70-120			

Insert	Chip Breaker	Feed (mm/Tooth)	Max ap (mm)
TPKT11	GN	0.05-0.24	7
	ST	0.05-0.15	
TPKT16	GN	0.05-0.27	11
	ST	0.05-0.17	

TP2P Tangential Shoulder Milling System

Performance
★★★★★

P K

Tangential shoulder milling tool improves stability in steel and cast iron machining

Tangential clamping system increases productivity, while improving stability and perpendicularity.

Diameter Range
32-125mm

Insert Length
17mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Productivity
Increased chip removal rates due to high speed & feed capability.

Superior Clamping
Tangential clamping system ensures maximum stability and security.

Perpendicularity
Unique insert design makes this tool Ideal for shoulder milling applications.

Versatility
Suitable for facing, shouldering, slotting, ramping, helical interpolation & plunging.

Features

Internal Cooant
Tool holders with through coolant supply improves swarf evacuation.

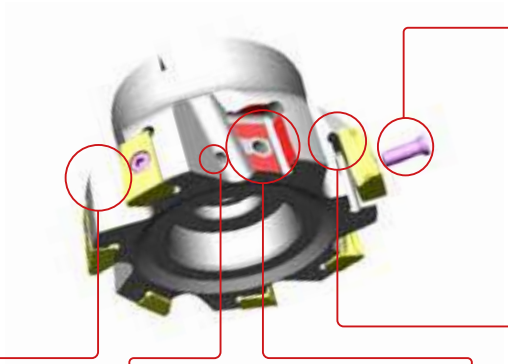
Edge Length
LNKT17 inserts capable of 16.5mm maximum cut depth, offering precision and versatility for machining operations.

Clamping Seat
Large insert clamping seat improves stability and reduces vibration.

High Rake Angle
Chip breaker with high rake angle improves chip flow and reduces cutting load.

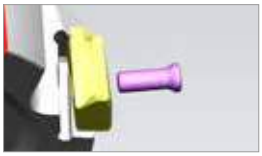
Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
TP2P FACE MILL		TP2PCM	40-125	90°	**358**
TP2P END MILL		TP2PS	32-50	90°	**359**



Tangential Clamping

- Multi-corner use
- High feed machining availability



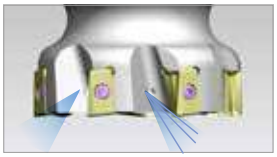
Efficient Holder Design

- Smoother chip evacuation in slotting or deep shouldering



Through Coolant System

- Improved chip evacuation
- Longer tool life due to insert cooling



Wide Seat Area

- Strong clamping force



Wedge Type Clamping

- Stable insert life



CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
ML		**Light cutting**	▪ Chip breaker design for low cutting resistance that provides excellent tool life and quality surface finishes in light cutting and hard-to-cut materials
MM		**General cutting**	▪ Universal design for general shoulder milling operations, highly suitable in most applications

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		K
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Cast Iron
Chip Breaker	First Choice	MM		ML
	Second Choice	ML		MM
Grade	High Speed Machining	PC5300		PC6510
	General Machining	PC3600/PC5300		PC5300
	Interrupted Machining	PC5400		

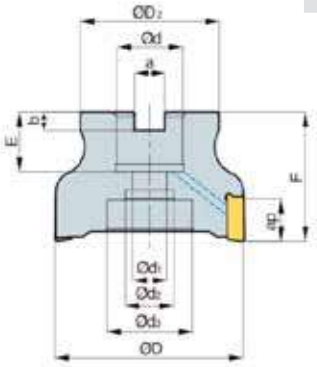
TP2P FACE MILL 90° APPROACH

Shoulder Milling Tool with Tangential Clamping System

- Smoother chip evacuation
- Through coolant system
- Wide seat area
- Wedge type clamping

Series	Cutting Data
TP2PCM Korloy	P359



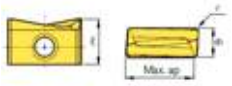




KORLOY

ØD	Teeth	ØD2	Ød	Ød1	Ød2	Ød3	a	b	E	F	ap	Order Code	Price	Inserts	Spares	
															Screw	Wrench
40	3	35	16	9	14	-	8.4	5.6	16	40	16.5	TP2PCM040R-16-3-LN17	**£166.68**	LNKT17	FTKA0412B	TW15S
40	4	35	16	9	14	-	8.4	5.6	16	40		TP2PCM040R-16-4-LN17	**£173.34**			
50	4	41	22	11	18	-	10.4	6.3	20	40		TP2PCM050R-22-4-LN17	**£208.35**			
50	5	41	22	11	18	-	10.4	6.3	20	40		TP2PCM050R-22-5-LN17	**£216.68**			
63	6	49	22	11	18	-	10.4	6.3	20	40		TP2PCM063R-22-6-LN17	**£288.74**			
63	7	49	22	11	18	-	10.4	6.3	20	40		TP2PCM063R-22-7-LN17	**£300.28**			
80	7	57	27	14	20	35	12.4	7	23	50		TP2PCM080R-27-7-LN17	**£356.07**			
80	8	57	27	14	20	35	12.4	7	23	50		TP2PCM080R-27-8-LN17	**£399.95**			
100	8	67	32	18	28	45	14.4	8	25	63		TP2PCM100R-32-8-LN17	**£410.23**			
125	10	90	40	22	32	52	16.4	10	30	63		TP2PCM125R-40-10-LN17	**£572.10**			

TP2P TANGENTIAL SHOULDER MILLING SYSTEM INSERT SELECTION

LNKT	Dimensions (mm)				Grades				Chip Breaker	Order Code	Price
	d1	ℓ	r	Max. ap	PC3600	PC5300	PC5400	PC6510			
	7	11	0.8	16.5	●	●			MM	LNKT170708PNR	**£16.43**
						●	●	●	ML		

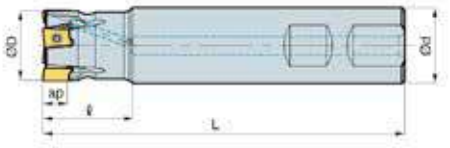
TP2P END MILL 90° APPROACH

Shoulder Milling Tool with Tangential Clamping System

- Smoother chip evacuation
- Through coolant system
- Wide seat area
- Wedge type clamping

Series	Cutting Data
TP2PS Korloy	P359







KORLOY

ØD	Teeth	Ød	ℓ	L	ap	Order Code	Price	Inserts	Spares	
									Screw	Wrench
32	2	32	40	130	16.5	TP2PS032R-2W32-130-LN17	**£117.19**	LNKT17	FTKA0412B	TW15S
32	3	32				TP2PS032R-3W32-130-LN17	**£121.87**			
40	3	32				TP2PS040R-3W32-130-LN17	**£153.88**			
40	4	32				TP2PS040R-4W32-130-LN17	**£160.03**			
50	4	32				TP2PS050R-4W32-130-LN17	**£171.68**			
50	5	32				TP2PS050R-5W32-130-LN17	**£178.54**			

TP2P TANGENTIAL SHOULDER MILLING SYSTEM

CUTTING DATA

RECOMMENDED CUTTING CONDITIONS

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)		Max ap (mm)
			LNKT170708PNR-MM	LNKT170708PNR-ML	
P Steel	PC3600	150-270	0.05-0.25		16.5
	PC5300	130-240			
	PC5400	70-200			
K Cast Iron	PC6510	120-230			

Pro-X Mill 90° Milling System

Performance
★★★★★

N

High speed aluminium machining with ultra high metal removal & mirror finish

Three dimensional chip breaker and buffed inserts improve surface finish, swarf control and tool life.

Diameter Range
20-125mm

Insert Sizes
19, 25mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Crafted for Aluminium
Specially designed for ultra-high performance on non-ferrous materials.

Mirror Surface Finish
Sharp cutting edge guarantees high accuracy and excellent surface finish.

High Metal Removal
High speed machining with large depths of cut up to 23mm depending on insert size.

Exceptional Chip Flow
High rake inserts & through coolant design for improved chip control & tool life in long swarf applications.

Features

Strong Clamping
Special ultra-strong seat design prevents insert movement at high speeds.

Special Insert Grades
Highly polished inserts prevents built-up edge, or DLC diamond coating.

Exceptional Versatility
Suitable for face & shoulder milling, slotting, ramping, helical cutting and more.

G2.5 Balanced
For high-speed machining operations, at a staggering 28,000 RPM.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
PRO-X MILL FACE MILL		PAXCM	40-125	90°	**362**
PRO-X MILL END MILL		PAXS	20-40	90°	**363**
PRO-X MILL SCREWED SHANK END MILL		PAXM	25-40	90°	**364**
SCREWED SHANK ADAPTERS		MAT-S MAT-C	M6-M16	-	**365**

PRO-X MILL HOLDER FEATURES

THROUGH COOLANT
- For improved chip control and tool life

G2.5 BALANCED
- For high speed machining up to 28,000RPM

STRONG CUTTER BODY
- Rigid alloy Steel body with nickel coating



DIAMETER RANGE
- Face Mills 40-125mm
- End Mills 20-40mm

STRONG CLAMPING SYSTEM FOR HIGH SPEED MACHINING
- Special seat design for strong clamping and preventing movement of the insert at high speeds





PRO-X MILL INSERT FEATURES

SPECIAL GRADES FOR ALUMINIUM
- High polished uncoated K grade or DLC (diamond like carbon) coated grade

GROUND INSERT
- Sharp cutting edge for high accuracy machining and excellent surface finish

HIGH POSITIVE RAKE
- 20° positive angle



CORNER RADIUS
- From 0.4-5mm

3 DIMENSIONAL CHIP BREAKER
- For low cutting load

MAXIMUM DEPTH OF CUT (ap)
- 17 or 23mm

PRO-X MILL GRADE OPTIONS

Insert Grade	Features
H01	Uncoated highly polished K grade carbide. Suitable for machining up to 1,200m/min.
PD2000	DLC diamond coated carbide. Increased tool life of 3-6 times compared to H01. Suitable for machining up to 2,500m/min.

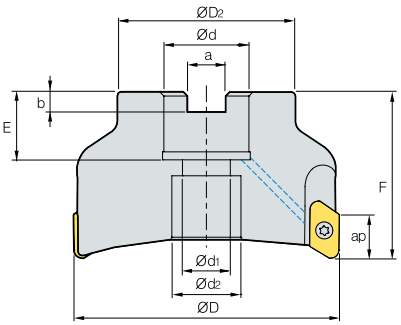
PRO-X MILL FACE MILL 90° APPROACH

High Speed Aluminium Machining with High Metal Removal & Excellent Surface Finish

- Face mill available in 40-125mm diameter
- Holder G2.5 balanced
- Corner radius inserts from 0.4-5.0mm with 17mm or 23mm maximum depth of cut (ap)

Series	Cutting Data
PAXCM Korloy	P366



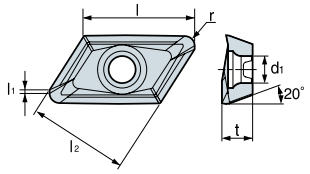


90°

KORLOY

ØD	Teeth	ØD2	Ød	Ød1	Ød2	a	b	E	F	Max RPM	ap	kg	Order Code	Price	Inserts	Spares	
																Screw	Wrench
40	3	34	16	9	14	8.4	5.6	19	40	25,800	17	0.15	PAXCM5040HR-A	**£154.55**	XEKT19 0.4-3.2 Radius	PTKA0408	TW15S
50	4	42	22	11	18	10.4	6.3	21	50	23,000		0.3	PAXCM5050HR-A	**£164.81**			
63	4	49	22	11	18	10.4	6.3	21	50	20,500		0.56	PAXCM5063HR-A	**£184.50**			
80	5	57	27	14	20	12.4	7	23	50	18,200		1	PAXCM5080HR-A	**£191.45**			
100	6	67	32	18	26	14.4	8	26	63	16,300		2.3	PAXCM5100HR-A	**£218.24**			
125	7	87	40	22	32	16.4	9	29	63	14,600		3.2	PAXCM5125HR-A	**£281.95**			
40	3	34	16	9	14	8.4	5.6	19	40	25,800	17	0.15	PAXCM5040HR-B	**£154.55**	XEKT19 4.0-5.0 Radius	PTKA0408	TW15S
50	4	42	22	11	18	10.4	6.3	21	50	23,000		0.3	PAXCM5050HR-B	**£164.81**			
63	4	49	22	11	18	10.4	6.3	21	50	20,500		0.56	PAXCM5063HR-B	**£184.50**			
80	5	57	27	14	20	12.4	7	23	50	18,200		1	PAXCM5080HR-B	**£191.45**			
100	6	67	32	18	26	14.4	8	26	63	16,300		2.3	PAXCM5100HR-B	**£218.24**			
125	7	87	40	22	32	16.4	9	29	63	14,600		3.2	PAXCM5125HR-B	**£281.95**			
50	2	42	16	9	14	8.4	5.6	18	50	23,000	23	0.32	PAXCM6050HR-A	**£156.87**	XEKT25 0.4-3.2 Radius	FTGA0513-P	TW20-100
63	3	49	22	11	18	10.4	6.3	21	50	20,500		0.53	PAXCM6063HR-A	**£167.29**			
80	4	57	27	14	20	12.4	7	23	50	18,200		0.73	PAXCM6080HR-A	**£187.30**			
100	5	67	32	18	26	14.4	8	26	63	16,300		1.7	PAXCM6100HR-A	**£194.33**			
50	2	42	16	9	14	8.4	5.6	18	50	23,000	23	0.32	PAXCM6050HR-B	**£156.87**	XEKT25 4.0-5.0 Radius	FTGA0513-P	TW20-100
63	3	49	22	11	18	10.4	6.3	21	50	20,500		0.53	PAXCM6063HR-B	**£167.29**			
80	4	57	27	14	20	12.4	7	23	50	18,200		0.73	PAXCM6080HR-B	**£187.30**			
100	5	67	32	18	26	14.4	8	26	63	16,300		1.7	PAXCM6100HR-B	**£194.33**			
125	6	87	40	22	32	16.4	9	29	63	14,600		3.06	PAXCM6125HR-B	**£221.52**			

PRO-X MILL INSERTS SELECTION



Dimensions						Chip Breaker	Order Code	PD2000 (DLC Coated)		H01 (Uncoated)	
l	l2	l1	t	r	d1			Stock	Price	Stock	Price
18	16.4	1.4	5	0.4	4.4	MA	XEKT19M504FR-MA	●	£22.61	●	£14.34
18	16.4	1	5	0.8			XEKT19M508FR-MA	●		●	
18	16.4	0.6	5	1.2			XEKT19M512FR-MA	●		●	
17.5	16.4	0.5	5	1.6			XEKT19M516FR-MA	●		●	
17.5	16.4	0.5	5	1.8			XEKT19M518FR-MA	●		●	
17.5	16.4	0.5	5	2			XEKT19M520FR-MA	●		●	
17	16.4	0.7	5	3			XEKT19M530FR-MA	●		●	
17	16.4	0.5	5	3.2			XEKT19M532FR-MA	●		●	
16.5	16.4	0.5	5	4			XEKT19M540FR-MA	●		●	
16	16.4	0.4	5	5			XEKT19M550FR-MA	●		●	
24.5	21.9	1.5	6.35	0.4	6		XEKT250604FR-MA	-	£33.65	●	£18.20
24.5	21.9	1.2	6.35	0.8			XEKT250608FR-MA	●		●	
24.5	21.9	0.8	6.35	1.2			XEKT250612FR-MA	-		●	
24.5	21.9	0.4	6.35	1.6			XEKT250616FR-MA	-		●	
24	21.9	0.5	6.35	2			XEKT250620FR-MA	-		●	
23.7	21.9	0.6	6.35	3			XEKT250630FR-MA	-		●	
23.7	21.9	0.4	6.35	3.2			XEKT250632FR-MA	-		●	
22.8	21.9	1.2	6.35	4			XEKT250640FR-MA	-		●	
22.7	21.9	0.4	6.35	5			XEKT250650FR-MA	-		●	

*0.4-3.2mm radius inserts fit series A holders
*4.0-5.0mm radius inserts fit series B holders

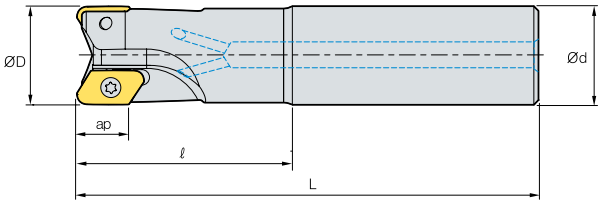
PRO-X MILL END MILL 90° APPROACH

High Speed Aluminium Machining with High Metal Removal & Excellent Surface Finish

- End mill available in 20-40mm diameter and various lengths
- Holder G2.5 balanced
- Corner radius inserts from 0.4-5.0mm with 17mm or 23mm maximum depth of cut (ap)

Series	Cutting Data
PAXS Korloy	P366







KORLOY

ØD	Teeth	Ød	ℓ	L	Max RPM	ap	Kg	Order Code	Price	Inserts	Spares	
											Screw	Wrench
20	1	20	60	130	15,000	17	0.24	PAXS5020HR-A	**£101.05**	XEKT19 0.4-3.2 Radius	PTKA0408	TW15S
25	2	25	60	140	32,600		0.4	PAXS5025HR-A	**£112.01**			
25	2	25	60	200	32,600		0.63	PAXS5025HR-A-L200	**£117.60**			
32	2	32	70	150	28,800		0.74	PAXS5032HR-A	**£119.50**			
32	2	32	70	220	28,800		1.2	PAXS5032HR-A-L220	**£125.47**			
40	3	32	70	160	25,800		1	PAXS5040HR-A-S32	**£147.90**			
40	3	32	70	220	25,800		1.4	PAXS5040HR-A-L220	**£170.83**			
40	3	40	70	160	25,800		1.3	PAXS5040HR-A-S40	**£154.95**			
20	1	20	60	130	15,000	17	0.24	PAXS5020HR-B	**£101.05**	XEKT19 4.0-5.0 Radius	PTKA0408	TW15S
25	2	25	60	140	32,600		0.4	PAXS5025HR-B	**£112.01**			
25	2	25	60	200	32,600		0.63	PAXS5025HR-B-L200	**£117.60**			
32	2	32	70	150	28,800		0.74	PAXS5032HR-B	**£119.50**			
32	2	32	70	220	28,800		1.2	PAXS5032HR-B-L220	**£125.47**			
40	3	32	70	160	25,800		1	PAXS5040HR-B-S32	**£147.90**			
40	3	32	70	220	25,800		1.4	PAXS5040HR-B-L220	**£170.83**			
40	3	40	70	160	25,800		1.3	PAXS5040HR-B-S40	**£154.95**			
25	1	25	60	140	32,600	23	0.42	PAXS6025HR-A	**£106.41**	XEKT25 0.4-3.2 Radius	FTGA0513-P	TW20-100
25	1	25	60	200	32,600		0.63	PAXS6025HR-A-L200	**£111.47**			
32	1	32	70	150	28,800		0.72	PAXS6032HR-A	**£113.51**			
32	1	32	70	220	28,800		1.14	PAXS6032HR-A-L220	**£119.19**			
40	2	32	70	160	25,800		0.88	PAXS6040HR-A-S32	**£147.54**			
40	2	32	70	220	25,800		1.23	PAXS6040HR-A-L220	**£154.56**			
40	2	40	70	160	25,800		1.2	PAXS6040HR-A-S40	**£147.54**			
25	1	25	60	140	32,600	23	0.42	PAXS6025HR-B	**£106.41**	XEKT25 4.0-5.0 Radius	FTGA0513-P	TW20-100
25	1	25	60	200	32,600		0.63	PAXS6025HR-B-L200	**£111.47**			
32	1	32	70	150	28,800		0.72	PAXS6032HR-B	**£113.51**			
32	1	32	70	220	28,800		1.14	PAXS6032HR-B-L220	**£118.92**			
40	2	32	70	160	25,800		0.88	PAXS6040HR-B-S32	**£147.54**			
40	2	32	70	220	25,800		1.23	PAXS6040HR-B-L220	**£154.56**			
40	2	40	70	160	25,800		1.2	PAXS6040HR-B-S40	**£147.54**			

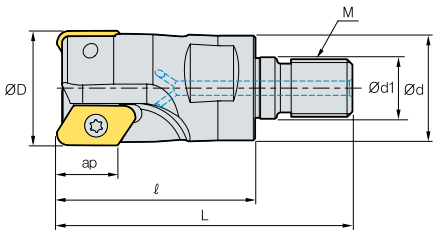
PRO-X MILL SCREWED SHANK END MILL 90° APPROACH

High Speed Aluminium Machining with High Metal Removal & Excellent Surface Finish

- Screwed shank end mill available in 25-40mm diameter and various lengths
- Holder G2.5 balanced
- Corner radius inserts from 0.4-5.0mm with 17mm maximum depth of cut (ap)

Series	Cutting Data
PAXM Korloy	P366







KORLOY

ØD	Teeth	Ød	Ød1	ℓ	L	M	ap	Kg	Order Code	Price	Inserts	Spares	
												Screw	Wrench
25	2	23	12.5	55	79	M12		0.12	PAXM5025HR-A-M12	**£256.82**	XEKT19		
32	2	29	17	55	82	M16	17	0.2	PAXM5032HR-A-M16	**£263.74**	0.4-3.2	PTKA0407	TW15S
40	3	29	17	55	82	M16		0.4	PAXM5040HR-A-M16	**£271.74**	Radius		
25	2	23	12.5	55	79	M12		0.12	PAXM5025HR-B-M12	**£256.82**	XEKT19		
32	2	29	17	55	82	M16	17	0.2	PAXM5032HR-B-M16	**£263.74**	4.0-5.0	PTKA0408	TW15S
40	3	29	17	55	82	M16		0.4	PAXM5040HR-B-M16	**£271.74**	Radius		

SCREWED SHANK ADAPTERS HSS & CARBIDE SHANK

Ideal for Holding and Extending the Reach of Screwed Shank End Mills

Series	Cutting Data
MAT-C / MAT-S Korloy	P366

Fig. 1

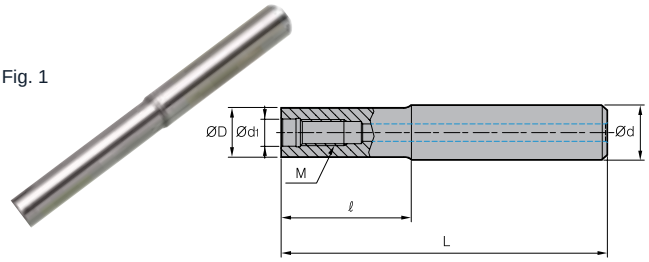


Fig. 2

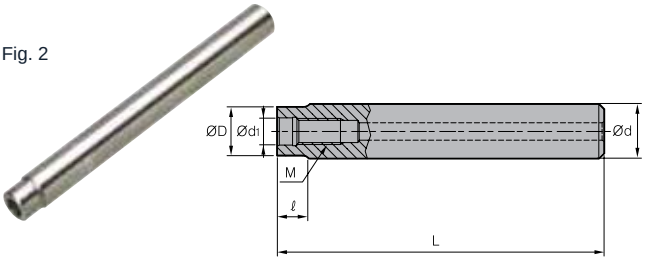


Fig. 1

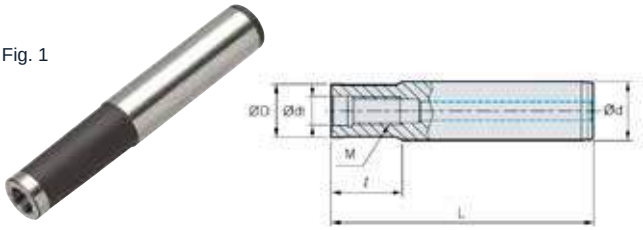
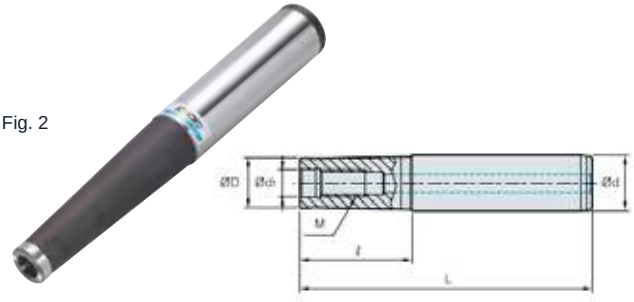


Fig. 2



CARBIDE SHANK

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
16	M08	150	80	14.5	8.5	1	MAT-M08-080-S16S-C	£246.19
16	M08	180	110	14.5	8.5	1	MAT-M08-110-S16S-C	£320.06
16	M08	250	150	14.5	8.5	1	MAT-M08-150-S16S-C	£430.85
16	M08	150	10	14.5	8.5	2	MAT-M08-010-S16S-C-150	£246.19
16	M08	180	10	14.5	8.5	2	MAT-M08-010-S16S-C-180	£320.06
16	M08	250	10	14.5	8.5	2	MAT-M08-010-S16S-C-250	£430.85
20	M10	170	90	18	10.5	1	MAT-M10-090-S20S-C	£381.60
20	M10	200	110	18	10.5	1	MAT-M10-110-S20S-C	£435.27
20	M10	300	175	18	10.5	1	MAT-M10-175-S20S-C	£585.96
20	M10	170	10	18	10.5	2	MAT-M10-010-S20S-C-170	£381.60
20	M10	200	10	18	10.5	2	MAT-M10-010-S20S-C-200	£435.27
20	M10	300	10	18	10.5	2	MAT-M10-010-S20S-C-300	£585.96
25	M12	170	90	22.5	12.5	1	MAT-M12-090-S25S-C	£467.78
25	M12	200	110	22.5	12.5	1	MAT-M12-110-S25S-C	£551.49
25	M12	300	175	22.5	12.5	1	MAT-M12-175-S25S-C	£669.67
25	M12	170	15	22.5	12.5	2	MAT-M12-015-S25S-C-170	£467.78
25	M12	200	15	22.5	12.5	2	MAT-M12-015-S25S-C-200	£551.49
25	M12	300	15	22.5	12.5	2	MAT-M12-015-S25S-C-300	£669.67
32	M16	180	90	28.5	17	1	MAT-M16-090-S32S-C	£686.41
32	M16	210	120	28.5	17	1	MAT-M16-120-S32S-C	£837.08
32	M16	300	175	28.5	17	1	MAT-M16-175-S32S-C	£1,067.27
32	M16	210	20	28.5	17	2	MAT-M16-020-S32S-C-210	£837.08
32	M16	300	20	28.5	17	2	MAT-M16-020-S32S-C-300	£1,067.27

STEEL SHANK

KORLOY

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
10	M06	70	20	9.5	6.5	1	MAT-M06-020-S10S	£73.86
12	M06	76	20	11	6.5	1	MAT-M6B-020-S12S	£74.13
12	M06	96	40	11	6.5	1	MAT-M6B-040-S12S	£76.76
16	M08	80	20	14.5	8.5	1	MAT-M08-020-S16S	£91.48
20	M10	100	30	18	10.5	1	MAT-M10-030-S20S	£131.57
25	M12	110	29	22.5	12.5	1	MAT-M12-030-S25S	£158.17
32	M16	125	35	28.5	17	1	MAT-M16-035-S32S	£205.02
12	M06	96	40	9.5	6.5	2	MAT-M06-040-S12T	£76.76
16	M06	125	65	9.5	6.5	2	MAT-M06-065-S16T	£89.61
16	M06	125	65	11	6.5	2	MAT-M6B-065-S16T	£89.61
16	M06	140	80	11	6.5	2	MAT-M6B-080-S16T	£103.27
16	M08	100	40	14.5	8.5	2	MAT-M08-040-S16T	£111.43
16	M08	125	65	14.5	8.5	2	MAT-M08-065-S16T	£126.15
20	M08	150	80	14.5	8.5	2	MAT-M08-080-S20T	£152.64
25	M08	190	110	14.5	8.5	2	MAT-M08-110-S25T	£193.76
20	M10	120	50	18	10.5	2	MAT-M10-050-S20T	£142.30
20	M10	140	70	18	10.5	2	MAT-M10-070-S20T	£160.94
25	M10	170	90	18	10.5	2	MAT-M10-090-S25T	£202.72
25	M10	190	110	18	10.5	2	MAT-M10-110-S25T	£229.04
32	M10	220	130	18	10.5	2	MAT-M10-130-S32T	£270.96
25	M12	130	50	22.5	12.5	2	MAT-M12-050-S25T	£174.50
25	M12	150	70	22.5	12.5	2	MAT-M12-070-S25T	£185.54
25	M12	170	90	22.5	12.5	2	MAT-M12-090-S25T	£211.65
32	M12	200	110	22.5	12.5	2	MAT-M12-110-S32T	£249.43
40	M12	300	175	22.5	12.5	2	MAT-M12-175-S40T	£351.53
32	M16	145	55	28.5	17	2	MAT-M16-055-S32T	£219.80
32	M16	170	80	28.5	17	2	MAT-M16-080-S32T	£250.98
32	M16	210	120	28.5	17	2	MAT-M16-120-S32T	£271.70
40	M16	300	175	28.5	17	2	MAT-M16-175-S40T	£350.87



CARBIDE SHANK ADAPTERS

Carbide shank modular adapters can vastly reduce vibration or deflection in long reach milling applications. This can improve surface finish, tool life and precision compared to steel shank tool holders.

For best results only high accuracy tool holders should be used with carbide shank adapters, ideally with 3 microns run-out or less. When used with standard accuracy ER collet chucks, run-out can be as high as 50 microns at 10xD tool length and tool deflection can easily occur. This can have serious effects on tool life, accuracy and surface finish.

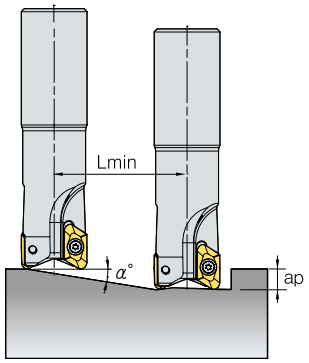
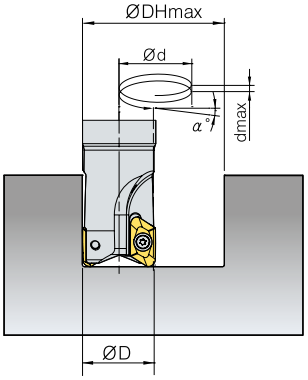
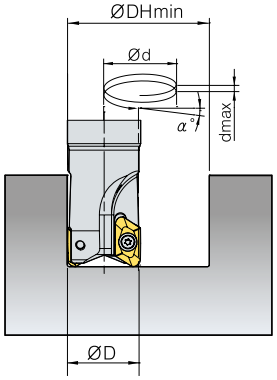
When carbide shank adapters and milling heads are used with a 3 micron run-out tool holder (such as the WTE HPH High Performance chuck), run-out is less than 10 microns at 10xD tool length. Tool life, surface finish and accuracy will be vastly improved whilst deflection will be eliminated.

PRO-X MILL

CUTTING DATA

RAMPING • HELICAL CUTTING BLIND HOLES • HELICAL CUTTING THROUGH HOLES

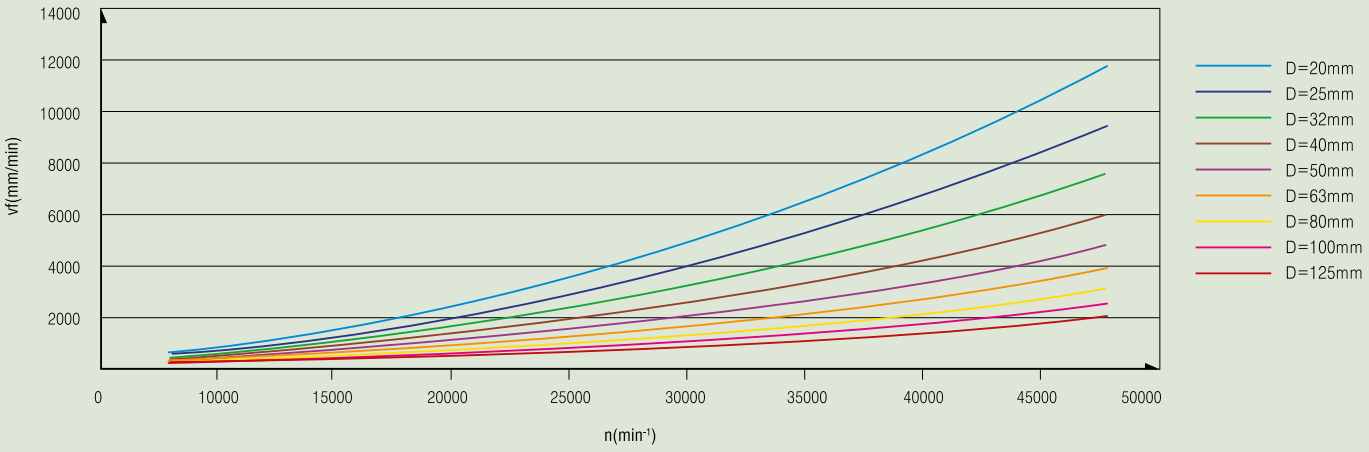
The Lmin is when depth of cut is 10mm (Lmin = 10/tan α)

Ramping	Helical Cutting Blind Holes	Helical Cutting Through Holes
		

ORDER CODE	D	Maximum angle α°	Lmin	Maximum Hole Diameter	dmax	Minimum Hole Diameter	dmax	Minimum Hole Diameter	dmax
PAXS END MILL									
PAXS5020HR	20	8.4	68	34	5	32	4.7	27	4
PAXS5025HR	25	13.2	43	44	10.4	42	9.9	34	8
PAXS5032HR	32	9.5	60	58	9.7	56	9.3	48	8
PAXS5040HR	40	7.1	80	74	9.3	72	9	64	8
PAXS6025HR	25	9	63	44	6.9	42	6.6	38	6
PAXS6032HR	32	6.6	87	58	6.7	56	6.5	52	6
PAXS6040HR	40	12.1	47	74	15.9	72	15.4	56	12
PAXCM FACE MILL									
PAXCM5050HR	50	5.4	105	94	9	92	8.8	84	8
PAXCM5063HR	63	4.2	138	120	8.7	118	8.6	110	8
PAXCM5080HR	80	3.2	180	154	8.6	152	8.4	144	8
PAXCM5100HR	100	2.5	230	194	8.4	192	8.3	184	8
PAXCM5125HR	125	2	293	244	8.3	242	8.3	234	8
PAXCM6050HR	50	9	63	94	14.8	92	14.5	76	12
PAXCM6063HR	63	6.7	85	120	14.1	118	13.9	102	12
PAXCM6080HR	80	5	113	154	13.6	152	13.4	136	12
PAXCM6100HR	100	3.9	147	194	13.2	192	13.1	176	12
PAXCM6125HR	125	3	188	244	13	242	12.8	226	12

CENTRIFUGAL FORCE BY RPM

Screw Torque = 4Nm, Insert = 6.8g



PRO-X MILL

RECOMMENDED CUTTING CONDITIONS

CUTTING DATA

Workpiece			Surface Speed	Feed
Group	Material	Notes	vc(m/min)	fz(mm/t)
NON-FERROUS	Aluminium Alloy	RM < 280 MPa)	1,200	0.3
	Aluminium Alloy	RM > 280 MPa	1,000	0.25
	Aluminium Alloy	Si < 12%	1,000	0.25
	Magnesium Alloy	-	450	0.2
COPPER	Copper Alloy	Short Chipping	500	0.2
	Copper Alloy	Long Chipping	400	0.2
PLASTIC	Thermo Plastic	Long Chipping	350	0.15
	Duroplastics	-	200	0.15

*Please adjust vc and fz to suit material type

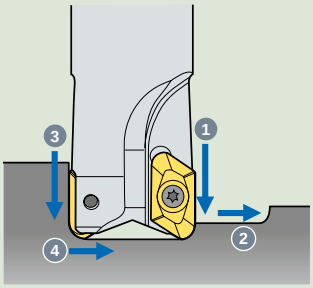
MAX SPEED BY DIAMETER

Diameter ØD	XEKT19		XEKT25	
	RPM	vc(m/min)	RPM	vc(m/min)
20	14,000	940	-	940
25	28,000	2,559	10,000	2,559
32	25,000	2,894	8,900	2,894
40	22,000	3,240	19,000	3,240
50	20,000	3,611	16,000	3,611
63	18,000	4,055	15,000	4,055
80	16,000	4,572	13,000	4,572
100	14,000	5,118	11,000	5,118
125	13,000	5,731	10,000	5,731

TECHNICAL DATA FOR DRILLING/PLUNGING

When drilling/plunging, decrease the feed and cutting speed 30%~50% from the recommended data.

Holder Diameter ØD	Maximum ap for Drilling/Plunging	
	XEKT19	XEKT25
20	8	-
25	4	11
32-125	4	6



When drilling or grooving the machining sequence is



Pro-V Mill 90° Milling System

Performance
★★★★★

N

Premium high speed milling of aluminium with maximum productivity

Advanced key to key insert clamping ensures maximum precision and stability in high speed machining.

Diameter Range
25-125mm

Insert Sizes
19mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

Excellent Clamping Stability
Key slot insert clamping increases stability in high speed machining.

Advanced Productivity
Higher feed rates can be achieved thanks to an increase in RPM.

Improved Surface Finish
Enhanced surface roughness and perpendicularity due to improved stability.

Chip Control
Unique insert geometry and polished surface improves chip flow.

Features

High Rake Chip Breaker
High rake MA chip breaker with helix cutting edges reduces cutting load.

Exceptional Versatility
Suitable for face & shoulder milling, slotting, ramping, helical interpolation and copy milling.

Surface Speed
Achieve high-speed aluminium machining with cutting speeds of up to Vc 3,000 (m/min).

Insert Radius
Choice of insert radius ranging from 0.4-5mm, provides versatility in machining choices.

Tool Selection

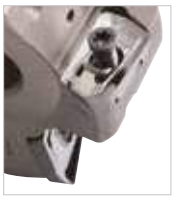
Description		Series	Sizes ØD	Approach Angle	Page
PRO-V MILL 90° END MILL		PAVS	25-40	90°	**370**
PRO-V MILL 90° FACE MILL		PAVCM	40-125	90°	**370**

PRO-V MILL HOLDER FEATURES



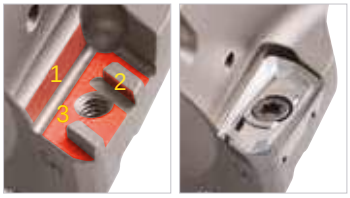
Screw-On Clamping

- New screw shape



Insert Clamping Area

- Stable clamping force due to the key to key slot structure



Axial Acute Angle Clamping

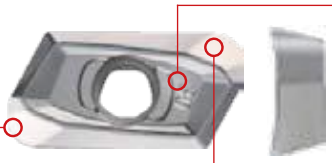
- Inhibition of the axial force



PRO-V MILL INSERT FEATURES

Wide Minor Cutting Edges

- Improved surface finish



Mirror-Like Finish Insert Rake Surface

- Avoiding build-up edges through smooth chip flow



High-rake chip breaker and helix cutting edges

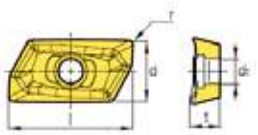
- High rake and lower cutting load



Application of the Key Slot Design

- The bottom key of insert and the key slot in an acute angle
- High clamping stability of the holder contact area
- Improved clamping force

PRO-V MILL 90° MILLING SYSTEM INSERT SELECTION

XDET	Dimensions (mm)					Grade	Chip Breaker	Order Code	Price
	l	d	d1	t	r				
	22	11.3	4.5	5.04	0.4	H01	MA	XDET190504PEFR-MA	**£15.28**
				5	0.8			XDET190508PEFR-MA	**£15.28**
					1.2			XDET190512PEFR-MA	**£15.28**
				4.99	1.6			XDET190516PEFR-MA	**£15.28**
				4.97	2			XDET190520PEFR-MA	**£15.28**
				4.95	2.4			XDET190524PEFR-MA	**£15.28**
				4.93	3			XDET190530PEFR-MA	**£15.28**
				4.92	3.2			XDET190532PEFR-MA	**£15.28**
	21			4.81	5			XDET190550PEFR-MA	**£15.28**

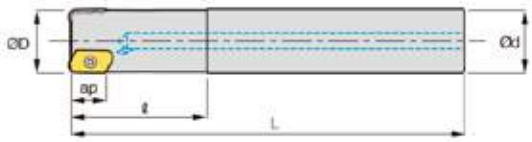
PRO-V MILL END MILL 90° APPROACH

Premium High-Speed Milling Tool for Aluminium

Series	Cutting Data
PAVS Korloy	P371

- Strong clamping force at high speeds
- Reduced vibration improves surface finis
- Higher table feed due to increased rpm
- Stable insert clamping improves perpendicularity when shoulder milling







KORLOY

ØD	Teeth	Ød	ℓ	L	ap	Order Code	Price	Inserts	Spares	
									Screw	Wrench
25	2	25	60	140	17	PAVS025R-2C25-140	**£141.51**	XDET-MA	PTKA0408-A	TW15S
32	2	32	70	150		PAVS032R-2C32-150	**£150.98**			
32	2	32	70	200		PAVS032R-2C32-200	**£158.52**			
40	3	40	70	200		PAVS040R-3C40-200	**£215.83**			

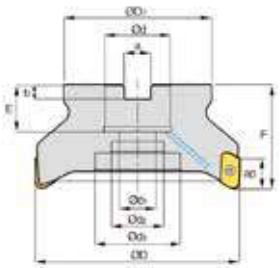
PRO-V MILL FACE MILL 90° APPROACH

The Premium High-Speed Milling Tool for Aluminium

Series	Cutting Data
PAVCM Korloy	P371

- Strong clamping force at high speeds
- Reduced vibration improves surface finish
- Higher table feed due to increased RPM
- Stable insert clamping improves perpendicularity when shoulder milling







KORLOY

ØD	Teeth	ØD2	Ød	Ød1	Ød2	Ød3	a	b	E	F	ap	Order Code	Price	Inserts	Spares	
															Screw	Wrench
40	3	34	16	9	13.5	-	8.4	5.6	16	45	17	PAVCM040R-16-3	**£195.24**	XDET-MA	PTKA0408-A	TW15S
50	4	42	22	11	18	-	10.4	6.3	21	50		PAVCM050R-22-4	**£208.24**			
63	5	42	22	11	18	-	10.4	6.3	21	50		PAVCM063R-22-5	**£233.11**			
80	5	60	27	14	20	-	12.4	7.0	24	50		PAVCM080R-27-5	**£241.90**			
100	6	70	32	18	26	42	14.4	8.0	25	63		PAVCM100R-32-6	**£275.74**			
125	7	90	40	22	32	52	16.4	9.0	29	63		PAVCM125R-40-7	**£356.23**			

CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
MA 		For non-ferrous metals	▪ Optimal cutting edge, high positive rake and buffed surface prevents built up edge and smooth chip flow in aluminium machining

PRO-V MILL GRADE OPTIONS

N	
Non-Ferrous	
Chip Breaker	Grades
MA	H01 (Uncoated)

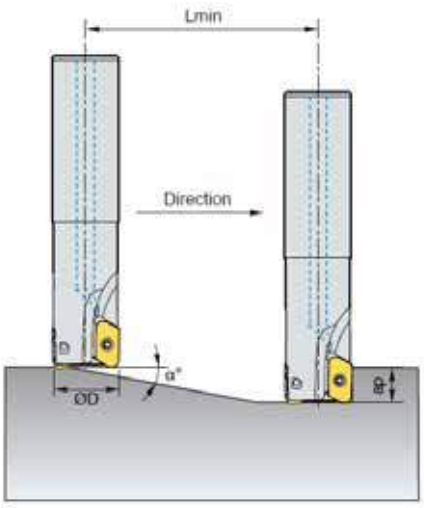
PRO-V MILLING SYSTEM (XDET19)

RECOMMENDED CUTTING CONDITIONS

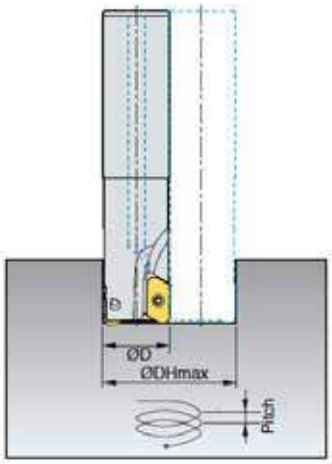
CUTTING DATA

Material		Grade	Cutting Speed Vc (m/min)	Feed fz (mm/t)	Max ap (mm)
				XDET19	
N Non Ferrous	Si <5% (Si lower than 5%)	H01	(1300) 500-2200	0.1-0.3	17

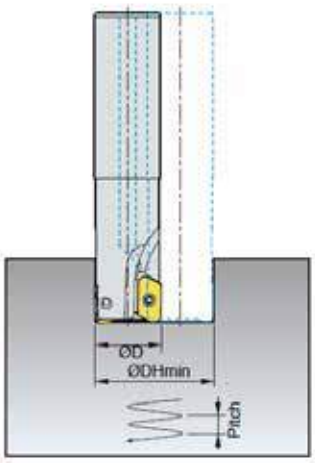
1. RAMPING



2. HELICAL CUTTING FOR BLIND HOLE



3. HELICAL CUTTING FOR THROUGH HOLE



Tool Dia. ØD	1. Ramping		2. Helical cutting for blind hole				3. Helical cutting for through hole	
	Max. rake angle α°	Lmin	Min. machining Dia. ØDHmin	Max. pitch	Max. machining Dia. ØDHmax	Max. pitch	Min. machining Dia. ØDHmin	Max. pitch
25	15.0	59	41	13.0	44	15.5	27	2.0
32	10.0	99	55	11.0	58	12.5	41	4.5
40	7.0	142.5	71	10.5	74	11.5	57	6.0
50	5.0	200	91	10.0	94	10.5	77	6.5
63	3.5	286	117	9.2	120	9.5	103	7.0
80	2.6	385	151	9.0	154	9.5	137	7.3
100	2.0	501	191	9.0	194	9.0	177	7.6
125	1.5	668	241	8.5	244	8.5	227	7.5

- When ramping and helical milling, table feed, vf (mm/min) should be lower than 70% of the recommended cutting conditions.
- When helical milling, Max. pitch, DHmax should be lower than max. depth of cut, ap.
- When ramping, the depth of cut should be lower than max. depth of cut, ap.

- Lmin = ap/tan(α°) (mm)
- Lmin : Min. length of ramping
- ap : Depth of cut
- α° : Max. rake angle in ramping

Rich Mill RM8 45° Face Milling System

Performance
★★★★

P M S K N

45° face milling system with double sided inserts & 8 cutting edges

Exceptional performance in 45° face milling from roughing to fine finishing with ultra strong inserts.

Diameter Range
50-400mm

Insert Sizes
12mm

Machining Solutions

Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control
★★★★	★★★★★	★★★★★	★★★★	★★★★★

Advantages

Low Cost Per Edge
Double sided inserts with 8 usable cutting edges overall for economical face milling.

High Performance
Dedicated system for 45 degree face milling from roughing to fine finishing.

Reduced Machine Stress
Low cutting resistance even at high feeds/large depths of cut reduces stress on the machine.

Excellent Chip Control
High rake inserts offer excellent chip flow even in non-ferrous or long chipping applications.

Features

Ultra Thick Inserts
The double sided inserts are over 6.35mm thick making them ultra strong for facing off.

Direct Coolant
Through coolant is directed straight to the cutting edge for optimum effectiveness.

Range of Chip Breakers
5 chip breakers for a wide range of applications including wiper geometry for fine finishing.

Edge Preparation
Inserts feature a chamfered edge to protect the cutting edge from chipping.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
RICH MILL RM8 FACE MILL		RM8ACM	50-400	45°	**374**

RICH MILL RM8 INSERT FEATURES

HIGH RAKE ANGLE
- Reduces cutting load and improves chip flow

E OR M CLASS TOLERANCE
- Ground 'E' tolerance SNEX inserts or standard 'M' tolerance SNMX inserts

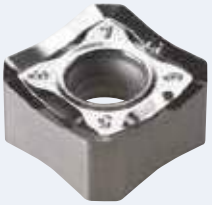
EDGE PREPARATION
- 2.36mm chamfer to prevent insert chipping in face milling operations

OPTIMAL CHIP BREAKERS
- Specific chip breakers for general, light cutting, finishing, aluminium, stainless steel & exotic machining

EXTRA STRONG INSERTS
- 6.35mm in thickness allowing for high feed rates and aggressive machining



SPECIAL ALUMINIUM INSERT
- High polished uncoated K grade with MA chip breaker for aluminium machining



8 CUTTING EDGES

DOUBLE SIDED INSERT
with 8 cutting edges for economic face milling



RICH MILL RM8 FACE MILL 45° APPROACH

45° Face Milling with 8 Cutting Edges for a Low Cost Per Edge and Low Cutting Resistance

- Double sided inserts with 8 cutting edges

Series		Cutting Data
RM8ACM Korloy	RM8ACM Teknik	P375



Fig. 1

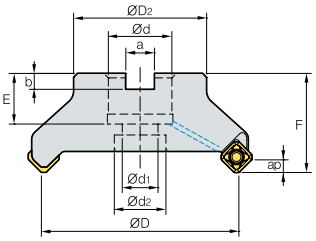
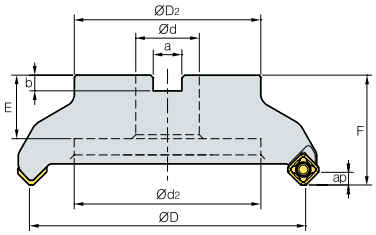


Fig. 2



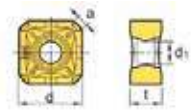
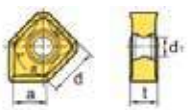
45°

*Teknik holders not through coolant.
Teknik bodies differ in dimensions to below, please enquire.

TEKNIK KORLOY

ØD	Teeth	ØD2	Ød	Ød2	a	E	F	ap	kg	Fig.	Order Code				Inserts	Spares	
											Korloy	Price	Teknik*	Price		Screw	Wrench
50	4	49	22	18	10.4	20	40		0.5		RM8ACM4050HR-M	£167.00	T320	£38.88	SNEX12 SNMX12	FTKA0410	TW15S
50	6	49	22	18	10.4	20	40		0.5		RM8ACM4050HR-H	£225.45	-	-			
63	6	49	22	18	10.4	20	40		0.7		RM8ACM4063HR-M	£208.95	T322	£51.84			
63	8	49	22	18	10.4	20	40		0.7		RM8ACM4063HR-H	£282.09	-	-			
80	5	57	27	20	12.4	23	50		1.2		RM8ACM4080HR	£230.06	-	-			
80	7	57	27	20	12.4	23	50		1.2		RM8ACM4080HR-M	£255.38	T325	£59.94			
80	10	57	27	20	12.4	23	50	6	1.3	1	RM8ACM4080HR-H	£344.78	-	-			
100	6	67	32	26	14.4	25.5	50		1.7		RM8ACM4100HR	£272.47	-	-			
100	8	67	32	26	14.4	25.5	50		1.7		RM8ACM4100HR-M	£302.43	T330	£77.76			
100	12	67	32	26	14.4	25.5	50		1.7		RM8ACM4100HR-H	£408.30	-	-			
125	8	87	40	32	16.4	30	63		3.6		RM8ACM4125HR	£372.78	-	-			
125	10	87	40	32	16.4	30	63		3.6		RM8ACM4125HR-M	£402.60	T332	£105.30			
125	16	87	40	32	16.4	30	63		3.7		RM8ACM4125HR-H	£543.50	-	-			
160	10	107	40	107	16.4	32	63		4.8		RM8ACM4160R	£432.97	-	-			
160	12	107	40	107	16.4	32	63		5.3		RM8ACM4160R-M	£506.58	T334	£127.98			
160	20	107	40	107	16.4	32	63		5.4		RM8ACM4160R-H	£683.91	-	-			
200	14	130	60	135	25.7	32	63		7.1		RM8ACM4200R-M	£664.94	T335	£183.06			
200	24	130	60	135	25.7	32	63	6	7.1	2	RM8ACM4200R-H	£897.66	-	-			
250	16	180	60	180	25.7	32	63		11.9		RM8ACM4250R-M	£840.47	-	-			
250	30	180	60	180	25.7	32	63		12		RM8ACM4250R-H	£1,134.61	-	-			
315	20	240	60	238	25.7	38	63		18.6		RM8ACM4315R-M	£1,243.71	-	-			
400	28	260	60	238	25.7	38	80		37.4		RM8ACM4400R-M	£1,741.20	-	-			

RICH MILL RM8 45° FACE MILLING SYSTEM INSERT SELECTION

SNMX/SNEX	Dimensions (mm)				Grades								Chip Breaker	Tolerance Class	Order Code	Price
	d	t	d1	a	PC3700	PC5300	PC5400	PC9530	PC9540	UNC840	PC6510	H01				
	12.7	6.35	4.5	2.36	●	●	●				●		MF	E (Ground)	SNEX1206ANN-MF	£12.29
						●	●						ML		SNEX1206ANN-ML	£12.29
					●	●	●	●			●		MM		SNEX1206ANN-MM	£12.29
												●	MA		SNEX1206ANN-MA	£9.70
						●	●	●	●		●		MF	M	SNMX1206ANN-MF	£10.36
					●	●	●	●	●	●	●		MM		SNMX1206ANN-MM	£10.36
				7.6	●	●					●	●	W	E (Ground Wiper)	SNEX1206ANN-W	£12.29

CHIP BREAKER GUIDE

CHIP BREAKER	CUTTING EDGE	APPLICATIONS	BENEFITS
MA 		Aluminium	▪ Highly polished high rake Chip breaker to prevent built up edge ▪ Ultra smooth chip control
ML 		Stainless Steel / HRSA's	▪ Sharp cutting edge ▪ Chip breaker with low cutting load is ideal for machining hard-to-cut materials such as stainless steel, titanium, inconel and hastelloy
MF 		Light Cutting / Finishing / Soft Steel	▪ Chip breaker with low cutting load and harder cutting edge ▪ Ideal for low power machines ▪ Also ideal for machining soft steels and finishing operations
MM 		General Machining	▪ Strong cutting edge ▪ 1st choice for general to rough machining
W 		Wiper	▪ Special edge design provides excellent surface roughness

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		M	S	K	N
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Stainless Steel	Titanium/Inconel	Cast Iron	Non Ferrous
Chip Breaker	First Choice	MF	MM	ML	ML	MM	MA
	Second Choice	MM	MF	MM	MM	MF	
	Finishing	W (Wiper)*					
Grade	High Speed Machining	PC3700		PC5300	UNC840	PC6510	H01
	General Machining	PC3700/5300		PC5300/PC9530/PC9540	PC5300		
	Interrupted Machining	PC5400		PC9540/PC5400	PC5400	PC5300	
	Finishing*	PC3700		PC5300		PC6510	

***Wiper geometry to be used in conjunction with alternative chip breakers**
e.g. a 5 tooth holder would take 4x SNMX12/SNEX12 (MF) inserts and 1x Wiper, a 10 tooth holder could take 8x SNMX12/ SNEX12 (MF) inserts and 2x Wipers.
For more information please contact technical.

RICH MILL RM8

CUTTING DATA

RECOMMENDED CUTTING CONDITIONS

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)		Max ap (mm)
			SNM(E)X1206-MM	SNM(E)X1206-MF/ML	
P Steel	PC3700	200-300	0.1-0.35	0.1-0.3	6
	PC5300	150-240			
	PC5400	100-210			
M Stainless Steel	PC9540	60-180	0.05-0.35	0.05-0.3	
	PC9530	90-200	0.1-0.35		
	PC5300	90-200			
	PC5400	90-150			
S HRSA's	UNC840	30-80	0.1-0.2	-	
	PC5300	30-70	0.1-0.35	0.05-0.25	
	PC5400				
K Cast Iron	PC6510	150-300	0.1-0.4	0.08-0.35	
	PC5300				
N Non Ferrous	H01	350-1000	0.1-0.4	6	

RM8-X Face Milling System

Performance
★★★★★

P M S K

High helix face milling tool with 8 corner double sided inserts

High helix cutting edge can cut smoothly in high depth of cut machining and its optimal minor cutting edge ensures good surface finish.

Diameter Range
50-125mm

Insert Sizes
14mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control
★★★★★	★★★★	★★★★★	★★★★★	★★★★★

Advantages

Stable Tool Life
An improved screw design significantly enhances insert clamping precision and reliability.

Surface Finish
Advanced minor cutting edge results in improved surface roughness quality.

Economical Tool
Strong durable double sided insert with 8 cutting edges for extended tool life and versatility.

Material Versatility
Chip breakers and grades designed to suit a diverse range of materials.

Features

High Performance
Particularly suited to stainless steel machining due to sharp cutting edge.

High Helix Insert
Effectively reduces cutting loads, resulting in improved surface finish quality.

Reversed Relief Angle
Enhances chipping resistance and prevents premature fracture.

Streamlined Holder
Enhanced holder design significantly improves chip evacuation efficiency.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
RM8-X FACE MILL		RM8XACM	50-125	45°	**378**

CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
ML 		**Stainless steel / HRSA's**	▪ Chip breaker with low cutting load is optimal for machining hard-to-cut materials such as titanium, inconel and hastelloy
MM 		**General cutting**	▪ Optimal for milling in general machining conditions

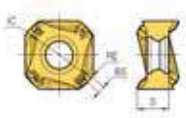
TOOL SELECTION GUIDE

	Cutting Load	Max. Depth of Cut	Cutting Quality	Multi-Function	Cost Effectiveness	No. of Corner
RM8-X	★★★★	★★★★	★★★	★★	★★	★★
RM8	★★	★★★	★★★★	★★★	★★★	★★
RM16	★★	★★	★★	★	★★★★	★★★★

RECOMMENDED CHIP BREAKER & GRADES

Workpiece		P		M	S	K
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Stainless Steel	Titanium/Inconel	Cast Iron
Chip Breaker	First Choice	MM		ML	ML	MM
	Second Choice	ML		MM	MM	ML
Grade	First Choice	PC3700		PC9540	PC5300	PC6510
	Second Choice	PC5300		PC5300		PC5300

RM8-X FACE MILLING SYSTEM INSERT SELECTION

SNMX/SAGX	Dimensions (mm)					Grades					Chip Breaker	Order Code	Price
	IC	BS	S	RE	APMX	PC3700	PC5300	PC9540	PC6510	H01			
	14	1.21	6.58	0.8	5.5	●	●		●		MM	SNMX140808ANER-MM	**£11.00**
							●					SAGX140808ANER-MM	**£11.00**
							●	●			ML	SAGX140808ANER-ML	**£11.00**

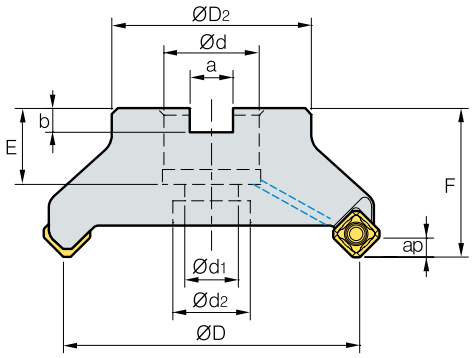
RICH MILL RM8-X FACE MILL

High Helix Face Milling Tool with 8 Cornered Double-Side Inserts

- Streamlined cutter design
- Internal coolant system

Series	Cutting Data
RMX8 Korloy	P379





KORLOY

ØD	Teeth	ØD2	Ød	F	ap	Order Code	Price	Inserts	Spares	
									Screw	Wrench
50	5	42	22	40	5.5	RMX8ACM050R-22-5-SA14	**£185.07**	SNMX14 SAGX14	FTNA0513	TW20-100
63	6	42	22	40		RMX8ACM063R-22-6-SA14	**£222.64**			
80	8	60	27	50		RMX8ACM080R-27-8-SA14	**£348.03**			
100	10	70	32	50		RMX8ACM100R-32-10-SA14	**£382.06**			
125	12	90	40	63		RMX8ACM125R-40-12-SA14	**£463.31**			

RM8-X FACE MILLING SYSTEM
RECOMMENDED CUTTING CONDITIONS

CUTTING DATA

SNMX14 INSERTS

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)	Max ap (mm)
			SNMX1408-MM	
P Steel	PC3700	150-270	0.1-0.3	1 - 3
	PC5300	130-240		
M Stainless Steel	PC5300	70-200	0.1-0.25	
S HRSA's	PC5300	25-70	0.1-0.2	
K Cast Iron	PC6510	120-230	0.1-0.3	
	PC5300	110-200		

SAGX14 INSERTS

Material	Grade	Cutting Speed vc (m/min)	Feed fz (mm/t)		Max ap (mm)
			SAGX1408-MM	SAGX1408-ML	
P Steel	PC5300	130-240	0.1-0.3	0.1-0.25	1-3
M Stainless Steel	PC9540	60-200		0.05-0.22	
	PC5300	70-200	0.1-0.25	0.1-0.22	
S HRSA's	PC5300	25-70	0.1-0.2	0.05-0.2	
K Cast Iron	PC5300	110-200	0.1-0.3	0.1-0.25	

PNMU 36° Face Milling System

Performance
★★★★★

P H M S K

With 10 cutting edges for unrivalled performance in face milling applications

Larger depths of cut than high feed milling and higher feed rates than conventional 45° face mills.

Diameter Range
50-125mm

Insert Sizes
12mm

Machining Solutions

Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★	★★★★★	★★★★★	★★★★★	★★★★★

Advantages

High Feed Milling
The first face milling system to combine multi corner face milling with high feed capabilities.

30% Faster vs 45° Face Mills
Lower cutting resistance provides 30% faster feeds compared to 45° face mills.

3x More Depth of Cut
Higher depth of cut, up to 3 times more compared to other high feed milling systems.

High Efficiency
Unique inserts with 10 true cutting edges for ultimate cost efficiency.

Features

Curved Cutting Ridge
Curved insert geometry combined with wiper reduces cutting forces & improves surface finish.

36° Entry Angle
Improved feed rates due to chip thinning & outstanding stability due to direction of force into the spindle.

Multi-Purpose
Ideal for low thermal conductivity materials like titanium, nickel based alloy & cobalt alloy.

10 Cutting Edges
Double sided inserts with 5 usable cutting edges on each side, for increased machining versatility and longevity.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
PNMU 36° FACE MILL		PNMU	50-125	36°	**382**

CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
GN 		**General**	▪ First choice for general machining applications
ST 		**Stainless steel / HRSA's**	▪ Sharp geometry for stainless steel & HRSA's

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		H	M	S	K
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 40-50 HRC	Stainless Steel	Titanium/Inconel	Cast Iron
Chip Breaker	First Choice	GN		GN	ST	GN	GN
	Second Choice				GN		
Grade	First Choice	YG712/YG713		YG602	YG613	YG602	YG5020
	Second Choice	YG602			YG602		YG602

LOWER CUTTING RESISTANCE FOR 20% FASTER SPEEDS COMPARED TO 45° FACE MILLS!

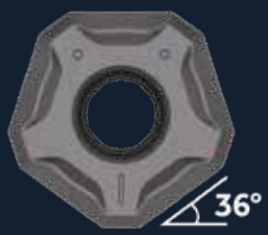
3 ways to keep your edge!

Scan to Watch



10 Cutting Edges

Separation of cutting edge and wiper gives full use of all 10 edges, resulting in outstanding value.



36° Entry Angle

Increased feed rate due to chip thinning and outstanding stability due to direction of force into the spindle.



Curved Cutting Edge

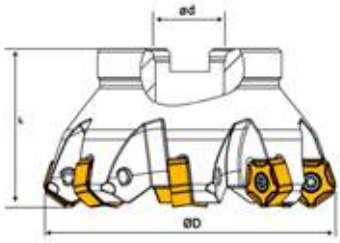
Curved cutting edge & wiper reduce cutting forces and improve surface finish.

PNMU 36° FACE MILL

- 36° approach with high feed rates
- High depths of cut
- Stable cutting performance

Series	Cutting Data
PNMU Teknik	P383





ØD	Teeth	Ød	H	Order Code				Inserts	Spares	
				YG-1	Price	Teknik	Price		Wrench	Screw
50	4	22	40	F36-PNMU12-D50Z4S22	**£193.11**	T722	**£38.88**	PNMU1206	TPWBTP15	TP154008
50	5	22	40	F36-PNMU12-D50Z5S22	**£214.45**	-	**-**			
63	5	22	40	F36-PNMU12-D63Z5S22	**£227.09**	T723	**£45.36**			
63	6	22	40	F36-PNMU12-D63Z6S22	**£247.48**	-	**-**			
80	8	27	50	F36-PNMU12-D80Z8S27	**£315.90**	T724	**£51.84**			
100	10	32	50	F36-PNMU12-D100Z10S32	**£390.35**	T725	**£97.20**			
125	10	40	63	F36-PNMU12-D125Z10S40	**£462.50**	T726	**£102.06**			

PNMU 36° FACE MILLING SYSTEM INSERT SELECTION

PNMU	Dimensions (mm)			Grades					Insert Size	Chip Breaker	Order Code	Price
	IC	S	L	YG602	YG712	YG713	YG613	YG5020				
	14	5.84	14.7	●	●	●	●	●	PNMU1206	General	PNMU1206ZNN	**£11.47**
							●			ST	PNMU1206-ST	**£11.47**

PNMU 36° FACE MILLING SYSTEM

RECOMMENDED CUTTING CONDITIONS

CUTTING DATA

Material	Group	Cutting Speed Vc (m/min)				
		YG602	YG712	YG713	YG613	YG5020
P Steel	Non-alloyed steel	180-380	170-300	200-300	100-210	
	Low-alloyed steel	120-300	180-250	170-270	70-180	
	High-alloyed steel	70-150	100-140	85-145	40-90	
M Stainless Steel	Ferritic & Martensitic stainless steel	120-200			70-180	
	Austenitic stainless steel	130-250			70-200	
K Cast Iron	Cast Iron	120-250				150-350
S HRSA's	Super alloys & Titanium	25-45				
H Hardened Steel	Hardened steel	40-80				

Insert	Feed (mm/Tooth)	Max ap (mm)
PNMU1206ZNN	0.05-0.50	4

HFM High Feed Milling System

P H M S K

High performance and high accuracy high feed milling from Ø8mm

Increase productivity in small diameter machining with high feed per tooth and reinforced cutting edges.

Performance
★★★★★

Diameter Range
8-33mm

Insert Sizes
4mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★

Advantages

High Feed Per Tooth
Up to 8 teeth, providing longer tool life and significantly increased productivity.

High Metal Removal
Ultra-high metal removal rates possible due to special insert geometry.

Ideal for Mould Making
Close pitch holders offer exceptional surface finish and diameters from 8mm.

High Versatility
Versatile for slotting, ramping, helical cutting, and efficient copy milling.

Features

High Hardened Steel
Ultrafine micrograin carbide grades capable of machining hardened steel.

Through Coolant
Effectively reduces heat build up, enhancing chip flow and prolonging tool life.

Material Suitability
Insert grades for steel, hardened steel, HRSA's, cast iron & stainless steel.

Double Relief Angle
Increases rigidity and prevents interference with the workpiece.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
HFM MILL END MILL		HFMS	8-21	90°	**387**
HFM MILL SCREWED SHANK END MILL		HFMM	8-33	90°	**388**
SCREWED SHANK ADAPTERS		MAT-S MAT-C	M6-M16	-	**389**

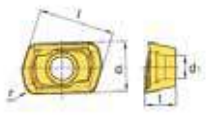
CHIP BREAKER GUIDE

Chip Breaker		Cutting Edge	Applications	Benefits
MF			**Steel (<HRC50), stainless steel, titanium & inconel**	▪ Low cutting resistance chip breaker with sharp cutting edge for excellent chip control in low depth of cut ▪ Excellent surface finish
None			**Super hard material machining**	▪ High toughness shape, suitable for hardened steel cutting

RECOMMENDED CHIP BREAKERS & GRADES

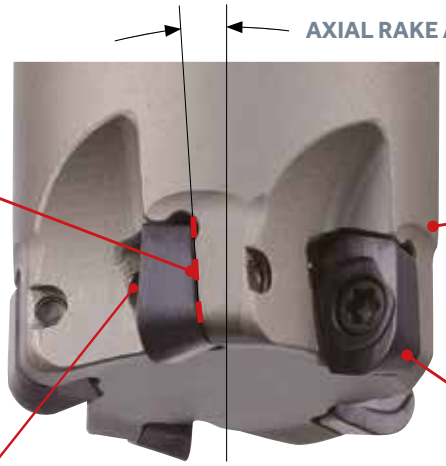
Workpiece		P		H		M	S	K
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 40-50 HRC	Hardened Steel 50-60 HRC	Stainless Steel	Titanium/Inconel	Cast Iron
Chip Breaker	First Choice	MF		None		MF	MF	MF
	Second Choice	None		MF				
Grade	General Machining	PC3700 PC5300		PC2510 PC2505	PC2505	PC5300	UNC840 PC5300	PC5300
	Interrupted Machining	PC5400				PC5400	PC5400	

HFM HIGH FEED MILLING SYSTEM INSERT SELECTION

LPMT/LPMW/LPEW	Dimensions (mm)						Grades						Chip Breaker	Order Code	Price
	l	d	t	d1	r	ap	PC3700	PC5300	PC5400	PC2505	PC2510	UNC840			
	MF CHIP BREAKER- Steel, Stainless Steel & HRSA machining														
	6.4	4.2	2.6	2	1	0.4	●	●	●		●	●	MF	LPMT040210R-MF	**£10.15**
					2	0.5	●	●	●		●	●		LPMT040220R-MF	
	NO CHIP BREAKER - High hardness material machining														
	6.4	4.2	2.6	2	1	0.4		●		●	●		-	LPMW040210R	
					2	0.5		●		●	●			LPMW040220R	
					1	0.4		●		●	●			LPEW040210R	
					2	0.5		●		●	●			LPEW040220R	

HFM HIGH FEED MILL HOLDER FEATURES

KORLOY



NEGATIVE AXIAL RAKE ANGLE
- Increases chipping resistance

AXIAL RAKE ANGLE

DIAMETER RANGE
- 8-33mm

NUMBER OF TEETH
- More teeth than the equivalent HRMD holder for longer tool life and increased productivity

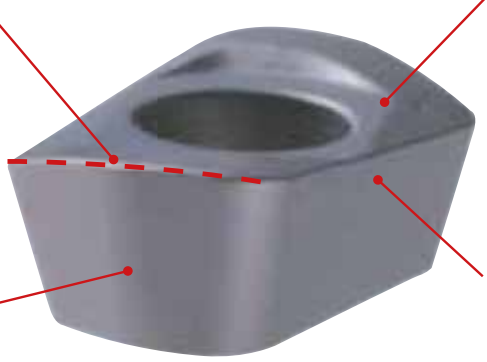


THROUGH COOLANT DESIGN
Reduces cutting heat for improved chip control and tool life

HFM HIGH FEED MILL INSERT FEATURES

KORLOY

MAJOR CUTTING EDGE WITH HELIX
- Improved edge sharpness & corner toughness



CHIP BREAKER OPTIONS MF
- For steels, stainless steel, exotic & cast iron machining

NO CHIP BREAKER
- For high-hardened steel machining

SPECIAL SUBSTRATES PC2505/PC2510
- Ultrafine micrograin carbide for hardened steel machining

PC5300/PC5400
- For steels, stainless steel, exotic & cast iron machining

DOUBLE RELIEF ANGLE
- Increases rigidity and prevents interference with the workpiece

HFM Mill High Feed Milling - Example Data

The special high feed geometry is designed for both roughing and mirror finish machining of steel, stainless steel, exotics and hardened steel. By using a small depth of cut with an ultra-high feed rate, the highest metal removal rates can be achieved with exceptional tool life and ultra-low cutting loads.

Low Carbon Steel

12mm dia, 3 teeth, R1.0
LPMT040210R-MF PC5400

Workpiece	EN3B
RPM	5,307
VC (m/min)	200
fz (mm/tooth)	0.75
Feed (mm/min)	11,940
Ap:	0.5mm
Ae:	8.0mm

Hardened Steel

12mm dia, 3 teeth, R1.0
LPEW040210R PC2505

Workpiece	HRC55 Tool Steel
RPM	1,592
VC (m/min)	60
fz (mm/tooth)	0.4
Feed (mm/min)	1,910
Ap:	0.3mm
Ae:	4.0mm

Stainless Steel

12mm dia, 3 teeth, R1.0
LPMT040210R-MF PC5400

Workpiece	316 Stainless
RPM	2,919
VC (m/min)	110
fz (mm/tooth)	0.7
Feed (mm/min)	6,129
Ap:	0.4mm
Ae:	8.0mm

Inconel

12mm dia, 3 teeth, R1.0
LPMT040210R-MF PC5300

Workpiece	Inconel 718
RPM	928
VC (m/min)	35
fz (mm/tooth)	0.45
Feed (mm/min)	1,253
Ap:	0.25mm
Ae:	4.0mm

RPM (Revolutions per minute), VC (surface speed in metres per minute), fz (feed rate in mm per tooth), Feed (Feed rate in mm per minute), Ap (depth of cut), Ae (width of cut)

cutwel

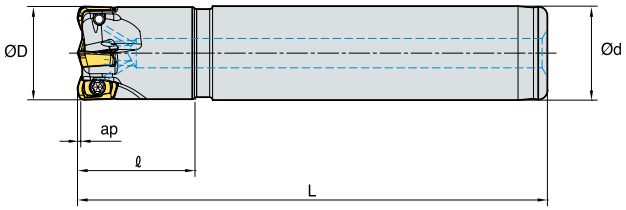
HFM MILL END MILL 90° APPROACH

High Feed Machining with Ultra High Metal Removal Rates at Smaller Diameters

- Ultra high metal removal rates

Series	Cutting Data
HFMS Korloy	P390







KORLOY

ØD	Teeth	Ød	ℓ	L	ap	Kg	Order Code	Price	Inserts	Spares	
										Screw	Wrench
8	1	10	35	120	0.4~0.5	0.03	HFMS1008HR-1L10	**£54.43**	LPMT04 LPMW04 LPEW04	FTKA01840	TW06S-A
10	2	8	25	100		0.04	HFMS1010HR-2M08	**£52.91**		FTKA01842	
10	2	8	35	120		0.04	HFMS1010HR-2L08	**£54.43**			
10	2	10	35	120		0.06	HFMS1010HR-2L10	**£54.43**			
11	2	10	20	80		0.04	HFMS1011HR-2S10	**£50.88**			
11	2	10	25	105		0.06	HFMS1011HR-2M10	**£52.91**			
11	2	10	35	120		0.07	HFMS1011HR-2L10	**£54.43**			
12	3	10	25	105		0.06	HFMS1012HR-3M10	**£57.14**			
12	3	10	35	120		0.07	HFMS1012HR-3L10	**£59.43**			
12	3	12	35	120		0.09	HFMS1012HR-3L12	**£59.43**			
13	3	12	20	80		0.06	HFMS1013HR-3S12	**£54.95**			
13	3	12	25	105		0.09	HFMS1013HR-3M12	**£57.14**			
13	3	12	40	120		0.1	HFMS1013HR-3L12	**£59.43**			
14	3	12	25	105		0.09	HFMS1014HR-3M12	**£65.28**			
14	3	12	40	120		0.1	HFMS1014HR-3L12	**£67.16**			
15	4	12	40	120		0.11	HFMS1015HR-4L12	**£73.26**			
16	4	16	20	80		0.11	HFMS1016HR-4S16	**£68.47**			
16	4	16	25	105		0.14	HFMS1016HR-4M16	**£71.20**			
16	4	16	40	120		0.16	HFMS1016HR-4L16	**£73.26**			
17	4	16	20	80		0.11	HFMS1017HR-4S16	**£68.47**			
17	4	16	25	105		0.15	HFMS1017HR-4M16	**£71.20**			
17	4	16	40	120		0.17	HFMS1017HR-4L16	**£73.26**			
18	4	16	40	120		0.17	HFMS1018HR-4L16	**£73.26**			
19	4	16	40	120		0.18	HFMS1019HR-4L16	**£73.26**			
20	4	20	40	120		0.26	HFMS1020HR-4L20	**£73.26**			
20	5	20	40	120		0.27	HFMS1020HR-5L20	**£79.11**			
21	5	20	25	105		0.23	HFMS1021HR-5M20	**£76.90**			
21	5	20	40	120		0.27	HFMS1021HR-5L20	**£79.11**			

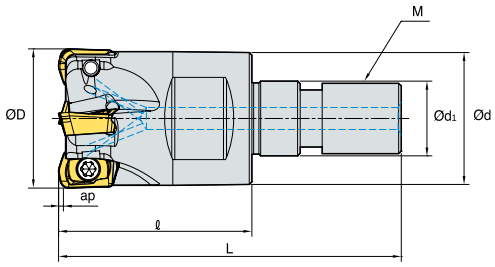
HFM MILL SCREWED SHANK END MILL 90° APPROACH

High Feed Machining With Ultra High Metal Removal Rates at Smaller Diameters

- Ultra high metal removal rates

Series	Cutting Data
HFMM Korloy	P390





90°

KORLOY

ØD	Teeth	Ød	Ød1	ℓ	L	M	ap	Kg	Order Code	Price	Inserts	Spares	
												Screw	Wrench
8	1	9.5	6.5	17	32	M06	0.4~0.5	0.01	HFMM1008HR-M06	**£65.75**	LPMT04 LPMW04 LPEW04	FTKA01840	TW06S-A
10	2	9.5	6.5	17	32	M06	0.4~0.5	0.01	HFMM1010HR-M06	**£68.38**		FTKA01842	
11	2	9.5	6.5	17	32	M06		0.01	HFMM1011HR-M06	**£68.38**			
12	3	11	6.5	19	34	M6B		0.01	HFMM1012HR-M06	**£78.23**			
13	3	11	6.5	19	34	M6B		0.01	HFMM1013HR-M06	**£78.23**			
16	4	14.5	8.5	22	39	M08		0.03	HFMM1016HR-M08	**£89.50**			
17	4	14.5	8.5	22	39	M08		0.03	HFMM1017HR-M08	**£98.44**			
20	5	18	10.5	25	46	M10		0.06	HFMM1020HR-M10	**£112.62**			
25	6	23	12.5	27	51	M12		0.11	HFMM1025HR-M12	**£128.83**			
26	6	23	12.5	27	51	M12		0.11	HFMM1026HR-M12	**£128.83**			
32	8	29	17	30	60	M16		0.18	HFMM1032HR-M16	**£153.28**			
33	8	29	17	30	60	M16		0.18	HFMM1033HR-M16	**£153.28**			

SCREWED SHANK ADAPTERS HSS SHANK & CARBIDE SHANK

Ideal for Holding and Extending the Reach of Screwed Shank End Mills

Series	Cutting Data
MAT-C / MAT-S Korloy	P390

Fig. 1

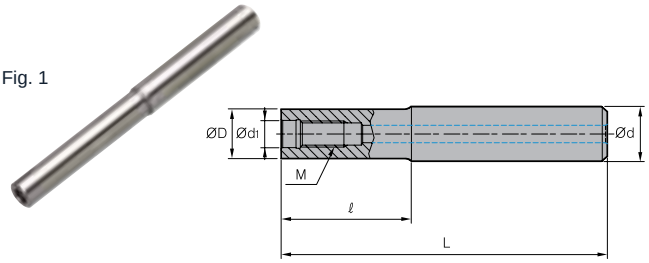


Fig. 2

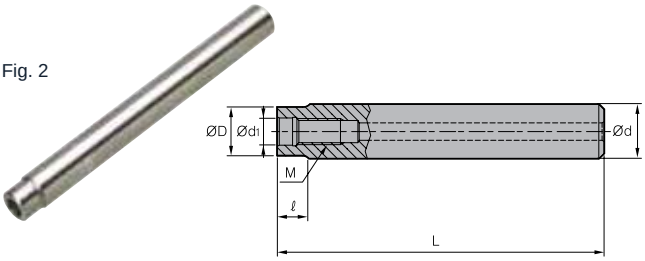


Fig. 1

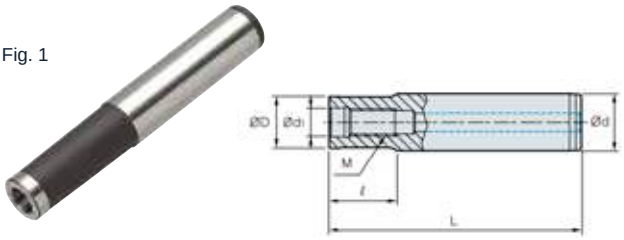
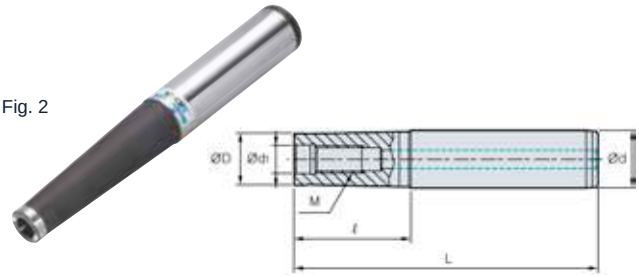


Fig. 2



CARBIDE SHANK

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
16	M08	150	80	14.5	8.5	1	MAT-M08-080-S16S-C	£246.19
16	M08	180	110	14.5	8.5	1	MAT-M08-110-S16S-C	£320.06
16	M08	250	150	14.5	8.5	1	MAT-M08-150-S16S-C	£430.85
16	M08	150	10	14.5	8.5	2	MAT-M08-010-S16S-C-150	£246.19
16	M08	180	10	14.5	8.5	2	MAT-M08-010-S16S-C-180	£320.06
16	M08	250	10	14.5	8.5	2	MAT-M08-010-S16S-C-250	£430.85
20	M10	170	90	18	10.5	1	MAT-M10-090-S20S-C	£381.60
20	M10	200	110	18	10.5	1	MAT-M10-110-S20S-C	£435.27
20	M10	300	175	18	10.5	1	MAT-M10-175-S20S-C	£585.96
20	M10	170	10	18	10.5	2	MAT-M10-010-S20S-C-170	£381.60
20	M10	200	10	18	10.5	2	MAT-M10-010-S20S-C-200	£435.27
20	M10	300	10	18	10.5	2	MAT-M10-010-S20S-C-300	£585.96
25	M12	170	90	22.5	12.5	1	MAT-M12-090-S25S-C	£467.78
25	M12	200	110	22.5	12.5	1	MAT-M12-110-S25S-C	£551.49
25	M12	300	175	22.5	12.5	1	MAT-M12-175-S25S-C	£669.67
25	M12	170	15	22.5	12.5	2	MAT-M12-015-S25S-C-170	£467.78
25	M12	200	15	22.5	12.5	2	MAT-M12-015-S25S-C-200	£551.49
25	M12	300	15	22.5	12.5	2	MAT-M12-015-S25S-C-300	£669.67
32	M16	180	90	28.5	17	1	MAT-M16-090-S32S-C	£686.41
32	M16	210	120	28.5	17	1	MAT-M16-120-S32S-C	£837.08
32	M16	300	175	28.5	17	1	MAT-M16-175-S32S-C	£1,067.27
32	M16	210	20	28.5	17	2	MAT-M16-020-S32S-C-210	£837.08
32	M16	300	20	28.5	17	2	MAT-M16-020-S32S-C-300	£1,067.27

STEEL SHANK

KORLOY

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
10	M06	70	20	9.5	6.5	1	MAT-M06-020-S10S	£73.86
12	M06	76	20	11	6.5	1	MAT-M6B-020-S12S	£74.13
12	M06	96	40	11	6.5	1	MAT-M6B-040-S12S	£76.76
16	M08	80	20	14.5	8.5	1	MAT-M08-020-S16S	£91.48
20	M10	100	30	18	10.5	1	MAT-M10-030-S20S	£131.57
25	M12	110	29	22.5	12.5	1	MAT-M12-030-S25S	£158.17
32	M16	125	35	28.5	17	1	MAT-M16-035-S32S	£205.02
12	M06	96	40	9.5	6.5	2	MAT-M06-040-S12T	£76.76
16	M06	125	65	9.5	6.5	2	MAT-M06-065-S16T	£89.61
16	M06	125	65	11	6.5	2	MAT-M6B-065-S16T	£89.61
16	M06	140	80	11	6.5	2	MAT-M6B-080-S16T	£103.27
16	M08	100	40	14.5	8.5	2	MAT-M08-040-S16T	£111.43
16	M08	125	65	14.5	8.5	2	MAT-M08-065-S16T	£126.15
20	M08	150	80	14.5	8.5	2	MAT-M08-080-S20T	£152.64
25	M08	190	110	14.5	8.5	2	MAT-M08-110-S25T	£193.76
20	M10	120	50	18	10.5	2	MAT-M10-050-S20T	£142.30
20	M10	140	70	18	10.5	2	MAT-M10-070-S20T	£160.94
25	M10	170	90	18	10.5	2	MAT-M10-090-S25T	£202.72
25	M10	190	110	18	10.5	2	MAT-M10-110-S25T	£229.04
32	M10	220	130	18	10.5	2	MAT-M10-130-S32T	£270.96
25	M12	130	50	22.5	12.5	2	MAT-M12-050-S25T	£174.50
25	M12	150	70	22.5	12.5	2	MAT-M12-070-S25T	£185.54
25	M12	170	90	22.5	12.5	2	MAT-M12-090-S25T	£211.65
32	M12	200	110	22.5	12.5	2	MAT-M12-110-S32T	£249.43
40	M12	300	175	22.5	12.5	2	MAT-M12-175-S40T	£351.53
32	M16	145	55	28.5	17	2	MAT-M16-055-S32T	£219.80
32	M16	170	80	28.5	17	2	MAT-M16-080-S32T	£250.98
32	M16	210	120	28.5	17	2	MAT-M16-120-S32T	£271.70
40	M16	300	175	28.5	17	2	MAT-M16-175-S40T	£350.87



CARBIDE SHANK ADAPTERS

Carbide shank modular adapters can vastly reduce vibration or deflection in long reach milling applications. This can improve surface finish, tool life and precision compared to steel shank tool holders.

For best results only high accuracy tool holders should be used with carbide shank adapters, ideally with 3 microns run-out or less. When used with standard accuracy ER collet chucks, run-out can be as high as 50 microns at 10xD tool length and tool deflection can easily occur. This can have serious effects on tool life, accuracy and surface finish.

When carbide shank adapters and milling heads are used with a 3 micron run-out tool holder (such as the WTE HPH High Performance chuck), run-out is less than 10 microns at 10xD tool length. Tool life, surface finish and accuracy will be vastly improved whilst deflection will be eliminated.

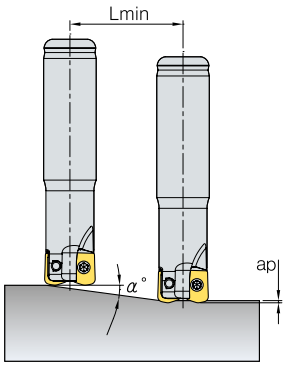
HFM MILL

RAMPING • HELICAL CUTTING • CORNER R PROGRAMMING

CUTTING DATA

- Adjust feed to under 70% of recommended cutting condition when ramping & helical cutting
- In helical ramping, max. cutting depth per 1 helical revolution of cutter should not exceed max. cutting depth as per insert size
- in ramping, max. cutting depth for 1 ramping process should not exceed max. depth of cut as per used insert size

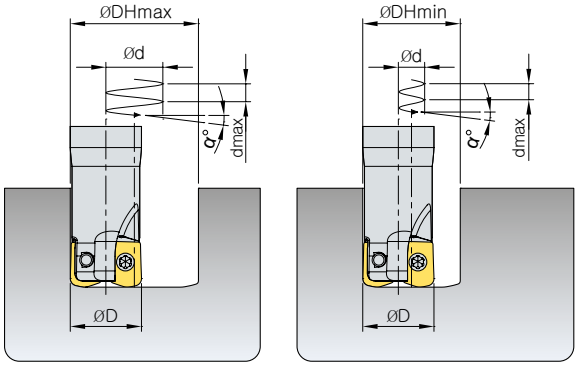
Ramping



$$Lmin = \frac{ap}{\tan \alpha^\circ} (mm)$$

Lmin = Min. inclination cutting length
α° = Max. ramping angle
ap = Depth of cut

Helical Cutting



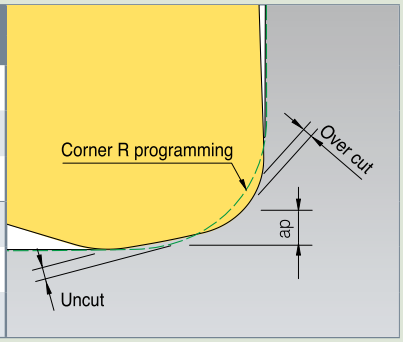
ØD = Tool Diameter
Ød = Tool path(mm) = ØDHmin, max - ØD
ØDHmin(Min diameter, mm) = ØD × 2 - 5.4
ØDHmax(Max diameter, mm) = ØD×2 - 2

ORDER CODE	Tool Diameter ØD	Depth of Cut ap	Max. Angle α°	Cutting Length Lmin	Max diameter ØDHmax	Max pitch Dmax	Min diameter ØDHmin	Max pitch dmax
HFMS END MILL								
HFMS1010HR	10	0.4~0.5	3.5	7	18	1.1	15	0.9
HFMS1011HR	11	0.4~0.5	3.1	8	20	1.1	17	0.9
HFMS1012HR	12	0.4~0.5	2.7	9	22	1	19	0.9
HFMS1013HR	13	0.4~0.5	2.4	10	24	1	21	0.9
HFMS1014HR	14	0.4~0.5	2.2	11	26	1	23	0.9
HFMS1015HR	15	0.4~0.5	2	12	28	1	25	0.9
HFMS1016HR	16	0.4~0.5	1.8	13	30	1	27	0.9
HFMS1017HR	17	0.4~0.5	1.7	14	32	0.9	29	0.9
HFMS1018HR	18	0.4~0.5	1.6	15	34	0.9	31	0.9
HFMS1019HR	19	0.4~0.5	1.5	16	36	0.9	33	0.9
HFMS1020HR	20	0.4~0.5	1.4	17	38	0.9	35	0.8
HFMS1021HR	21	0.4~0.5	1.3	18	40	0.9	37	0.8
HFMS1025HR	25	0.4~0.5	1.1	22	48	0.9	45	0.8
HFMS1026HR	26	0.4~0.5	1	23	50	0.9	47	0.8
HFMS1030HR	30	0.4~0.5	0.9	27	58	0.9	55	0.8
HFMS1032HR	32	0.4~0.5	0.8	29	62	0.9	59	0.8
HFMS1033HR	33	0.4~0.5	0.8	30	64	0.9	61	0.8

CORNER R PROGRAMMING

- When using CNC program, overcut & uncut occurs on the corner processing site if entering the correct program corner R value for each insert.
- To prevent overcut, you will need to complete a CNC program considering the above overcut.

INSERT	Corner R Programming	Cutting Condition		Over Cut	Uncut
		Nose R	Max. ap		
LPMT040210R-MF LPMW040210R LPEW040210R	R1.0(Standard)	1.0	0.4	0	0.17
	R1.5			0.10	0.08
	R2.0			0.31	0
LPMT040220R-MF LPMW040220R LPEW040220R	R1.0	2.0	0.5	0	0.41
	R1.5			0	0.2
	R2.0(Standard)			0	0



HFM MILL
RECOMMENDED CUTTING CONDITIONS

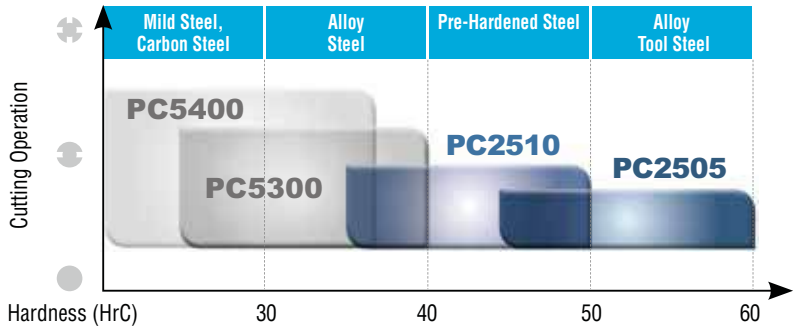
CUTTING DATA

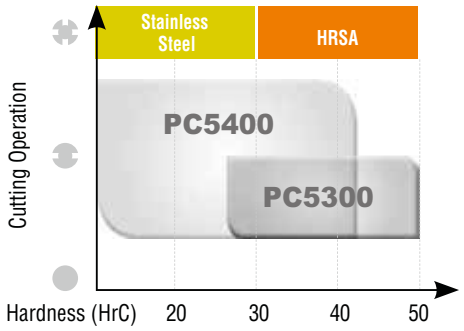
Workpiece			Grade	VC (m/min)	fz (mm/t)	Max ap (mm)	Max ae (mm)	Chip Breakers	
ISO	Material	Hardness (HRC)						MF	None
P Steel	Mild Steel Carbon Steel Alloy Steel	<40 HRC	PC3700	100-250	0.5-1.5	0.5	<0.7D	●	
			PC5300	100-200	0.5-1.0			●	○
			PC5400					●	
	Pre-Hardened Steel	<50 HRC	PC2510	80-180	0.3-0.9	0.4		○	●
			PC5300					○	●
H Hardened Steel	Tool Steels Hardned Steel	<50 HRC	PC2510	80-130	0.3-0.55	0.3		○	●
			PC2505						●
		<60 HRC	PC2505	30-75	0.3-0.5	0.2			●
M Stainless Steel	Stainless Steel	<30 HRC	PC5300	70-150	0.5-0.7	0.5		●	
			PC5400					●	
S HRSA's	HRSA Fe Series	<35 HRC	UNC840	30-100	0.3-0.6	0.3		●	
			PC5300					●	
			PC5400					●	
	HRSA Ni or Co Series (Inconel 718)	<45 HRC	UNC840	30-45	0.3-0.7			●	
			PC5300					●	
			PC5400					●	
	Titanium		UNC840	30-50	0.3-1.0			●	
			PC5300					●	
K Cast Iron	Cast Iron	Tensile Strength >450Mpa	PC5300	130-220	0.6-0.8	0.5		●	

● First Choice ○ Second Choice

RECOMMENDED GRADES BY MATERIAL & HARDNESS

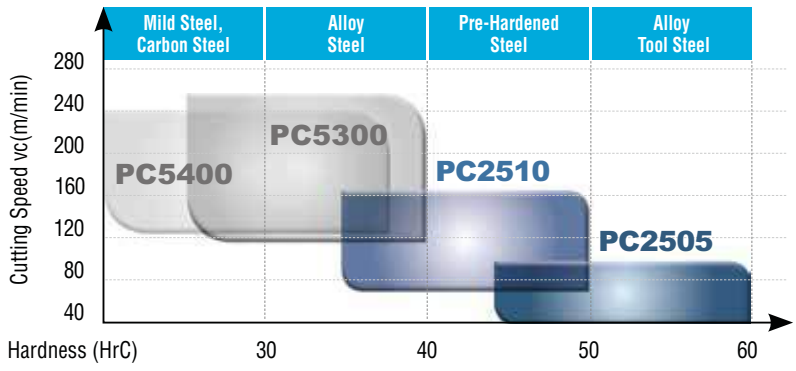
ACCORDING TO CUTTING OPERATION

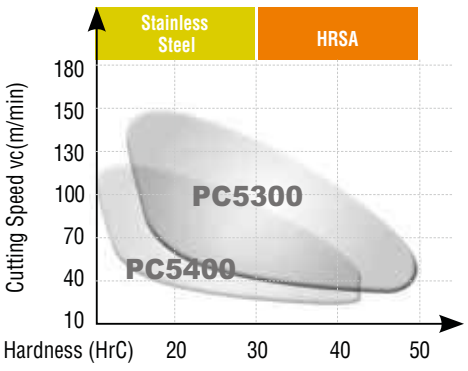




● = Continuous Cutting ● = General Cutting ● = General Cutting

ACCORDING TO VELOCITY





HFMD High Feed Milling System

Performance
★★★★★

P H M S K

High feed machining with positive cutting action for ultra high metal removal rates Ø16-63mm

Double sided inserts with 4 cutting edges capable of high speeds & feeds to achieve maximum productivity and efficiency

Diameter Range
21-63mm

Insert Sizes
6mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★	★★★★	★★★★	★★★★★	★★★★

Advantages

Double Sided Inserts
Efficient and economical negative insert with 4 usable cutting edges.

Stable Insert Clamping
Large insert clamping screw prevents premature insert failure by reducing vibration.

High Speeds & Feeds
Achievable through high rake and high helix angles reducing cutting loads during machining.

Optimized Holder Design
Excellent chip evacuation in slotting or deep shouldering with minimised interference with side walls.

Features

Material Suitability
Insert grades available for steel, hardened steel, stainless steel, HRSA's and cast iron.

Application Versatility
Holders suitable for facing, slotting, shouldering, ramping, helical cutting & copy milling.

Through Coolant
Tool holders with through coolant design improves swarf evacuation and prevents heat build up.

Increased Teeth
Higher number of inserts per holder with close pitch design allows for higher feed rates.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
HFMD FACE MILL		HFMDCM	40-63	90°	**395**
HFMD END MILL		HFMDS	21-33	90°	**395**

CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
MF 		**Low power machine tools / Finishing**	▪ Chip breaker with lower cutting load and sharper cutting edge ▪ Excellent for finishing & ideal for low power machines in general machining
ML 		**Light cutting**	▪ Chip breaker with low cutting load is optimal for machining hard-to-cut materials such as titanium, inconel and hastelloy
MM 		**General to rough machining**	▪ Optimal for milling in general machining conditions.

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		H		M	S	K
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 40-50 HRC	Hardened Steel 50-60 HRC	Stainless Steel	Titanium/Inconel	Cast Iron
Chip Breaker	First Choice	MF	MM	MM		ML	ML	MM
	Second Choice	MM	MF	MF		MM	MM	MF
Grade	General Machining	PC3700 PC5300		PC2510 PC3700		PC5300 UNC840	UNC840 PC5300	PC5300
	Interrupted Machining	PC5400				PC5400	PC5400	PC5400

HFMD HIGH FEED MILL HOLDER FEATURES

KORLOY



SUPERIOR CLAMPING STABILITY

- Prevents insert chipping and damage by minimising vibration
- Improved surface finish of workpiece

OPTIMIZED HOLDER DESIGN

- Excellent chip evacuation in slotting or deep shouldering with minimised interference with side walls.

HFMD has achieved high speed/high feed machining by applying high rake angle and helix design on its edge.

These two features have significantly reduced cutting resistance compared to competitors' tools or even against positive type inserts.



THROUGH COOLANT DESIGN

Reduces cutting heat for improved chip control and tool life

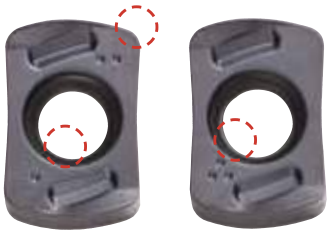
HFMD HIGH FEED MILL INSERT FEATURES

KORLOY



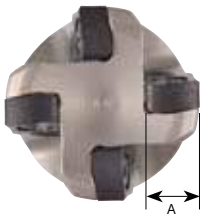
ECONOMICAL 4-CORNER INSERT

- Can use 4 corners with 1 insert by utilizing front/back face; High feed due to finer pitch.

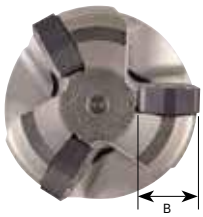


HIGHLY EFFICIENT INSERT DUE TO FINE PITCH

- Able to use fine pitch at the same machining diameter with typical types of milling cutters due to smaller inscribed circle (A < B).
- Tool diameter: Ø25 mm



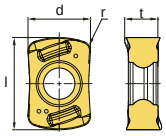
HFMD



HRMD

cutwel

HFMD INSERT SELECTION

LNMX	Dimensions				Grades					Chip Breaker	Order Code	Price
	l	d	t	f	PC3700	PC2510	PC5300	PC5400	UNC840			
	10	6.8	3.6	1	●	●	●	●	●	MF	LNMX060310R-MF	£11.12
							●	●	●	ML	LNMX060310R-ML	
					●	●	●	●		MM	LNMX060310R-MM	

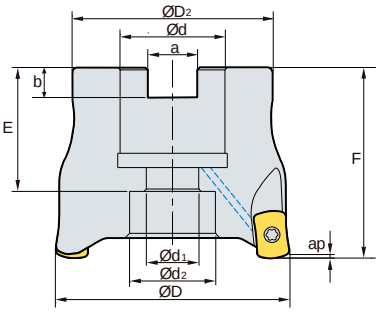
HFMD HIGH FEED FACE MILL

High Feed Machining with 4 Cutting Edges for Ultra High Metal Removal Rates

- Double sided inserts with 4 cutting edges
- Ultra high metal removal rates using small depth of cut combined with high cutter pitch
- LNMX06 insert

Series	Cutting Data
HFMDCM Korloy	P396







KORLOY

ØD	Teeth	ØD2	Ød	Ød1	Ød2	a	b	E	F	ap	kg	Order Code	Price	Inserts	Spares	
															Screw	Wrench
40	6	34	16	9	14	8.4	5.6	19	40		0.21	HFMDCM040R-16-6-LN06	£196.92			
50	8	42	22	11	18	10.4	6.3	21	40	1.0	0.32	HFMDCM050R-22-8-LN06	£242.41	LNMX06	FTKA0306	TW09S
63	9	49	22	11	18	10.4	6.3	21	40		0.53	HFMDCM063R-22-9-LN06	£288.11			

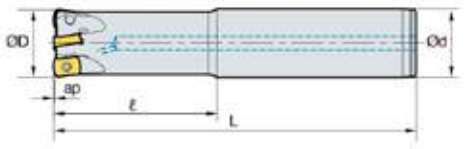
HFMD HIGH FEED END MILL

High Feed Machining with 4 Cutting Edges for Ultra High Metal Removal Rates

- Double sided inserts with 4 cutting edges
- Ultra high metal removal rates using small depth of cut combined with high cutter pitch
- LNMX06 insert

Series	Cutting Data
HFMDS Korloy	P396







KORLOY

ØD	Teeth	Ød	ℓ	L	ap	kg	Order Code	Price	Inserts	Spares	
										Screw	Wrench
21	3	20	40	160	1.0	0.34	HFMDS021R-3C20-160-LN06	£130.85	LNMX06	FTKA0306	TW09S
21	3	20	40	200		0.42	HFMDS021R-3C20-200-LN06	£136.22			
25	4	25	60	140		0.46	HFMDS025R-4C25-140-LN06	£140.59			
25	4	25	100	180		0.58	HFMDS025R-4C25-180-LN06	£146.27			
26	4	25	40	180		0.63	HFMDS026R-4C25-180-LN06	£146.27			
26	4	25	40	250		0.72	HFMDS026R-4C25-250-LN06	£156.50			
32	5	32	70	150		0.82	HFMDS032R-5C32-150-LN06	£149.10			
32	5	32	120	200		1.08	HFMDS032R-5C32-200-LN06	£154.54			
33	5	32	40	200		1.08	HFMDS033R-5C32-200-LN06	£154.54			
33	5	32	40	250		1.2	HFMDS033R-5C32-250-LN06	£159.18			

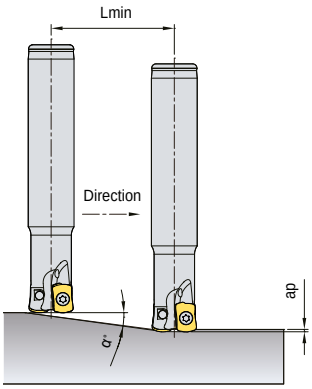
HFMD HIGH FEED MILL

RAMPING • HELICAL CUTTING • CORNER R PROGRAMMING

CUTTING DATA

- Adjust feed to under 70% of recommended cutting condition when ramping & helical cutting
- In helical ramping, max. cutting depth per 1 helical revolution of cutter should not exceed max. cutting depth as per insert size
- In ramping, max. cutting depth for 1 ramping process should not exceed max. depth of cut as per used insert size

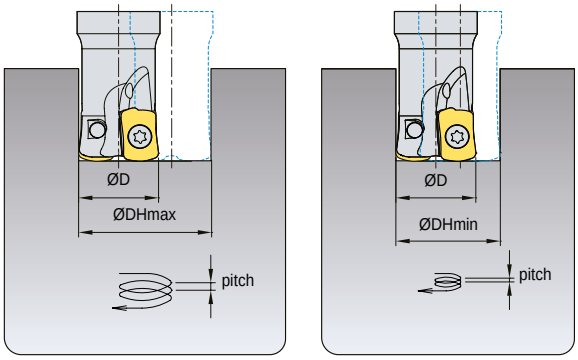
Ramping



$$Lmin = \frac{ap}{\tan \alpha^\circ} \text{ (mm)}$$

Lmin = Min. inclination cutting length
α° = Max. ramping angle
ap = Depth of cut

Helical Cutting

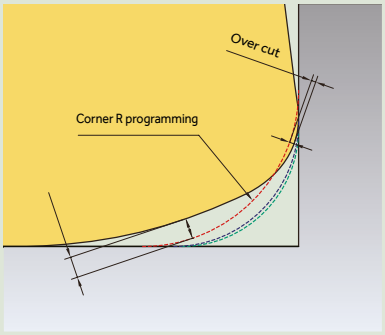


ØD = Tool Diameter
Ød = Tool path(mm) = ØDHmin, max - ØD
ØDHmin(Min diameter, mm) = ØD × 2 - 5.4
ØDHmax(Max diameter, mm) = ØD×2 - 2

Designation	Tool dia. ØD	ap	Ramping		Blind hole helical cutting				Through hole helical cutting	
			Max. rake angle a°	Lmin	Max. machining dia. DHmax	Max. pitch	Min. machining dia. ØDHmin	Max. pitch	Min. machining dia. ØDHmin	Max. pitch
HFMDS016	16	0.7	3.0	13	30	0.7	22	0.7	21	0.7
HFMDS017	17	1.0	2.3	25	32	1.0	24	1.0	22	1.0
HFMDS018	18	1.0	2.1	27	34	1.0	26	1.0	24	1.0
HFMDS019	19	1.0	1.9	30	36	1.0	28	1.0	26	1.0
HFMDS020	20	1.0	1.5	37	38	1.0	30	1.0	28	1.0
HFMDS021	21	1.0	1.5	39	40	1.0	32	1.0	30	1.0
HFMDS025	25	1.0	1.4	40	48	1.0	40	1.0	38	1.0
HFMDS026	26	1.0	1.4	42	50	1.0	42	1.0	40	1.0
HFMDS030	30	1.0	1.1	51	58	1.0	50	1.0	48	1.0
HFMDS032	32	1.0	1.0	55	62	1.0	54	1.0	52	1.0
HFMDS033	33	1.0	1.0	57	64	1.0	56	1.0	54	1.0
HFMDS035	35	1.0	0.9	61	68	1.0	60	1.0	58	1.0
HFMDS040	40	1.0	0.8	71	78	1.0	70	1.0	68	1.0
HFMDC042	42	1.0	0.8	76	82	1.0	74	1.0	72	1.0
HFMDC050	50	1.0	0.6	92	98	1.0	90	1.0	88	1.0
HFMDC052	52	1.0	0.6	96	102	1.0	94	1.0	92	1.0
HFMDC063	63	1.0	0.5	119	124	1.0	116	1.0	114	1.0
HFMDC066	66	1.0	0.5	126	130	1.0	122	1.0	120	1.0

CORNER R PROGRAMMING

- When using CNC program, overcut & uncut occurs on the corner processing site if entering the correct program corner R value for each insert.
- To prevent overcut, you will need to complete a CNC program considering the above overcut.



INSERT	Corner R Programming	Cutting Condition		Over Cut	Uncut
		Nose R	Max. ap		
LNMX060310R-ML	R1.5	1,0	1,0	0	0,41
LNMX060310R-MF	R1.6 (Standard)			0	0,38
LNMX060310R-MM	R2.0			0,057	0,27

HFMD HIGH FEED MILL

RECOMMENDED CUTTING CONDITIONS

CUTTING DATA

Workpiece			Grade	VC (m/min)	fz (mm/t)	Max ap (mm)	Max ae (mm)	Chip Breakers		
ISO	Material	Hardness (HRC)						ML	MF	MM
P Steel	Mild Steel Carbon Steel Alloy Steel	<40 HRC	PC3700	100-250	0.5-1.5	1	<0.7D		●	○
			PC5300	100-200	0.3-1.2			○	●	
			PC5400					○	●	
	Pre-Hard-ened Steel	<50 HRC	PC2510	80-180	0.3-1.0	0.8			●	○
			PC5300						●	○
M Stainless Steel	Stainless Steel	<30 HRC	PC5400	90-180	0.3-0.8	0.8		●	○	
			UNC840					●	○	
S HRSA's	HRSA Fe Series	<35 HRC	UNC840	30-100	0.3-0.6	0.6		●	○	
			PC5300					●	○	
	HRSA Ni or Co Series (Inconel 718)	<45 HRC	UNC840	30-45	0.3-0.7			○	●	
			PC5300					○	●	
	Titanium		UNC840	30-50	0.3-1.0			●	○	
			PC5300					●	○	
K Cast Iron	Cast Iron	Tensile Strength >450Mpa	PC5300	130-220	0.3-0.9	1			●	○

● First Choice ○ Second Choice

FREE next day delivery on orders above £59* placed before 6pm.

*Exclusions apply.

HF4 High Feed Milling System

P H M S K

Revolutionary high feed milling system

Extreme metal removal capabilities with ultra-low cutting resistance on steel, hardened steel, stainless steel, exotics and cast iron.

Performance
★★★★★

Diameter Range
16-125mm

Insert Sizes
6, 9mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★	★★★	★★★★	★★★★★	★★★★

Advantages

Exceptional Tool Life
Exceptional tool life due to extra-thick insert design and ultra PVD coated grades.

5x Faster Metal Removal
Up to 5 times faster metal removal rates than traditional 90° indexable milling systems, 2-3 times faster than solid tools.

Low Cutting Resistance
Extremely low cutting resistance at extreme feed rates, even suitable for low powered or low speed machine tools.

Highly Versatile
High versatility - suitable for steel, hardened steel, stainless steel, inconel, titanium alloys and cast iron.

Features

4 Cutting Edges
The ENMX inserts feature 4 cutting edges contributing to increased tool life.

ENMX06 Inserts
Ideal for lower powered machine tools.
Holders from Ø16-50mm.

ENMX09 Inserts
Ideal for medium to high powered machine tools.
Holders from Ø25-125mm.

Machining Capabilities
High feed milling, shoulder milling, profiling, face milling, plunging, ramping and helical interpolation.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
HF4 MILL FACE MILL		FHF-ENMX	40-125	90°	**400**
HF4 MILL MODULAR END MILL		MHF-ENMX	16-42	90°	**401**
HF4 MILL END MILL		EHF-ENMX	16-32	90°	**401**
SCREWED SHANK ADAPTERS		MAT-S MAT-C	M6-M16	-	**402**

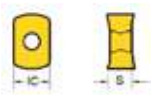
CHIP BREAKER GUIDE

Chip Breaker		Applications	Benefits
General		**Low carbon steel, low alloy steel**	▪ Positive rake angle with wide flank face give low cutting resistance and smooth chip flow
TR		**High alloy steel, hardened steels, cast iron**	▪ Reinforced cutting edge for higher strength in machining harder materials
ST		**Stainless steel, mild steel & HRSA's**	▪ Sharp cutting edge with small land width, ideal for stainless steel, sticky steel and HRSA machining

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		H	M	S	K
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 40-50 HRC	Stainless Steel	Titanium/Inconel	Cast Iron
Chip Breaker	First Choice	GN	GN	TR	ST	ST	GN
	Second Choice	ST	TR	GN	GN	GN	TR
Grade	First Choice	YG602		YG602	YG613	YG602	YG602
	Second Choice	YG622/YG713		YG622	YG602		YG622

HF4 HIGH FEED MILLING SYSTEM INSERT SELECTION

ENMX	Dimensions		Applications							Insert Size	Chip Breaker	Order Code	Price
	IC	S	Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel	Stainless Steel	HRSA's	Cast Iron				
	6.4	4.2	●	●				●	●	ENMX06	General	ENMX0604-YG602	£9.05
			●	●	●				●			ENMX0604-YG622	
			●	●			●	●			ST	ENMX0604-ST-YG602	
			●	●			●					ENMX0604-ST-YG613	
					●	●			●		TR	ENMX0604-TR-YG602	
					●	●			●			ENMX0604-TR-YG622	
					●	●						ENMX0604-TR-YG713	
	9	5.4	●	●				●	●	ENMX09	General	ENMX0905-YG602	£12.09
			●	●			●					ENMX0905-YG613	
			●	●	●				●			ENMX0905-YG622	
			●	●			●	●			ST	ENMX0905-ST-YG602	
			●	●			●					ENMX0905-ST-YG613	
					●	●			●		TR	ENMX0905-TR-YG602	
					●	●						ENMX0905-TR-YG713	
					●	●			●			ENMX0905-TR-YG622	

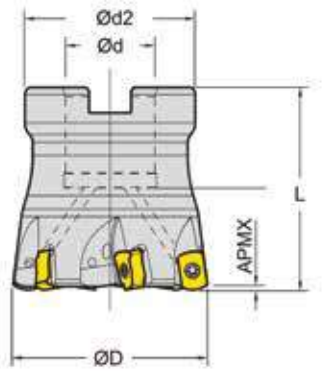
HF4 HIGH FEED FACE MILL

High Feed Machining with 4 Cutting Edges for Ultra High Metal Removal Rates

- Face mill style high feed milling body from 40mm diameter
- Double sided inserts with 4 corners

Series		Cutting Data
FHF-ENMX YG-1	FHF-ENMX Teknik	P403







ØD	Teeth	Ød	Ød1	L	APMX	Order Code				Inserts	Spares	
						YG-1	Price	Teknik	Price		Screw	Wrench
40	6	16	37	40	1	FHF-ENMX06-D40Z6S16	£150.58	T763	£50.22	ENMX06	TP082507	TPWFTP08
50	6	22	42	50		FHF-ENMX06-D50Z6S22	£159.40	T764	£53.46			
50	5	22	42	50	1.5	FHF-ENMX09-D50Z5S22	£145.76	-	-	ENMX09	TP093510-GS	TPWBTP09
63	6	22	42	50		FHF-ENMX09-D63Z6S22	£167.21	-	-			
63	7	22	42	50		FHF-ENMX09-D63Z7S22	£179.90	-	-			
80	8	27	48	50		FHF-ENMX09-D80Z8S27	£204.32	T703	£59.94			
100	10	32	78	63		FHF-ENMX09-D100Z10S32	£264.58	T704	£98.82			
125	12	40	89	63		FHF-ENMX09-D125Z12S40	£329.07	T705	£119.88			

HF4 HIGH FEED MODULAR END MILL

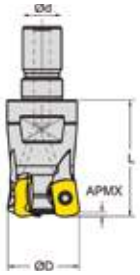
High Feed Machining with 4 Cutting Edges for Ultra High Metal Removal Rates

- Modular (screwed shank) end mill style high feed milling body from 16mm diameter
- Double sided inserts with 4 corners

Series	Cutting Data
MHF-ENMX YG-1	P403







ØD	Teeth	ØD	L	APMX	Order Code	Price	Inserts	Spares	
								Screw	Wrench
16	2	M08	23	0.9	MHF-ENMX06-D16Z2M08	£58.22	ENMX06	TP082507	TPWFTP08
18	2	M08	23	0.9	MHF-ENMX06-D18Z2M08	£61.70			
20	3	M10	30	1	MHF-ENMX06-D20Z3M10	£66.09			
25	4	M12	35	1	MHF-ENMX06-D25Z4M12	£77.10			
32	5	M16	42	1	MHF-ENMX06-D32Z5M16	£86.53			
35	5	M16	42	1	MHF-ENMX06-D35Z5M16	£88.11			
40	6	M16	42	1	MHF-ENMX06-D40Z6M16	£93.32			
42	6	M16	42	1	MHF-ENMX06-D42Z6M16	£99.92			
25	2	M12	35	1.5	MHF-ENMX09-D25Z2M12	£88.68	ENMX09	TP093510-GS	TPWBTP09
25	3	M12	35		MHF-ENMX09-D25Z3M12	£88.68			
26	2	M12	35		MHF-ENMX09-D26Z2M12	£88.68			
26	3	M12	35		MHF-ENMX09-D26Z3M12	£88.68			
32	3	M16	42		MHF-ENMX09-D32Z3M16	£88.68			
32	4	M16	42		MHF-ENMX09-D32Z4M16	£88.68			
33	2	M16	42		MHF-ENMX09-D33Z2M16	£88.68			
33	3	M16	42		MHF-ENMX09-D33Z3M16	£88.68			
33	4	M16	42		MHF-ENMX09-D33Z4M16	£88.68			

HF4 HIGH FEED END MILL

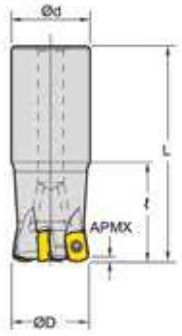
High Feed Machining with 4 Cutting Edges for Ultra High Metal Removal Rates

- End mill style high feed milling body from 16mm diameter
- Double sided inserts with 4 corners

Series		Cutting Data
EHF-ENMX YG-1	EHF-ENMX Teknik	P403







ØD	Teeth	Ød	ℓ	L	APMX	Order Code				Inserts	Spares	
						YG-1	Price	Teknik	Price		Screw	Wrench
16	2	16	30	100	0.9	EHF-ENMX06-D16Z2C16-L100	£71.11	S105	£37.26	ENMX06	TP082507	TPWFTP08
16	2	16	50	150	0.9	EHF-ENMX06-D16Z2C16-L150	£75.22	S106	£40.50			
17	2	16	20	100	0.9	EHF-ENMX06-D17Z2C16-L100	£71.11	S107	£40.50			
17	2	16	20	150	0.9	EHF-ENMX06-D17Z2C16-L150	£75.22	-	-			
20	3	20	50	130	1	EHF-ENMX06-D20Z3C20-L130	£91.27	S108	£45.36			
20	3	20	80	160	1	EHF-ENMX06-D20Z3C20-L160	£103.06	S109	£48.60			
21	3	20	20	150	1	EHF-ENMX06-D21Z3C20-L150	£98.34	S110	£48.60			
21	3	20	20	200	1	EHF-ENMX06-D21Z3C20-L200	£103.86	-	-			
25	4	25	60	140	1	EHF-ENMX06-D25Z4C25-L140	£113.29	S111	£51.84			
25	4	25	80	180	1	EHF-ENMX06-D25Z4C25-L180	£119.90	S112	£55.08			
25	4	25	120	250	1	EHF-ENMX06-D25Z4C25-L250	£134.68	-	-			
26	4	25	30	150	1	EHF-ENMX06-D26Z4C25-L150	£114.86	S113	£55.08			
26	4	25	30	200	1	EHF-ENMX06-D26Z4C25-L200	£122.42	-	-			
32	5	32	70	150	1	EHF-ENMX06-D32Z5C32-L150	£140.04	S114	£58.32			
32	5	32	100	200	1	EHF-ENMX06-D32Z5C32-L200	£157.82	S115	£61.56			
25	2	25	70	150	1.5	EHF-ENMX09-D25Z2C25-L150	£79.01	S934	£40.50	ENMX09	TP093510-GS	TPWBTP09
26	2	26	30	200		EHF-ENMX09-D26Z2C25-L200	£86.08	-	-			
26	3	26	30	200		EHF-ENMX09-D26Z3C25-L200	£102.92	-	-			
32	3	32	70	160		EHF-ENMX09-D32Z3C32-L160	£94.86	S935	£48.60			
33	3	33	30	200		EHF-ENMX09-D33Z3C32-L200	£110.57	-	-			
33	4	33	40	200		EHF-ENMX09-D33Z4C32-L200	£120.55	-	-			
40	5	40	40	180		EHF-ENMX09-D40Z5C32-L180	£131.99	S936	£61.56			

SCREWED SHANK ADAPTERS HSS SHANK & CARBIDE SHANK

Ideal for Holding and Extending the Reach of Screwed Shank End Mills

Series	Cutting Data
MAT C / MAT S Korloy	P403

Fig. 1

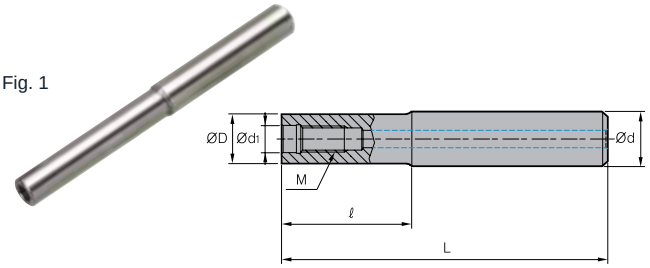


Fig. 2

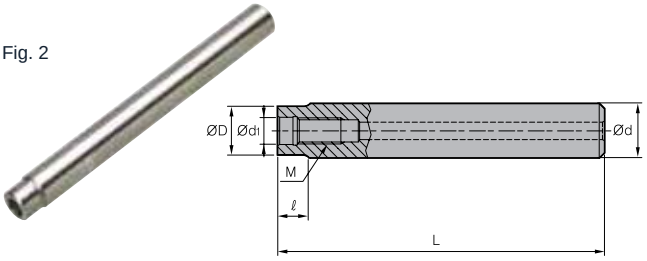


Fig. 1

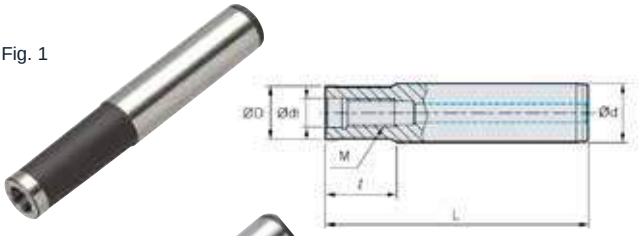
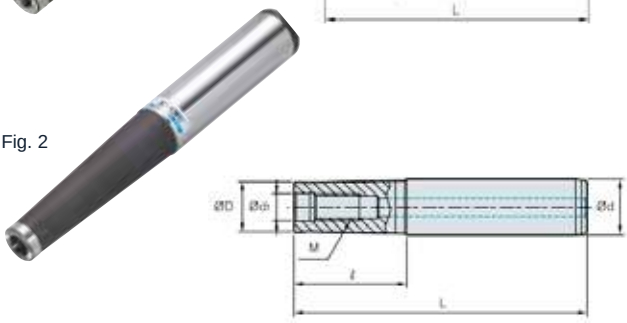


Fig. 2



CARBIDE SHANK

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
16	M08	150	80	14.5	8.5	1	MAT-M08-080-S16S-C	**£246.19**
16	M08	180	110	14.5	8.5	1	MAT-M08-110-S16S-C	**£320.06**
16	M08	250	150	14.5	8.5	1	MAT-M08-150-S16S-C	**£430.85**
16	M08	150	10	14.5	8.5	2	MAT-M08-010-S16S-C-150	**£246.19**
16	M08	180	10	14.5	8.5	2	MAT-M08-010-S16S-C-180	**£320.06**
16	M08	250	10	14.5	8.5	2	MAT-M08-010-S16S-C-250	**£430.85**
20	M10	170	90	18	10.5	1	MAT-M10-090-S20S-C	**£381.60**
20	M10	200	110	18	10.5	1	MAT-M10-110-S20S-C	**£435.27**
20	M10	300	175	18	10.5	1	MAT-M10-175-S20S-C	**£585.96**
20	M10	170	10	18	10.5	2	MAT-M10-010-S20S-C-170	**£381.60**
20	M10	200	10	18	10.5	2	MAT-M10-010-S20S-C-200	**£435.27**
20	M10	300	10	18	10.5	2	MAT-M10-010-S20S-C-300	**£585.96**
25	M12	170	90	22.5	12.5	1	MAT-M12-090-S25S-C	**£467.78**
25	M12	200	110	22.5	12.5	1	MAT-M12-110-S25S-C	**£551.49**
25	M12	300	175	22.5	12.5	1	MAT-M12-175-S25S-C	**£669.67**
25	M12	170	15	22.5	12.5	2	MAT-M12-015-S25S-C-170	**£467.78**
25	M12	200	15	22.5	12.5	2	MAT-M12-015-S25S-C-200	**£551.49**
25	M12	300	15	22.5	12.5	2	MAT-M12-015-S25S-C-300	**£669.67**
32	M16	180	90	28.5	17	1	MAT-M16-090-S32S-C	**£686.41**
32	M16	210	120	28.5	17	1	MAT-M16-120-S32S-C	**£837.08**
32	M16	300	175	28.5	17	1	MAT-M16-175-S32S-C	**£1,067.27**
32	M16	210	20	28.5	17	2	MAT-M16-020-S32S-C-210	**£837.08**
32	M16	300	20	28.5	17	2	MAT-M16-020-S32S-C-300	**£1,067.27**

STEEL SHANK

KORLOY

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
10	M06	70	20	9.5	6.5	1	MAT-M06-020-S10S	**£73.86**
12	M06	76	20	11	6.5	1	MAT-M6B-020-S12S	**£74.13**
12	M06	96	40	11	6.5	1	MAT-M6B-040-S12S	**£76.76**
16	M08	80	20	14.5	8.5	1	MAT-M08-020-S16S	**£91.48**
20	M10	100	30	18	10.5	1	MAT-M10-030-S20S	**£131.57**
25	M12	110	29	22.5	12.5	1	MAT-M12-030-S25S	**£158.17**
32	M16	125	35	28.5	17	1	MAT-M16-035-S32S	**£205.02**
12	M06	96	40	9.5	6.5	2	MAT-M06-040-S12T	**£76.76**
16	M06	125	65	9.5	6.5	2	MAT-M06-065-S16T	**£89.61**
16	M06	125	65	11	6.5	2	MAT-M6B-065-S16T	**£89.61**
16	M06	140	80	11	6.5	2	MAT-M6B-080-S16T	**£103.27**
16	M08	100	40	14.5	8.5	2	MAT-M08-040-S16T	**£111.43**
16	M08	125	65	14.5	8.5	2	MAT-M08-065-S16T	**£126.15**
20	M08	150	80	14.5	8.5	2	MAT-M08-080-S20T	**£152.64**
25	M08	190	110	14.5	8.5	2	MAT-M08-110-S25T	**£193.76**
20	M10	120	50	18	10.5	2	MAT-M10-050-S20T	**£142.30**
20	M10	140	70	18	10.5	2	MAT-M10-070-S20T	**£160.94**
25	M10	170	90	18	10.5	2	MAT-M10-090-S25T	**£202.72**
25	M10	190	110	18	10.5	2	MAT-M10-110-S25T	**£229.04**
32	M10	220	130	18	10.5	2	MAT-M10-130-S32T	**£270.96**
25	M12	130	50	22.5	12.5	2	MAT-M12-050-S25T	**£174.50**
25	M12	150	70	22.5	12.5	2	MAT-M12-070-S25T	**£185.54**
25	M12	170	90	22.5	12.5	2	MAT-M12-090-S25T	**£211.65**
32	M12	200	110	22.5	12.5	2	MAT-M12-110-S32T	**£249.43**
40	M12	300	175	22.5	12.5	2	MAT-M12-175-S40T	**£351.53**
32	M16	145	55	28.5	17	2	MAT-M16-055-S32T	**£219.80**
32	M16	170	80	28.5	17	2	MAT-M16-080-S32T	**£250.98**
32	M16	210	120	28.5	17	2	MAT-M16-120-S32T	**£271.70**
40	M16	300	175	28.5	17	2	MAT-M16-175-S40T	**£350.87**



CARBIDE SHANK ADAPTERS

Carbide shank modular adapters can vastly reduce vibration or deflection in long reach milling applications. This can improve surface finish, tool life and precision compared to Steel shank tool holders.

For best results only high accuracy tool holders should be used with carbide shank adapters, ideally with 3 microns run-out or less. When used with standard accuracy ER collet chucks, run-out can be as high as 50 microns at 10xD tool length and tool deflection can easily occur. This can have serious effects on tool life, accuracy and surface finish.

When carbide shank adapters and milling heads are used with a 3 micron run-out tool holder (such as the WTE HPH High Performance chuck), run-out is less than 10 microns at 10xD tool length. Tool life, surface finish and accuracy will be vastly improved whilst deflection will be eliminated.

HF4 HIGH FEED MILL

RECOMMENDED CUTTING CONDITIONS

CUTTING DATA

Material	Group	Cutting Speed Vc (m/min)			
		YG602	YG622	YG713	YG613
P Steel	Non-alloyed steel	180-380	140-400	200-300	100-210
	Low-alloyed steel	120-300	120-320	170-270	70-180
	High-alloyed steel	70-150	70-170	85-145	40-90
M Stainless Steel	Ferritic & Martensitic stain-less steel	120-200			70-180
	Austenitic stainless steel	130-250			70-200
K Cast Iron	Cast Iron	120-250	120-270		
S HRSA's	Super alloys & Titanium	25-45			
H Hardened Steel	Hardened steel	40-80	40-100		

Insert	Chip Breaker	Feed (mm/Tooth)	Max ap (mm)
ENMX0604	GN	0.3 - 2.0	1
	ST	0.1 - 0.8	
	TR	0.3 - 2.5	
ENMX0905	GN	0.3 - 2.5	1.5
	ST	0.2 - 1.2	
	TR	0.3 - 3.0	

HRM Double High Feed Milling System

Performance
★★★★★

P H M S K

High feed milling with double sided 6 corner inserts

Economical high feed milling with various insert sizes and diameters up to 315mm.

Diameter Range
16-315mm

Insert Sizes
6, 9, 13, 16mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★★	★★★★	★★★★★	★★★★★	★★★★

Advantages

Slash Cycle Times
Reduce cycle times significantly by up to 50% over traditional conventional milling methods.

Large Diameters
The largest diameters achievable in high feed milling, reaching up to 315mm.

High Feed Per Tooth
Up to 2.5mm feed per tooth, under 2mm depth of cut with up to 14 teeth.

Ultra-High Metal Removal
Negative geometry & wide chip pockets allows you to feed faster for longer.

Features

6 Cutting Edges
Double sided insert gives 6 usable edges, for extreme cost efficiency.

Stability & Support
Simple screw-on system & stable support gives strong clamping force.

High Rake Cutting Edge
Delivering superior cutting performance and minimal resistance at high feeds.

Through Coolant
Reduced cutting heat for improved chip control & extended tool life.

Tool Selection

Description		Series	Sizes ØD	Approach Angle	Page
HRM DOUBLE FACE MILL		HRMDCM	40-315	90°	**407**
HRM DOUBLE END MILL		HRMDS	16-63	90°	**408**
HRM DOUBLE SCREWED SHANK END MILL		HRMDM	16-40	90°	**410**
SCREWED SHANK ADAPTERS		MAT-S MAT-C	M6-M16	-	**411**

CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
MF 		**Low power machine tools / Finishing**	▪ Chip breaker with lower cutting load and sharper cutting edge ▪ Excellent for finishing & ideal for low power machines in general machining
ML 		**Stainless / HRSA's**	▪ Chip breaker with low cutting load is optimal for machining hard-to-cut materials such as titanium, inconel and hastelloy
MM 		**General to rough machining**	▪ Optimal for milling in general machining conditions

RECOMMENDED CHIP BREAKERS & GRADES

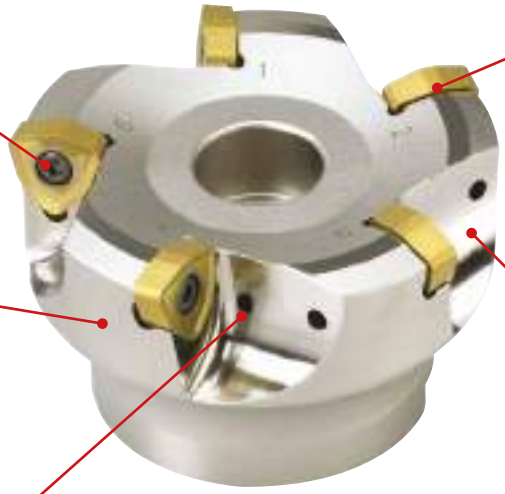
Workpiece		P		H		M	S	K
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 40-50 HRC	Hardened Steel 40-60 HRC	Stainless Steel	Titanium/ Inconel	Cast Iron
Chip Breaker	First Choice	MF	MM	MM		ML	ML	MM
	Second Choice	MM	MF			MM	MM	MF
Grade	First Choice	PC3700		PC2510	PC2505	PC5300	UNC840/UPC845	PC6510
	Second Choice	PC5300		PC2505		PC9530	PC5300	PC5300
	Heavy Interrupted Cutting	PC5400		-	-	-	PC5400	-

HRM DOUBLE HOLDER FEATURES

KORLOY

STRONG CLAMPING
- Screw on system provides strong and easy clamping

3-SURFACE CONSTRAINED SYSTEM
- Stable clamping against different cutting resistances in various machining applications



STRONG CUTTER BODY
- Rigid alloy steels body with nickel coating

WIDE CHIP POCKET
- For better chip evacuation



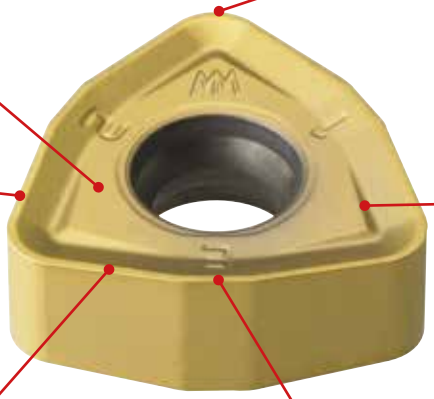
THROUGH COOLANT DESIGN
Reduces cutting heat for improved chip control and tool life

HRM DOUBLE INSERT FEATURES

KORLOY

NOSE-R
- Security of rigid edge in ramping operations
- Round edge suitable for high feed rates

CLAMPING SURFACE
- Designed for stable clamping



MAJOR CUTTING EDGE
- Superior cutting performance due to high rake angle cutting edge
- Low cutting resistance at high feed
- Special design for decreasing thrust force

CHIP BREAKER
- Reduction of cutting load due to high rake angle
- Improvement of chip flow and evacuation in various applications
- Prevention of damage on clamping face of insert

6 CUTTING EDGES

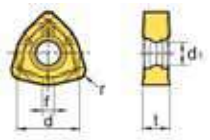
HIGH POSITIVE INSERT
With 6 cutting edges and excellent price performance ratio.



MINOR CUTTING EDGE
- Improvement of surface roughness in high feed machining
- Special design for decreasing thrust force

cutwel

HRMD INSERT SELECTION

WNMX	Dimensions (mm)					Grades									Insert Size	Chip Breaker	Order Code	Price
	d	t	d1	f	r	PC3700	PC5300	PC5400	PC2505	PC2510	PC9530	UNC840	UPC845	PC6510				
	6.35	3.18	2.86	1.2	1.2		●	●							WNMX06	MF	WNMX060312ZNN-MF	£9.03
							●	●								ML	WNMX060312ZNN-ML	£9.03
						●	●	●	●	●	●					MM	WNMX060312ZNN-MM	£9.03
	9.525	3.97	3.6	1.7	1.6	●	●	●							WNMX09	MF	WNMX09T316ZNN-MF	£10.33
							●	●				●	●			ML	WNMX09T316ZNN-ML	£10.33
						●	●	●	●	●	●			●		MM	WNMX09T316ZNN-MM	£10.33
	12.7	5.56	4.7	2.5	2		●	●							WNMX13	MF	WNMX130520ZNN-MF	£14.10
							●	●				●	●			ML	WNMX130520ZNN-ML	£14.10
						●	●	●	●	●	●			●		MM	WNMX130520ZNN-MM	£14.10
	16	7	5.8	3			●	●							WNMX16	MF	WNMX160720ZNN-MF	£18.28
							●	●								MM	WNMX160720ZNN-MM	£18.28

HRM DOUBLE HIGH FEED FACE MILL

High Feed Machining with 6 Cutting Edges for Ultra High Metal Removal Rates

- Double sided inserts with 6 cutting edges
- Ultra high metal removal rates
- WNMX09, WNMX13 & WNMX16 insert sizes

Series		Cutting Data
HRMDCM Korloy	HRMD-FM Teknik	P412



Fig. 1

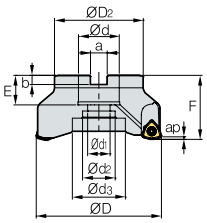


Fig. 2

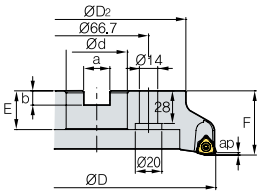


Fig. 3

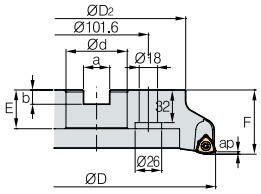
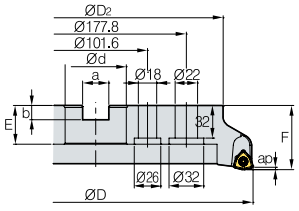


Fig. 4





*Teknik holders not through coolant

ØD	Teeth	ØD2	Ød	Ød1	Ød2	a	E	F	ap	kg	Fig.	Order Code				Inserts	Spares	
												Korloy	Price	Teknik*	Price		Screw	Wrench
40	3	34	16	9	14	8.4	19	40		0.2	1	HRMDCM09040HR-3	£159.22	-	-			
40	4	34	16	9	14	8.4	19	40		0.2	1	HRMDCM09040HR-4	£201.51	T669	£38.88			
50	4	42	22	11	18	10.4	21	40		0.3	1	HRMDCM09050HR-4	£207.21	-	-			
50	5	42	22	11	18	10.4	21	40		0.3	1	HRMDCM09050HR-5	£265.94	T670	£45.36			
63	5	49	22	11	18	10.4	21	40	1.5	0.5	1	HRMDCM09063HR-5	£271.64	-	-	WNMX09	FTKA0307	TW09S
63	6	49	22	11	18	10.4	21	40		0.5	1	HRMDCM09063HR-6	£306.88	T671	£51.84			
80	6	57	27	14	20	12.4	23	50		1.1	1	HRMDCM09080HR-6	£315.27	T671-1	£55.08			
80	7	57	27	14	20	12.4	23	50		1.1	1	HRMDCM09080HR-7	£350.50	-	-			
100	7	67	32	18	26	14.4	25	50		1.7	1	HRMDCM09100HR-7	£358.89	T671-2	£63.18			
100	8	67	32	18	26	14.4	25	50		1.7	1	HRMDCM09100HR-8	£394.13	-	-			
50	3	42	22	11	17	10.4	21	40		0.3	1	HRMDCM13050HR-3	£199.19	-	-			
50	4	42	22	11	17	10.4	21	40		0.3	1	HRMDCM13050HR-4	£249.73	-	-			
63	4	49	22	11	18	10.4	21	40		0.5	1	HRMDCM13063HR-4	£256.34	T687	£38.88			
63	5	49	22	11	18	10.4	21	40		0.5	1	HRMDCM13063HR-5	£320.43	-	-			
80	5	57	27	14	20	12.4	23	50		1	1	HRMDCM13080HR-5	£326.14	T688	£51.84			
80	6	57	27	14	20	12.4	23	50	2	1	1	HRMDCM13080HR-6	£353.12	-	-	WNMX13	FTKA0412B	TW15S
100	6	67	32	18	26	14.4	25	50		1.6	1	HRMDCM13100HR-6	£353.12	T689	£77.76			
100	7	67	32	18	26	14.4	25	50		1.6	1	HRMDCM13100HR-7	£406.08	-	-			
125	7	87	40	22	32	16.4	29	63		3.2	1	HRMDCM13125HR-7	£415.80	T690	£92.34			
125	8	87	40	22	32	16.4	29	63		3.2	1	HRMDCM13125HR-8	£466.99	-	-			
80	4	65	27	14	20	12.4	23	50		0.99	1	HRMDCM16080HR-4	£313.60	-	-			
80	5	65	27	14	20	12.4	23	50		0.91	1	HRMDCM16080HR-5	£339.52	-	-			
100	6	85	32	18	26	14.4	25	50		1.64	1	HRMDCM16100HR-6	£390.47	-	-			
125	6	100	40	22	32	16.4	29	63		3.23	1	HRMDCM16125HR-6	£399.81	-	-			
125	7	100	40	22	32	16.4	29	63		3.24	1	HRMDCM16125HR-7	£449.03	-	-			
160	7	107	40	-	90	16.4	32	63		3.73	2	HRMDCM16160R-7	£502.90	-	-			
160	8	107	40	-	90	16.4	32	63	2.5	3.77	2	HRMDCM16160R-8	£528.06	-	-	WNMX16	FTGA0513-P	TW20-100
200	8	145	60	-	132	25.7	38	63		6.48	3	HRMDCM16200R-8	£623.11	-	-			
200	10	145	60	-	132	25.7	38	63		6.61	3	HRMDCM16200R-10	£672.96	-	-			
250	10	190	60	-	190	25.7	38	63		11.01	3	HRMDCM16250R-10	£807.56	-	-			
250	12	190	60	-	190	25.7	38	63		11.04	3	HRMDCM16250R-12	£864.09	-	-			
315	12	250	60	-	238	25.7	38	63		18.34	4	HRMDCM16315R-12	£1,080.10	-	-			
315	14	250	60	-	238	25.7	38	63		18.35	4	HRMDCM16315R-14	£1,155.71	-	-			

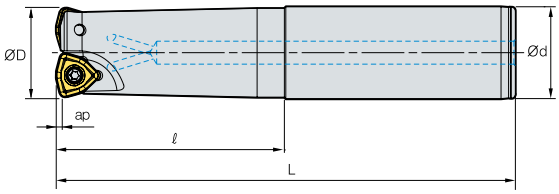
HRM DOUBLE HIGH FEED END MILL

High Feed Machining with 6 Cutting Edges for Ultra High Metal Removal Rates

- Double sided inserts with 6 cutting edges
- Ultra high metal removal rates

Series		Cutting Data
HRMDS Korloy	HRMD-FM Teknik	P412







*Teknik holders not through coolant

TEKNIK KORLOY

ØD	Teeth	Ød	ℓ	L	ap	Kg	Order Code				Inserts	Spares	
							Korloy	Price	Teknik*	Price		Screw	Wrench
16	2	16	30	110		0.15	HRMDS0616HR-2S16	£107.39	-	-			
16	2	16	70	150		0.2	HRMDS0616HR-2M16	£110.97	S898	£51.84			
16	2	16	100	200		0.26	HRMDS0616HR-2L16	£120.05	-	-			
17	2	16	20	110		0.15	HRMDS0617HR-2S16	£107.39	-	-			
17	2	16	20	150		0.21	HRMDS0617HR-2M16	£110.97	S903	£51.84			
17	2	16	20	200		0.28	HRMDS0617HR-2L16	£120.05	-	-			
18	2	16	20	110		0.15	HRMDS0618HR-2S16	£107.39	-	-			
18	2	16	20	150		0.21	HRMDS0618HR-2M16	£110.97	-	-			
18	2	16	20	200		0.28	HRMDS0618HR-2L16	£120.05	-	-			
20	2	20	50	130		0.28	HRMDS0620HR-2S20	£110.70	-	-			
20	2	20	100	180		0.38	HRMDS0620HR-2M20	£114.40	S899	£51.84			
20	2	20	130	250		0.53	HRMDS0620HR-2L20	£123.76	-	-			
21	2	20	20	130		0.29	HRMDS0621HR-2S20	£110.70	-	-			
21	2	20	20	180	1	0.4	HRMDS0621HR-2M20	£114.40	S904	£51.84	WNMX06	ETNA02506	TW07S
21	2	20	20	250		0.57	HRMDS0621HR-2L20	£123.76	-	-			
25	3	25	60	140		0.44	HRMDS0625HR-3S25	£121.78	S905	£56.70			
25	3	25	80	180		0.57	HRMDS0625HR-3M25	£125.83	S905	£56.70			
25	3	25	120	250		0.8	HRMDS0625HR-3L25	£136.14	-	-			
26	3	25	30	140		0.46	HRMDS0626HR-3S25	£121.78	S906	£61.56			
26	3	25	30	180		0.6	HRMDS0626HR-3M25	£125.83	-	-			
26	3	25	30	250		0.84	HRMDS0626HR-3L25	£136.14	-	-			
32	4	32	70	150		0.82	HRMDS0632HR-4S32	£139.54	-	-			
32	4	32	100	200		1.1	HRMDS0632HR-4M32	£143.79	-	-			
32	4	32	180	300		1.66	HRMDS0632HR-4L32	£157.77	-	-			
33	4	32	40	200		1.14	HRMDS0633HR-4S32	£142.33	-	-			
33	4	32	40	250		1.43	HRMDS0633HR-4M32	£146.67	-	-			
33	4	32	40	300		1.73	HRMDS0633HR-4L32	£160.92	-	-			
25	2	25	60	140		0.5	HRMDS0925HR-2S25	£112.76	S802	£51.84			
25	2	25	120	200		0.6	HRMDS0925HR-2M25	£116.50	-	-			
25	2	25	180	300		1	HRMDS0925HR-2L25	£126.04	-	-			
26	2	25	60	140		0.5	HRMDS0926HR-2S25	£112.76	S803	£51.84			
26	2	25	60	200		0.7	HRMDS0926HR-2M25	£116.50	-	-			
26	2	25	60	300		1	HRMDS0926HR-2L25	£126.04	-	-			
30	3	32	70	150		0.8	HRMDS0930HR-3S32	£129.20	-	-			
30	3	32	120	200		1	HRMDS0930HR-3M32	£133.15	-	-			
30	3	32	180	300		1.5	HRMDS0930HR-3L32	£146.08	-	-			
32	3	32	70	150		0.8	HRMDS0932HR-3S32	£129.20	S805	£58.32			
32	3	32	120	200	1.5	1.1	HRMDS0932HR-3M32	£133.15	-	-	WNMX09	FTKA0307	TW09S
32	3	32	180	300		1.7	HRMDS0932HR-3L32	£146.08	-	-			
33	3	32	70	150		0.8	HRMDS0933HR-3S32	£129.20	S806	£58.32			
33	3	32	70	200		1.1	HRMDS0933HR-3M32	£133.15	-	-			
33	3	32	70	300		1.7	HRMDS0933HR-3L32	£146.08	-	-			
35	4	32	50	150		0.9	HRMDS0935HR-4S32	£164.09	-	-			
35	4	32	50	200		1.1	HRMDS0935HR-4M32	£169.09	-	-			
35	4	32	50	300		1.7	HRMDS0935HR-4L32	£185.53	-	-			
40	4	32	50	150		0.9	HRMDS0940HR-4S32	£166.22	S807	£61.56			
40	4	32	50	300		1.8	HRMDS0940HR-4L32	£187.95	-	-			
40	4	40	60	150		1.3	HRMDS0940HR-4S40	£189.50	-	-			

HRM DOUBLE HIGH FEED END MILL (CONTINUED)

High Feed Machining with 6 Cutting Edges for Ultra High Metal Removal Rates

ØD	Teeth	Ød	ℓ	L	ap	Kg	Order Code Korloy	Price	Order Code Teknik*	Price	Inserts	Spares	
												Screw	Wrench
40	4	40	130	250	1.5	2.2	HRMDS0940HR-4M40	£195.29	-	-	WNMX09	FTKA0307	TW09S
40	4	40	180	300		2.7	HRMDS0940HR-4L40	£214.26	-	-			
50	4	32	40	150		1.1	HRMDS0950HR-4S32	£175.09	-	-			
50	4	32	40	250		1.6	HRMDS0950HR-4M32	£180.45	-	-			
50	4	32	40	300		2	HRMDS0950HR-4L32	£197.96	-	-			
50	4	40	40	150		1.4	HRMDS0950HR-4S40	£182.10	-	-			
50	4	40	40	250		2.4	HRMDS0950HR-4M40	£187.67	-	-			
50	4	40	40	300		2.9	HRMDS0950HR-4L40	£205.89	-	-			
50	5	32	40	150		1.1	HRMDS0950HR-5S32	£191.21	-	-			
50	5	32	40	250		1.6	HRMDS0950HR-5M32	£197.04	-	-			
50	5	32	40	300		2	HRMDS0950HR-5L32	£216.19	-	-			
50	5	40	40	150		1.4	HRMDS0950HR-5S40	£196.95	-	-			
50	5	40	40	250		2.4	HRMDS0950HR-5M40	£202.95	-	-			
50	5	40	40	300		2.9	HRMDS0950HR-5L40	£222.68	-	-			
32	2	32	70	150	2	0.8	HRMDS1332HR-2S32	£121.57	-	-	WNMX13	FTKA0412B	TW15S
32	2	32	120	200		1	HRMDS1332HR-2M32	£125.21	S800	£51.84			
32	2	32	180	300		1.6	HRMDS1332HR-2L32	£137.04	-	-			
33	2	32	70	150		0.8	HRMDS1333HR-2S32	£121.62	-	-			
33	2	32	70	200		1.1	HRMDS1333HR-2M32	£130.96	-	-			
33	2	32	70	300		1.7	HRMDS1333HR-2L32	£149.60	-	-			
35	2	32	50	150		0.8	HRMDS1335HR-2S32	£125.21	-	-			
35	2	32	50	200		1.1	HRMDS1335HR-2M32	£134.96	-	-			
35	2	32	50	300		1.7	HRMDS1335HR-2L32	£154.40	-	-			
40	3	32	50	150		0.8	HRMDS1340HR-3S32	£169.91	S801	£58.32			
40	3	32	50	250		1.4	HRMDS1340HR-3M32	£182.67	-	-			
40	3	32	50	300		1.7	HRMDS1340HR-3L32	£187.41	-	-			
40	3	40	60	150		1.2	HRMDS1340HR-3S40	£177.73	-	-			
40	3	40	130	250		2.1	HRMDS1340HR-3M40	£204.47	-	-			
40	3	40	180	300		2.6	HRMDS1340HR-3L40	£217.84	-	-			
50	3	32	50	150		1.1	HRMDS1350HR-3S32	£159.35	-	-			
50	3	32	50	250		1.7	HRMDS1350HR-3M32	£159.35	-	-			
50	3	32	50	300		2	HRMDS1350HR-3L32	£159.35	-	-			
50	3	40	50	150		1.5	HRMDS1350HR-3S40	£159.35	-	-			
50	3	40	50	250		2.4	HRMDS1350HR-3M40	£159.35	-	-			
50	3	40	50	300		2.9	HRMDS1350HR-3L40	£159.35	-	-			
50	4	32	50	150		1.1	HRMDS1350HR-4S32	£199.79	-	-			
50	4	32	50	250		1.7	HRMDS1350HR-4M32	£199.79	-	-			
50	4	32	50	300		2	HRMDS1350HR-4L32	£199.79	-	-			
50	4	40	50	150		1.5	HRMDS1350HR-4S40	£199.79	-	-			
50	4	40	50	250		2.4	HRMDS1350HR-4M40	£199.79	-	-			
50	4	40	50	300		2.9	HRMDS1350HR-4L40	£199.79	-	-			
63	4	32	50	150		1.4	HRMDS1363HR-4S32	£205.08	-	-			
63	4	32	50	250		2.1	HRMDS1363HR-4M32	£205.08	-	-			
63	4	32	50	300		2.4	HRMDS1363HR-4L32	£205.08	-	-			
63	4	40	50	150		1.8	HRMDS1363HR-4S40	£205.08	-	-			
63	4	40	50	250		2.8	HRMDS1363HR-4M40	£205.08	-	-			
63	4	40	50	300		3.2	HRMDS1363HR-4L40	£205.08	-	-			
63	5	32	50	150		1.5	HRMDS1363HR-5S32	£256.35	-	-			
63	5	32	50	250		2	HRMDS1363HR-5M32	£256.35	-	-			
63	5	32	50	300		2.3	HRMDS1363HR-5L32	£256.35	-	-			
63	5	40	50	150		1.8	HRMDS1363HR-5S40	£256.35	-	-			
63	5	40	50	250		2.8	HRMDS1363HR-5M40	£256.35	-	-			
63	5	40	50	300		3.2	HRMDS1363HR-5L40	£256.35	-	-			

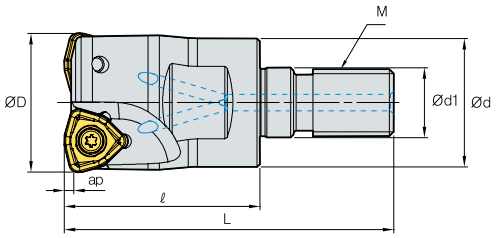
HRM DOUBLE HIGH FEED SCREWED SHANK END MILL

High Feed Machining with 6 Cutting Edges for Ultra High Metal Removal Rates

- Double sided inserts with 6 cutting edges
- Ultra high metal removal rates

Series	Cutting Data
HRMDM Korloy	P412







KORLOY

ØD	Teeth	Ød	Ød1	ℓ	L	M	ap	Kg	Order Code	Price	Inserts	Spares	
												Screw	Wrench
16	2	14.5	8.5	25	42	M08	1	0.03	HRMDM0616HR-M08	**£100.07**	WNMX06	ETNA02506	TW07S
17	2	14.5	8.5	25	42	M08		0.03	HRMDM0617HR-M08	**£100.07**			
18	2	14.5	8.5	25	42	M08		0.03	HRMDM0618HR-M08	**£100.07**			
20	2	18	10.5	30	51	M10		0.06	HRMDM0620HR-M10	**£100.07**			
25	3	23	12.5	35	59	M12		0.1	HRMDM0625HR-M12	**£110.09**			
32	4	29	17	40	67	M16		0.21	HRMDM0632HR-M16	**£147.90**			
25	2	23	12.5	35	59	M12	1.5	0.1	HRMDM0925HR-M12	**£101.93**	WNMX09	FTKA0307	TW09S
26	2	23	12.5	35	59	M12		0.11	HRMDM0926HR-M12	**£102.14**			
30	3	29	17	40	67	M16		0.19	HRMDM0930HR-M16	**£136.33**			
32	3	29	17	40	67	M16		0.2	HRMDM0932HR-M16	**£136.96**			
33	3	29	17	40	67	M16		0.21	HRMDM0933HR-M16	**£137.37**			
35	4	29	17	40	67	M16		0.22	HRMDM0935HR-M16	**£166.74**			
40	4	29	17	40	67	M16		0.25	HRMDM0940HR-M16	**£171.56**			
32	2	29	17	40	67	M16	2	0.2	HRMDM1332HR-M16	**£111.15**	WNMX13	FTKA0412B	TW15S

SCREWED SHANK ADAPTERS HSS SHANK & CARBIDE SHANK

Ideal for Holding and Extending the Reach of Screwed Shank End Mills

Series	Cutting Data
MAT-C / MAT-S Korloy	P412

Fig. 1

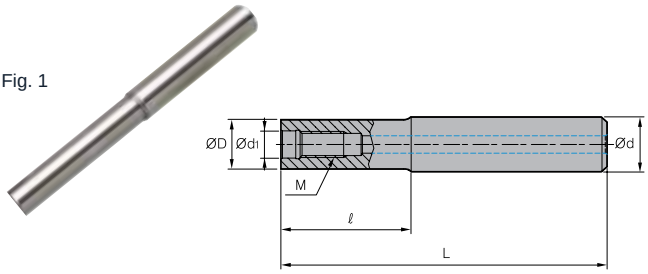


Fig. 2

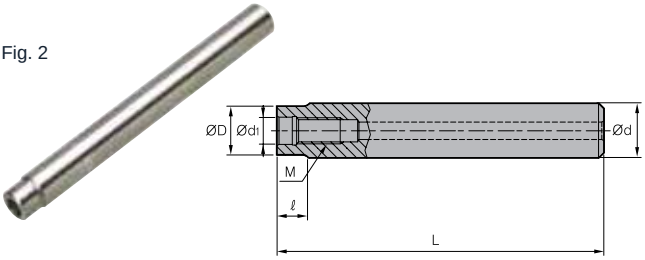


Fig. 1

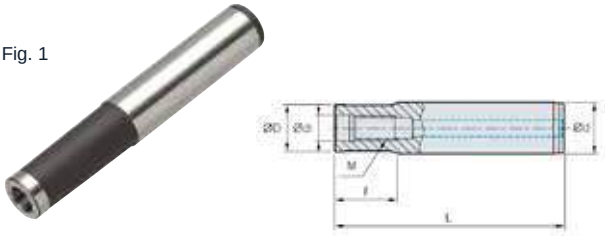
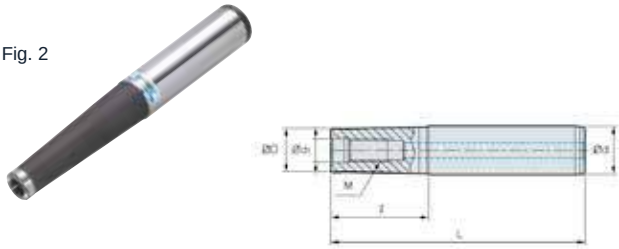


Fig. 2



CARBIDE SHANK

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
16	M08	150	80	14.5	8.5	1	MAT-M08-080-S16S-C	£246.19
16	M08	180	110	14.5	8.5	1	MAT-M08-110-S16S-C	£320.06
16	M08	250	150	14.5	8.5	1	MAT-M08-150-S16S-C	£430.85
16	M08	150	10	14.5	8.5	2	MAT-M08-010-S16S-C-150	£246.19
16	M08	180	10	14.5	8.5	2	MAT-M08-010-S16S-C-180	£320.06
16	M08	250	10	14.5	8.5	2	MAT-M08-010-S16S-C-250	£430.85
20	M10	170	90	18	10.5	1	MAT-M10-090-S20S-C	£381.60
20	M10	200	110	18	10.5	1	MAT-M10-110-S20S-C	£435.27
20	M10	300	175	18	10.5	1	MAT-M10-175-S20S-C	£585.96
20	M10	170	10	18	10.5	2	MAT-M10-010-S20S-C-170	£381.60
20	M10	200	10	18	10.5	2	MAT-M10-010-S20S-C-200	£435.27
20	M10	300	10	18	10.5	2	MAT-M10-010-S20S-C-300	£585.96
25	M12	170	90	22.5	12.5	1	MAT-M12-090-S25S-C	£467.78
25	M12	200	110	22.5	12.5	1	MAT-M12-110-S25S-C	£551.49
25	M12	300	175	22.5	12.5	1	MAT-M12-175-S25S-C	£669.67
25	M12	170	15	22.5	12.5	2	MAT-M12-015-S25S-C-170	£467.78
25	M12	200	15	22.5	12.5	2	MAT-M12-015-S25S-C-200	£551.49
25	M12	300	15	22.5	12.5	2	MAT-M12-015-S25S-C-300	£669.67
32	M16	180	90	28.5	17	1	MAT-M16-090-S32S-C	£686.41
32	M16	210	120	28.5	17	1	MAT-M16-120-S32S-C	£837.08
32	M16	300	175	28.5	17	1	MAT-M16-175-S32S-C	£1,067.27
32	M16	210	20	28.5	17	2	MAT-M16-020-S32S-C-210	£837.08
32	M16	300	20	28.5	17	2	MAT-M16-020-S32S-C-300	£1,067.27

STEEL SHANK

KORLOY

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
10	M06	70	20	9.5	6.5	1	MAT-M06-020-S10S	£73.86
12	M06	76	20	11	6.5	1	MAT-M6B-020-S12S	£74.13
12	M06	96	40	11	6.5	1	MAT-M6B-040-S12S	£76.76
16	M08	80	20	14.5	8.5	1	MAT-M08-020-S16S	£91.48
20	M10	100	30	18	10.5	1	MAT-M10-030-S20S	£131.57
25	M12	110	29	22.5	12.5	1	MAT-M12-030-S25S	£158.17
32	M16	125	35	28.5	17	1	MAT-M16-035-S32S	£205.02
12	M06	96	40	9.5	6.5	2	MAT-M06-040-S12T	£76.76
16	M06	125	65	9.5	6.5	2	MAT-M06-065-S16T	£89.61
16	M06	125	65	11	6.5	2	MAT-M6B-065-S16T	£89.61
16	M06	140	80	11	6.5	2	MAT-M6B-080-S16T	£103.27
16	M08	100	40	14.5	8.5	2	MAT-M08-040-S16T	£111.43
16	M08	125	65	14.5	8.5	2	MAT-M08-065-S16T	£126.15
20	M08	150	80	14.5	8.5	2	MAT-M08-080-S20T	£152.64
25	M08	190	110	14.5	8.5	2	MAT-M08-110-S25T	£193.76
20	M10	120	50	18	10.5	2	MAT-M10-050-S20T	£142.30
20	M10	140	70	18	10.5	2	MAT-M10-070-S20T	£160.94
25	M10	170	90	18	10.5	2	MAT-M10-090-S25T	£202.72
25	M10	190	110	18	10.5	2	MAT-M10-110-S25T	£229.04
32	M10	220	130	18	10.5	2	MAT-M10-130-S32T	£270.96
25	M12	130	50	22.5	12.5	2	MAT-M12-050-S25T	£174.50
25	M12	150	70	22.5	12.5	2	MAT-M12-070-S25T	£185.54
25	M12	170	90	22.5	12.5	2	MAT-M12-090-S25T	£211.65
32	M12	200	110	22.5	12.5	2	MAT-M12-110-S32T	£249.43
40	M12	300	175	22.5	12.5	2	MAT-M12-175-S40T	£351.53
32	M16	145	55	28.5	17	2	MAT-M16-055-S32T	£219.80
32	M16	170	80	28.5	17	2	MAT-M16-080-S32T	£250.98
32	M16	210	120	28.5	17	2	MAT-M16-120-S32T	£271.70
40	M16	300	175	28.5	17	2	MAT-M16-175-S40T	£350.87



CARBIDE SHANK ADAPTERS

Carbide shank modular adapters can vastly reduce vibration or deflection in long reach milling applications. This can improve surface finish, tool life and precision compared to steel shank tool holders.

For best results only high accuracy tool holders should be used with carbide shank adapters, ideally with 3 microns run-out or less. When used with standard accuracy ER collet chucks, run-out can be as high as 50 microns at 10xD tool length and tool deflection can easily occur. This can have serious effects on tool life, accuracy and surface finish.

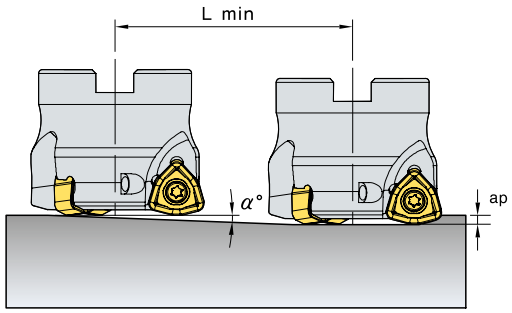
When carbide shank adapters and milling heads are used with a 3 micron run-out tool holder (such as the WTE HPH High Performance chuck), run-out is less than 10 microns at 10xD tool length. Tool life, surface finish and accuracy will be vastly improved whilst deflection will be eliminated.

CUTTING DATA

RAMPING • HELICAL CUTTING

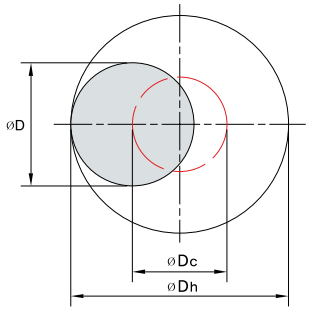
- Adjust feed to under 70% of recommended cutting condition when ramping & helical cutting
- In helical ramping, max. cutting depth per 1 helical revolution of cutter should not exceed max. cutting depth as per insert size
- In ramping, max. cutting depth for 1 ramping process should not exceed max. depth of cut as per used insert size

Ramping



$$Lmin = \frac{ap}{\tan \alpha^{\circ}} (mm)$$

Helical Cutting



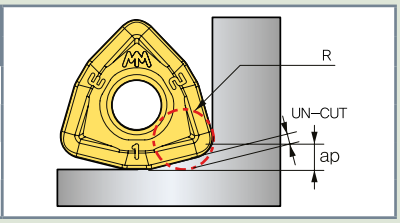
ØDc = **Ø**Dh - **Ø**D
ØDc = Tool Pass of Tool Center
ØDh = Desirable Hole Diameter
ØD = Tool Diameter

ORDER CODE	Tool Dia. ØD	Efficient Cutting Dia. ØDe	Max. ap	Max. Angle α°	Cutting Length Lmin	Cutting Dia. Dh Min	Cutting Dia. Dh Max
HRMDS END MILL							
HRMDS0616HR	16	9.5	1	4.8	11	23.8	29.6
HRMDS0617HR	17	10.5	1	4.1	13	25.8	31.6
HRMDS0618HR	18	11.5	1	3.5	16	27.8	33.6
HRMDS0620HR	20	13.5	1	2.5	22	31.8	37.6
HRMDS0621HR	21	14.5	1	2.2	26	33.8	39.6
HRMDS0625HR	25	18.5	1	1.3	44	41.8	47.6
HRMDS0626HR	26	19.5	1	1.2	47	43.8	49.6
HRMDS0632HR	32	25.5	1	0.6	95	55.8	61.6
HRMDS0633HR	33	26.5	1	0.5	114	57.8	63.6
HRMDS0925HR	25	15.4	1.5	5.4	15.8	37.6	46.8
HRMDS0926HR	26	16.4	1.5	5	17	39.6	48.8
HRMDS0930HR	30	20.4	1.5	3.9	22	47.6	56.8
HRMDS0932HR	32	22.3	1.5	3.5	24.5	51.6	60.8
HRMDS0933HR	33	23.3	1.5	3.3	25.8	53.6	62.8
HRMDS0935HR	35	25.4	1.5	3	28.3	57.6	66.8
HRMDS0940HR	40	30.2	1.5	2.5	34.5	67.6	76.8
HRMDS0950HR	50	40.2	1.5	1.8	47	87.6	96.8
HRMDS1332HR	32	19.3	2	5.7	20	47	60
HRMDS1333HR	33	20.3	2	5.4	21.3	49	62
HRMDS1335HR	35	22.3	2	4.8	24	53	66
HRMDS1340HR	40	27.2	2	3.7	30.7	63	76
HRMDS1350HR	50	37	2	2.6	44	83	96
HRMDS1363HR	63	50	2	1.9	61.3	109	122
HRMDCM FACE MILL							
HRMDCM09040HR	40	30.2	1.5	2.5	34.5	67.6	76.8
HRMDCM09050HR	50	40.2	1.5	1.8	47	87.6	96.8
HRMDCM09063HR	63	53.1	1.5	1.4	63.3	113.6	122.8
HRMDC(M)09080HR	80	70.1	1.5	1	84.5	147.6	156.8
HRMDC(M)09100HR	100	90	1.5	0.8	109.5	187.6	196.8
HRMDCM13050HR	50	37	2	2.6	44	83	96
HRMDCM13063HR	63	50	2	1.9	61.3	109	122
HRMDC(M)13080HR	80	66.9	2	1.4	84	143	156
HRMDC(M)13100HR	100	86.9	2	1	110.7	183	196
HRMDC(M)13125HR	125	111.9	2	0.8	144	233	246
HRMDC(M)16080HR	80	63.3	2.5	1.4	102	138	156
HRMDC(M)16100HR	100	83.3	2.5	1	143	178	196
HRMDC(M)16125HR	125	108.3	2.5	0.7	204	228	246
HRMDC(M)16160R	160	143.3	2.5	0.5	286	298	316
HRMDC(M)16200R	200	183.3	2.5	0.3	477	378	396
HRMDC(M)16250R	250	233.3	2.5	0.2	716	478	496
HRMDC(M)16315R	315	298.3	2.5	0.1	1432	608	626

CORNER R PROGRAMMING

Information for uncut part by using Input. R for CAM program.

INSERT	Cutting Condition		Approx. R	
	Max. ap (mm)	Max. fz (mm/t)	Input. R	Uncut
WNMX060312ZNN-MM	1.0	1.2	1.8	0.4
WNMX09T316ZNN-MM	1.5	2.0	2.5	0.6
WNMX130520ZNN-MM	2.0	3.0	3.0	0.8
WNMX160720ZNN-MM	2.5	3.5	3.5	1.2



*Uncut part will be affected by poor machine condition or weak clamping of workpiece, etc

HRM DOUBLE

RECOMMENDED CUTTING CONDITIONS

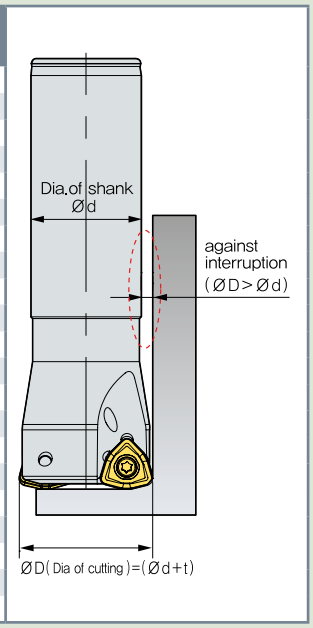
CUTTING DATA

Workpiece			Grades	vc(m/min) Recommended	vc(m/min) Grade Range
ISO	Material	Hardness/Type			
P STEEL	Mild Steel Low Carbon Steel	<20 HRC	PC3700	280	(180-290)
			PC5300/PC5400	230	(150-240)
	Carbon Steel Low Alloy Steel	<30 HRC	PC3700	195	(100-220)
			PC5300/PC5400	170	(100-200)
	High Carbon Steel Alloy Steel	<40 HRC	PC3700	160	
			PC5300/PC5400	150	(100-180)
H HARDENED STEEL	Hardened Steel	<50 HRC	PC2510	120	(80-180)
			PC2505		
	High Hardened Steel	<60 HRC	PC2505	60	(30-75)
M STAINLESS STEEL	Ferritic Martensitic	410, 420, 430 etc	PC5300	120	(100-160)
			PC9530	110	(80-150)
	Austenitic	303, 304, 316 etc	PC5300	100	(90-140)
			PC9530	110	(80-150)
	Duplex Super Duplex	-	PC5300	100	(70-110)
			PC9530	90	(80-100)
S HRSA	Incoloy	-	UNC840	40	(30-50)
			UPC845	30	(20-40)
			PC5300/PC5400	60	(45-70)
	Inconel Nimonic Hastelloy	-	UNC840	40	(30-50)
			UPC845	30	(20-40)
			PC5300/PC5400	50	(40-60)
	Stelite	-	UNC840	30	(20-40)
			UPC845	20	(10-30)
			PC5300/PC5400	20	(15-30)
	Pure Titanium	-	PC5300/PC5400	120	(95-140)
	Titanium Alloy (TiAl6V4)	-	UNC840	60	(30-80)
			UPC845	40	(20-60)
			PC5300/PC5400	60	(55-70)
K CAST IRON	Low Tensile	Grey Cast Iron	PC6510	160	(140-230)
			PC5300	145	(110-180)
	High Tensile		PC6510	135	(110-150)
			PC5300	120	(90-130)
	Ferric	Ductile Cast Iron	PC6510	110	(80-120)
			PC5300	95	(80-100)
	Pearlitic		PC6510	100	(90-110)
			PC5300	85	(70-95)

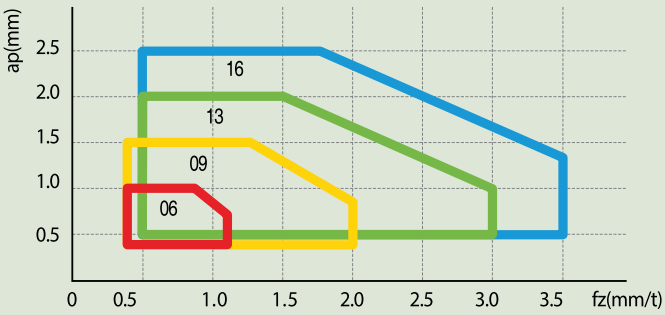
INTERFERENCE PREVENTION

Side clearance prevents interference between the tool and workpiece, even in deep hole machining.

TOOL	ØD	Ød	t
HRMDS0617HR-2_16	17	16	1
HRMDS0618HR-2_16	18	16	2
HRMDS0621HR-2_20	21	20	1
HRMDS0626HR-3_25	26	25	1
HRMDS0633HR-4_32	33	32	1
HRMDS0926HR-2_25	26	25	1
HRMDS0933HR-3_32	33	32	1
HRMDS0935HR-4_32	35	32	3
HRMDS0940HR-4_32	40	32	8
HRMDS0950HR-5_32	50	32	18
HRMDS0950HR-5_40	50	40	10
HRMDS0950HR-5_42	50	42	8
HRMDS1333HR-3_32	33	32	1
HRMDS1335HR-4_32	35	32	3
HRMDS1340HR-4_30	40	30	8
HRMDS1350HR-4_32	50	32	18
HRMDS1350HR-4_40	50	40	10
HRMDS1350HR-4_42	50	42	8
HRMDS1363HR-5_32	63	32	31
HRMDS1363HR-5_40	63	40	23
HRMDS1363HR-5_42	63	42	21



RECOMMENDED FEED RATES & DEPTH OF CUT





WNMX06 WNMX09 WNMX13 WNMX16

FMR P-Positive Copy Milling System

Performance
★★★★★

P H M S K N

High performance copy milling system with positive button style insert

Excellent metal removal rates and surface finish across a wide range of materials suitable for both roughing and finishing applications.

Diameter Range
17-250mm

Insert Sizes
8-20mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★

Advantages

Stable Machining
Unique insert clamping seat ensures maximum stability during high speed machining.

High Positive Inserts
Lowest cutting resistance and higher speeds due to special geometry.

Coarse or Close Pitch
Multiple pitch options means exceptional performance in roughing & finishing.

Multiple Geometries
Wide range of material-specific grades and chip breaker geometries.

Features

Flat Contact Face
Eliminates insert rotation during machining while maximising the use of multiple cutting edges.

11° Relief Angle
Reduces machine stress whilst maximising performance and tool life.

High Rigidity
High machinability in mould/die steel and high-resistant alloy machining.

Through Coolant
Reduced cutting heat for improved chip control & extended tool life.

Tool Selection

Description		Series	Sizes ØD	Page
FMR P-POSITIVE FACE MILL		FMRCM	40-250	**418**
FMR P-POSITIVE END MILL		FMRS	17-50	**419**
FMR P-POSITIVE SCREWED SHANK END MILL		FMRM	17-42	**420**
SCREWED SHANK ADAPTERS		MAT-S MAT-C	M6-M16	**421**

FMR P-POSITIVE INSERT SELECTION

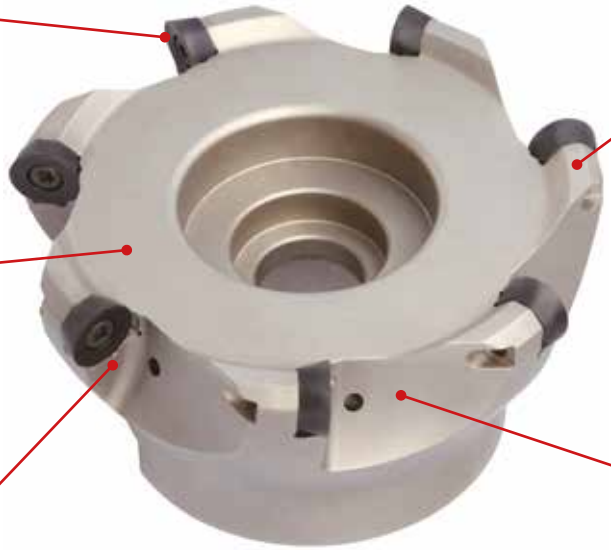
RPCT/RPMT/RPMW	Dimensions (mm)			Grades								Chip Breaker	Application	Order Code	Price
	d	t	d1	PC3700	PC5300	PC5400	PC2505	PC2510	UNC840	UPC845	H01				
	10	3.97	4								●	MA	Aluminium & non-ferrous machining	RPCT10T3M0-MA	**£8.50**
	12	4.76	4.5								●			RPCT1204M0-MA	**£8.40**
	16	6.35	5.5								●			RPCT1606M0-MA	**£13.55**
	20	7	7								●			RPCT2007M0-MA	**£20.38**
	8	3.18	3.4			●						ML	Titanium	RPET0803M0E-ML	**£6.23**
	10	3.97	4			●			●	●				RPET10T3M0E-ML	**£8.50**
	12	4.76	4.5			●								RPET1204M0E-ML	**£9.60**
	16	6.35	5.5		●					●				RPET1606M0E-ML	**£14.50**
	20	7	7			●								RPET2007M0E-ML	**£22.00**
	12	4.76	4.5						●			ML1, ML2, ML3, ML4		RPMT1204M0E-ML2	**£11.50**
	12	4.76	4.5						●					RPMT1204M0E-ML3	**£11.50**
	12	4.76	4.5						●					RPMT1204M0E-ML4	**£11.50**
	16	6.35	5.5						●					RPMT1606M0E-ML1	**£15.56**
	8	3.18	3.4		●	●						MF	Low cutting resistance & light machining	RPMT0803M0E-MF	**£6.23**
	10	3.97	4		●	●			●	●				RPMT10T3M0E-MF	**£8.50**
	12	4.76	4.5		●	●			●	●				RPMT1204M0E-MF	**£11.50**
	16	6.35	5.5		●	●			●	●				RPMT1606M0E-MF	**£14.50**
	20	7	7		●	●				●				RPMT2007M0E-MF	**£22.00**
	8	3.18	3.4		●	●	●	●				MM	General machining, stronger cutting edge	RPMT0803M0S-MM	**£6.23**
	10	3.97	4	●	●	●	●	●						RPMT10T3M0S-MM	**£8.50**
	12	4.76	4.5	●	●	●	●	●	●	●				RPMT1204M0S-MM	**£10.87**
	16	6.35	5.5	●	●	●	●			●				RPMT1606M0S-MM	**£14.50**
	20	7	7	●	●	●								RPMT2007M0S-MM	**£22.00**
	8	3.18	3.4		●	●						None	High hardness machining	RPMW0803M0E1	**£6.23**
	10	3.97	4		●	●		●						RPMW10T3M0E1	**£8.50**
	12	4.76	4.5		●	●		●						RPMW1204M0S1	**£9.60**
	16	6.35	5.5		●			●						RPMW1606M0S1	**£14.50**

FMR P-POSITIVE HOLDER FEATURES

KORLOY

PITCH OPTIONS
- Coarse or close pitch

DIAMETER RANGE
- From 17 to 250mm



STRONG CUTTER BODY
- Rigid alloy steel body with nickel coating

WIDE CHIP POCKET
- For better chip control



THROUGH COOLANT DESIGN
Reduces cutting heat for improved chip control and tool life

FMR P-POSITIVE INSERT FEATURES

KORLOY

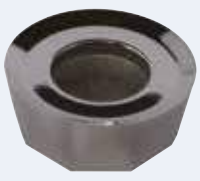
DIAMETER RANGE
- From 8-20mm

RELIEF ANGLE
- 11° Positive angle



FLAT CLAMPING CONTACT FACE
- Prevents the insert from rotating in the holder and ensures multiple uses per insert

SPECIAL ALUMINIUM INSERT
- High polished uncoated grade with MA chip breaker for aluminium machining



CHIP BREAKER GUIDE

Chip Breaker		Cutting Edge	Applications	Benefits
MA			**Aluminium**	▪ Optimal cutting edge and buffed surface prevents built up edge and smooth chip flow in aluminium machining
ML			**Titanium**	▪ Chip breaker specifically for machining titanium
MF			**Light Cutting / finishing / soft steel**	▪ Chip breaker with low cutting load and sharper cutting edge ▪ Excellent for finishing operations, general milling of soft steel & also ideal for low power machines due to low cutting resistance
MM			**General**	▪ Optimal for milling in general machining conditions
None			**Hardened steel**	▪ Stronger cutting edge for high hardness metals

RECOMMENDED CHIP BREAKERS & GRADES

Workpiece		P		H		M	S	K	N
		Low Carbon & Mild Steel	High Carbon & Alloy Steel	Hardened Steel 40-50 HRC	Hardened Steel 50-60 HRC	Stainless Steel	Titanium/ Inconel	Cast Iron	Non-Ferrous
Chip Breaker	First Choice	MF	MM	None		ML	ML	MM	MA
	Second Choice	MM	MF	MM		MM	MM	MF	
Grade	First Choice	PC3700		PC2510	PC2505	PC5300	UNC840/ UPC845	PC5300	H01
	Second Choice	PC5300		PC5300		PC5400/ UNC840	PC5300	PC5400	

FMR P-POSITIVE FACE MILL

High Performance Button Insert Copy Milling System

- Button insert style face mill
- Insert sizes: 10, 12, 16 & 20mm

Series	Cutting Data
FMRCM Korloy	P422



Fig. 1

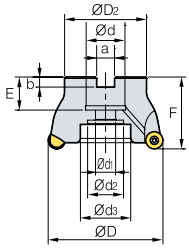


Fig. 2

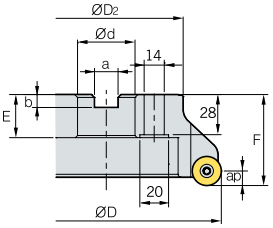
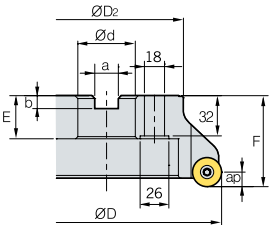


Fig. 3





*Teknik holders not through coolant

ØD	Teeth	ØD2	Ød	Ød1	Ød2	Ød3	a	b	E	F	ap	kg	Fig.	Order Code				Inserts	Spares	
														Korloy	Price	Teknik*	Price		Screw	Wrench
40	5	38	16	9	14	-	8.4	5.6	19	40		0.22	1	FMRCM3040HRP-5	**£133.26**	T706	**£45.36**			
50	6	45	22	11	18	-	10.4	6.3	20	40		0.35	1	FMRCM3050HRP-6	**£142.75**	T707	**£51.84**			
52	6	45	22	11	18	-	10.4	6.3	20	40	5	0.37	1	FMRCM3052HRP-6	**£142.75**	-	-	RPCT10 RPMT10 RPMW10	FTGA03508	TW15S
63	6	50	22	11	18	-	10.4	6.3	20	40		0.55	1	FMRCM3063HRP-6	**£149.57**	T708	**£51.84**			
63	7	50	22	11	18	-	10.4	6.3	20	40		0.56	1	FMRCM3063HRP-7	**£166.54**	-	-			
66	7	50	22	11	18	-	10.4	6.3	20	40		0.60	1	FMRCM3066HRP-7	**£166.54**	-	-			
50	4	45	22	11	18	-	10.4	6.3	20	40		0.26	1	FMRCM4050HRP-4	**£134.81**	-	-			
50	5	45	22	11	18	-	10.4	6.3	20	40		0.28	1	FMRCM4050HRP-5	**£142.75**	T711	**£45.36**			
52	5	45	22	11	18	-	10.4	6.3	20	40		0.30	1	FMRCM4052HRP-5	**£142.75**	-	-			
63	5	50	22	11	18	-	10.4	6.3	20	40		0.44	1	FMRCM4063HRP-5	**£162.63**	T712	**£48.60**	RPCT12 RPET12 RPMT12 RPMW12	FTKA0410	TW15S
63	6	50	22	11	18	-	10.4	6.3	20	40	6	0.48	1	FMRCM4063HRP-6	**£181.08**	-	-			
66	6	50	22	11	18	-	10.4	6.3	20	40		0.50	1	FMRCM4066HRP-6	**£181.08**	-	-			
80	6	57	27	14	25	35	12.4	7	23	50		0.92	1	FMRCM4080HRP-6	**£199.83**	T713	**£59.94**			
80	7	57	27	14	25	35	12.4	7	23	50		0.90	1	FMRCM4080HRP-7	**£222.50**	-	-			
100	7	67	32	18	26	42	14.4	8	25	53		1.46	1	FMRCM4100HRP-7	**£235.05**	T714	**£69.66**			
63	4	50	22	11	18	-	10.4	6.3	20	40		0.43	1	FMRCM5063HRP-4	**£170.22**	-	-			
63	5	50	22	11	18	-	10.4	6.3	20	40		0.44	1	FMRCM5063HRP-5	**£192.54**	T717	**£48.60**			
66	5	50	22	11	18	-	10.4	6.3	20	40		0.48	1	FMRCM5066HRP-5	**£192.54**	-	-			
80	5	57	27	14	25	35	12.4	7	23	50		0.77	1	FMRCM5080HRP-5	**£219.06**	-	-	RPCT16 RPMT16 RPMW16	FTGA0512-P	TW20-100
80	6	57	27	14	25	35	12.4	7	23	50	8	0.82	1	FMRCM5080HRP-6	**£242.20**	T718	**£59.94**			
100	6	67	32	18	26	42	14.4	8	25	55		1.42	1	FMRCM5100HRP-6	**£265.89**	-	-			
125	7	87	40	22	32	52	16.4	9	29	63		2.78	1	FMRCM5125HRP-7	**£368.39**	T719	**£69.66**			
125	8	87	40	22	32	52	16.4	9	29	63		2.79	1	FMRCM5125HRP-8	**£390.70**	-	-			
160	8	107	40	-	-	100	16.4	9	32	63		4.01	2	FMRCM5160RP-8	**£491.45**	T720	**£76.14**			
63	4	50	22	11	18	-	10.4	6.3	20	40		0.37	1	FMRCM6063HRP-4	**£170.22**	-	-			
80	5	57	27	14	25	35	12.4	7	23	50		0.87	1	FMRCM6080HRP-5	**£219.06**	-	-			
100	5	67	32	18	26	42	14.4	8	25	55		1.31	1	FMRCM6100HRP-5	**£251.79**	-	-			
100	6	67	32	18	26	42	14.4	8	25	55		1.40	1	FMRCM6100HRP-6	**£274.11**	-	-			
125	5	87	40	22	32	52	16.4	9	29	63	10	2.77	1	FMRCM6125HRP-5	**£346.08**	-	-	RPCT20 RPET20 RPMT20 RPMW20	FTKA0615-P	TW25-100
125	7	87	40	22	32	52	16.4	9	29	63		2.89	1	FMRCM6125HRP-7	**£368.39**	-	-			
160	6	107	40	-	-	100	16.4	9	32	63		3.58	2	FMRCM6160RP-6	**£471.16**	-	-			
160	8	107	40	-	-	100	16.4	9	32	63		3.53	2	FMRCM6160RP-8	**£491.45**	-	-			
200	8	130	60	-	-	132	25.7	14	38	63		5.15	3	FMRCM6200RP-8	**£530.77**	-	-			
250	9	180	60	-	-	180	25.7	14	38	63		9.72	3	FMRCM6250RP-9	**£642.23**	-	-			

FMR P-POSITIVE END MILL

High Performance Button Insert Copy Milling System

- Button insert style end mill
- Insert sizes: 8, 10, 12, 16 & 20mm

Series	Cutting Data
FMRS Korloy	P422



Fig. 1

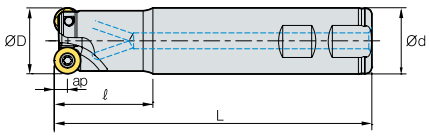
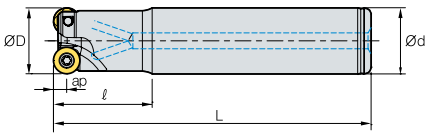


Fig. 2





*Teknik holders not through coolant

ØD	Teeth	Ød	ℓ	L	ap	kg	Fig.	Order Code				Inserts	Spares	
								Korloy	Price	Teknik*	Price		Screw	Wrench
17	2	16	35	90	4	0.11	2	FMRS2517HRP-2S16	£90.25	-	-	RPMT08 RPMW08	FTNA0305 FTNA0306	TW09S
17	2	16	35	150		0.20	2	FMRS2517HRP-2M16	£92.08	-	-			
17	2	16	35	200		0.27	2	FMRS2517HRP-2L16	£92.08	-	-			
18	2	16	35	150		0.20	2	FMRS2518HRP-2M16	£92.08	R311	£48.60			
18	2	16	35	200		0.28	2	FMRS2518HRP-2L16	£92.08	-	-			
20	3	20	35	130		0.27	2	FMRS2520HRP-3S20	£90.25	R312	£48.60			
20	3	20	100	180		0.36	2	FMRS2520HRP-3M20	£92.08	-	-			
20	3	20	130	250		0.50	2	FMRS2520HRP-3L20	£132.18	-	-			
21	3	20	35	130		0.28	2	FMRS2521HRP-3S20	£124.11	-	-			
21	3	20	35	180		0.40	2	FMRS2521HRP-3M20	£132.18	-	-			
21	3	20	35	250		0.55	2	FMRS2521HRP-3L20	£132.18	-	-			
25	4	25	35	150		0.48	2	FMRS2525HRP-4S25	£131.46	R313	£55.08			
25	4	25	60	180		0.60	2	FMRS2525HRP-4M25	£158.61	-	-			
25	4	25	130	250		0.81	2	FMRS2525HRP-4L25	£158.61	-	-			
26	4	25	35	150		0.48	2	FMRS2526HRP-4S25	£131.46	-	-			
26	4	25	130	250		0.85	2	FMRS2526HRP-4L25	£158.61	-	-			
25	2	20	40	170	5	0.40	2	FMRS3025HRP-2M20	£108.15	-	-	RPCT10 RPMT10 RPMW10	FTGA03507 FTGA03508	TW15S
25	2	25	40	120		0.39	1	FMRS3025HRP-2S25	£96.12	R317	£42.12			
25	2	25	60	160		0.52	2	FMRS3025HRP-2M25	£108.15	R318	£48.60			
25	2	25	130	250		0.80	2	FMRS3025HRP-2L25	£120.16	-	-			
26	2	25	30	200		0.69	2	FMRS3026HRP-2L25	£120.16	-	-			
32	3	32	40	125		0.68	1	FMRS3032HRP-3S32	£124.11	-	-			
32	3	32	60	200		1.08	2	FMRS3032HRP-3L32	£144.20	-	-			
32	4	32	40	125		0.66	1	FMRS3032HRP-4S32	£146.46	R319	£50.22			
32	4	25	60	200		0.74	2	FMRS3032HRP-4L25	£155.73	R320	£61.56			
33	4	32	40	125		0.67	1	FMRS3033HRP-4S32	£146.46	-	-			
33	4	32	60	180		1.00	2	FMRS3033HRP-4M32	£155.73	-	-			
33	4	32	180	300		1.64	2	FMRS3033HRP-4L32	£155.73	-	-			
25	2	25	60	160	6	0.46	1	FMRS4025HRP-2S25	£96.12	R325	£48.60	RPCT12 RPET12 RPMT12 RPMW12	FTKA0408 FTKA0410	TW15S
26	2	25	60	200		0.48	2	FMRS4026HRP-2L25	£120.16	-	-			
32	2	25	40	190		0.68	2	FMRS4032HRP-2L25	£120.16	-	-			
32	2	32	50	125		0.64	1	FMRS4032HRP-2S32	£107.39	-	-			
32	2	32	50	250		1.40	2	FMRS4032HRP-2L32	£120.16	-	-			
32	3	32	50	125		0.64	1	FMRS4032HRP-3S32	£124.11	-	-			
32	3	32	60	160		0.85	2	FMRS4032HRP-3M32	£132.18	R326	£51.84			
33	3	32	60	200		1.01	2	FMRS4033HRP-3M32	£132.18	-	-			
33	3	32	60	300		1.67	2	FMRS4033HRP-3L32	£144.20	-	-			
40	3	32	35	105		0.60	1	FMRS4040HRP-3S32	£124.11	-	-			
40	3	32	50	160		0.96	2	FMRS4040HRP-3M32	£132.18	-	-			
40	4	32	35	105		0.60	1	FMRS4040HRP-4S32	£146.46	-	-			
40	4	32	35	150		0.87	2	FMRS4040HRP-4M32	£155.73	R321	£61.56			
40	4	32	35	250		1.46	2	FMRS4040HRP-4L32	£155.73	-	-			
50	4	32	50	150		1.10	2	FMRS4050HRP-4M32	£168.21	-	-			
50	4	40	50	150		1.44	2	FMRS4050HRP-4M40	£168.21	-	-			
40	2	32	50	160	8	0.92	2	FMRS5040HRP-2M32	£146.90	-	-	RPMT16 RPMW16	FTGA0511-P	TW20-100
40	2	32	50	250		1.45	2	FMRS5040HRP-2L32	£180.77	-	-			
50	3	40	50	160		1.48	2	FMRS5050HRP-3M40	£218.33	-	-			
50	3	40	50	300		2.86	2	FMRS5050HRP-3L40	£246.96	-	-			
50	3	32	50	160	10	1.06	1	FMRS6050HRP-3S32	£145.36	-	-	RPCT20 RPET20 RPMT20 RPMW20	FTKA0615-P	TW25-100
50	3	32	50	200		1.30	2	FMRS6050HRP-3M32	£164.23	-	-			
50	3	40	50	125		1.45	1	FMRS6050HRP-3S40	£145.36	-	-			
50	3	40	50	200		1.85	2	FMRS6050HRP-3M40	£164.23	-	-			

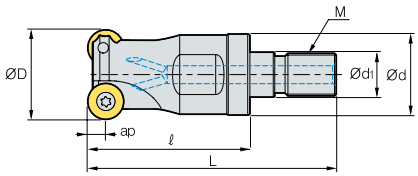
FMR P-POSITIVE SCREW SHANK END MILL

High Performance Button Insert Copy Milling System

- Button insert style end mill with screwed shank for long reach applications
- Insert sizes: 8, 12 & 16mm
- Oversized diameters to prevent interference in deep pocket machining (e.g. 33mm diameter, 32mm shank adapter)

Series	Cutting Data
FMRM Korloy	P422







KORLOY

ØD	Teeth	Ød	Ød1	ℓ	L	M	ap	kg	Order Code	Price	Inserts	Spares	
												Screw	Wrench
17	2	14.5	8.5	25	42	M08	4	0.03	FMRM2517HRP-M08	**£107.57**	RPMT08, RPMW08	FTNA0305 FTNA0306	TW09S
21	3	18	10.5	30	51	M10		0.06	FMRM2521HRP-M10	**£131.72**			
26	4	23	12.5	35	59	M12		0.11	FMRM2526HRP-M12	**£155.90**			
33	4	29	17	40	67	M16		0.22	FMRM2533HRP-M16	**£155.90**			
40	5	29	17	40	67	M16		0.26	FMRM2540HRP-M16	**£155.90**			
26	2	23	12.5	35	59	M12	5	0.10	FMRM3026HRP-M12	**£107.57**	RPCT10, RPMT10, RPMW10	FTGA03507 FTGA03508	TW15S
33	3	29	17	40	67	M16		0.20	FMRM3033HRP-M16	**£131.72**			
35	3	29	17	40	67	M16		0.22	FMRM3035HRP-M16	**£131.72**			
40	3	29	17	40	67	M16		0.25	FMRM3040HRP-M16	**£131.72**			
42	3	29	17	40	67	M16		0.27	FMRM3042HRP-M16	**£131.72**			
26	2	23	12.5	35	59	M12	6	0.10	FMRM4026HRP-M12	**£107.57**	RPCT12, RPET12, RPMT12, RPMW12	FTKA0408 FTKA0410	TW15S
33	3	29	17	40	67	M16		0.21	FMRM4033HRP-M16	**£131.72**			
35	3	29	17	40	67	M16		0.21	FMRM4035HRP-M16	**£131.72**			
40	4	29	17	40	67	M16		0.24	FMRM4040HRP-M16	**£155.90**			

SCREWED SHANK ADAPTERS HSS SHANK & CARBIDE SHANK

Ideal for Holding and Extending the Reach of Screwed Shank End Mills

Series	Cutting Data
MAT-C / MAT-S Korloy	P422

Fig. 1

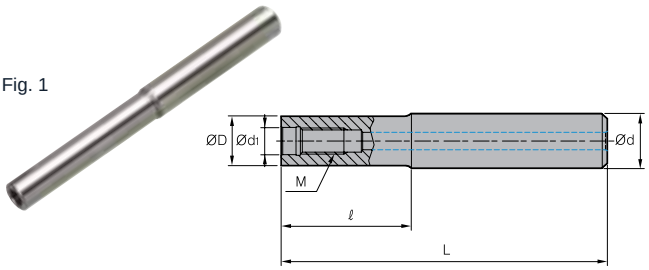


Fig. 2

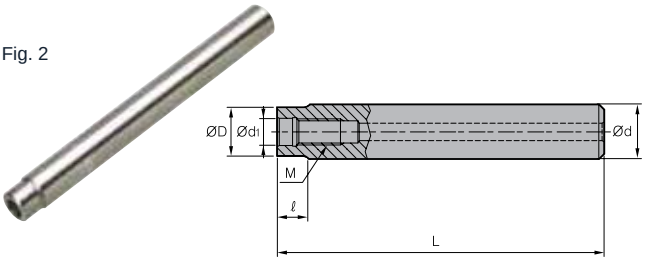


Fig. 1

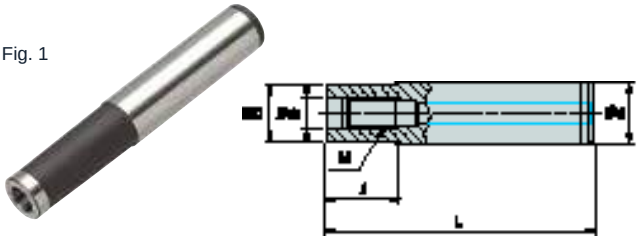
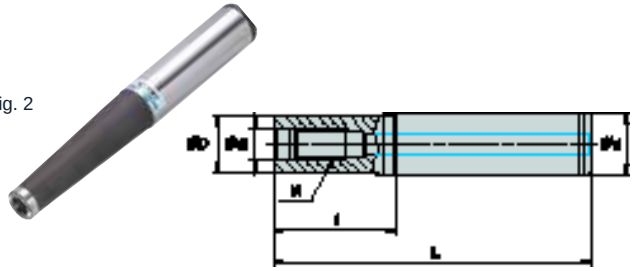


Fig. 2



CARBIDE SHANK

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
16	M08	150	80	14.5	8.5	1	MAT-M08-080-S16S-C	£246.19
16	M08	180	110	14.5	8.5	1	MAT-M08-110-S16S-C	£320.06
16	M08	250	150	14.5	8.5	1	MAT-M08-150-S16S-C	£430.85
16	M08	150	10	14.5	8.5	2	MAT-M08-010-S16S-C-150	£246.19
16	M08	180	10	14.5	8.5	2	MAT-M08-010-S16S-C-180	£320.06
16	M08	250	10	14.5	8.5	2	MAT-M08-010-S16S-C-250	£430.85
20	M10	170	90	18	10.5	1	MAT-M10-090-S20S-C	£381.60
20	M10	200	110	18	10.5	1	MAT-M10-110-S20S-C	£435.27
20	M10	300	175	18	10.5	1	MAT-M10-175-S20S-C	£585.96
20	M10	170	10	18	10.5	2	MAT-M10-010-S20S-C-170	£381.60
20	M10	200	10	18	10.5	2	MAT-M10-010-S20S-C-200	£435.27
20	M10	300	10	18	10.5	2	MAT-M10-010-S20S-C-300	£585.96
25	M12	170	90	22.5	12.5	1	MAT-M12-090-S25S-C	£467.78
25	M12	200	110	22.5	12.5	1	MAT-M12-110-S25S-C	£551.49
25	M12	300	175	22.5	12.5	1	MAT-M12-175-S25S-C	£669.67
25	M12	170	15	22.5	12.5	2	MAT-M12-015-S25S-C-170	£467.78
25	M12	200	15	22.5	12.5	2	MAT-M12-015-S25S-C-200	£551.49
25	M12	300	15	22.5	12.5	2	MAT-M12-015-S25S-C-300	£669.67
32	M16	180	90	28.5	17	1	MAT-M16-090-S32S-C	£686.41
32	M16	210	120	28.5	17	1	MAT-M16-120-S32S-C	£837.08
32	M16	300	175	28.5	17	1	MAT-M16-175-S32S-C	£1,067.27
32	M16	210	20	28.5	17	2	MAT-M16-020-S32S-C-210	£837.08
32	M16	300	20	28.5	17	2	MAT-M16-020-S32S-C-300	£1,067.27

STEEL SHANK

KORLOY

Ød	M	L	ℓ	ØD	Ød1	Fig.	Order Code	Price
10	M06	70	20	9.5	6.5	1	MAT-M06-020-S10S	£73.86
12	M06	76	20	11	6.5	1	MAT-M6B-020-S12S	£74.13
12	M06	96	40	11	6.5	1	MAT-M6B-040-S12S	£76.76
16	M08	80	20	14.5	8.5	1	MAT-M08-020-S16S	£91.48
20	M10	100	30	18	10.5	1	MAT-M10-030-S20S	£131.57
25	M12	110	29	22.5	12.5	1	MAT-M12-030-S25S	£158.17
32	M16	125	35	28.5	17	1	MAT-M16-035-S32S	£205.02
12	M06	96	40	9.5	6.5	2	MAT-M06-040-S12T	£76.76
16	M06	125	65	9.5	6.5	2	MAT-M06-065-S16T	£89.61
16	M06	125	65	11	6.5	2	MAT-M6B-065-S16T	£89.61
16	M06	140	80	11	6.5	2	MAT-M6B-080-S16T	£103.27
16	M08	100	40	14.5	8.5	2	MAT-M08-040-S16T	£111.43
16	M08	125	65	14.5	8.5	2	MAT-M08-065-S16T	£126.15
20	M08	150	80	14.5	8.5	2	MAT-M08-080-S20T	£152.64
25	M08	190	110	14.5	8.5	2	MAT-M08-110-S25T	£193.76
20	M10	120	50	18	10.5	2	MAT-M10-050-S20T	£142.30
20	M10	140	70	18	10.5	2	MAT-M10-070-S20T	£160.94
25	M10	170	90	18	10.5	2	MAT-M10-090-S25T	£202.72
25	M10	190	110	18	10.5	2	MAT-M10-110-S25T	£229.04
32	M10	220	130	18	10.5	2	MAT-M10-130-S32T	£270.96
25	M12	130	50	22.5	12.5	2	MAT-M12-050-S25T	£174.50
25	M12	150	70	22.5	12.5	2	MAT-M12-070-S25T	£185.54
25	M12	170	90	22.5	12.5	2	MAT-M12-090-S25T	£211.65
32	M12	200	110	22.5	12.5	2	MAT-M12-110-S32T	£249.43
40	M12	300	175	22.5	12.5	2	MAT-M12-175-S40T	£351.53
32	M16	145	55	28.5	17	2	MAT-M16-055-S32T	£219.80
32	M16	170	80	28.5	17	2	MAT-M16-080-S32T	£250.98
32	M16	210	120	28.5	17	2	MAT-M16-120-S32T	£271.70
40	M16	300	175	28.5	17	2	MAT-M16-175-S40T	£350.87



CARBIDE SHANK ADAPTERS

Carbide shank modular adapters can vastly reduce vibration or deflection in long reach milling applications. This can improve surface finish, tool life and precision compared to steel shank tool holders.

For best results only high accuracy tool holders should be used with carbide shank adapters, ideally with 3 microns run-out or less. When used with standard accuracy ER collet chucks, run-out can be as high as 50 microns at 10xD tool length and tool deflection can easily occur. This can have serious effects on tool life, accuracy and surface finish.

When carbide shank adapters and milling heads are used with a 3 micron run-out tool holder (such as the WTE HPH High Performance chuck), run-out is less than 10 microns at 10xD tool length. Tool life, surface finish and accuracy will be vastly improved whilst deflection will be eliminated.

FMR P-POSITIVE

RECOMMENDED CUTTING CONDITIONS

CUTTING DATA

Workpiece			Grade	VC (m/min)	fz (mm/t)	Max ap (mm)	Max ae (mm)	Chip Breakers				
ISO	Material	Hardness (HRC)						MM	MF	ML	None	MA
P Steel	Low Carbon Steel High Carbon Steel	<30 HRC	PC3700	100-250	0.5-1.5	6	<0.7D	●				
			PC5300		0.2-0.7			○	●			
			PC5400					○	●			
	Alloy Steel		PC3700	100-200	0.3-0.6			●				
			PC5300	130-250				●			○	
	Pre-Hard-ened Steel	<50 HRC	PC5300	50-150	0.3-0.5	0.5					●	
			PC2510								●	
H Hardened Steel	High Hardened Materials	<60 HRC	PC2510	30-50	0.3-0.5						●	
			PC2505					●				
M Stainless Steel	Stainless Steel	<30 HRC	PC5300	100-150	0.2-0.6	6		●	○			
			PC5400					●	○			
			UNC840						○	●		
S HRSA's	HRSA Fe Series	<30 HRC	UNC840	30-50	0.4-0.5	2			○	●		
			UPC845	20-40	0.4-0.6	3			○	●		
			PC5300	35-60	0.3-0.5	0.5			○	●		
			PC5400						○	●		
	HRSA Ni or Co Series (Inconel 718)	<45 HRC	UNC840	30-50	0.4-0.5	2			○	●		
			UPC845	20-40	0.4-0.6	3			○	●		
			PC5300	30-50	0.3-0.5	0.5			○	●		
			PC5400						○	●		
	Titanium		UNC840	30-80	0.4-0.8	2			○	●		
			UPC845	20-60	0.4-1.0	3			○	●		
			PC5300	40-70	0.3-0.5	1.5			○	●		
			PC5400						○	●		
K Cast Iron	Cast Iron	Tensile Strength >450Mpa	PC5300	120-210	0.2-0.6	6		●	○			
N Non Ferrous	Aluminium		H01	300-800	0.3-0.6							●

● First Choice ○ Second Choice

fz (Feed) = mm per tooth
vc (Surface speed) = meters per minute
ap = Depth of cut
ae = Step over

FMR P-POSITIVE

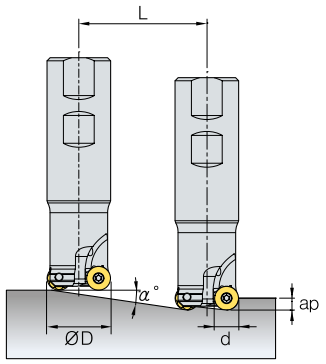
MAXIMUM RAMPING ANGLE

CUTTING DATA

$$L = \frac{ap}{\tan \alpha^{\circ}} (mm)$$

L(mm) : Cutting length
α° : Max. ramping angle
ap(mm) : Depth of cut

Ramping



Tool Series	Tool Dia. ØD(min)	Insert Size (d)	Ramping Angle α°(max)	Cutting Length L(mm) by ap									
				ap=1	ap=2	ap=2.5	ap=3	ap=3.5	ap=4	ap=5	ap=6	ap=8	ap=10
FMR2500	17	8	4.7	12	24	30	36	42	48	-	-	-	-
	18	8	4.1	14	28	34	41	48	55	-	-	-	-
	20	8	15.4	4	7	9	11	13	14	-	-	-	-
	21	8	13.9	4	8	10	12	14	16	-	-	-	-
	25	8	9.8	6	12	14	17	20	23	-	-	-	-
	26	8	9.2	6	12	16	19	22	25	-	-	-	-
FMR3000	25	10	13.8	4	8	10	12	14	16	20	-	-	-
	26	10	12.6	4	9	11	13	16	18	22	-	-	-
	32	10	8.4	7	14	17	20	24	27	34	-	-	-
	33	10	8.0	7	14	18	21	25	29	36	-	-	-
	40	10	5.8	10	20	25	30	34	39	49	-	-	-
	50	10	4.2	14	27	34	41	48	55	68	-	-	-
	63	10	3.1	19	37	47	56	65	75	93	-	-	-
	66	10	2.9	20	40	50	60	69	79	99	-	-	-
FMR4000	25	12	4.5	13	25	32	38	44	51	63	76	-	-
	26	12	4.1	14	28	35	42	49	56	70	84	-	-
	32	12	14.7	4	8	10	11	13	15	19	23	-	-
	33	12	13.8	4	8	10	12	14	16	20	24	-	-
	40	12	9.6	6	12	15	18	21	24	30	36	-	-
	50	12	6.7	9	17	21	26	30	34	43	51	-	-
	63	12	4.8	12	24	30	36	42	48	60	72	-	-
	66	12	4.5	13	26	32	38	45	51	64	77	-	-
	80	12	3.5	17	33	41	50	58	66	83	99	-	-
	100	12	2.6	22	44	55	65	76	87	109	131	-	-
FMR5000	40	16	17.8	3	6	8	9	11	12	16	19	25	-
	50	16	11.3	5	10	13	15	18	20	25	30	40	-
	63	16	7.6	7	15	19	22	26	30	37	45	60	-
	66	16	7.1	8	16	20	24	28	32	40	48	64	-
	80	16	5.3	11	21	27	32	37	43	53	64	85	-
	100	16	4.0	14	29	36	43	51	58	72	87	116	-
	125	16	3.0	19	38	48	58	67	77	96	115	154	-
	160	16	2.2	26	52	65	78	90	103	129	155	207	-
FMR6000	50	20	17.8	3	6	8	9	11	12	16	19	25	31
	63	20	11.1	5	10	13	15	18	20	25	30	41	51
	80	20	7.4	8	15	19	23	27	31	38	46	61	77
	100	20	5.3	11	21	27	32	37	43	53	64	85	107
	125	20	4.0	14	29	36	43	51	58	72	87	116	145
	160	20	2.9	20	40	49	59	69	79	99	119	158	198
	200	20	2.2	26	52	65	78	90	103	129	155	207	258
	250	20	1.7	33	67	84	100	117	134	167	200	267	334

FMR P-POSITIVE

MINIMUM HOLE DIAMETER FOR HELICAL MACHINING (ØDHmin)

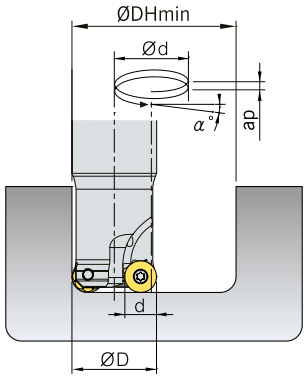
CUTTING DATA

- ØD = Tool Dia.(mm)
- Ød(Tool Path, mm) = ØDHmin, max - ØD
- ØDHmin(Minimum hole diameter) = ØD × 2 - Insert size(d)
- ØDHmax(Maximum hole diameter) = ØD×2 - 2
- Ramping angle by ap(α°) = $\tan^{-1}$

Helical angle adjusted by ap cannot exceed maximum angle

- ap = Depth of cut

Ramping



Tool Series	Tool Dia. ØD(min)	Insert Size (d)	Ramping Angle α°(max)	ØDH min	Ød	Ramping angle α°) by ap									
						ap=1	ap=2	ap=2.5	ap=3	ap=3.5	ap=4	ap=5	ap=6	ap=8	ap=10
FMR2500	17	8	4.7	26	9	2.03	4.06	-	-	-	-	-	-	-	-
	18	8	4.1	28	10	1.83	3.65	-	-	-	-	-	-	-	-
	20	8	15.4	32	12	1.52	3.04	3.81	4.57	5.34	6.11	-	-	-	-
	21	8	13.9	34	13	1.40	2.81	3.51	4.22	4.92	5.63	-	-	-	-
	25	8	9.8	42	17	1.07	2.15	2.69	3.22	3.76	4.30	-	-	-	-
	26	8	9.2	44	18	1.01	2.03	2.54	3.04	3.55	4.06	-	-	-	-
FMR3000	25	10	13.8	40	15	1.22	2.43	3.04	3.65	4.27	4.88	-	-	-	-
	26	10	12.6	42	16	1.14	2.28	2.85	3.43	4.00	4.57	-	-	-	-
	32	10	8.4	54	22	0.83	1.66	2.07	2.49	2.91	3.32	-	-	-	-
	33	10	8.0	56	23	0.79	1.59	1.98	2.38	2.78	3.18	-	-	-	-
	40	10	5.8	70	30	0.61	1.22	1.52	1.83	2.13	2.43	-	-	-	-
	50	10	4.2	90	40	0.46	0.91	1.14	1.37	1.60	1.83	-	-	-	-
	63	10	3.1	116	53	0.34	0.69	0.86	1.03	1.21	1.38	-	-	-	-
	66	10	2.9	122	56	0.33	0.65	0.81	0.98	1.14	1.30	-	-	-	-
FMR4000	25	12	4.5	38	13	1.40	2.81	3.51	-	-	-	-	-	-	-
	26	12	4.1	40	14	1.30	2.61	3.26	-	-	-	-	-	-	-
	32	12	14.7	52	20	0.91	1.83	2.28	2.74	3.20	3.65	4.57	5.49	-	-
	33	12	13.8	54	21	0.87	1.74	2.17	2.61	3.04	3.48	4.35	5.23	-	-
	40	12	9.6	68	28	0.65	1.30	1.63	1.96	2.28	2.61	3.26	3.92	-	-
	50	12	6.7	88	38	0.48	0.96	1.20	1.44	1.68	1.92	2.40	2.88	-	-
	63	12	4.8	114	51	0.36	0.72	0.89	1.07	1.25	1.43	1.79	2.15	-	-
	66	12	4.5	120	54	0.34	0.68	0.84	1.01	1.18	1.35	1.69	2.03	-	-
	80	12	3.5	148	68	0.27	0.54	0.67	0.81	0.94	1.07	1.34	1.61	-	-
	100	12	2.6	188	88	0.21	0.41	0.52	0.62	0.73	0.83	1.04	1.24	-	-
FMR5000	40	16	17.8	64	24	0.76	1.52	1.90	2.28	2.66	3.04	3.81	4.57	6.11	-
	50	16	11.3	84	34	0.54	1.07	1.34	1.61	1.88	2.15	2.69	3.22	4.30	-
	63	16	7.6	110	47	0.39	0.78	0.97	1.16	1.36	1.55	1.94	2.33	3.11	-
	66	16	7.1	116	50	0.36	0.73	0.91	1.09	1.28	1.46	1.83	2.19	2.92	-
	80	16	5.3	144	64	0.29	0.57	0.71	0.86	1.00	1.14	1.43	1.71	2.28	-
	100	16	4.0	184	84	0.22	0.43	0.54	0.65	0.76	0.87	1.09	1.30	1.74	-
	125	16	3.0	234	109	0.17	0.33	0.42	0.50	0.59	0.67	0.84	1.00	1.34	-
	160	16	2.2	304	144	0.13	0.25	0.32	0.38	0.44	0.51	0.63	0.76	1.01	-
FMR6000	50	20	17.8	80	30	0.61	1.22	1.52	1.83	2.13	2.43	3.04	3.65	4.88	6.11
	63	20	11.1	106	43	0.42	0.85	1.06	1.27	1.49	1.70	2.12	2.55	3.40	4.25
	80	20	7.4	140	60	0.30	0.61	0.76	0.91	1.06	1.22	1.52	1.83	2.43	3.04
	100	20	5.3	180	80	0.23	0.46	0.57	0.68	0.80	0.91	1.14	1.37	1.83	2.28
	125	20	4.0	230	105	0.17	0.35	0.43	0.52	0.61	0.70	0.87	1.04	1.39	1.74
	160	20	2.9	300	140	0.13	0.26	0.33	0.39	0.46	0.52	0.65	0.78	1.04	1.30
	200	20	2.2	380	180	0.10	0.20	0.25	0.30	0.35	0.41	0.51	0.61	0.81	1.01
	250	20	1.7	480	230	0.08	0.16	0.20	0.24	0.28	0.32	0.40	0.48	0.63	0.79

FMR P-POSITIVE

MAXIMUM HOLE DIAMETER FOR HELICAL MACHINING (ØDHmin)

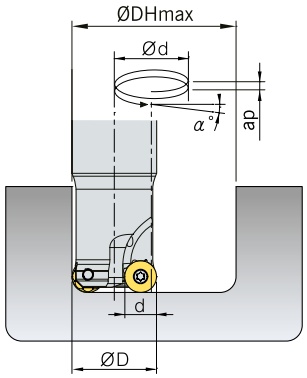
CUTTING DATA

- ØD = Tool Dia.(mm)
- Ød(Tool Path, mm) = ØDHmin, max - ØD
- ØDHmin(Minimum hole diameter) = ØD × 2 - Insert size(d)
- ØDHmax(Maximum hole diameter) = ØD×2 - 2
- Ramping angle by ap(α°) = $\tan^{-1}$

Helical angle adjusted by ap cannot exceed maximum angle

- ap = Depth of cut

Ramping



Tool Series	Tool Dia. ØD(min)	Insert Size (d)	Ramping Angle α°(max)	ØDH max	Ød	Ramping angle α°) by ap									
						ap=1	ap=2	ap=2.5	ap=3	ap=3.5	ap=4	ap=5	ap=6	ap=8	ap=10
FMR2500	17	8	4.7	32	15	1.22	2.43	3.04	3.65	-	-	-	-	-	-
	18	8	4.1	34	16	1.14	2.28	2.85	3.43	-	-	-	-	-	-
	20	8	15.4	38	18	1.01	2.03	2.54	3.04	3.55	4.06	-	-	-	-
	21	8	13.9	40	19	0.96	1.92	2.40	2.88	3.37	3.85	-	-	-	-
	25	8	9.8	48	23	0.79	1.59	1.98	2.38	2.78	3.18	-	-	-	-
	26	8	9.2	50	24	0.76	1.52	1.90	2.28	2.66	3.04	-	-	-	-
FMR3000	25	10	13.8	48	23	0.79	1.59	1.98	2.38	2.78	3.18	-	-	-	-
	26	10	12.6	50	24	0.76	1.52	1.90	2.28	2.66	3.04	-	-	-	-
	32	10	8.4	62	30	0.61	1.22	1.52	1.83	2.13	2.43	-	-	-	-
	33	10	8.0	64	31	0.59	1.18	1.47	1.77	2.06	2.36	-	-	-	-
	40	10	5.8	78	38	0.48	0.96	1.20	1.44	1.68	1.92	-	-	-	-
	50	10	4.2	98	48	0.38	0.76	0.95	1.14	1.33	1.52	-	-	-	-
	63	10	3.1	124	61	0.30	0.60	0.75	0.90	1.05	1.20	-	-	-	-
	66	10	2.9	130	64	0.29	0.57	0.71	0.86	1.00	1.14	-	-	-	-
FMR4000	25	12	4.5	48	23	0.79	1.59	1.98	2.38	2.78	3.18	-	-	-	-
	26	12	4.1	50	24	0.76	1.52	1.90	2.28	2.66	3.04	-	-	-	-
	32	12	14.7	62	30	0.61	1.22	1.52	1.83	2.13	2.43	3.04	3.65	-	-
	33	12	13.8	64	31	0.59	1.18	1.47	1.77	2.06	2.36	2.95	3.54	-	-
	40	12	9.6	78	38	0.48	0.96	1.20	1.44	1.68	1.92	2.40	2.88	-	-
	50	12	6.7	98	48	0.38	0.76	0.95	1.14	1.33	1.52	1.90	2.28	-	-
	63	12	4.8	124	61	0.30	0.60	0.75	0.90	1.05	1.20	1.50	1.80	-	-
	66	12	4.5	130	64	0.29	0.57	0.71	0.86	1.00	1.14	1.43	1.71	-	-
	80	12	3.5	158	78	0.23	0.47	0.58	0.70	0.82	0.94	1.17	1.40	-	-
	100	12	2.6	198	98	0.19	0.37	0.47	0.56	0.65	0.74	0.93	1.12	-	-
FMR5000	40	16	17.8	78	38	0.48	0.96	1.20	1.44	1.68	1.92	2.40	2.88	3.85	-
	50	16	11.3	98	48	0.38	0.76	0.95	1.14	1.33	1.52	1.90	2.28	3.04	-
	63	16	7.6	124	61	0.30	0.60	0.75	0.90	1.05	1.20	1.50	1.80	2.39	-
	66	16	7.1	130	64	0.29	0.57	0.71	0.86	1.00	1.14	1.43	1.71	2.28	-
	80	16	5.3	158	78	0.23	0.47	0.58	0.70	0.82	0.94	1.17	1.40	1.87	-
	100	16	4.0	198	98	0.19	0.37	0.47	0.56	0.65	0.74	0.93	1.12	1.49	-
	125	16	3.0	248	123	0.15	0.30	0.37	0.45	0.52	0.59	0.74	0.89	1.19	-
	160	16	2.2	318	158	0.12	0.23	0.29	0.35	0.40	0.46	0.58	0.69	0.92	-
FMR6000	50	20	17.8	98	48	0.38	0.76	0.95	1.14	1.33	1.52	1.90	2.28	3.04	3.81
	63	20	11.1	124	61	0.30	0.60	0.75	0.90	1.05	1.20	1.50	1.80	2.39	2.99
	80	20	7.4	158	78	0.23	0.47	0.58	0.70	0.82	0.94	1.17	1.40	1.87	2.34
	100	20	5.3	198	98	0.19	0.37	0.47	0.56	0.65	0.74	0.93	1.12	1.49	1.86
	125	20	4.0	248	123	0.15	0.30	0.37	0.45	0.52	0.59	0.74	0.89	1.19	1.48
	160	20	2.9	318	158	0.12	0.23	0.29	0.35	0.40	0.46	0.58	0.69	0.92	1.16
	200	20	2.2	398	198	0.09	0.18	0.23	0.28	0.32	0.37	0.46	0.55	0.74	0.92
	250	20	1.7	498	248	0.07	0.15	0.18	0.22	0.26	0.29	0.37	0.44	0.59	0.74

RMR
Copy Milling System

Performance
★★★★★

M S

Premium copy milling system dedicated to stainless steel & HRSA machining

Double sided insert with 8 cutting edges and exclusive design to prevents rotation during the most demanding machining conditions.

Diameter Range
32-63mm

Insert Sizes
12mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control
★★★★★	★★★	★★★★★	★★★★★	★★★★★

Advantages

Cost Efficient
Economical double sided insert with 8 cutting edges for cost-effective machining.

Stable Tool Life
Exclusive insert geometry prevents possible rotation during machining.

Surface Finish
Optimal minor cutting edges leads to an improvement in surface roughness.

Performance Milling
Dedicated button style milling system for HRSA & stainless steel machining.

Features

Internal Cooling
Tool holders with through coolant supply for improved swarf evacuation.

Wiper Edge
RNMX inserts feature wide wiper cutting edge for improved surface finish.

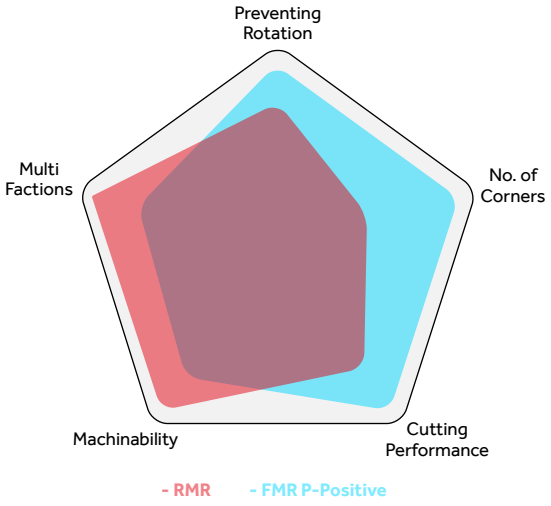
High Helix
High helix insert design effectively reduces cutting loads, enhancing machining performance.

Stable Clamping
RNMX insert features wide upper and lower clamping sides for increased stability.

Tool Selection

Description		Series	Sizes ØD	Page
RMR FACE MILL		RMRCM	50-63	**428**
RMR END MILL		RMRS	32-50	**428**

TOOL SELECTION GUIDE



RMR

- Excellent clamping force due to preventing rotation with reverse positive angle
- High cost efficiency from double-sided corners (max. 8 corners)
- High cutting performance with an optimal minor edge structure



FMR P-POSITIVE

- Multi-functions by applying one sided shape
- Low cutting resistance due to positive setting



Tools	Preventing Rotation	No. of Corners	Cutting Performance	Machinability	Multi-Functions
RMR	★★★★	★★★★	★★★★	★★★	★★★
FMR P-Positive	★★★	★★	★★★	★★★★	★★★★

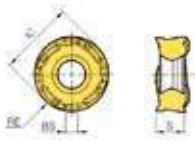
CHIP BREAKER GUIDE

Chip Breaker	Cutting Edge	Applications	Benefits
ML 		**Stainless / HRSA's**	▪ Chip breaker with low cutting load is optimal for machining hard-to-cut materials such as titanium, inconel and hastelloy

RMR RECOMMENDED CHIP BREAKERS & GRADES

M Stainless Steel		S Titanium/Inconel	
Chip Breaker	**Grades**	**Chip Breaker**	**Grades**
ML	PC9540	ML	UNC840
	UNC840		UPC845

RMR COPY MILLING SYSTEM INSERT SELECTION

RNMX	Dimensions (mm)				Grades			Chip Breaker	Application	Order Code	Price
	IC	BS	RE	S	PC9540	UNC840	UPC845				
	12	2	6	4.75	●	●	●	ML	Titanium	RNMX1204M0E-ML	**£10.35**

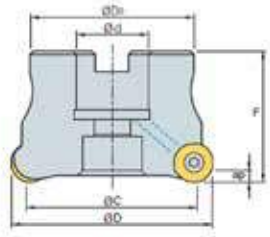
RMR FACE MILL

Double-Sided Round Milling Tool with 8 Corners

- Internal coolant system
- Suitable for face and copy milling applications
- Cost efficient inserts with 8 usable cutting edges

Series	Cutting Data
RMRCM Korloy	**P429**







KORLOY

ØD	ØD2	Ød	F	APMX	Order Code	Price	Inserts	Spares	
								Screw	Wrench
50	42	22	40	3.5	RMRCM050R-22-5-RN12	**£152.86**	RNMX12	FTNA0411-A	TW15S
50					RMRCM050R-22-6-RN12	**£158.98**			
63					RMRCM063R-22-6-RN12	**£190.12**			
63					RMRCM063R-22-7-RN12	**£197.73**			

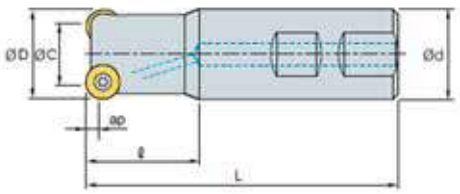
RMR END MILL

Double-Sided Round Milling Tool with 8 Corners

- Internal coolant system
- Suitable for face and copy milling applications
- Cost efficient inserts with 8 usable cutting edges

Series	Cutting Data
RMRS Korloy	**P429**







KORLOY

ØD	Ød	ℓ	L	APMX	Order Code	Price	Inserts	Spares	
								Screw	Wrench
32	32	40	110	3.5	RMRS032R-2W32-110-RN12	**£120.70**	RNMX12	FTNA0411-A	TW15S
32			110		RMRS032R-3W32-110-RN12	**£125.53**			
32			200		RMRS032R-2C32-200-RN12	**£121.57**			
32			200		RMRS032R-3C32-200-RN12	**£126.43**			
40			110		RMRS040R-3W32-110-RN12	**£139.51**			
40			110		RMRS040R-4W32-110-RN12	**£145.08**			
40			200		RMRS040R-3C32-200-RN12	**£148.58**			
40			200		RMRS040R-4C32-200-RN12	**£154.52**			

RMR

RECOMMENDED CUTTING CONDITIONS

CUTTING DATA

Workpiece			AISI	Hardness (HB)	Grade	VC (m/min)	fz (mm/t)	ap (mm)	Chip Breaker
ISO	Material	ISO							
M Stainless Steel	Ferritic/Martensitic	X6CrAl13 X6Cr17	405 430	200	PC9540	120-200 (160)	0.05-0.3 (0.15)	1-3	ML
		X12CrS13 X6CrMo17-1	416 434	330		100-180 (140)			
		X12Cr13	403 410						
	Austenitic	X5CrNi18-9 X2CrNi18-9 X5CrNi-Mo17-12-2 X2CrNi-Mo17-12-3	304 316	180		90-150 (120)			
	Austenitic/ Ferritic (Duplex)		S31803 S32750	260		60-120 (90)	0.1-0.3 (0.15)		
S HRSA's	Nickel Base	15156-3	Inconel 625	250	UNC840	30-60 (45)	0.05-0.4 (0.2)		
					UPC845	25-55 (40)			
		9723	Inconel 718	320	UNC840				
					UPC845	20-50 (35)	0.1-0.4 (0.2)		
	Cobalt Alloys	Stellite		300-320	UNC840	30-60 (45)	0.05-0.4 (0.2)		
					UPC845	20-50 (35)	0.1-0.4 (0.2)		
	Titanium Alloys	5832-11	Ti-6Al-4V	320	UNC840	30-70 (50)	0.05-0.4 (0.2)		
					UPC845	20-60 (40)	0.1-0.4 (0.2)		

fz (Feed) = mm per tooth
vc (Surface speed) = meters per minute
ap = Depth of cut
ae = Step over

i-X Mill Copy Milling System

Performance
★★★★★

P H M K N

High precision dedicated milling system for copy & high feed milling

Exceptional performance, accuracy, tool life and surface finish across a wide range of materials with steel and carbide shank options.

Diameter Range
8-33mm

Insert Sizes
8-33mm

Machining Solutions



Metal Removal Rates	Material Versatility	Surface Finish	High Accuracy Machining	Chip Control	Square Shoulder Milling
★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★

Advantages

Special Insert Grades
Each insert suitable for specific materials with special geometries.

Replaceable Inserts
No need to replace the holder - just switch the insert. Great cost efficiency.

High Precision
High accuracy strong clamping screw & high precision insert location.

High Feed/Corner Radius
Holders for high feed & corner radius milling ensures highest accuracy & performance.

Features

Ball Inserts
Special helical geometry prevents vibration and prolongs tool life.

Polished Cutting Edges
Offers better wear resistance and improved surface roughness.

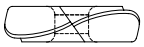
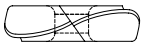
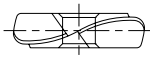
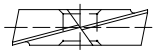
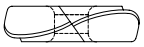
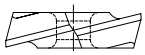
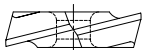
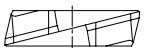
Special Coating
Coatings offer high hardness and high thermal stability for faster speeds and feeds.

Carbide Holders
For stable machining with reduced vibration and enhanced finish, longer tool life than steel holder.

Tool Selection

Description		Series	Sizes ØD	Page
CARBIDE SHANK HOLDER FOR BALL INSERTS STRAIGHT NECK		ZBC	8-33	**434**
STEEL SHANK HOLDER FOR BALL INSERTS STRAIGHT NECK		ZBS	12-33	**435**
STEEL SHANK HOLDER FOR BALL INSERTS TAPER NECK		ZBT	8-33	**435**
BALL INSERTS FOR GENERAL PURPOSE, PRE-HARDENED & HIGH HARDENED STEEL		XMB110A XMB120C XMB260T	8-33	**436**
BALL INSERTS DLC COATED FOR GRAPHITE, ALUMINIUM, COPPER, PLASTIC & ABRASIVE NON-FERROUS MATERIALS		XMB110D	8-33	**437**
BALL INSERTS FOR STAINLESS STEEL		XMB130A	8-33	**438**
BALL INSERTS FULL RADIUS 220° FOR GENERAL PURPOSE & 5 AXIS		XMM110V	8-33	**439**
STEEL SHANK HOLDER FOR CORNER RADIUS INSERTS STRAIGHT NECK		ZRS	12-32	**440**
STEEL SHANK HOLDER FOR CORNER RADIUS INSERTS TAPER NECK		ZRT	8-12	**440**
CORNER RADIUS & HIGH FEED INSERTS FOR GENERAL PURPOSE MACHINING, STAINLESS STEEL, PRE-HARDENED & HIGH HARDENED STEEL		XMR120C XMR260T XMF110V	8-32	**441**

i-X MILL INSERT GUIDE

Series		Type	Cutting Edge	Applications	Benefits
XMB110A		Ball		Low hardness steel <HRC40	Medium sharp cutting edge, ideal for softer and longer chipping steel. Excellent chip control.
XMB120C		Ball		Pre-hardened steel 40-50HRC	Stronger cutting edge, ideal for machining tool and die steel. Excellent tool life and surface finish.
XMB260T		Ball		Hardened steel 50-65HRC	Strongest cutting edge and ultrafine micrograin carbide substrate, for machining high hardened steel. Excellent tool life and surface finish.
XMB130A		Ball		Stainless steel	Specially designed cutting edge with web-thinning, is ideal for machining stainless steel even at extra small cut depths without causing work hardening.
XMM110V		Ball (Full Radius 220°)		5 axis machining mould & die steel <HRC45	Full radius insert for complex 5 axis machining or creating an undercut in mould & die machining.
XMB110D		Ball		Graphite, aluminium & abrasive non-ferrous metal	DLC coating (diamond like carbon) has exceptional wear resistance in abrasive materials such as graphite, high silicon aluminium and plastic. Long tool life and high quality surface finish can be achieved.
XMR260T		Corner radius		High hardened steel 50-65HRC	Special coating for longer lasting cutting of high hardened steel. Wide range of radius available from 0.3 to 3.2mm.
XMR120C		Corner radius		Low hardness steel & pre-hardened steel <50HRC	Special geometry and coating ideal for use on carbon steel, alloy steel, tool steel, high hardened steel.Wide range of radius available from 0.3 to 3.2mm.
XMF110V		High feed corner radius		Low hardness steel & pre-hardened steel <50HRC	Feed rates over 7 metres/minute can be achieved. When combined with dedicated high feed holders, better results are possible. Ideal for high performance roughing and finishing.

i-X MILL HOLDER GUIDE

	Neck	Applications	Benefits
Carbide 	Straight (reduced neck diameter)	▪ Ball nosed inserts ▪ Also suitable for high feed & corner radius inserts ▪ Short to long reach applications	▪ Highest rigidity, especially in long reach applications ▪ Exceptional surface finish ▪ Longest tool life due to reduced vibration
Steel 	Straight (reduced neck diameter)	▪ Ball nosed inserts ▪ Also suitable for high feed & corner radius inserts ▪ Short to long reach applications	▪ Clearance on the neck diameter prevents interference when machining up to a shoulder ▪ Low cost
Steel 	Tapered	▪ Ball nosed inserts ▪ Also suitable for high feed & corner radius inserts ▪ Short to medium reach applications	▪ Higher rigidity than straight neck due to taper design ▪ Taper neck ideal for mould & die ▪ Low cost ▪ Available in smaller diameters
Steel 	Straight (reduced neck diameter)	▪ Corner radius inserts ▪ High feed inserts ▪ Short to long reach applications	▪ Clearance on the neck diameter prevents interference when machining up to a shoulder ▪ Low cost
Steel 	Tapered	▪ Corner radius inserts ▪ High feed inserts ▪ Short to medium reach applications	▪ Higher accuracy when using corner radius inserts ▪ Higher rigidity than straight neck due to taper design ▪ Taper neck ideal for mould & die ▪ Low cost ▪ Available in smaller diameters

INSERT REPLACEMENT GUIDE

To ensure high accuracy machining, long life of the holder and prevention of tool failure, careful assembly and maintenance of the holder should be observed at all times. The tool holder should be cleaned when changing the insert and correct clamping torque used. Over or under tightening of the insert can cause premature tool failure and poor machining results.

- Please tighten the screw using the recommended torque shown in the table below
- When the screw is worn out, please replace it with a new one
- Don't press down the insert when the screw is tightened
- For highest repeatability, use a digital torx wrench

CLAMPING DIRECTION



CLAMPING TORQUE BY DIAMETER

Diameter	Torque (Nm)
Ø8	1.0
Ø10,11	1.5
Ø12,13	2.5
Ø16,17	3.5
Ø20,21	5.0
Ø25,26	6.0
Ø30,32,33	6.5

ASSEMBLY



1. Ensure the insert seat is clean



2. Ensure the insert is clean



3. Slide the insert into the slot of the holder



4. Tighten using anti-seize compound & a torx key

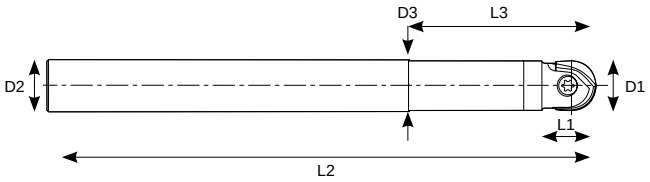
CARBIDE SHANK HOLDER FOR BALL INSERTS

High Precision Copy Milling System with Steel or Carbide Shank Holders

- As rigid as solid carbide end mills, for high finish machining with less vibration
- High finishing machining at deeper parts of mould
- Longer tool life than steel holders
- Shrink fit holding system can be used

Series	Cutting Data
ZBC YG-1	**P442**







D1	D2	D3	L1	L2	L3	Order Code	Price	Spares	
								Wrench	Screw
8	8	7.6	12	130	25	ZBC0801080	**£103.92**	TWFT07	TX2508T07
				130	40	ZBC0802080	**£103.92**		
				130	65	ZBC0803080	**£103.92**		
				150	60	ZBC0804080	**£114.42**		
				200	60	ZBC0805080	**£143.04**		
				80	25	ZBC0806080	**£86.60**		
**10 or 11	10	9.7	15	140	30	ZBC1001100	**£103.92**	TWFT08	TX3010T08
				140	50	ZBC1002100	**£103.92**		
				140	75	ZBC1003100	**£103.92**		
				180	60	ZBC1004100	**£125.60**		
				200	60	ZBC1005100	**£143.04**		
				80	30	ZBC1006100	**£86.60**		
**12 or 13	12	11.7	17	200	40	ZBC120001P	**£155.22**	TWFT10	TX3512T10
				150	35	ZBC1201120	**£118.65**		
				150	60	ZBC1202120	**£118.65**		
				150	85	ZBC1203120	**£118.65**		
				250	60	ZBC1204120	**£182.29**		
				100	35	ZBC1205120	**£95.79**		
**16 or17	16	15.7	20	150	50	ZBC160001P	**£154.48**	TWFT15	TX4016T15
				200	50	ZBC1601160	**£186.49**		
				200	80	ZBC1602160	**£186.49**		
				200	120	ZBC1603160	**£186.49**		
				250	80	ZBC1604160	**£205.82**		
				120	50	ZBC1605160	**£143.40**		
**20 or 21	20	19.7	25	150	60	ZBC200002P	**£210.29**	TWBT20*	TX5020T20
				200	60	ZBC2001200	**£273.58**		
				200	80	ZBC2002200	**£273.58**		
				250	100	ZBC2003200	**£301.14**		
				250	150	ZBC2004200	**£301.14**		
				300	100	ZBC2005200	**£331.01**		
**25 or 26	25	24.7	30	150	75	ZBC250001P	**£310.34**	TWBT25*	TX6025T25
				200	75	ZBC2501250	**£410.56**		
				250	120	ZBC2502250	**£451.88**		
				300	190	ZBC2503250	**£474.26**		
				350	120	ZBC2504250	**£521.58**		
				300	60	ZBC2505250	**£474.26**		
**30, 32 or 33	32	29.7	40	250	90	ZBC3001320	**£686.19**	TWBT30*	TX8030T30
				300	150	ZBC3002320	**£754.93**		
				300	190	ZBC3003320	**£633.83**		
				350	120	ZBC3004320	**£698.33**		
				400	150	ZBC3005320	**£766.64**		

* Requires the use of T-HANDLE (TWH600) **Diameter depends on insert size used

STEEL SHANK HOLDER FOR BALL INSERTS

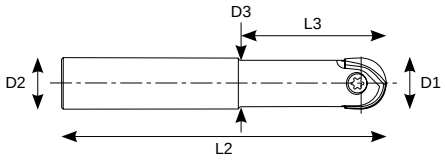
High Precision Copy Milling System with Steel or Carbide Shank Holders

- Premium alloy steel with excellent strength
- Precise shank tolerance (h6)
- Nickel plated to prevent corrosion and improve lubricity

Series	Cutting Data
ZBS / ZNT YG-1	P442

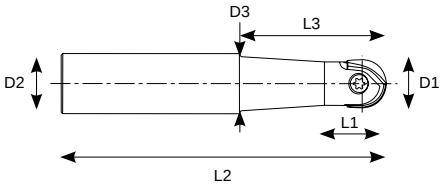
Straight Neck





Taper Neck







STRAIGHT NECK

D1	D2	D3	L2	L3	Length Type	Order Code	Price	Spares	
								Wrench	Screw
**12 or 13	12	10.5	90	35	Short	ZBS1201120	£69.05	TWFT10	TX3512T10
			110	55	Regular	ZBS1202120	£69.05		
			150	40	Long	ZBS120001P	£72.52		
**16 or 17	16	14.5	95	35	Short	ZBS1601160	£69.05	TWFT15	TX4016T15
			125	65	Regular	ZBS1602160	£69.05		
			200	60	Long	ZBS160001P	£84.12		
**20 or 21	20	18	110	40	Short	ZBS2001200	£79.84	TWBT20*	TX5020T20
			145	75	Regular	ZBS2002200	£79.84		
			200	80	Long	ZBS200001P	£84.26		
			200	60	Long	ZBS200002P	£84.26		
**25 or 26	25	22.5	125	45	Short	ZBS2501250	£79.84	TWBT25*	TX6025T25
			170	90	Regular	ZBS2502250	£79.84		
			250	100	Long	ZBS2503250	£110.84		
			200	90	Long	ZBS250001P	£96.48		
			200	60	Long	ZBS250002P	£96.48		
**30, 32 or 33	32	27	140	55	Short	ZBS3001320	£87.03	TWBT30*	TX8030T30
			195	110	Regular	ZBS3002320	£87.03		
			350	150	Long	ZBS3004320	£140.75		
			250	100	Long	ZBS300001P	£108.65		

TAPER NECK

* Requires the use of T-HANDLE (TWH600) **Diameter depends on insert size used

D1	D2	D3	L1	L2	L3	Length Type	Taper Angle	Order Code	Price	Spares	
										Wrench	Screw
8	12	7.2	12	90	35	Short	4°43'	ZBT0801120	£72.42	TWFT07	TX2508T07
			25	110	55	Regular	3°37'	ZBT0802120	£72.42		
**10 or 11	12	9	15	90	35	Short	2°51'	ZBT1001120	£72.42	TWFT08	TX3010T08
			30	110	55	Regular	2°17'	ZBT1002120	£72.42		
**12 or 13	16	10.5	17	110	55	Short	3°23'	ZBT1201160	£72.42	TWFT10	TX3512T10
**16 or 17	20	14.5	20	125	65	Short	2°51'	ZBT1601200	£72.42	TWFT15	TX4016T15
				200	115	Regular	1°22'	ZBT1604200	£84.10		
**20 or 21	25	18	25	145	75	Short	3°26'	ZBT2001250	£83.34	TWFT20*	TX5020T20
				200	115	Regular	1°55'	ZBT2004250	£87.85		
				250	160	Long	1°17'	ZBT2005250	£100.51		
**25 or 26	32	22.5	30	170	90	Short	4°03'	ZBT2501320	£83.34	TWFT25*	TX6025T25
				250	160	Regular	1°53'	ZBT2504320	£115.56		
				300	190	Long	1°32'	ZBT2505320	£132.95		
**30, 32 or 33	32	27	40	195	110	Short	1°38'	ZBT3001320	£87.03	TWFT30*	TX8030T30
				250	160	Regular	0°58'	ZBT3004320	£113.23		
				300	190	Long	0°46'	ZBT3005320	£129.85		

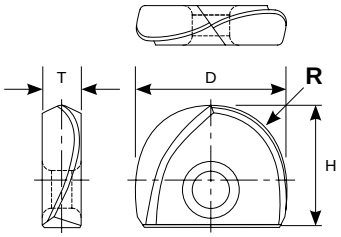
FULL RADIUS BALL NOSE INSERTS

For Machining all Steel & Hardened Steel <HRC65

- Indexable ball end mill inserts
- Suitable for steel, tool steel, pre-hardened and high hardened steel
- Special geometry and coating for excellent performance & surface finish

Series	Cutting Data
XMB110A / XMB120C / XMB260T YG-1	P442





MG SC PVD COATED

Set-up Accuracy	Ball Radius Tolerance
±0.02	±0.01

D	R	H	T	Order Code			Price
				General Purpose	Pre Hardened Steel	High Hardened Steel	
8	4	8	2.4	XMB110A080	XMB120C080	XMB260T080	**£21.05**
10	5	9.5	2.7	XMB110A100	XMB120C100	XMB260T100	**£22.05**
11	5.5	10	2.7	XMB110A110	XMB120C110	XMB260T110	**£22.24**
12	6	11	3.2	XMB110A120	XMB120C120	XMB260T120	**£22.32**
13	6.5	11.5	3.2	XMB110A130	XMB120C130	XMB260T130	**£22.95**
16	8	13	4.2	XMB110A160	XMB120C160	XMB260T160	**£24.54**
17	8.5	13.5	4.2	XMB110A170	XMB120C170	XMB260T170	**£25.78**
20	10	16	5.2	XMB110A200	XMB120C200	XMB260T200	**£31.99**
21	10.5	16.5	5.2	XMB110A210	XMB120C210	XMB260T210	**£33.57**
25	12.5	19.5	6.2	XMB110A250	XMB120C250	XMB260T250	**£41.19**
26	13	20	6.2	XMB110A260	XMB120C260	XMB260T260	**£45.54**
30	15	23.5	7.2	XMB110A300	XMB120C300	XMB260T300	**£54.77**
32	16	24.5	7.2	XMB110A320	XMB120C320	XMB260T320	**£58.36**
33	16.5	25	7.2	XMB110A330	XMB120C330	XMB260T330	**£64.14**

Material Applications

● Excellent ○ Good

	Carbon Steel		Alloy Steel		Tool Steel		Hardened Steel		High Hard. Steel	Stainless Steel	Cast Iron	Aluminium	Graphite
	~HRC35	HRC35~	~HRC35	HRC35~	~HRC35	HRC35~	HRC40~45	HRC45~55	HRC55~	~HRC28	~HRC35	~HRC8	
General Purpose	●	○	●	○	●	○	○						
Pre Hard. Steel	○	●	○	●	○	●	●	○	○		●		
High Hard. Steel		○		○		○	○	●	●		○		

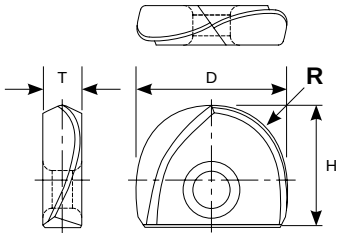
FULL RADIUS BALL NOSE INSERTS - DLC COATED

For Machining Graphite & Aluminium

- Indexable ball end mill inserts
- Special DLC coating, for graphite, aluminium, plastic & abrasive non-ferrous materials
- Exceptional tool life and surface finish

Series	Cutting Data
XMB110D YG-1	P442





MG SC DLC COATED

Set-up Accuracy	Ball Radius Tolerance
±0.02	±0.01

D	R	H	T	Order Code Graphite & Aluminium	Price
8	4	8	2.4	XMB110D080	£47.57
10	5	9.5	2.7	XMB110D100	£52.01
11	5.5	10	2.7	XMB110D110	£53.06
12	6	11	3.2	XMB110D120	£53.86
13	6.5	11.5	3.2	XMB110D130	£55.35
16	8	13	4.2	XMB110D160	£57.97
17	8.5	13.5	4.2	XMB110D170	£60.82
20	10	16	5.2	XMB110D200	£67.10
21	10.5	16.5	5.2	XMB110D210	£70.44
25	12.5	19.5	6.2	XMB110D250	£78.50
26	13	20	6.2	XMB110D260	£86.78
30	15	23.5	7.2	XMB110D300	£92.08
32	16	24.5	7.2	XMB110D320	£95.89
33	16.5	25	7.2	XMB110D330	£105.29

Material Applications

● Excellent ○ Good

	Carbon Steel		Alloy Steel		Tool Steel		Hardened Steel		High Hard. Steel	Stainless Steel	Cast Iron	Aluminium	Graphite
	~HRC35	HRC35~	~HRC35	HRC35~	~HRC35	HRC35~	HRC40~45	HRC45~55	HRC55~	~HRC28	~HRC35	~HRC8	
DLC Coated												●	●

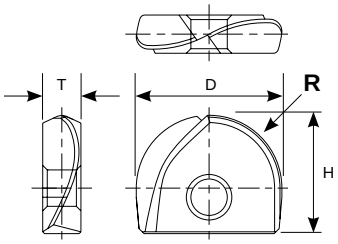
FULL RADIUS BALL NOSE INSERTS

For Machining Stainless Steel

- Indexable ball end mill inserts
- Inserts are designed with web thinning for stainless steel machining
- Excellent results even in small depth of cut

Series	Cutting Data
XMB130A YG-1	**P442**





MG SC PVD COATED

Set-up Accuracy	Ball Radius Tolerance
±0.02	±0.01

D	R	H	T	Order Code Stainless Steel	Price
8	4	8	2.4	XMB130A080	**£21.05**
10	5	9.5	2.7	XMB130A100	**£22.05**
11	5.5	10	2.7	XMB130A110	**£22.24**
12	6	11	3.2	XMB130A120	**£22.32**
13	6.5	11.5	3.2	XMB130A130	**£22.95**
16	8	13	4.2	XMB130A160	**£24.54**
17	8.5	13.5	4.2	XMB130A170	**£25.78**
20	10	16	5.2	XMB130A200	**£31.99**
21	10.5	16.5	5.2	XMB130A210	**£33.57**
25	12.5	19.5	6.2	XMB130A250	**£41.19**
26	13	20	6.2	XMB130A260	**£45.54**
30	15	23.5	7.2	XMB130A300	**£54.77**
32	16	24.5	7.2	XMB130A320	**£58.36**
33	16.5	25	7.2	XMB130A330	**£64.14**

Material Applications

● Excellent ○ Good

	Carbon Steel		Alloy Steel		Tool Steel		Hardened Steel		High Hard. Steel	Stainless Steel	Cast Iron	Aluminium	Graphite
	~HRC35	HRC35~	~HRC35	HRC35~	~HRC35	HRC35~	HRC40~45	HRC45~55	HRC55~	~HRC28	~HRC35	~HRC8	
Stainless Steel	○		○		○					●		○	

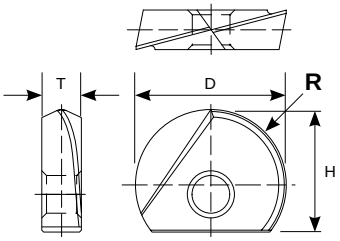
FULL RADIUS BALL NOSE INSERTS - 220°

For 5 Axis Machining or Mould & Die

- Indexable ball end mill inserts
- Suitable for steel and tool steel
- Special 220° full radius geometry for 5 axis machining
- Suitable for creating an undercut in mould & die machining

Series	Cutting Data
XMM YG-1	P442





MG SC PVD COATED

Set-up Accuracy	Ball Radius Tolerance
±0.02	±0.01

D	R	H	T	Order Code General Purpose	Price
8	4	8	2.4	XMM110V080	**£21.05**
10	5	9.5	2.7	XMM110V100	**£22.05**
11	5.5	10	2.7	XMM110V110	**£22.24**
12	6	11	3.2	XMM110V120	**£22.32**
13	6.5	11.5	3.2	XMM110V130	**£22.95**
16	8	13	4.2	XMM110V160	**£24.54**
17	8.5	13.5	4.2	XMM110V170	**£25.78**
20	10	16	5.2	XMM110V200	**£31.99**
21	10.5	16.5	5.2	XMM110V210	**£33.57**
25	12.5	19.5	6.2	XMM110V250	**£41.19**
26	13	20	6.2	XMM110V260	**£45.54**
30	15	23.5	7.2	XMM110V300	**£54.77**
32	16	24.5	7.2	XMM110V320	**£58.36**
33	16.5	25	7.2	XMM110V330	**£64.14**

Material Applications

● Excellent ○ Good

	Carbon Steel		Alloy Steel		Tool Steel		Hardened Steel		High Hard. Steel	Stainless Steel	Cast Iron	Aluminium	Graphite
	~HRC35	HRC35~	~HRC35	HRC35~	~HRC35	HRC35~	HRC40~45	HRC45~55	HRC55~	~HRC28	~HRC35	~HRC8	
Full Radius	●	○	●	○	●	○				○			

STEEL SHANK HOLDER FOR CORNER RADIUS INSERTS

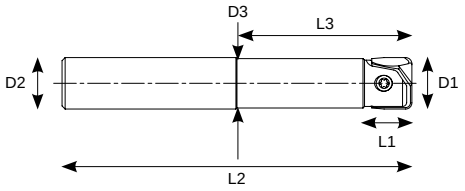
High Precision Copy Milling System with Steel or Carbide Shank Holders

- Premium alloy steel with excellent strength
- Precise shank tolerance (h6)
- Nickel plated, to prevent corrosion and improve lubricity

Series	Cutting Data
ZRS / ZRT YG-1	P443

Straight Neck

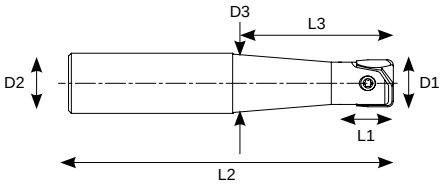




Taper Neck







STRAIGHT NECK

* Requires the use of T-HANDLE (TWH600)

D1	D2	D3	L1	L2	L3	Length Type	Order Code	Price	Spares	
									Wrench	Screw
12	12	11	13	110	30	Regular	ZRS1201120	**£69.05**	TWFT10	TX3512T10
16	16	15	15	130	50	Regular	ZRS1601160	**£69.05**	TWFT15	TX4016T15
				165	65	Intermediate	ZRS1602160	**£69.05**		
				200	65	Long	ZRS1603160	**£72.54**		
20	20	19	18	140	60	Regular	ZRS2001200	**£79.84**	TWBT20*	TX5020T20
				180	80	Intermediate	ZRS2002200	**£79.84**		
				250	80	Long	ZRS2003200	**£84.26**		
25	25	24	23	150	70	Regular	ZRS2501250	**£79.84**	TWBT25*	TX6025T25
				200	90	Intermediate	ZRS2502250	**£79.84**		
				300	90	Long	ZRS2503250	**£110.84**		
32	32	31	28	160	80	Regular	ZRS3201320	**£88.33**	TWBT30*	TX8030T30
				220	100	Intermediate	ZRS3202320	**£78.23**		

TAPER NECK

D1	D2	D3	L1	L2	L3	Length Type	Taper Angle	Order Code	Price	Spares	
										Wrench	Screw
8	12	6.7	10	100	22	Regular	9°	ZRT0801120	**£72.42**	TWFT07	TX2508T07
				130	50	Long	2°43'	ZRT0802120	**£72.42**		
10	12	8.6	13	100	25	Regular	4°45'	ZRT1001120	**£72.42**	TWFT08	TX3010T08
				150	50	Long	1°32'	ZRT1002120	**£72.42**		
12	16	10.2	15	160	60	Long	2°32'	ZRT1202160	**£72.42**	TWFT10	TX3512T10

Material Applications

● **Excellent** ○ **Good**

	Carbon Steel		Alloy Steel		Tool Steel		Hardened Steel		High Hard. Steel	Stainless Steel	Cast Iron	Aluminium	Graphite
	~HRC35	HRC35~	~HRC35	HRC35~	~HRC35	HRC35~	HRC40~45	HRC45~55	HRC55~	~HRC28	~HRC35	~HRC8	
Gen/Pre Hard. Steel	○	●	○	●	○	●	●	○	○	○	●		
High Hard. Steel		○		○		○	○	●	●		○		
High Feed	●	○	●	○	●	○							

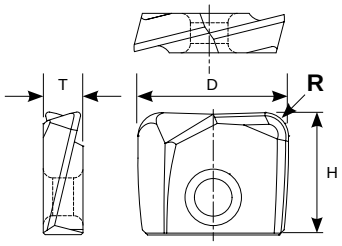
CORNER RADIUS & HIGH FEED INSERTS

For General Purpose Machining, Stainless Steel, Pre-Hardened & High Hardened Steel

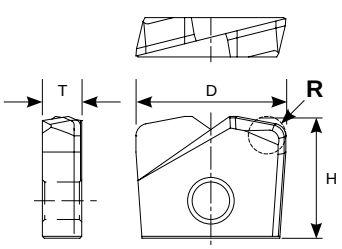
- Optimum geometry for better reliability with less vibration and cutting load
- Inserts for roughing and finishing a wide range of materials
- Can be used with the ball holder, but for higher precision machining use the corner radius holder

Series	Cutting Data
XMR120C / XMR260T / XMF110V YG-1	P443





High Feed



MG SC PVD COATED

Set-up Accuracy	Corner Radius Tolerance
±0.02	±0.015

D	R	H	T	Order Code			Max ap	Price
				General/Pre-Hard Steel	High Hardened Steel	High Feed		
8	0.3	8	2.4	XMR120C08003	XMR260T08003	-	0.4	£23.37
	0.5			XMR120C08005	XMR260T08005	-		
	0.8			-	-	XMF110V08008		
	1			XMR120C08010	XMR260T08010	-		
	2			XMR120C08020	XMR260T08020	-		
10	0.3	9.5	2.7	XMR120C10003	XMR260T10003	-	0.5	£24.52
	0.5			XMR120C10005	XMR260T10005	-		
	1			XMR120C10010	-	XMF110V10010		
	1.5			XMR120C10015	XMR260T10015	-		
	2			XMR120C10020	XMR260T10020	-		
	3			XMR120C10030	XMR260T10030	-		
12	0.3	11	3.2	XMR120C12003	XMR260T12003	-	0.6	£24.81
	0.5			XMR120C12005	XMR260T12005	-		
	1			XMR120C12010	XMR260T12010	XMF110V12010		
	1.5			XMR120C12015	XMR260T12015	-		
	2			XMR120C12020	XMR260T12020	-		
	3			XMR120C12030	XMR260T12030	-		
16	0.3	13	4.2	XMR120C16003	XMR260T16003	-	0.8	£27.18
	0.5			XMR120C16005	XMR260T16005	-		
	1			XMR120C16010	XMR260T16010	-		
	1.5			XMR120C16015	XMR260T16015	XMF110V16015		
	2			XMR120C16020	XMR260T16020	-		
	3			XMR120C16030	XMR260T16030	-		
20	0.3	16	5.2	XMR120C20003	XMR260T20003	-	1	£35.50
	0.5			XMR120C20005	XMR260T20005	-		
	1			XMR120C20010	XMR260T20010	-		
	1.5			XMR120C20015	XMR260T20015	-		
	2			XMR120C20020	XMR260T20020	XMF110V20020		
	3			XMR120C20030	XMR260T20030	-		
25	0.3	19.5	6.2	XMR120C25003	XMR260T25003	-	1.25	£45.78
	0.5			XMR120C25005	XMR260T25005	-		
	1			XMR120C25010	XMR260T25010			
	1.5			XMR120C25015	XMR260T25015	-		
	2			XMR120C25020	XMR260T25020	-		
	2.5			-	-	XMF110V25025		
	3			XMR120C25030	XMR260T25030	-		
32	0.3	23.5	7.2	XMR120C32003	XMR260T32003	-	1.6	£64.80
	0.5			XMR120C32005	XMR260T32005	-		
	1			XMR120C32010	XMR260T32010	-		
	1.5			XMR120C32015	XMR260T32015	-		
	2			XMR120C32020	XMR260T32020	-		
	3			XMR120C32030	XMR260T32030	-		
	3.2			-	-	XMF110V32032		

BALL INSERTS

XMB110A, XMB120C, XMB260T, XMB110D, XMB130A & XMM110V Series

CUTTING DATA

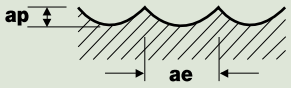
Stepover Cutting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL				NON-ALLOYED STEEL & ALLOY STEEL			
Hardness	~ HB280 / ~ HRC30				~ HB280 / ~ HRC30			
Strength	~ 1000N/mm²				~ 1000N/mm²			
Series	XMB110A				XMM110V (Full Radius)			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
8	6370~12730	2550~5090	160~320	0.20~0.20	6370~12730	2550~5090	160~320	0.20~0.20
10, 11	5090~11460	2040~4580	160~360	0.20~0.20	5090~11460	2040~4580	160~360	0.20~0.20
12, 13	4240~10080	1700~4030	160~380	0.20~0.20	4240~10080	1700~4030	160~380	0.20~0.20
16, 17	3180~9550	1590~5730	160~480	0.25~0.30	3180~9550	1590~5730	160~480	0.25~0.30
20, 21	2550~9230	1270~7380	160~580	0.25~0.40	2550~9230	1270~7380	160~580	0.25~0.40
25, 26	2040~7640	1020~7640	160~600	0.25~0.50	2040~7640	1020~7640	160~600	0.25~0.50
30, 32, 33	1700~7430	850~8910	160~700	0.25~0.60	1700~7430	850~8910	160~700	0.25~0.60

MATERIAL	ALLOY STEEL & HEAT RESISTANTSTEEL				DIE TOOL STEEL PRE-HARDENED			
Hardness	HB280 ~ HB380 / HRC30 ~ HRC40				HB380 ~ HB480 / HRC40 ~ HRC50			
Strength	1000 ~ 1250N/mm²				1250 ~ 1500N/mm²			
Series	XMB110A				XMB110A, XMB120C			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
8	4770~11140	1910~4460	120~280	0.20~0.20	3980~8750	1190~3500	100~220	0.15~0.20
10, 11	3820~9550	1530~3820	120~300	0.20~0.20	3180~8280	950~3310	100~260	0.15~0.20
12, 13	3180~9280	1270~3710	120~350	0.20~0.20	2650~7430	800~2970	100~280	0.15~0.20
16, 17	2390~7560	1190~45 40	120~380	0.25~0.30	1990~6960	800~4180	100~350	0.20~0.30
20, 21	1910~6680	950~5350	120~420	0.25~0.40	1590~6370	640~5090	100~400	0.20~0.40
25, 26	1530~6110	760~6110	120~480	0.25~0.50	1270~5730	510~5730	100~450	0.20~0.50
30, 32, 33	1270~5840	640~7000	120~550	0.25~0.60	1060~5310	420~6370	100~500	0.20~0.60

MATERIAL	HARDENED STEEL				HIGH HARDENED STEEL			
Hardness	HB420 ~ HB550 / HRC45 ~ HRC55				HB550 ~ HB740 / HRC55 ~ HRC65			
Strength	1500N/mm² ~				1500N/mm² ~			
Series	XMB120C				XMB260T			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
8	3180~7160	640~2860	80~180	0.10~0.20	3180~7160	640~2150	80~180	0.10~0.15
10, 11	2550~6370	510~2550	80~200	0.10~0.20	2550~6370	510~1910	80~200	0.10~0.15
12, 13	2120~5840	420~2330	80~220	0.10~0.20	2120~5840	420~1750	80~220	0.10~0.15
16, 17	1590~5170	480~3100	80~260	0.15~0.30	1590~5170	480~2590	80~260	0.15~0.25
20, 21	1270~5090	380~4070	80~320	0.15~0.40	1270~5090	380~2550	80~320	0.15~0.25
25, 26	1020~4580	310~4580	80~360	0.15~0.50	1020~4580	310~2290	80~360	0.15~0.25
30, 32, 33	850~4240	250~5090	80~400	0.15~0.60	850~4240	250~2550	80~400	0.15~0.30

MATERIAL	STAINLESS STEEL				GRAPHITE / ALUMINIUM				CAST IRON			
Series	XMB130A				XMB110D				XMB120C			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
8	3580~5170	720~1290	90~130	0.10~0.12	11940~15920	4770~6370	300~400	0.20~0.20	6370~12730	3820~5090	160~320	0.30~0.20
10, 11	2860~4140	720~1240	90~130	0.13~0.15	9550~12730	3820~5090	300~400	0.20~0.20	5090~11460	3060~6880	160~360	0.30~0.30
12, 13	2390~3450	720~1380	90~130	0.15~0.20	7960~10610	3180~4240	300~400	0.20~0.20	4240~10610	2550~6370	160~400	0.30~0.30
16, 17	1790~2590	540~1030	90~130	0.15~0.20	5970~7960	2980~4770	300~400	0.25~0.30	3180~9950	2230~5970	160~500	0.35~0.30
20, 21	1430~2070	430~830	90~130	0.15~0.20	4770~7640	2860~5350	300~480	0.30~0.35	2550~8750	1780~7000	160~550	0.35~0.40
25, 26	1150~1660	460~830	90~130	0.20~0.25	3820~7130	2670~5700	300~560	0.35~0.40	2040~7890	1430~7890	160~620	0.35~0.50
30, 32, 33	950~1380	380~690	90~130	0.20~0.25	3180~6900	2550~6900	300~650	0.40~0.50	1700~7640	1190~9170	160~720	0.35~0.60



ROUGHING ap - Up to Ø16 = 0.025 x D ae - 0.1 x D
Over Ø16 = 0.05 x D

FINISHING ap - 0.1mm ae - Up to Ø12 = 0.25mm
Ø12 - Ø20 = 0.30mm
Over Ø20 = 0.40mm

* When the length of overhang is over 4xD carbide shank holders are recommended and reduce the feed rate to 80%.
* When using long & intermediate type holders reduce the feed rate to 70~85%.

CORNER RADIUS INSERTS
XMR120C, XMR260T & XMF110V Series

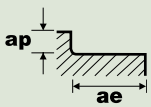
CUTTING DATA
Side Cutting

MATERIAL	NON-ALLOYED STEEL & ALLOY STEEL			
Hardness	~ HB280 / ~ HRC30			
Strength	~ 1000N/mm²			
Series	XMF110V (High Feed)			
Dia.	RPM	Feed	Vc	Fz
8	5970~7960	7160~6370	150~200	0.60~0.40
10	4770~6370	7160~6370	150~200	0.75~0.50
12	3980~5310	7160~6370	150~200	0.90~0.60
16	2980~3980	7160~6370	150~200	1.20~0.80
20	2390~3180	7160~6370	150~200	1.50~1.00
25	1910~2550	7640~7640	150~200	2.00~1.50
32	1590~2120	7320~7640	150~200	2.30~1.80

MATERIAL	DIE TOOL STEEL PRE-HARDENED			
Hardness	HB380 ~ HB480 / HRC40 ~ HRC50			
Strength	1250 ~ 1500N/mm²			
Series	XMR120C			
Dia.	RPM	Feed	Vc	Fz
8	3980~11140	990~1340	100~280	0.12~0.06
10	3180~8910	800~1070	100~280	0.13~0.06
12	2650~7430	660~890	100~280	0.12~0.06
16	1990~5570	600~840	100~280	0.15~0.08
20	1590~4460	480~670	100~280	0.15~0.08
25	1270~3570	380~530	100~280	0.15~0.07
32	1060~2970	320~450	100~280	0.15~0.08

MATERIAL	HARDENED STEEL STAINLESS STEEL				HIGH HARDENED STEEL			
Hardness	HB420 ~ HB550 / HRC45 ~ HRC55				HB550 ~ HB740 / HRC55 ~ HRC65			
Strength	1500N/mm² ~				1500N/mm² ~			
Series	XMR120C				XMR260T			
Dia.	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
8	3180~8750	640~880	80~220	0.10~0.05	3180~8750	640~880	80~220	0.10~0.05
10	2550~7000	510~700	80~220	0.10~0.05	2550~7000	510~700	80~220	0.10~0.05
12	2120~5840	420~580	80~220	0.10~0.05	2120~5840	420~580	80~220	0.10~0.05
16	1590~4380	420~530	80~220	0.15~0.06	1590~4380	480~530	80~220	0.15~0.06
20	1270~3500	380~420	80~220	0.15~0.06	1270~3500	380~420	80~220	0.15~0.06
25	1020~2800	310~340	80~220	0.15~0.06	1020~2800	310~340	80~220	0.15~0.06
32	850~2330	250~280	80~220	0.15~0.06	850~2330	250~280	80~220	0.15~0.06

MATERIAL	CAST IRON			
Series	XMR120C			
Dia.	RPM	Feed	Vc	Fz
8	6370~15120	3820~6050	160~380	0.30~0.20
10	5090~12100	3060~4840	160~380	0.30~0.20
12	4240~10080	2550~4030	160~380	0.30~0.20
16	3180~7560	2230~4540	160~380	0.35~0.30
20	2550~6050	1780~3630	160~380	0.35~0.30
25	2040~4840	1430~2900	160~380	0.35~0.30
32	1700~4030	1190~2420	160~380	0.35~0.30



ROUGHING ap - Up to Ø16 = 0.025 x D ae - 0.1 x D
Over Ø16 = 0.05 x D

FINISHING ap - Up to Ø16 = 0.1mm ae - 0.2mm
Over Ø16 = 0.2mm

* When the length of overhang is over 4xD carbide shank holders are recommended and reduce the feed rate to 80%.
* When using long & intermediate type holders reduce the feed rate to 70~85%.



Miscellaneous Milling Bodies & Inserts

90° & 45° milling from Teknik & Korloy

KORLOY RM4 & RM4Z MILLING SYSTEMS

90° Milling with Strong Low Cost Per Edge

- Double sided insert gives 4 usable cutting edges, ideal replacement for APKT style systems
- High rake angle chip breaker combined with strong cutting edge of negative geometry insert
- Extra thick insert
- Dedicated range for plunge milling

PAGE 446 ★★★★ Performance KORLOY



KORLOY RM16 MILLING SYSTEM

45° Face Milling System with Double Sided Inserts

- Double sided octagonal insert gives 16 usable cutting edges
- Strong and thick negative geometry insert, ideal for medium to heavy machining
- Suitable for roughing to finishing

PAGE 447 ★★★★ Performance KORLOY



KORLOY PRO-L MILLING SYSTEM

Sublime Surface Finish & Extreme Depths of Cut <34mm

- Single edge type with depth of cut up to 34mm or multi-edge (porcupine type) with depth of cut up to 96mm
- Ultra strong and accurate clamping with 2 screws per insert
- Through coolant

PAGE 448 ★★★★★ Performance KORLOY



Description		Sizes ØD	Page
APKT FACE MILL		40-300	449
APKT END MILL		12-40	449
APKT SCREWED SHANK END MILL		16-42	449
APKT PORCUPINE SHOULDER MILL		20-40	449
ADKT FACE MILL		40-125	449
ADKT END MILL		25-40	449
ADMT FACE MILL		40-100	450
ADMT END MILL		20-40	450
ANKX FACE MILL		40-125	450
ANKX END MILL		32	450
AXMT END MILL		10-25	450
4NKT END MILL		16-40	450
3PKT FACE MILL		50-80	451
3PKT END MILL		21-33	451

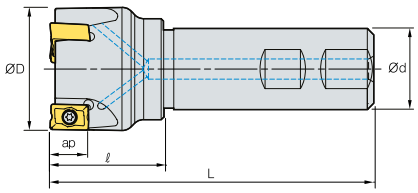
Description		Sizes ØD	Page
BDMT FACE MILL		40-80	451
BDMT END MILL		16-40	451
LNGU FACE MILL		50-100	451
LNGU END MILL		25-32	451
LNMT FACE MILL		50-125	452
LNMT END MILL		16-25	452
R390 FACE MILL		40-160	452
R390 END MILL		16-40	452
SPMG FACE MILL		15-80	452
SPMG END MILL		13-32	452
TPKN FACE MILL		42-250	453
TPKN END MILL		35-50	453
XOMX FACE MILL		40-160	453
XOMX END MILL		10-40	453

RICH MILL RM4 END MILL 90° APPROACH

90° Milling with Strong Inserts with 4 Cutting Edges for a Low Cost per Edge

- Double sided insert gives 4 usable cutting edges, ideal replacement for APKT style systems
- Negative insert with the strongest cutting edge





KORLOY

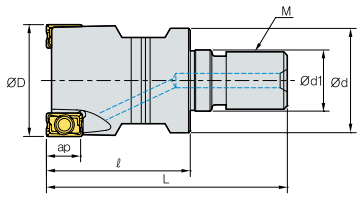
ØD	Teeth	Ød	ℓ	L	ap	Order Code				Inserts	Spares	
						Korloy	Price	Teknik*	Price		Screw	Wrench
14	1	16	23	90	9	RM4PS3014HR-S16	**£56.48**	-	-	LNEX10 LNMX10	FTKA0307	TW09S
16	1	16	25	90		RM4PS3016HR-S16	**£56.97**	LN096	**£34.02**			
16	1	16	30	120		-	-	-	-			
18	2	16	23	90		RM4PS3018HR-S16	**£74.88**	-	-			
18	2	16	25	120		-	-	-	-			
20	2	20	30	100		RM4PS3020HR-S20	**£81.37**	-	-			
20	3	20	30	100		RM4PS3020HR-S20M	**£100.27**	LN100	**£45.36**			
20	2	20	40	150		-	-	-	-			
22	2	20	25	150		-	-	-	-			
25	2	25	35	115		RM4PS3025HR-S25	**£92.32**	-	-			
25	3	25	35	115		RM4PS3025HR-S25M	**£112.95**	LN102	**£45.36**			
25	3	25	40	150		-	-	-	-			
32	3	32	40	125		RM4PS3032HR-S32	**£123.66**	-	-			
32	4	32	40	125		RM4PS3032HR-S32M	**£145.79**	LN103	**£51.84**			
32	4	32	40	150		-	-	-	-			
40	4	32	42	130		RM4PS3040HR-S32	**£156.74**	-	-			
40	5	32	42	130		RM4PS3040HR-S32M	**£179.89**	LN104	**£59.94**			
40	5	32	42	150		-	-	-	-			
40	4	40	42	130		RM4PS3040HR-S40	**£181.69**	-	-			
40	5	40	42	130		RM4PS3040HR-S40M	**£183.50**	-	-			
32	2	32	40	125	14	RM4PS4032HR-S32	**£124.22**	-	-	LNEX15 LNMX15	FTKA0412B	TW15S
32	2	32	40	150		-	-	-	-			
32	3	32	40	125		RM4PS4032HR-S32M	**£155.28**	-	-			
40	3	32	42	125		RM4PS4040HR-S32	**£163.11**	-	-			
40	3	32	25	150		-	-	-	-			
40	4	32	43	125		RM4PS4040HR-S32M	**£190.30**	-	-			
40	3	40	42	125		RM4PS4040HR-S40	**£179.42**	-	-			
50	3	32	45	125		RM4PS4050HR-S32	**£175.12**	-	-			
50	4	32	45	125		RM4PS4050HR-S32M	**£204.32**	-	-			
50	3	40	45	125		RM4PS4050HR-S40	**£192.63**	-	-			
50	4	40	45	125		RM4PS4050HR-S40M	**£224.76**	-	-			
63	4	32	45	125		RM4PS4063HR-S32	**£224.70**	-	-			
63	6	32	45	125		RM4PS4063HR-S32M	**£280.88**	-	-			
63	4	40	45	125		RM4PS4063HR-S40	**£247.17**	-	-			
63	6	40	45	125		RM4PS4063HR-S40M	**£308.76**	-	-			

RICH MILL RM4 SCREWED SHANK END MILL 90° APPROACH

90° Milling with Strong Inserts with 4 Cutting Edges for a Low Cost Per Edge

- Double sided insert gives 4 usable cutting edges, ideal replacement for APKT style systems
- Negative insert with the strongest cutting edge





KORLOY

ØD	Teeth	Ød	Ød1	ℓ	L	M	ap	kg	Order Code	Price	Inserts	Spares	
												Screw	Wrench
14	1	12	6.5	25	40	M06	9	0.02	RM4PM3014HR-M06	**£56.86**	LNEX10 LNMX10	FTKA0307	TW09S
16	1	14.5	8.5	25	42	M08		0.02	RM4PM3016HR-M08	**£59.22**			
18	2	14.5	8.5	25	42	M08		0.03	RM4PM3018HR-M08	**£82.53**			
20	2	18	10.5	30	51	M10		0.06	RM4PM3020HR-M10	**£90.23**			
25	2	23	12.5	35	59	M12		0.11	RM4PM3025HR-M12	**£97.92**			
32	3	28	17	40	67	M16		0.21	RM4PM3032HR-M16	**£131.92**			
40	4	28	17	40	67	M16		0.26	RM4PM3040HR-M16	**£163.35**			
50	5	30	17	45	72	M16		0.41	RM4PM3050HR-M16	**£202.48**			

RICH MILL RM16 FACE MILL 45° APPROACH

Performance Face Milling & Low Cutting Force on Steel, Stainless Steel, Cast Iron & Aluminium

- Double sided inserts with 16 cutting edges



Fig. 1

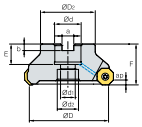
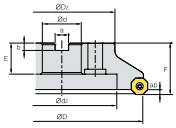


Fig. 2



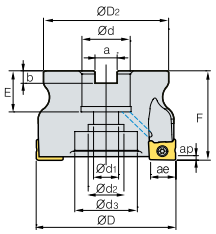
ØD	Teeth	ØD2	Ød	Ød1	Ød2	a	E	F	ap	kg	Fig.	Order Code				Inserts	Spares	
												Korloy	Price	Teknik*	Price		Screw	Wrench
63	5	49	22	11	18	10.4	20	40	4	0.7	1	RM16ACM6063HR-M	£279.67	T790	£51.84	ONHX06 ONMX06	FTGA0513	TW20-100
80	6	57	27	14	20	12.4	23	50		1.2	1	RM16ACM6080HR-M	£329.19	T791	£59.94			
100	7	67	32	18	26	14.4	25	50		1.9	1	RM16ACM6100HR-M	£379.10	T792	£69.66			
125	8	87	40	22	32	16.4	29	63		3.5	1	RM16ACM6125HR-M	£485.81	-	-			
160	10	107	40	-	107	16.4	32	63		4.1	2	RM16ACM6160R-M	£595.42	-	-			
63	5	49	22	11	18	10.4	20	40	5.5	0.7	1	RM16ACM8063HR-M	£279.67	T780	£51.84	ONHX08 ONMX08	FTGA0513	TW20-100
80	6	57	27	14	20	12.4	23	50		1.2	1	RM16ACM8080HR-M	£329.19	T782	£59.94			
100	7	67	32	18	26	14.4	25	50		1.8	1	RM16ACM8100HR-M	£379.10	T784	£69.66			
125	8	87	40	22	32	16.4	29	63		3.5	1	RM16ACM8125HR-M	£485.81	T786	£105.30			
160	10	107	40	-	107	16.4	32	63		4.5	2	RM16ACM8160R-M	£595.42	-	-			
200	12	130	60	-	135	25.7	32	63		5.8	2	RM16ACM8200R-M	£825.44	-	-			

RICH MILL RM4Z PLUNGE FACE MILL 90° APPROACH

90° Milling with Strong Inserts with 4 Cutting Edges for a Low Cost Per Edge

- Double sided insert gives 4 usable cutting edges
- Negative insert with the strongest cutting edge





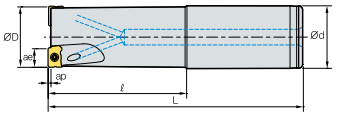
ØD	Teeth	ØD2	Ød	Ød1	Ød2	Ød3	a	b	E	F	ap	ae	kg	Order Code	Price	Inserts	Spares	
																	Screw	Wrench
40	4	37	16	9	14	-	8.4	5.6	19	40	1.5	9	0.21	RM4ZCM3040HR	£163.03	LNEX10 LNMX10 (PNL)	FTKA0307	TW09S
50	5	47	22	11	18	-	10.4	6.3	20	40	1.5	9	0.33	RM4ZCM3050HR	£201.93			
52	5	48	22	11	18	-	10.4	6.3	20	40	1.5	9	0.37	RM4ZCM3052HR	£201.93			
63	5	58	22	11	18	-	10.4	6.3	20	40	2.5	14	0.56	RM4ZCM4063HR	£221.36	LNEX15 LNMX15 (PNL)	FTKA0412B	TW15S
66	5	61	27	14	20	-	12.4	7	25	50	2.5	14	0.74	RM4ZCM4066HR	£221.36			
80	6	70	27	14	20	35	12.4	7	23	50	2.5	14	1.09	RM4ZCM4080HR	£291.69			
100	7	80	32	18	26	42	14.4	8	33	50	2	14	1.71	RM4ZCM4100HR	£336.08			

RICH MILL RM4Z PLUNGE END MILL 90° APPROACH

90° Milling with Strong Inserts with 4 Cutting Edges for a Low Cost Per Edge

- Double sided insert gives 4 usable cutting edges
- Negative insert with the strongest cutting edge





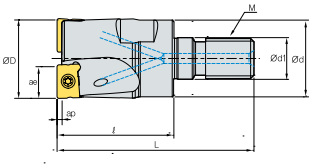
ØD	Teeth	Ød	ℓ	L	ap	ae	kg	Order Code	Price	Inserts	Spares	
											Screw	Wrench
25	2	25	120	200	1.5	9	0.62	RM4ZS3025HR-L25	£103.71	LNEX10 LNMX10 (PNL)	FTKA0307	TW09S
32	3	32	120	210			1.13	RM4ZS3032HR-L32	£138.92			

RICH MILL RM4Z SCREWED SHANK PLUNGE END MILL 90°

90° Milling with Strong Inserts with 4 Cutting Edges for a Low Cost Per Edge

- Double sided insert gives 4 usable cutting edges
- Negative insert with the strongest cutting edge





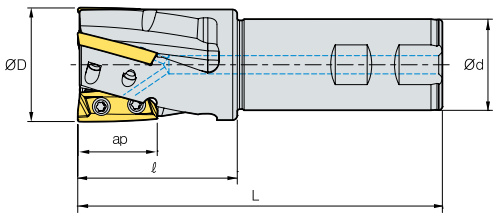
ØD	Teeth	Ød	Ød1	ℓ	L	M	ap	ae	kg	Order Code	Price	Inserts	Spares	
													Screw	Wrench
25	2	23	12.5	35	59	M12	1.5	9	0.11	RM4ZM3025HR-M12	£102.81	LNEX10 LNMX10 (PNL)	FTKA0307	TW09S
32	3	29	17	40	67	M16			0.21	RM4ZM3032HR-M16	£138.52			
40	4	29	17	40	67	M16			0.28	RM4ZM3040HR-M16	£171.52			

PRO-L MILL END MILL 90° APPROACH

High Performance Indexable Milling System for High Quality Workpieces

- Up to 34mm depth of cut
- Corner radius inserts from 0.4-1.6mm





KORLOY

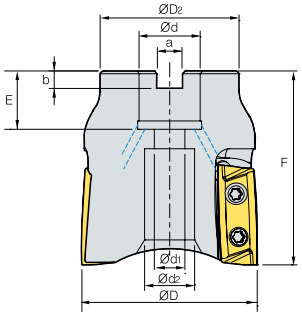
ØD	Teeth	Ød	ℓ	L	ap	kg	Order Code	Price	Inserts	Spares	
										Screw	Wrench
32	2	20	50	140	25	0.36	PALS032HR-2S20	**£256.43**	LXET25_ _ _32	FTKA0408 FTKA0410	TW15S
32	2	25				0.48	PALS032HR-2S25	**£256.43**			
32	2	32				0.71	PALS032HR-2S32	**£255.16**			
40	3	32				0.8	PALS040HR-3S32	**£290.93**			
40	3	40				1.1	PALS040HR-3S40	**£290.93**			
50	3	32	70	160	34	1.1	PALS050HR-3S32	**£309.49**	LXET34_ _ _50	FTGA0510-P	TW20-100
50	3	40				1.4	PALS050HR-3S40	**£291.51**			
63	4	32				1.6	PALS063HR-4S32	**£418.03**	LXET34_ _ _63	FTGA0511-P	
63	4	40				1.92	PALS063HR-4S40	**£418.03**			

PRO-L MILL FACE MILL 90° APPROACH

High Performance Indexable Milling System for High Quality Workpieces

- Up to 34mm depth of cut
- Corner radius inserts from 0.4-1.6mm





KORLOY

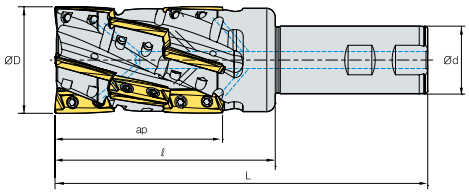
ØD	Teeth	ØD2	Ød	Ød1	Ød2	a	b	E	E1	F	ap	kg	Order Code	Price	Inserts	Spares	
																Screw	Wrench
63	4	50	22	11	18	10	6.3	21	28	70	34	0.57	PALCM063HR	**£329.78**	LXET34_ _ _63	FTGA0511-P	TW20-100

PRO-L MILL PORCUPINE 90° APPROACH

High Performance Indexable Milling System for High Quality Workpieces

- Up to 96mm depth of cut
- Corner radius inserts from 0.4-1.6mm
- Perfect insert alignment ensures no marking of workpiece where inserts cross over





KORLOY

ØD	Teeth	Ød	ℓ	L	ap	kg	Order Code	Price	Inserts	Spares	
										Screw	Wrench
63	4	32	70	160	96	1.6	PALS063HM4S32	**£990.56**	LXET34_ _ _63	FTGA0511-P	TW20-100
63	4	40	70	160	96	1.92	PALS063HM4S40	**£990.56**			

APKT FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- APKT1003/1604/1705 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
40	5	16	40	T176	**£45.36**	APKT 1003	TC060 M2,5x5,5	T8
50	6	22	40	T177	**£48.60**			
63	7	22	40	T178	**£51.84**			
80	8	27	50	T179	**£69.66**			
40	3	16	45	T180	**£29.16**	APKT 1604	TC074 M4x10	T15
40	4	16	45	T181	**£35.64**			
50	4	22	45	T182	**£38.88**			
50	5	22	45	T183	**£45.36**			
63	5	22	45	T184	**£48.60**			
63	6	22	45	T185	**£51.84**			
80	6	27	52	T186	**£56.70**			
80	7	27	52	T187	**£59.94**			
100	7	32	52	T188	**£64.80**			
100	8	32	52	T189	**£74.52**			
125	9	40	62	T190	**£90.72**			
160	10	40	62	T192	**£118.26**			
40	4	16	45	T550	**£35.64**	APKT 1705	TC074 M4x10	T15
50	5	22	45	T552	**£45.36**			
63	6	22	45	T554	**£51.84**			
80	8	27	50	T556	**£59.94**			
100	8	32	52	T558	**£74.52**			

APKT SCREWED SHANK END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- APKT1003/1604 inserts



Dia	Teeth	M	Reach	Order Code	Price	Inserts	Spares	
							Screw	Wrench
16	2	M08	41	VT136	**£43.74**	APKT 1003	TC060 M2,5x5,5	T8
20	3	M10	55	VT138	**£46.98**			
25	3	M12	55	VT140	**£51.84**			
32	4	M16	60	VT143	**£51.84**			
25	2	M12	45	VT160	**£43.74**	APKT 1604	TC074 M4x10	T15
32	3	M16	45	VT163	**£46.98**			
35	3	M16	45	VT166	**£46.98**			
40	4	M16	50	VT168	**£51.84**			
42	4	M16	52	VT170	**£51.84**			

ADKT FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For ADKT1505 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
40	4	16	45	T200	**£35.64**	ADKT 1505	TC074 M4x10	T15
50	5	22	45	T202	**£45.36**			
63	6	22	45	T204	**£51.84**			
80	7	27	52	T206	**£59.94**			
100	8	32	52	T207	**£74.52**			
125	9	40	62	T208	**£90.72**			

APKT END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- APKT1003/1604/1705 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
12	1	12	27	120	S158	**£25.92**	APKT 1003	TC060	T8
14	1	14	30	120	S160	**£25.92**			
16	2	16	40	120	S162	**£29.16**			
16	2	16	60	200	S182	**£45.36**			
18	2	16	40	120	S164	**£29.16**			
20	3	20	40	120	S166	**£37.26**			
20	3	20	60	200	S186	**£51.84**			
22	3	20	40	120	S168	**£37.26**			
25	3	25	40	120	S169	**£37.26**			
25	3	25	60	200	S188	**£51.84**			
32	4	25	35	100	S152	**£40.50**			
32	4	25	60	200	S189	**£58.32**			
40	5	25	40	120	S172	**£48.60**			
25	2	25	55	150	S266	**£42.12**	APKT 1604	TC074 M4x10	T15
25	2	25	60	250	S432	**£58.32**			
32	3	32	55	150	S270	**£45.36**			
32	3	32	60	250	S436	**£61.56**			
40	4	40	60	250	S450	**£74.52**			
25	2	25	60	150	S660	**£42.12**	APKT 1705	TC074 M4x10	T15
32	3	32	60	150	S662	**£45.36**			
40	4	32	60	150	S664	**£48.60**			

APKT PORCUPINE SHOULDER MILL 90°

- For general 90° rough shoulder milling
- APKT1003/1604 inserts



Dia	Teeth	Shank	Flute Length	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
20	6	20	28	160	HF10	**£126.36**	APKT 1003	TC060 M2,5x5,5	T8
25	8	25	37	150	HF11	**£155.52**			
32	15	32	46	150	HF12	**£192.78**			
40	18	32	55	160	HF13	**£226.80**			
32	8	32	58	150	HF24	**£179.82**	APKT 1604	TC074 M4x10	T15
40	12	32	58	150	HF26	**£212.22**			
32	8	32	58	200	HF30	**£179.82**			
40	12	32	58	200	HF32	**£212.22**			

ADKT END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For ADKT1505 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
25	2	25	45	120	S304	**£32.40**	ADKT 1505	TC074 M4x10	T15
25	2	25	60	150	S312	**£42.12**			
25	2	25	55	200	S318	**£46.98**			
30	3	25	45	120	S306	**£34.02**			
30	3	25	50	150	S314	**£45.36**			
30	3	25	50	200	S319	**£48.60**			
32	3	25	45	120	S307	**£34.02**			
32	3	32	60	150	S315	**£45.36**			
32	3	32	60	200	S320	**£48.60**			
35	3	25	45	120	S308	**£34.02**			
35	3	32	50	150	S316	**£45.36**			
35	3	32	50	200	S321	**£48.60**			
40	4	32	45	120	S310	**£40.50**			
40	4	32	45	150	S317	**£47.52**			
40	4	32	60	200	S322	**£56.70**			
40	4	32	60	250	S327	**£64.28**			

ADMT FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For ADMT1204/1606 Walter inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
50	5	22	45	T215	**£45.36**	ADMT 1204	TC065 M3x7	T8
63	6	22	45	T217	**£51.84**			
80	7	27	52	T219	**£59.94**			
100	8	32	52	T220	**£74.52**			
50	5	22	45	T352	**£45.36**	ADMT 1606	TC074 M4x10	T15
63	6	22	45	T354	**£51.84**			
80	7	27	52	T356	**£59.94**			

ADMT END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For ADMT1204/1606 Walter inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
20	2	20	55	150	S500	**£42.12**	ADMT 1204	TC065 M3x7	T8
25	3	25	60	150	S502	**£42.12**			
32	4	32	50	150	S504	**£48.60**			
25	2	25	60	200	S461	**£46.98**	ADMT 1606	TC074 M4x10	T15
32	3	32	60	150	S466	**£45.36**			
40	4	32	60	150	S469	**£48.60**			

ANKX FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For ANKX1205/1710 Iscar inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
50	6	22	45	T572	**£45.36**	ANKX 1205	TC097 M4x10	T15
63	7	22	45	T574	**£51.84**			
80	8	27	50	T576	**£59.94**			
50	4	22	45	T442	**£38.88**	ANKX 1205	TC083 M5x12	T20
63	5	22	45	T444	**£51.84**			
80	6	27	52	T446	**£59.94**			
100	7	32	52	T448	**£69.66**			
125	8	40	63	T450	**£72.90**			

ANKX END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For ANKX1205 Iscar inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
32	3	32	40	120	S695	**£46.98**	ANKX 1205	TC097 M4x10	T15

AXMT END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Taegutec AXMT0602/0903 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
10	2	10	30	120	S010	**£42.12**	AXMT 0602	TC051 M1,84	T6
12	2	12	30	120	S012	**£42.12**			
16	2	16	50	150	S020	**£38.88**	AXMT 0903	TC060 M2,5 x5, 5	T8
20	3	20	60	150	S022	**£42.12**			
25	3	25	60	150	S024	**£42.12**			

4NKT END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Taegutec 4NKT06 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
16	2	16	25	150	S471-1	**£51.84**	4NKT 06	TC064 M3x6, 5	T8
20	3	20	25	120	S473	**£48.60**			
25	4	25	30	120	S475	**£56.70**			
40	5	32	40	200	S477-2	**£64.80**			

3KPT FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Taegutec 3PKT1505 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
50	5	22	40	T398	**£45.36**	3PKT 1505	TC074 M4x10	T15
63	6	22	40	T399	**£51.84**			
80	7	27	50	T400	**£59.94**			

3PKT END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Taegutec 3PKT1004 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
21	2	20	30	200	S485	**£51.84**	3PKT 1004	TC098 M2,5x7	T8
26	2	25	30	200	S486	**£51.84**			
33	3	32	40	200	S487	**£55.08**			

BDMT FACE MILL 90°

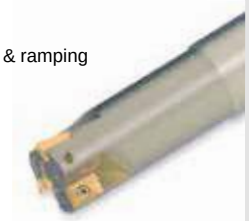
- For general 90° shoulder milling, facing, slotting & ramping
- For Kyocera BDMT11T3/1704 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
40	5	16	40	T533	**£45.36**	BDMT 11T3	TC060 M2.5x5.5	T8
50	6	22	40	T534	**£48.60**			
63	7	22	40	T535	**£51.84**			
40	4	16	40	T537	**£35.64**	BDMT 1704	TC074 M4x10	T15
50	5	22	40	T538	**£45.36**			
63	6	22	40	T539	**£51.84**			
80	7	27	50	T540	**£59.94**			

BDMT END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Kyocera BDMT11T3/1704 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
16	2	16	45	150	S565	**£38.88**	BDMT 11T3	TC060 M2.5x5.5	T8
18	2	16	44	150	S566	**£38.88**			
20	3	20	50	150	S567	**£42.12**			
25	3	25	50	150	S569	**£42.12**			
25	3	25	60	200	S570	**£51.84**			
32	4	32	50	150	S572	**£58.32**			
32	4	32	60	200	S574	**£58.32**			
25	2	25	35	120	S578	**£32.40**	BDMT 1704	TC074 M4x10	T15
25	2	25	50	150	S579	**£42.12**			
32	3	25	40	120	S581	**£34.02**			
32	3	32	60	150	S582	**£45.36**			
40	4	32	40	120	S584	**£40.50**			
40	4	32	40	150	S585	**£48.60**			

LNGU FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Kennametal LNGU15T6 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
50	5	22	40	T956	**£45.36**	LNGU 15T6	TC075 M4x11	T15
63	6	22	40	T958	**£51.84**			
80	7	27	50	T960	**£59.94**			
100	8	32	50	T961	**£77.76**			

LNGU END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Kennametal LNGU15T6 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
25	2	25	45	150	S950	**£53.46**	LNGU 15T6	TC075 M4x11	T15
32	3	32	45	150	S951	**£58.32**			

LNMT FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Iscar LNMT0804/1306 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
50	7	22	40	T223	**£58.32**	LNMT 0804	TC063 M2,5x7	T8
63	9	22	40	T224	**£66.42**			
80	10	27	50	T225	**£82.62**			
50	5	22	40	T228	**£45.36**	LNMT 1306	TC074 M4x10	T15
63	7	22	40	T229	**£59.94**			
80	9	27	50	T230	**£77.76**			
100	10	32	50	T231	**£84.24**			
125	12	40	63	T232	**£97.20**			

R390 FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Sandvik R390-11T3/1704/1806 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
40	5	16	40	T577	**£45.36**	R390 11T3	TC063 M2,5x7	T8
50	6	22	40	T578	**£48.60**			
63	7	22	40	T579	**£51.84**			
40	4	16	45	T402	**£35.64**	R390 1704	TC067-1 M3,5x8,5	T15
50	5	22	45	T404	**£45.36**			
63	6	22	45	T408	**£51.84**			
80	7	27	52	T411	**£59.94**			
100	8	32	52	T412	**£66.42**			
125	9	40	62	T414	**£90.72**			
160	10	40	62	T416	**£118.26**			
50	4	22	45	T423	**£38.88**	R390 1806	TC074 M4x10	T15
63	5	22	45	T424	**£48.60**			
80	6	27	52	T426	**£56.70**			
100	7	32	52	T428	**£66.42**			
125	8	40	62	T430	**£87.48**			
160	10	40	62	T432	**£118.26**			

SPMG FACE MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Taegutec/ISO SPMG0904 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
50	5	22	45	T338	**£45.36**	SPMG 0904	TC067 M3.5x9	T15
63	6	22	45	T340	**£51.84**			
80	7	27	52	T342	**£59.94**			

LNMT END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Iscar LNMT0804 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
16	2	16	40	150	S301	**£45.36**	LNMT 0804	TC063 M2.5x7	T8
20	3	20	40	150	S302	**£51.84**			
25	4	25	40	150	S303	**£56.70**			
32	5	32	40	150	S303-1	**£63.18**			

R390 END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Sandvik R390-11T3/1704/1806 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
16	2	16	40	150	S593	**£38.88**	R390 11T3	TC063 M2,5x7	T8
20	3	20	50	150	S594	**£42.12**			
20	3	20	50	200	S596	**£51.84**			
25	3	25	50	150	S595	**£42.12**			
25	3	25	50	200	S597	**£51.84**			
25	2	25	55	150	S520	**£42.12**	R390 1704	TC067-1 M3,5x8,5	T15
25	2	25	60	200	S530	**£46.98**			
25	2	25	70	300	S548	**£61.52**			
32	3	32	55	200	S534	**£48.60**			
32	3	32	80	300	S550	**£66.36**			
40	4	32	55	150	S528	**£48.60**			
40	4	32	55	200	S538	**£56.70**			
25	2	25	60	150	S603	**£42.12**	R390 1806	TC074 M4x10	T15
25	2	25	60	200	S600	**£46.98**			
32	3	32	60	150	S605	**£45.36**			
32	3	32	60	200	S601	**£48.60**			

SPMG END MILL 90°

- For general 90° shoulder milling, facing, slotting & ramping
- For Taegutec/ISO
- SPMG0502/0602/07T3/0904 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
13	2	14	40	120	S810	**£34.02**	SPMG 0502	TC058 M2x4,2	T6
13.5	2	14	40	120	S812	**£34.02**			
14	2	14	40	120	S814	**£34.02**	SPMG 0602	TC059 M2,2x5	T7
16	2	16	40	120	S818	**£34.02**			
14.5	2	14	40	120	S820	**£33.18**			
15.5	2	16	40	120	S822	**£34.02**			
20	2	20	50	150	S824	**£42.12**	SPMG 07T3	TC063 M2,5x7	T8
20.5	2	20	50	120	S826	**£37.26**			
25	2	25	50	150	S828	**£43.74**	SPMG 0904	TC067 M3,5x9	T15
32	3	32	40	150	S830	**£50.22**			

TPKN FACE MILL 90°

- For general 90° shoulder milling, facing & slotting
- For ISO TPKN1603/2204 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
42	3	16	44	T114	**£30.78**	TPKN 1603	TC052 M6x17	4mm Allen Key
50	3	22	44	T116	**£34.02**			
63	3	22	44	T118	**£37.26**			
63	4	22	44	T120	**£42.12**			
80	5	32	52	T122	**£55.08**			
100	6	32	52	T124	**£64.80**			
63	3	22	50	T126	**£37.26**	TPKN 2204	TC054 M8x24	5mm Allen Key
80	4	32	52	T128	**£55.08**			
100	5	32	52	T130	**£64.80**			
125	6	40	62	T132	**£84.24**			
160	7	40	62	T134	**£108.54**			
200	8	60	62	T136	**£149.04**			
250	9	60	62	T138	**£174.96**			

TPKN END MILL 90°

- For general 90° shoulder milling, facing & slotting
- For ISO TPKN1603/2204 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
35	2	25	45	120	S128	**£35.64**	TPKN 1603	TC052 M6x17	4mm Allen Key
40	3	25	45	120	S130	**£38.88**			
45	3	25	45	120	S132	**£42.12**			
50	3	32	55	120	S134	**£45.36**	TPKN 2204	TC054 M8x24	5mm Allen Key

XOMX FACE MILL 90°

- For general 90° shoulder milling, facing & slotting
- For Seco XOMX1204/1806 inserts



Dia	Teeth	Spigot	Length	Order Code	Price	Inserts	Spares	
							Screw	Wrench
40	4	16	40	T510	**£35.64**	XOMX 1204	TC069 M3,5x8,5	T10
50	5	22	40	T512	**£45.36**			
63	6	22	40	T514	**£51.84**			
80	7	27	50	T516	**£59.94**			
100	10	32	52	T518	**£98.82**			
125	12	40	62	T519	**£115.02**			
50	5	22	45	T520	**£45.36**	XOMX 1806	TC080 M4,5x11	T15
63	6	22	45	T522	**£51.84**			
80	7	27	50	T524	**£59.94**			
100	8	32	52	T525	**£74.52**			
125	9	40	62	T526	**£90.72**			
160	10	40	62	T527	**£118.26**			

XOMX END MILL 90°

- For general 90° shoulder milling, facing & slotting
- For Seco XOMX0602/0903/1204 inserts



Dia	Teeth	Shank	Reach	Length	Order Code	Price	Inserts	Spares	
								Screw	Wrench
10	2	10	40	120	S623	**£42.12**	XOMX 0602	TC051 M1,8x4	T6
12	2	12	30	120	S625	**£42.12**			
16	2	16	45	150	S626	**£37.26**	XOMX 0903	TC060 M2,5x5,5	T8
20	3	20	55	150	S628	**£42.12**			
20	2	20	55	150	S640	**£42.12**	XOMX 1204	TC069 M3,5x8,5	T10
20	2	20	60	200	S641	**£51.84**			
20	3	20	55	200	S636	**£51.84**			
25	3	25	55	150	S632	**£42.12**			
25	3	25	55	150	S643	**£42.12**			
25	3	25	60	200	S644	**£51.84**			
25	3	25	70	250	S645	**£68.04**			
32	4	32	55	150	S648	**£48.60**			
40	4	32	45	150	S650	**£48.60**			

Insert	Image	Brand	Corner Radius	Order Code	Grades											Price	System
					PC5300	PC5400	PC3700	PC6510	NCM325	NCM335	PC9530	YG602	YG613	YG713	YG622	H01	
ADKT (COATED)		KORLOY	0.8	ADKT1505PDSR					●		●						£7.49	ISO
		YG-1	0.8	ADKT150508PDTR								●					£7.49	
ADKT (UNCOATED)		KORLOY	0.8	ADKT1505PDFR-MA												●	£5.17	ISO
ADLT (COATED)		KORLOY	0.8	ADLT150308R					●								£6.09	ISO
AOMT (COATED)		YG-1	0.4	AOMT123604PDTR								●					£4.38	ISO
			0.8	AOMT123608PDTR								●	●				£4.38	
APKT (COATED)		YG-1	0.5	APKT100305PDTR								●	●	●	●		£4.90	ISO
		YG-1	0.8	APKT100308PDTR								●	●		●		£4.90	
		YG-1	0.4	APKT160404PDTR								●		●			£5.25	
		YG-1	0.8	APKT160408PDTR								●	●	●			£5.25	
		KORLOY	0.8	APKT1604PDSR	●		●	●	●	●	●						£7.39	
		YG-1	1.2	APKT160412PDTR								●		●			£5.25	
		YG-1	1.6	APKT160416PDTR								●		●			£5.25	
		YG-1	2.4	APKT160424PDTR								●		●			£5.25	
APKT (UNCOATED)		KORLOY	0.5	APKT160404PDFR-MA												●	£7.14	ISO
		KORLOY	0.8	APKT1604PDFR-MA												●	£7.14	
		KORLOY	0.8	APKT1604PDFR-MA3												●	£7.14	
APMT (COATED)		YG-1	0.4	APMT113504PDTR								●					£3.71	ISO
		YG-1	0.8	APMT113508PDTR								●	●				£3.71	
		YG-1	0.8	APMT160408PDTR								●	●				£3.89	
LXET MA (UNCOATED)		KORLOY	0.4	LXET250404PEFR-32-MA												●	£28.37	PRO-L
			0.8	LXET2504PEFR-32-MA												●	£28.37	
			1.2	LXET250412PEFR-32-MA												●	£28.37	
			1.6	LXET250416PEFR-32-MA												●	£28.37	
			0.4	LXET250404PEFR-40-MA												●	£28.37	
			0.8	LXET2504PEFR-40-MA												●	£28.37	
			1.2	LXET250412PEFR-40-MA												●	£28.37	
			1.6	LXET250416PEFR-40-MA												●	£28.37	
			0.4	LXET340504PEFR-50-MA												●	£37.13	
			0.8	LXET3405PEFR-50-MA												●	£37.13	
			1.2	LXET340512PEFR-50-MA												●	£37.13	
			1.6	LXET340516PEFR-50-MA												●	£37.13	
			0.4	LXET340504PEFR-63-MA												●	£37.13	
			0.8	LXET3405PEFR-63-MA												●	£37.13	
			1.2	LXET340512PEFR-63-MA												●	£37.13	
			1.6	LXET340516PEFR-63-MA												●	£37.13	
LXET ML (COATED)		KORLOY	0.4	LXET250404PEER-32-ML		●											£34.59	
			0.8	LXET2504PEER-32-ML	●												£34.59	
			1.2	LXET250412PEER-32-ML		●											£34.59	
			1.6	LXET250416PEER-32-ML		●											£34.59	
			0.4	LXET250404PEER-40-ML	●												£34.59	
			0.8	LXET2504PEER-40-ML		●											£34.59	
			1.2	LXET250412PEER-40-ML		●											£34.59	
			1.6	LXET250416PEER-40-ML		●											£34.59	
			0.4	LXET340504PEER-50-ML		●											£46.34	
			0.8	LXET3405PEER-50-ML		●											£48.66	
			1.2	LXET340512PEER-50-ML		●											£46.34	
			1.6	LXET340516PEER-50-ML		●											£46.34	
			0.4	LXET340504PEER-63-ML		●											£46.34	
			1.2	LXET340512PEER-63-ML		●											£46.34	
			1.6	LXET340516PEER-63-ML		●											£46.34	

Insert	Image	Brand	Corner Radius	Order Code	Grades												Price	System
					PC5300	PC5400	PC3700	PC6510	NCM325	NCM335	PC9530	YG602	YG613	YG622	YG713	H01		
LNEX MA (UNCOATED)		KORLOY	0.5	LNEX100605PNR-MA												●	£9.52	
			1.4	LNEX151004PNR-MA												●	£11.67	
			1.8	LNEX151008PNR-MA												●	£11.67	
LNEX MM/MF/ML (COATED)		KORLOY	0.5	LNEX100605PNL (MM/MF)	●	●		●									£11.04	
			0.5	LNEX100605PNR (MM/MF)	●	●	●	●									£11.04	
			0.8	LNEX100608PNR (MM/MF)	●	●	●	●									£11.04	
			0.4	LNEX151004PNR (MM/MF)	●	●		●								●	£13.83	
			0.8	LNEX151008PNL (MM/MF)	●	●		●									£13.83	
			0.8	LNEX151008PNR (MM/MF)	●	●	●	●			●					●	£13.83	RM4
			1.6	LNEX151016PNR (MM/MF)	●	●		●									£13.83	
LNMX MM/MF/ML (COATED)		KORLOY	0.5	LNMX100605PNL (MM/MF)	●	●	●	●									£10.47	
			0.5	LNMX100605PNR (MM/MF)	●	●	●	●			●						£10.47	
			0.8	LNMX100608PNR (MM/MF)	●	●	●	●									£10.47	
			0.4	LNMX151004PNR (MM/MF)	●	●	●	●									£12.44	
			0.8	LNMX151008PNL (MM/MF)	●	●		●									£12.44	
			0.8	LNMX151008PNR (MM/MF)	●	●	●	●									£12.44	
			1.5	LNMX151016PNR (MM/MF)	●	●	●	●									£12.44	
LBH (COATED)		KORLOY	4.0	LBH080PC210F													£37.13	LASER MILL
			5.0	LBH100PC210F													£42.03	
			6.0	LBH120PC210F													£46.80	
			8.0	LBH160PC210F													£54.23	
			10.0	LBH200PC210F													£59.99	
			12.5	LBH250PC210F													£69.59	
			15.0	LBH300PC210F													£118.89	
			16.0	LBH320PC210F													£93.06	
ODMT (COATED)		YG-1	0.8	ODMT060508								●					£6.91	ISO
OFER (COATED)		YG-1	0.5	OFER070405								●					£7.94	ISO
OFMT (COATED)		YG-1	0.8	OFMT05T308								●					£6.33	ISO
ONHX W (WIPER) (COATED)		KORLOY	0.8	ONHX060608-W	●												£15.15	
				ONHX080608-W PC5300	●												£20.25	
ONHX MA (UNCOATED)		KORLOY	0.8	ONHX060608-MA												●	£12.81	
			0.8	ONHX080608-MA												●	£15.67	
ONHX MM/MF/ML (COATED)		KORLOY	0.8	ONHX060608 (MM/MF/ML)	●	●		●									£15.15	RM16
			0.8	ONHX0606ANN (MM/MF/ML)	●	●		●			●						£15.15	
			0.8	ONHX080608 (MM/MF/ML)	●	●	●	●			●						£18.95	
			0.8	ONHX0806ANN (MM/MF/ML)	●	●		●			●						£18.95	
ONMX MM/MF (COATED)		KORLOY	0.8	ONMX060608 (MM/MF)	●	●	●	●			●						£12.41	
			0.8	ONMX0606ANN (MM/MF)	●	●	●	●			●						£12.41	
			0.8	ONMX080608 (MM/MF)	●	●	●	●			●						£15.67	
			0.8	ONMX0806ANN (MM/MF)	●	●	●	●			●						£15.67	
ONMU (COATED)		YG-1	0.8	ONMU080608								●					£12.15	ISO
RDMT (COATED)		YG-1	4.0	RDMT0802M0								●					£3.55	ISO
			4.0	RDMT0803M0								●					£3.55	
			5.0	RDMT10T3M0								●					£3.89	
			6.0	RDMT1204M0								●					£4.38	

Insert	Image	Brand	Corner Radius	Order Code	Grades									Price	System
					PC5300	PC5400	PC3700	PC6510	NCM325	NCM335	PC9530	YG602	YG613	H01		
RDMW (COATED)		YG-1	4.0	RDMW0802M0								●			**£3.71**	ISO
			5.0	RDMW10T3M0								●			**£3.89**	
			6.0	RDMW1204M0								●			**£4.21**	
RPMT (COATED)		YG-1	4.0	RPMT08T2M0											**£3.75**	ISO
			5.0	RPMT10T3M0								●	●		**£3.47**	
			6.0	RPMT1204M0								●	●		**£3.89**	
RPMW (COATED)		YG-1	5.0	RPMW1003M0								●			**£3.24**	ISO
			6.0	RPMW1204M0								●			**£3.55**	
SDKN (COATED)		YG-1	-	SDKN1203AETN								●			**£5.05**	ISO
			-	SDKN1504AETN								●			**£5.84**	
SDET MA (UNCOATED)		KORLOY	0.2	SDET09M402R-MA										●	**£11.11**	FUTURE MILL 90°
			0.4	SDET130504R-MA										●	**£9.93**	
SDXT MF/MM (COATED)		KORLOY	0.5	SDXT09M405R	●	●		●	●	●	●			●	**£10.84**	
			0.8	SDXT130508R	●	●		●	●		●			●	**£11.97**	
SEET MA (UNCOATED)		KORLOY	-	SEET0903AGFN-MA										●	**£10.17**	FUTURE MILL 45°
			-	SEET14M4AGFN-MA										●	**£10.34**	
SEXT MF/MM (COATED)		KORLOY	0.5	SEXT0903AGSN	●	●	●	●	●		●				**£10.97**	
			0.8	SEXT14M4AGSN	●	●		●	●		●				**£11.39**	
SEKT (SEHT) (COATED)		YG-1	-	SEKT1204AFTN								●			**£5.05**	ISO
			-	SEKT12T3AGTN								●			**£5.05**	
SEKN (COATED)		YG-1	-	SEKN1203AFTN								●			**£5.18**	ISO
		KORLOY	-	SEKN1203AFSN	●				●						**£5.18**	
		KORLOY	-	SEKN1204AFSN					●						**£5.18**	
SEKR (COATED)		YG-1	-	SEKR1203AFTN								●			**£5.05**	ISO
		KORLOY	-	SEKR1203AFSN	●				●	●	●				**£5.05**	
		KORLOY	-	SEKR1204AFSN					●						**£5.05**	
SEMT (COATED)		YG-1	-	SEMT1204AFTN								●			**£5.05**	ISO
			-	SEMT13T3AGSN								●			**£5.05**	
SPKN (COATED)		YG-1	-	SPKN1203EDTR								●			**£5.05**	ISO
		KORLOY	-	SPKN1203EDSR	●						●				**£5.05**	
SPKR (COATED)		YG-1	-	SPKR1203EDTR								●			**£5.18**	ISO
		KORLOY	-	SPKR1203EDSR					●		●				**£7.33**	
SPMT (COATED)		KORLOY	0.8	SPMT110408	●		●	●							**£12.04**	ISO
		YG-1	0.8	SPMT120408					●		●	●			**£5.35**	
SPUN (COATED)		YG-1	0.8	SPUN120308								●			**£5.18**	ISO
TPKN (COATED)		YG-1	-	TPKN1603PDTR								●			**£4.65**	ISO
		KORLOY	-	TPKN1603PDSR			●		●						**£4.65**	
		YG-1	-	TPKN2204PDTR								●			**£6.20**	
		KORLOY	-	TPKN2204PDSR	●		●		●						**£6.20**	
TPKR (COATED)		YG-1	-	TPKR1603PDTR								●	●		**£4.65**	ISO
			-	TPKR2204PDTR								●	●		**£6.20**	
TPUN (COATED)		YG-1	0.8	TPUN160308								●			**£3.79**	ISO
		KORLOY	0.8	TPUN160308											**£6.30**	

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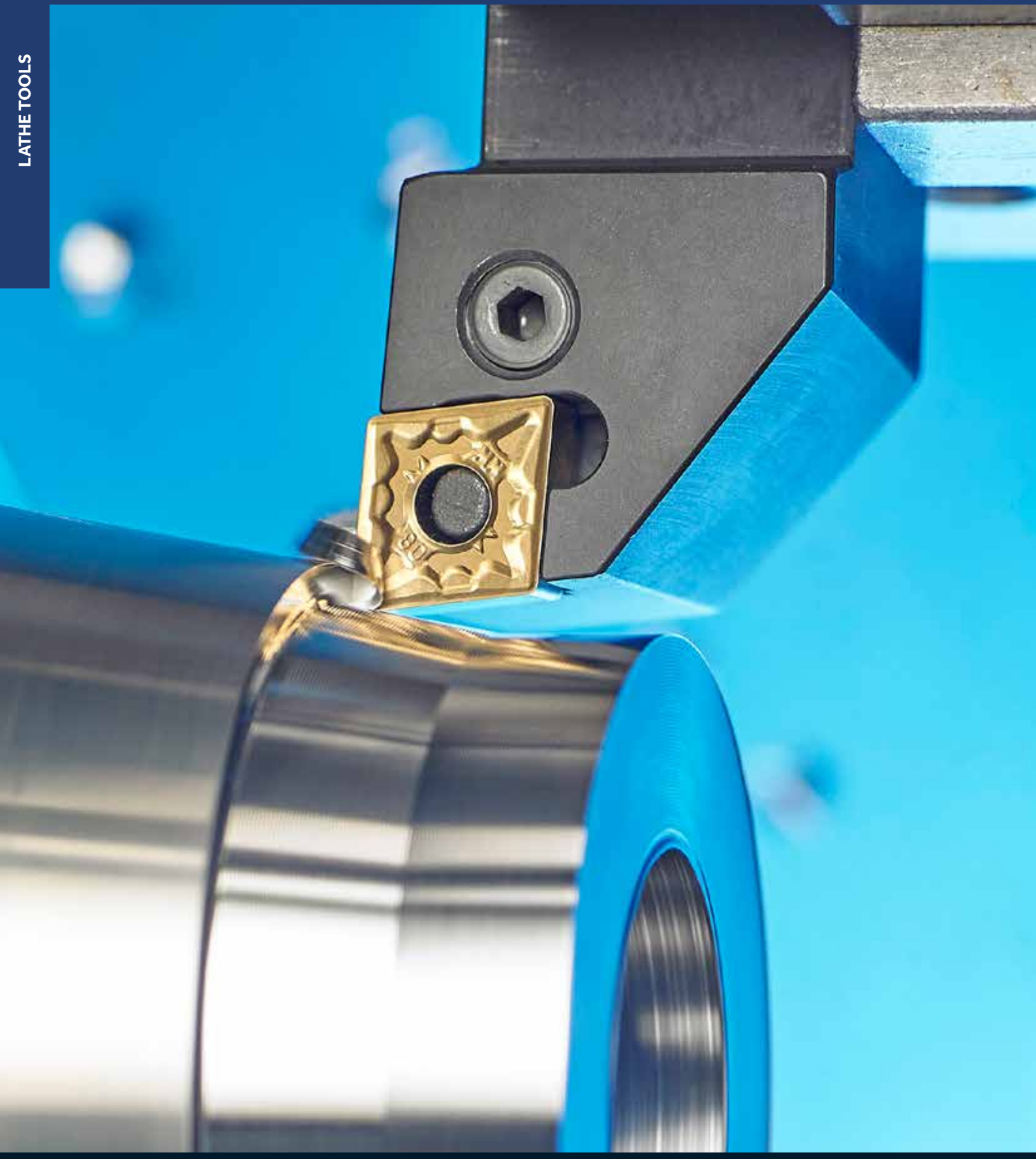
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Lathe Tools



YG KORLOY CUTWEL PRO TEKNIK SIMTEK CANELA vargus QUICK

The Most Complete Range of Cutting Tools for Turning Applications

The Cutwel lathe tools range includes high performance, high accuracy & general purpose tools for ISO turning, boring, grooving, thread turning, parting off & knurling operations.



Turning Inserts 462
Carbide, CBN & PCD ISO turning inserts



Turning Tool Holders 500
Double clamp, lever lock, wedge clamp, clamp on & screw on turning tool holders



Boring Bars 532
Double clamp, lever lock, multi-lock, clamp-on & screw-on turning tool holders - steel & carbide shank



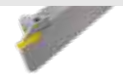
Parting Off 548
Sawman-X & Sawman Classic blade type parting systems



KGT Multi-Directional Tools 552
The 1st choice for multi-directional turning, grooving, parting and profiling



MGT Multi-Grooving Tools 560
Low cost general purpose multi-functional tools for external & internal machining



VG-Cut Parting & Grooving 562
High performance grooving, parting, boring & threading - Groove, turn, profile or thread with one holder



Simturn K2 566
High precision multi-functional system for external grooving, thread turning & parting off for sliding head lathes



Auto Tool 594
Designed for applications where size & precision matter



Simturn AX 570
Miniature high precision tools for internal grooving, boring, thread turning, copying, profiling & face grooving



Simturn DX 576
High precision multi-functional system for internal grooving, thread turning, copying, profiling & face grooving



Fine Tool Small Part Internal Machining 582
Precision grooving, forming & threading with 1 holder



Simturn E3 584
The ultimate multi-functional turning system for external & internal - 1 holder for hundreds of different inserts



Simturn GX 588
High performance multi-functional system for external & internal grooving, thread turning & parting off



Multi Turn 592
For turning, facing, drilling & boring with just 1 tool



Hexa Blade 594
Ultra economical inserts with 6 cutting edges provide extreme cutting stability due to their equal 3 sided clamping capabilities



SAGD Convex Radius Turning System 595
Designed for turning of convex corner radii (corner rounding) on conventional lathes



Broaching Tools 596
Designed to optimise efficiency & precision in machining operations



Knurling Tools 598
Cut & form knurling holders from QUICK, offering the widest range & highest quality tools



Thread Turning 604
Thread turning tools from market leader Vargus



Vardex PSC Modular Threading & Turning Heads 618
Anti vibration modular boring heads & dedicated capto compatible tool holders for internal & external threading applications

Page	Product Range	Surface Treatment & Grades	P		H	M	S	K	N
			Carbon & Alloy Steel	Tool Steel Pre-Hardened Steel	Hardened Steel	Stainless Steel	HRSA's	Cast Iron	Non Ferrous
12	**CVD Coated Steel Series** ▪ CVD coated high performance grades for medium to large diameter turning (>Ø50mm) of steel	**CVD Coated** NC3215, NC3235, NC3225, NC3030, YG3115, YG3020, YG3030	●	●		●			
20	**Cermet Steel Series** ▪ High speed turning of steel with a small depth of cut ▪ Uncoated cermet gives a sharp cutting edge and exceptional wear resistance, ideal where surface roughness is of high importance	**Polished Uncoated** CN1500, CN2500	●						
22	**Inox CVD Coated Series** ▪ CVD coated grades in combination with stainless steel chip breakers ▪ Thicker than a PVD coating, therefore offers greater tool life in applications where the contact time with the workpiece is longer	**CVD Coated** UNC805, NC9125, NC9135, YG2025				●	●		
28	**PVD Series** ▪ Ground high precision turning inserts ▪ For performance small part turning or multi-purpose turning of different materials with 1 insert	**PVD Coated** PC5300	●	●		●	●	●	
		PVD Coated PC8110, YG213, YG214, YG401				●	●	●	
34	**Swiss Turn Series** ▪ Ground high precision turning inserts ▪ For sliding head lathes or fine finishing of small parts where mirror finish or high accuracy is required	**Polished PVD Coated** PC5300	●	●		●	●		
		Polished PVD Coated PC8110				●	●		
36	**High Positive Series** ▪ Uncoated & coated polished high positive inserts for aluminium/non-ferrous turning ▪ Fine finishing of steel, stainless steel and exotics	**Polished Uncoated** H01, YG10, YG1000					●		●
		Polished PVD coated PC5040	●	●		●	●		
		Polished DLC coated PD1000							●
42	**K Series** ▪ High performance turning of cast iron ▪ CVD coated grade with excellent wear resistance against abrasive materials	**CVD Coated** NC6310, NC6315, YG1001						●	
46	**CBN & PCD Series** ▪ High speed or rough turning of high-hardened steel ▪ High speed finish turning of inconel and nickel alloy	**CBN** DBN250, DBN300, DNC100, DNC250, DB700, DBN700		●	●		●	●	
		PCD DP150							●

Grade & Description	P Carbon & Alloy Steel	P Tool Steel & Pre-Hardened Steel	H Hardened Steel	M Stainless Steel	S HRSA's	K Cast Iron	N Non Ferrous
CVD Coated Steel Series							
NC3215 - High speed continuous machining of carbon, alloy & forged steel	●	●					
NC3235 - CVD coated grade for low speed / rough turning of steel and stainless steel	●	●		●			
NC3225 - Continuous or light intermittent machining of carbon, alloy & forged steel	●	●					
NC3030 - Medium to low speed intermittent or heavy rough machining of steel	●	●					
YG3115 - Super CVD coated grade for medium-high speed continuous or light intermittent turning	●	●					
YG3020 - Continuous or medium intermittent machining of all carbon & alloy steel	●						
YG3030 - Medium-low speed machining of steel and stainless steel & interrupted roughing	●			●			
Cermet Steel Series							
CN1500 - For high speed continuous turning applications	●						
CN2500 - For high feed and intermittent cutting operations due to the tougher substrate	●						
Inox CVD Coated Series							
UNC805 - High speed continuous machining of stainless steel, duplex & other HRSA's				●	●		
NC9125 - For medium to high speed turning of stainless steel and nickel alloy	●			●	●		
NC9135 - For medium to low speed stainless steel and nickel alloy turning				●	●		
YG2025 - Super CVD coated grade for medium-high speed continuous & light intermittent turning				●			
PVD Series							
PC5300 - Universal grade for stainless steel, exotics, steel & interrupted cast iron machining	●			●	●	●	
PC8110 - For continuous high speed turning of stainless steel and exotics in small part turning				●	●	●	
YG213 - Medium to low speed turning of stainless steel, titanium, inconel and HRSA's				●	●		
YG214 - Rough turning of stainless steel, titanium, inconel and HRSA's				●	●		
YG401 - PVD grade for medium-continuous turning of stainless steel, titanium, chrome & nickel alloy				●	●		
Swiss Turn Series							
PC5300 - Universal continuous or intermittent medium-high speed turning	●			●	●	●	
PC8110 - For high speed continuous turning of stainless steel, HRSA's and tool steel	●			●	●		
High Positive Series							
H01 - Ideal for high performance mirror finish turning of aluminium, copper and plastic							●
YG10 - Ideal for general turning of aluminium, copper and plastic							●
YG1000 - DLC (diamond like carbon) grade, ideal for high speed turning of abrasive aluminium alloys, copper alloys and abrasive plastics or ultra-high speed turning of regular aluminium							●
PC5040 - Ultra-thin PVD coating enables the ground cutting edge to maintain it's sharpness	●			●	●		
PD1000 - DLC (diamond like carbon) grade, ideal for high speed turning of abrasive aluminium alloys, copper alloys and abrasive plastics							●
K Series							
NC6310 - For high speed with continuous or light interrupted machining						●	
NC6315 - For general machining of grey cast iron and ductile cast iron and provides stable tool life in various kinds of machining such as high feed, heavy interrupted, or continuous cutting						●	
YG1001 - For high speed continuous or light interrupted machining	●					●	
CBN Series							
DBN250 - Continuous or light intermittent turning of hardened steel			●				●
DBN300 - Low speed or intermittent turning of hardened steel			●				●
DB700 - High speed turning of sintered alloys, cast iron and HRSA's such as inconel					●	●	
DBN700 - High speed turning of cast iron						●	
DNC100 - Continuous or high speed turning of hardened steel			●				●
DNC250 - Continuous and light intermittent turning of hardened steel at high speeds			●				●
PCD Series							
DP150 - Continuous ultra-high speed turning of aluminium. High speed turning of abrasive aluminium, plastic and composite materials							●

CVD Coated Steel Series Turning Inserts

P M

CVD Coating Benefits for Steel Machining:

- CVD coated grades in combination with steel specific chipbreakers give excellent tool life, chip control and performance.
- The insert coating is thicker than a PVD coating and therefore offers greater tool life in applications where the contact time with the workpiece is longer.
- CVD grades offer a stronger cutting edge than PVD grades and are more suitable for heavy or rough machining. However, as the coating is thicker, the cutting egde of a CVD insert is not as sharp as a PVD insert so they do not perform as well in fine finishing cuts or small part machining.

CHIP BREAKER GUIDE

LP

Medium to finish cutting of steel. Ideal for low power machines where cut depths are less than 2.5mm or for finishing applications with a negative insert.



Depth of cut: 0.5 - 2.5mm
Feed rate: 0.10 - 0.40mm/rev

MP (NEGATIVE)

Medium to light roughing of steel with negative geometry inserts. Excellent performance across a wide range of cut depths. Good chip control on long and short chipping steels.



Depth of cut: 0.5 - 4.5mm
Feed rate: 0.15 - 0.45mm/rev

MP (POSITIVE)

Medium to finishing of steel with positive geometry inserts. Sharp cutting edge and wide chip pocket for low cutting load. Excellent surface finish.



Depth of cut: 0.3 - 3.0mm
Feed rate: 0.05 - 0.30mm/rev

GR

Heavy duty cutting, high feed machining or roughing of steel. 1st choice for intermittent cutting.



Depth of cut: 3.0 - 8.0mm
Feed rate: 0.3 - 0.80mm/rev

HMP

Medium to finish cutting of steel with positive inserts. Used alongside grade NC3030 for low speed machining.



Depth of cut: 0.5 - 3.5mm
Feed rate: 0.08 - 0.40mm/rev

VL

Finishing chip breaker for small cut depths. Superior chip control in low carbon steel, pipes and steel plates.



Depth of cut: 0.2 - 1.5mm
Feed rate: 0.1 - 0.35mm/rev

UG

1st choice YG chip breaker for medium cutting of steels. For continuous or light roughing.



Depth of cut: 1.0 - 3.0mm
Feed rate: 0.15 - 0.30mm/rev

UR

1st choice YG chip breaker for heavy duty and intermittent cutting.



Depth of cut: 2.0 - 5.0mm
Feed rate: 0.3 - 0.50mm/rev

STEEL SERIES - CVD GRADE GUIDE

Insert Grade	ISO Range	Manufacturer	Features
NC3215	P10 - P15	KORLOY	▪ Continuous machining of carbon, alloy and forged steel at high speeds ▪ Substrate with excellent thermal crack/plastic deformation resistance ▪ Coating with highest wear resistance for continuous machining
NC3225	P20 - P25	KORLOY	▪ Continuous or light intermittent machining of carbon, alloy and forged steel at medium speeds ▪ Substrate with high toughness & good wear resistance ▪ Coating with excellent welding & chipping resistance
NC3235	P25-P45	KORLOY	▪ Suitable for rough turning, or light/heavy intermittent turning ▪ Heavy cut thick coating, ideal for large part machining ▪ Can be used on both steel and stainless steel
NC3030	P25 - P35	KORLOY	▪ Medium to low speed machining of steel ▪ 1st choice for intermittent cutting and heavy roughing ▪ Exceptionally tough grade with highest levels of chipping resistance ▪ Brilliant for roughing or use on old machine tools for general turning
YG3115	P05 - P20	YG	▪ High speed machining of steel ▪ Hard wearing substrate gives exceptional tool life, however only under stable cutting conditions and continuous cutting
YG3020	P15 - P30	YG	▪ Continuous or medium intermittent machining of all carbon & alloy steel ▪ Substrate with high toughness and excellent wear resistance
YG3030	P20 - P35 M10 - M30	YG	▪ Medium to low speed and interrupted roughing of steel and stainless steel ▪ Exceptionally tough grade with highest levels of chipping resistance ▪ Brilliant for roughing

RECOMMENDED CUTTING CONDITIONS

Material Group	Material	Surface Speed (m/min)						
		NC3215	NC3225	NC3235	NC3030	YG3115	YG3020	YG3030
Steel	Low Carbon Steel	215 - 400	190 - 350	170-290	100-130	170 - 450	180 - 380	150-350
	Alloy Steel	150 - 300	150 - 250	120-220	90-110	180 - 380	110 - 350	90-300
	Pre-Hardened Steel	100 - 200	75 - 135	100-170	-	100 - 220	60 - 150	-
Stainless Steel	Austenitic Stainless (e.g.316)	-	-	120-170	-	-	80 - 200	
	Martensitic Stainless (e.g.404)	-	-	120-170	-	-	120 - 230	
	Duplex	-	-	70-90	-	-	-	-
	17-4PH	-	-	50-120	-	-	-	-

Contact our expert technical team for advice on your turning applications.

Please call 01924 869 615

STEEL SERIES - CVD COATED TURNING INSERTS

KORLOY

Korloy CVD coated steel grades are designed for optimal turning of carbon, alloy and tool steel. Grades are suitable for high speed continuous turning, medium to high speed continuous, light intermittent or rough turning and are best suited to medium to large diameter workpieces.

Grade NC3215	Exceptional P15 grade for high speed continuous turning of all steel.	**Grade NC3225**	Best selling P25 medium grade for continuous to light intermittent turning of all steels.	**Grade NC3235**	For medium to low speed and heavy interrupted turning of steel & stainless steel.	**Grade NC3030**	Tough P35 grade for low speed turning of steel.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE*			
STEEL	100-400m/min	75-350m/min	100-320m/min	90-130m/min
STAINLESS STEEL			50-170m/min	
HRSA'S				
CAST IRON				
ALUMINIUM/NON-FERROUS				
HARDENED STEEL				

		ISO REFERENCE	RADIUS	GRADE ORDER CODE NC3215	NC3225	NC3235	NC3030	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCMT (VL) FINISHING		CCMT060204-VL	0.4	1-02-057892	1-02-057929	-	-	£5.10	0.04 - 0.10	0.08 - 0.90
		CCMT060208-VL	0.8	1-02-063620	1-02-063637	-	-	£5.10	0.06 - 0.12	0.10 - 1.00
		CCMT09T304-VL	0.4	1-02-057895	1-02-056347	-	-	£5.81	0.05 - 0.10	0.10 - 1.00
		CCMT09T308-VL	0.8	1-02-057896	1-02-056349	-	-	£5.81	0.08 - 0.15	0.10 - 1.00
CCMT (MP) MEDIUM to FINISHING		CCMT060202-MP	0.2	1-02-057543	1-02-057563	-	-	£5.10	0.04 - 0.12	0.20 - 1.50
		CCMT060204-MP	0.4	1-02-057544	1-02-057564	-	-	£5.10	0.05 - 0.15	0.30 - 1.50
		CCMT060208-MP	0.8	-	1-02-069207	-	-	£5.10	0.07 - 0.15	0.50 - 2.00
		CCMT09T302-MP	0.2	1-02-057545	1-02-056344	-	-	£5.81	0.07 - 0.15	0.30 - 2.00
		CCMT09T304-MP	0.4	1-02-056032	1-02-055979	1-02-074564	-	£5.81	0.08 - 0.25	0.50 - 2.50
		CCMT09T308-MP	0.8	1-02-056033	1-02-055980	1-02-083477	-	£5.81	0.10 - 0.30	0.50 - 2.50
		CCMT120404-MP	0.4	-	1-02-068812	-	-	£6.70	0.10 - 0.30	0.50 - 3.50
		CCMT120408-MP	0.8	-	1-02-055981	-	-	£6.70	0.15 - 0.35	0.80 - 3.50
CCMT (C25) ROUGHING		CCMT060204-C25	0.4	-	-	1-02-083475	-	£5.10	0.05 - 0.15	0.6 - 2.3
		CCMT09T308-C25	0.8	-	-	1-02-081572	-	£5.81	0.10 - 0.35	1.0 - 3.0
		CCMT09T304-C25	0.4	-	-	1-02-081571	-	£5.81	0.08 - 0.25	0.8 - 3.0
		CCMT120408-C25	0.8	-	-	1-02-083478	-	£6.70	0.12 - 0.36	1.2 - 3.50
CCMT (HMP) MEDIUM to FINISHING		CCMT060204-HMP	0.4	-	-	-	1-02-023148	£5.10	0.06 - 0.17	0.20 - 2.40
		CCMT060208-HMP	0.8	-	-	-	1-02-023825	£5.10	0.08 - 0.23	0.40 - 2.40
		CCMT09T304-HMP	0.4	-	-	-	1-02-023126	£5.81	0.08 - 0.23	0.30 - 3.00
		CCMT09T308-HMP	0.8	-	-	-	1-02-023043	£5.81	0.10 - 0.30	0.50 - 3.00
		CCMT120404-HMP	0.4	-	-	-	1-02-026206	£6.70	0.09 - 0.27	0.30 - 3.60
		CCMT120408-HMP	0.8	-	-	-	1-02-023637	£6.70	0.24 - 0.36	1.00 - 3.60
CNMG (LP) MEDIUM to FINISHING		CNMG090308-LP	0.8	1-02-070409	1-02-062802	-	-	£5.34	0.10 - 0.30	0.30 - 1.50
		CNMG120404-LP	0.4	1-02-056911	1-02-057565	-	-	£5.86	0.10 - 0.35	0.30 - 2.00
		CNMG120408-LP	0.8	1-02-055610	1-02-056872	-	-	£5.86	0.10 - 0.40	0.50 - 2.50
		CNMG120412-LP	1.2	1-02-056478	1-02-056873	-	-	£5.86	0.13 - 0.45	0.80 - 3.00
CNMG (MP) MEDIUM		CNMG090304-MP	0.4	1-02-063623	1-02-063638	-	-	£5.34	0.10 - 0.40	0.40 - 3.80
		CNMG090308-MP	0.8	1-02-063624	1-02-063639	-	-	£5.34	0.15 - 0.40	0.50 - 4.00
		CNMG120404-MP	0.4	1-02-057143	1-02-057182	-	-	£5.86	0.10 - 0.40	0.40 - 4.00
		CNMG120408-MP	0.8	1-02-056507	1-02-056846	1-02-070222	-	£5.86	0.15 - 0.45	0.50 - 4.50
		CNMG120412-MP	1.2	1-02-056238	1-02-056880	-	-	£5.86	0.15 - 0.50	0.80 - 5.00
		CNMG120416-MP	1.6	1-02-060877	1-02-063640	-	-	£5.86	0.28 - 0.55	1.00 - 5.00
		CNMG160608-MP	0.8	1-02-058362	1-02-058363	1-02-083029	-	£9.30	0.15 - 0.50	0.50 - 7.00
		CNMG160612-MP	1.2	1-02-058367	1-02-058368	-	-	£9.30	0.18 - 0.60	0.80 - 7.00
		CNMG160616-MP	1.6	1-02-061408	1-02-059617	-	-	£9.30	0.15 - 0.60	1.00 - 7.00
CNMG (GR) ROUGHING		CNMG120408-GR	0.8	-	1-02-060887	1-02-078065	1-02-023800	£5.86	0.20 - 0.50	1.00 - 7.00
		CNMG120412-GR	1.2	-	1-02-067077	1-02-083480	1-02-024713	£5.86	0.25 - 0.50	1.30 - 7.00
		CNMG160608-GR	0.8	-	1-02-059620	-	1-02-024923	£9.30	0.20 - 0.70	1.00 - 8.00
		CNMG160612-GR	1.2	-	1-02-059623	1-02-085179	1-02-024801	£9.30	0.25 - 0.70	1.30 - 8.00
		CNMG160616-GR	1.6	-	1-02-059618	-	1-02-022384	£9.30	0.25 - 0.75	1.80 - 8.00
		CNMG190612-GR	1.2	-	1-02-058677	1-02-081573	1-02-022082	£11.64	0.30 - 0.75	1.70 - 10.00
		CNMG190616-GR	1.6	-	1-02-059626	1-02-078257	1-02-024802	£11.64	0.30 - 0.80	1.80 - 10.00
		CNMG250924-GR	2.4	-	-	-	1-02-024237	£23.01	0.40 - 1.00	2.30 - 15.00
CNMM (GH) (HG) (HL) (HV) ROUGHING		CNMM190616-GH	1.6	-	-	1-02-083483	-	£11.64	0.45 - 0.90	3.00 - 8.00
		CNMM250924-GH	2.4	-	-	1-02-083484	-	£23.01	0.55 - 1.20	4.00 - 9.00
		CNMM250924-HG	2.4	-	-	1-02-081575	-	£23.01	0.40 - 1.20	3.50 - 13.00
		CNMM250924-HV	2.4	-	-	1-02-081576	-	£23.01	0.50 - 1.40	4.00 - 15.00
		CNMM190612-HL	1.2	-	-	1-02-081574	-	£11.64	0.30 - 0.85	3.00 - 10.00

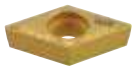
*See page 463 for applicable cutting speeds for steel

STEEL SERIES - CVD COATED TURNING INSERTS (CONTINUED)

KORLOY

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE*			
STEEL	100-400m/min	75-350m/min	100-320m/min	90-130m/min
STAINLESS STEEL			50-170m/min	
HRSA'S				
CAST IRON				
ALUMINIUM/NON-FERROUS				
HARDENED STEEL				

		ISO REFERENCE	RADIUS	GRADE ORDER CODE NC3215	NC3225	NC3235	NC3030	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
DCMT (VL) FINISHING		DCMT070204-VL	0.4	1-02-057901	1-02-057931	-	-	£5.81	0.04 - 0.10	0.08 - 0.90
		DCMT070208-VL	0.8	1-02-063625	1-02-063641	-	-	£5.81	0.06 - 0.12	0.10 - 1.00
		DCMT11T304-VL	0.4	1-02-057905	1-02-056369	-	-	£6.52	0.05 - 0.10	0.10 - 1.00
		DCMT11T308-VL	0.8	1-02-057907	1-02-056371	-	-	£6.52	0.08 - 0.15	0.10 - 1.00
DCMT (MP) MEDIUM to FINISHING		DCMT070202-MP	0.2	1-02-057546	-	-	1-02-057566	£5.81	0.04 - 0.12	0.12 - 1.80
		DCMT070204-MP	0.4	1-02-057547	-	-	1-02-057567	£5.81	0.05 - 0.15	0.30 - 1.80
		DCMT070208-MP	0.8	1-02-057548	-	-	1-02-057568	£5.81	0.08 - 0.22	0.30 - 1.80
		DCMT11T302-MP	0.2	1-02-057549	-	-	1-02-056366	£6.52	0.04 - 0.15	0.30 - 2.00
		DCMT11T304-MP	0.4	1-02-056035	-	1-02-083487	1-02-055982	£6.52	0.08 - 0.20	0.50 - 2.30
		DCMT11T308-MP	0.8	1-02-056036	-	-	1-02-055983	£6.52	0.10 - 0.30	0.50 - 2.30
DCMT (HMP) MEDIUM to FINISHING		DCMT070202-HMP	0.2	-	-	-	1-02-023094	£5.81	0.03 - 0.12	0.10 - 1.50
		DCMT070204-HMP	0.4	-	-	-	1-02-023638	£5.81	0.06 - 0.17	0.20 - 2.30
		DCMT070208-HMP	0.8	-	-	-	1-02-025296	£5.81	0.08 - 0.23	0.40 - 2.30
		DCMT11T302-HMP	0.2	-	-	-	1-02-026272	£6.52	0.04 - 0.22	0.10 - 2.00
		DCMT11T304-HMP	0.4	-	-	-	1-02-023912	£6.52	0.08 - 0.23	0.30 - 3.00
		DCMT11T308-HMP	0.8	-	-	-	1-02-023149	£6.52	0.10 - 0.30	0.50 - 3.00
DCMT (C25) ROUGHING		DCMT070204-C25	0.4	-	-	1-02-083485	-	£5.81	0.05 - 0.20	0.50 - 2.50
		DCMT11T304-C25	0.4	-	-	1-02-081577	-	£6.52	0.08 - 0.30	0.80 - 3.00
		DCMT11T308-C25	0.8	-	-	1-02-083489	-	£6.52	0.10 - 0.30	1.00 - 3.00
DNMG (LP) MEDIUM to FINISHING		DNMG110404-LP	0.4	1-02-062889	1-02-060847	-	-	£5.91	0.07 - 0.30	0.30 - 1.50
		DNMG150404-LP	0.4	1-02-057550	1-02-057569	-	-	£7.34	0.10 - 0.35	0.30 - 2.00
		DNMG150408-LP	0.8	1-02-056479	1-02-056874	-	-	£7.34	0.10 - 0.40	0.50 - 2.50
		DNMG150412-LP	1.2	1-02-056480	1-02-056875	-	-	£7.34	0.13 - 0.45	0.80 - 3.00
		DNMG150604-LP	0.4	1-02-057043	1-02-057570	-	-	£8.89	0.10 - 0.35	0.30 - 2.00
		DNMG150608-LP	0.8	1-02-056979	1-02-056876	-	-	£8.89	0.10 - 0.40	0.50 - 2.50
		DNMG150612-LP	1.2	1-02-056980	1-02-056877	-	-	£8.89	0.13 - 0.45	0.80 - 3.00
DNMG (MP) MEDIUM		DNMG110404-MP	0.4	1-02-063630	1-02-063642	-	-	£5.91	0.10 - 0.40	0.40 - 3.80
		DNMG110408-MP	0.8	1-02-062888	1-02-060848	-	-	£5.91	0.15 - 0.40	0.50 - 4.00
		DNMG150404-MP	0.4	1-02-057144	1-02-057183	-	-	£7.34	0.10 - 0.40	0.40 - 4.00
		DNMG150408-MP	0.8	1-02-056239	1-02-056881	-	-	£7.34	0.15 - 0.45	0.50 - 4.50
		DNMG150412-MP	1.2	1-02-056240	1-02-056882	-	-	£7.34	0.15 - 0.50	0.80 - 5.00
		DNMG150604-MP	0.4	1-02-057145	1-02-057184	1-02-083490	-	£8.89	0.10 - 0.40	0.40 - 4.00
		DNMG150608-MP	0.8	1-02-056537	1-02-056883	1-02-075156	-	£8.89	0.15 - 0.45	0.50 - 4.50
		DNMG150612-MP	1.2	1-02-056538	1-02-056884		-	£8.89	0.15 - 0.50	0.80 - 5.00
DNMG (GR) ROUGHING		DNMG150408-GR	0.8	-	-	-	1-02-024925	£7.34	0.20 - 0.50	1.00 - 7.00
		DNMG150608-GR	0.8	-	1-02-059622	1-02-077881	1-02-023676	£8.89	0.20 - 0.50	1.00 - 7.00
		DNMG150612-GR	1.2	-	1-02-057886	-	1-02-025937	£8.89	0.25 - 0.70	1.30 - 7.00
KNUX (L11/R11) GENERAL		KNUX160405L-11	0.5	-	1-02-058248	1-02-083491	1-02-024194	£9.24	0.20 - 0.35	1.00 - 6.00
		KNUX160405R-11	0.5	-	1-02-055969	1-02-081578	1-02-022032	£9.24	0.20 - 0.35	1.00 - 6.00
		KNUX160410L-11	1.0	-	1-02-058250	-	1-02-026602	£9.24	0.30 - 0.60	1.50 - 6.00
		KNUX160410R-11	1.0	-	1-02-058249	-	1-02-023524	£9.24	0.30 - 0.60	1.50 - 6.00
RCMX (RCMT) MEDIUM		RCMX1003M0	5.0	-	1-02-067511	-	1-02-025766	£6.07	0.25 - 0.50	1.50 - 4.00
		RCMX1204M0	6.0	-	1-02-068611	1-02-081579	1-02-025767	£7.47	0.30 - 0.60	2.50 - 5.00
		RCMX1606M0	8.0	-	1-02-067058	-	1-02-025768	£15.84	0.40 - 0.70	3.00 - 7.00
		RCMX2006M0	10.0	-	-	-	1-02-023071	£18.80	0.48 - 0.90	3.50 - 9.00
		RCMX2507M0	12.5	-	-	-	1-02-023018	£22.89	0.55 - 1.20	4.00 - 12.00
		RCMX3209M0	16.0	-	-	-	1-02-022725	£32.33	0.65 - 1.50	5.00 - 15.00
SCMT (MP) MEDIUM to FINISHING		SCMT09T304-MP	0.4	1-02-057909	1-02-057933		-	£5.69	0.08 - 0.23	0.30 - 2.80
		SCMT09T308-MP	0.8	1-02-056037	1-02-055984		-	£5.69	0.10 - 0.30	0.50 - 2.80
		SCMT120404-MP	0.4	1-02-069365	1-02-068815		-	£6.52	0.10 - 0.30	0.50 - 2.80
		SCMT120408-MP	0.8	1-02-062353	1-02-058259		-	£6.52	0.15 - 0.35	0.80 - 3.50
SNMG (MP) MEDIUM		SNMG120404-MP	0.4	1-02-057552	1-02-057330		-	£5.86	0.10 - 0.40	0.40 - 4.00
		SNMG120408-MP	0.8	1-02-056241	1-02-056885	1-02-083496	-	£5.86	0.15 - 0.45	0.50 - 4.50
		SNMG120412-MP	1.2	1-02-058411	1-02-058251		-	£5.86	0.15 - 0.50	0.80 - 5.00
		SNMG120416-MP	1.6	1-02-062750	1-02-062751		-	£5.86	0.18 - 0.60	0.80 - 7.00
SNMG (GR) (HM) ROUGHING		SNMG120408-GR	0.8	-	-	1-02-083499	1-02-023577	£5.86	0.20 - 0.50	1.00 - 7.00
		SNMG120412-GR	1.2	-	-	-	1-02-024428	£5.86	0.20 - 0.50	1.00 - 7.00
		SNMG150608-GR	0.8	-	-	-	1-02-026611	£9.30	0.25 - 0.60	1.00 - 7.00
		SNMG150612-GR	1.2	1-02-060372	1-02-060369	-	1-02-023579	£9.30	0.29 - 0.75	1.40 - 7.00
		SNMG190608-GR	0.8	-	-	-	1-02-026614	£9.30	0.30 - 0.80	1.70 - 9.00
		SNMG190612-GR	1.2	-	-	1-02-081581	1-02-023383	£9.30	0.30 - 0.80	1.70 - 9.00
		SNMG190616-GR	1.6	1-02-055684	-	1-02-083501	1-02-023381	£9.30	0.31 - 0.82	1.90 - 12.30
		SNMG250724-GR	2.4	-	-	-	1-02-026615	£24.87	0.45 - 1.20	2.60 - 14.00
		SNMG250924-GR	2.4	-	-	-	1-02-023011	£24.87	0.50 - 1.20	2.60 - 14.00
		SNMG120412-HM	1.2	-	-	1-02-078255	-	£5.86	0.18 - 0.50	1.00 - 5.00

*See page 463 for applicable cutting speeds for steel

STEEL SERIES - CVD COATED TURNING INSERTS (CONTINUED)

KORLOY

Korloy CVD coated steel grades are designed for optimal turning of carbon, alloy and tool steels. Grades are suitable for high speed continuous turning, medium to high speed continuous or light intermittent turning or rough turning and are best suited to medium to large diameter workpieces.

Grade NC3215 — Exceptional P15 grade for high speed continuous turning of all steel.

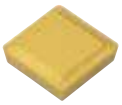
Grade NC3225 — Best selling P25 medium grade for continuous to light intermittent turning of all steels.

Grade NC3235 — For medium to low speed and heavy interrupted turning of steel & stainless steel.

Grade NC3030 — Tough P35 grade for low speed turning of steel.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE*			
STEEL	100-400m/min	75-350m/min	100-320m/min	90-130m/min
STAINLESS STEEL			50-170m/min	
HRSA'S				
CAST IRON				
ALUMINIUM/NON-FERROUS				
HARDENED STEEL				

		ISO REFERENCE	RADIUS	GRADE ORDER CODE NC3215	NC3225	NC3235	NC3030	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
SNMM (GH) (GR) (HG (HV) ROUGHING		SNMM190612-GH	1.2	-	-	1-02-083034	-	**£9.30**	0.30 - 0.70	3.00 - 8.00
		SNMM250924-GH	1.6	-	-	1-02-080848	-	**£24.87**	0.55 - 1.20	5.00 - 12.00
		SNMM190616-GR	1.6	-	-	1-02-083502	-	**£9.30**	0.32 - 0.85	1.80 - 11.50
		SNMM250924-HG	2.4	-	-	1-02-080622	-	**£24.87**	0.40 - 1.20	3.50 - 13.0
		SNMM250924-HV	2.4	-	-	1-02-080673	-	**£24.87**	0.5 - 1.40	4.00 - 15.0
SPMR MEDIUM to FINISHING		SPMR090308	0.8	-	-	-	1-02-024425	**£4.33**	0.10 - 0.25	0.50 - 2.00
		SPMR120304	0.4	-	1-02-058252	-	1-02-024374	**£5.59**	0.10 - 0.25	0.50 - 2.00
		SPMR120308	0.8	-	1-02-058253	-	1-02-022034	**£5.59**	0.10 - 0.25	0.50 - 2.00
TCMT (MP) MEDIUM to FINISHING		TCMT110202-MP	0.2	1-02-057917	1-02-057935	-	-	**£5.34**	0.03 - 0.12	0.20 - 1.50
		TCMT110204-MP	0.4	1-02-057919	1-02-057937	-	-	**£5.34**	0.05 - 0.15	0.20 - 15.0
		TCMT110208-MP	0.8	1-02-057921	1-02-057938	-	-	**£5.34**	0.10 - 0.28	0.25 - 2.00
		TCMT16T304-MP	0.4	1-02-056038	1-02-055985	-	-	**£6.52**	0.08 - 0.20	0.30 - 2.50
		TCMT16T308-MP	0.8	1-02-056039	1-02-055986	-	-	**£6.52**	0.10 - 0.30	0.50 - 2.50
		TCMT16T312-MP	1.2	1-02-057553	1-02-056399	-	-	**£6.52**	0.20 - 0.40	0.50 - 2.50
TCMT (C25) MEDIUM		TCMT110204-C25	0.4	-	-	1-02-083504	-	**£5.34**	0.06 - 0.20	0.60 - 2.50
		TCMT16T304-C25	0.4	-	-	1-02-083506	-	**£6.52**	0.08 - 0.28	0.80 - 3.00
		TCMT16T308-C25	0.8	-	-	1-02-081582	-	**£6.52**	0.10 - 0.30	1.00 - 3.00
TCMT (HMP) MEDIUM to FINISHING		TCMT110204-HMP	0.4	-	-	-	1-02-024191	**£5.34**	0.06 - 0.19	0.20 - 2.50
		TCMT110208-HMP	0.8	-	-	-	1-02-025301	**£5.34**	0.09 - 0.26	0.40 - 2.50
		TCMT16T304-HMP	0.4	-	-	-	1-02-025305	**£6.52**	0.08 - 0.23	0.30 - 3.00
		TCMT16T308-HMP	0.8	-	-	-	1-02-024414	**£6.52**	0.10 - 0.30	0.50 - 3.00
TNMG (MP) MEDIUM		TNMG160404-MP	0.4	1-02-057146	1-02-057185	-	-	**£5.34**	0.10 - 0.40	0.40 - 3.50
		TNMG160408-MP	0.8	1-02-056242	1-02-056886	-	-	**£5.34**	0.15 - 0.45	0.50 - 4.00
		TNMG160412-MP	1.2	1-02-057555	1-02-057186	-	-	**£5.34**	0.15 - 0.50	0.80 - 4.50
		TNMG220404-MP	0.4	1-02-058428	1-02-058429	-	-	**£8.23**	0.10 - 0.35	0.40 - 5.00
		TNMG220408-MP	0.8	1-02-058433	1-02-058254	-	-	**£8.23**	0.15 - 0.45	0.50 - 5.50
		TNMG220412-MP	1.2	1-02-058439	1-02-058255	-	-	**£8.23**	0.15 - 0.50	0.80 - 6.00
		TNMG220416-MP	1.6	1-02-063633	1-02-063645	-	-	**£8.23**	0.20 - 0.55	1.00 - 6.00
TNMG (GR) ROUGHING		TNMG160408-GR	0.8	-	1-02-060888	-	1-02-024478	**£5.34**	0.20 - 0.50	1.00 - 7.00
		TNMG160412-GR	1.2	-	1-02-068226	-	1-02-026459	**£5.34**	0.23 - 0.54	1.20 - 8.00
		TNMG220408-GR	0.8	-	-	1-02-081584	1-02-023238	**£8.23**	0.22 - 0.61	1.10 - 7.80
		TNMG220412-GR	1.2	-	1-02-062742	1-02-083507	1-02-023584	**£8.23**	0.28 - 0.78	1.20 - 7.80
		TNMG220416-GR	1.6	-	-	-	1-02-024553	**£8.23**	0.31 - 0.75	1.50 - 7.80
		TNMG270608-GR	0.8	-	-	-	1-02-025126	**£15.75**	0.31 - 0.75	1.50 - 7.80
		TNMG270612-GR	1.2	-	1-02-062618	-	1-02-024946	**£15.75**	0.31 - 0.75	1.50 - 7.80
		TNMG270616-GR	1.6	-	-	-	1-02-024007	**£15.75**	0.36 - 1.00	1.60 - 7.80
		TNMG330924-GR	2.4	-	-	-	1-02-024806	**£28.81**	0.40 - 1.00	2.00 - 9.00
TPGN MEDIUM to FINISHING		TPGN110304	0.4	-	-	-	1-02-026632	**£7.18**	0.07 - 0.20	0.70 - 3.00
		TPGN160304	0.4	-	-	-	1-02-023070	**£9.39**	0.07 - 0.20	1.00 - 5.00
		TPGN160308	0.8	-	-	-	1-02-022896	**£9.39**	0.10 - 0.25	1.00 - 5.00
TPMT (MP) MEDIUM to FINISHING		TPMT110304-MP	0.4	1-02-070521	1-02-070522	-	-	**£4.80**	0.05 - 0.20	0.20 - 1.50
		TPMT110308-MP	0.8	1-02-070525	1-02-070526	-	-	**£4.80**	0.10 - 0.28	0.30 - 2.00
		TPMT160404-MP	0.4	1-02-070532	1-02-070533	-	-	**£5.07**	0.08 - 0.20	0.30 - 2.50
		TPMT160408-MP	0.8	1-02-070534	1-02-070535	-	-	**£5.07**	0.10 - 0.30	0.50 - 2.50
TPMR GENERAL		TPMR110304-M	0.4	-	1-02-058256	-	1-02-024420	**£5.07**	0.10 - 0.25	0.70 - 3.00
		TPMR110308-M	0.8	-	-	-	1-02-024421	**£5.07**	0.13 - 0.30	1.00 - 3.00
		TPMR160304-M	0.4	-	1-02-058257	-	1-02-023259	**£5.07**	0.10 - 0.25	1.00 - 5.00
		TPMR160308-M	0.8	-	1-02-058258	-	1-02-023260	**£5.07**	0.13 - 0.30	1.00 - 5.00
		TPMR160312-M	1.2	-	-	-	1-02-024422	**£5.07**	0.15 - 0.35	1.00 - 5.00

*See page 463 for applicable cutting speeds for steel

STEEL SERIES - CVD COATED TURNING INSERTS (CONTINUED)

KORLOY

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE*			
STEEL	100-400m/min	75-350m/min	100-320m/min	90-130m/min
STAINLESS STEEL			50-170m/min	
HRSA'S				
CAST IRON				
ALUMINIUM/NON-FERROUS				
HARDENED STEEL				

		ISO REFERENCE	RADIUS	GRADE ORDER CODE NC3215	NC3225	NC3235	NC3030	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
TPUN MEDIUM to FINISHING		TPUN160304	0.4	-	-	-	1-02-023258	**£6.30**	0.10 - 0.30	1.00 - 5.00
		TPUN160308	0.8	-	-	-	1-02-022758	**£6.30**	0.15 - 0.40	1.00 - 5.00
		TPUN220408	0.8	-	-	-	1-02-023608	**£7.72**	0.15 - 0.40	1.50 - 7.00
VBMT (VL) FINISHING		VBMT160404-VL	0.4	1-02-054213	1-02-057940	-	-	**£9.30**	0.05 - 0.20	0.30 - 1.50
		VBMT160408-VL	0.8	1-02-054214	1-02-056415	-	-	**£9.30**	0.10 - 0.20	0.30 - 1.50
VBMT (MP) MEDIUM to FINISHING		VBMT110304-MP	0.4	1-02-064307	1-02-064310	-	-	**£7.41**	0.05 - 0.15	0.20 - 1.50
		VBMT110308-MP	0.8	1-02-064756	1-02-070540	-	-	**£7.41**	0.10 - 0.28	0.30 - 2.00
		VBMT160404-MP	0.4	1-02-057556	1-02-056414	1-02-080882	-	**£9.30**	0.08 - 0.20	0.30 - 2.00
		VBMT160408-MP	0.8	1-02-057068	1-02-056416	-	-	**£9.30**	0.10 - 0.25	0.50 - 2.30
		VBMT160412-MP	1.2	1-02-057557	1-02-056417	-	-	**£9.30**	0.10 - 0.35	0.50 - 2.30
VBMT (HMP) MEDIUM to FINISHING		VBMT160404-HMP	0.4	-	-	-	1-02-023499	**£9.30**	0.07 - 0.20	0.20 - 2.70
		VBMT160408-HMP	0.8	-	-	-	1-02-023500	**£9.30**	0.09 - 0.27	0.50 - 2.70
VCMT (VL) FINISHING		VCMT160404-VL	0.4	1-02-057927	1-02-057942	-	-	**£9.30**	0.05 - 0.20	0.30 - 1.50
		VCMT160408-VL	0.8	1-02-054727	1-02-056420	-	-	**£9.30**	0.05 - 0.20	0.30 - 1.50
VCMT (MP) MEDIUM to FINISHING		VCMT160404-MP	0.4	1-02-057926	1-02-057941	-	-	**£9.30**	0.08 - 0.20	0.30 - 2.00
		VCMT160408-MP	0.8	1-02-054812	1-02-057573	-	-	**£9.30**	0.10 - 0.25	0.50 - 2.30
		VCMT160412-MP	1.2	-	1-02-062363	-	-	**£9.30**	0.10 - 0.35	0.50 - 2.30
VCMT (HMP) MEDIUM to FINISHING		VCMT160404-HMP	0.4	-	-	-	1-02-023394	**£9.30**	0.10 - 0.25	0.30 - 2.60
		VCMT160408-HMP	0.8	-	-	-	1-02-024709	**£9.30**	0.13 - 0.33	0.60 - 2.60
VNMG (LP) MEDIUM to FINISHING		VNMG160404-LP	0.4	1-02-068803	1-02-066287	-	-	**£8.18**	0.10 - 0.35	0.30 - 1.50
		VNMG160408-LP	0.8	1-02-062177	1-02-062178	-	-	**£8.18**	0.10 - 0.40	0.50 - 2.00
VNMG (MP) MEDIUM		VNMG160404-MP	0.4	1-02-057558	1-02-057331	-	-	**£8.18**	0.10 - 0.40	0.40 - 3.50
		VNMG160408-MP	0.8	1-02-057559	1-02-057332	-	-	**£8.18**	0.15 - 0.45	0.50 - 4.00
		VNMG160412-MP	1.2	1-02-062748	1-02-062749	-	-	**£8.18**	0.15 - 0.50	0.80 - 4.50
WNMG (LP) MEDIUM to FINISHING		WNMG060408-LP	0.8	1-02-059668	1-02-061644	-	-	**£5.34**	0.10 - 0.30	0.30 - 1.50
		WNMG080404-LP	0.4	1-02-057560	1-02-057574	-	-	**£6.63**	0.10 - 0.35	0.30 - 2.00
		WNMG080408-LP	0.8	1-02-057561	1-02-057575	-	-	**£6.63**	0.10 - 0.40	0.50 - 2.50
		WNMG080412-LP	1.2	1-02-057562	1-02-057576	-	-	**£6.63**	0.13 - 0.45	0.80 - 3.00
WNMG (MP) MEDIUM		WNMG060404-MP	0.4	1-02-063636	1-02-063649	-	-	**£5.34**	0.10 - 0.40	0.40 - 2.80
		WNMG060408-MP	0.8	1-02-057685	1-02-057686	-	-	**£5.34**	0.15 - 0.45	0.50 - 3.00
		WNMG060412-MP	1.2	-	1-02-058778	-	-	**£5.34**	0.15 - 0.50	0.80 - 3.20
		WNMG080404-MP	0.4	1-02-057147	1-02-057187	-	-	**£6.63**	0.10 - 0.40	0.40 - 4.00
		WNMG080408-MP	0.8	1-02-056888	1-02-056958	1-02-077882	-	**£6.63**	0.15 - 0.45	0.50 - 4.50
		WNMG080412-MP	1.2	1-02-056889	1-02-056960	-	-	**£6.63**	0.15 - 0.50	0.80 - 5.00
WNMG (GR) ROUGHING		WNMG080408-GR	0.8	-	1-02-065116	-	1-02-023585	**£6.63**	0.20 - 0.50	1.00 - 7.00
		WNMG080412-GR	1.2	-	1-02-065111	-	1-02-023265	**£6.63**	0.25 - 0.50	1.30 - 7.00

*See page 463 for applicable cutting speeds for steel

STEEL SERIES - CVD COATED TURNING INSERTS

YG-1 CVD coated steel grades are designed for optimal turning of carbon, alloy and tool steels. Grades are suitable for high speed continuous, medium to high speed continuous, light intermittent or rough turning and are best suited to medium to large diameter workpieces.

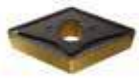
Grade YG3115 — Ultra-hard wearing P10 grade for high speed continuous machining of steel or cast iron. Highest heat and wear resistance.

Grade YG3020 — Medium P20 grade for continuous to light intermittent turning of all steel. The perfect combination of wear resistance and toughness.

Grade YG3030 — Tough P30 grade for low speed turning of steel and stainless steel. Excellent for intermittent and rough turning with supreme fracture resistance.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE*		
STEEL	100-450m/min	60-380m/min	90-350m/min
STAINLESS STEEL			80-230m/min
HRSA'S			
CAST IRON			
ALUMINIUM/NON-FERROUS			
HARDENED STEEL			

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG3115	YG3020	YG3030	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCMT (UG) MEDIUM to FINISHING		CCMT060204-UG	0.4	YG22002357	YG22000167	YG22000168	**£4.03**	0.05 - 0.25	0.50 - 2.00
		CCMT060208-UG	0.8	YG22002378	YG22000683	YG22000684	**£4.03**	0.15 - 0.25	0.80 - 2.00
		CCMT09T304-UG	0.4	YG22002206	YG22000173	YG22000174	**£4.77**	0.15 - 0.20	0.50 - 2.00
		CCMT09T308-UG	0.8	YG22002180	YG22000151	YG22000152	**£4.77**	0.15 - 0.30	0.80 - 2.50
		CCMT120404-UG	0.4	YG22002399	YG22000176	YG22000177	**£5.41**	0.20 - 0.25	0.50 - 2.50
		CCMT120408-UG	0.8	YG22002183	YG22000154	YG22000155	**£5.41**	0.20 - 0.35	0.80 - 3.50
		CCMT120412-UG	1.2	YG22002580	YG22000915	YG22001135	**£5.41**	0.20 - 0.35	1.20 - 3.50
CNMG (UG) MEDIUM		CNMG120404-UG	0.4	YG22002219	YG22000182	YG22000183	**£4.77**	0.20 - 0.40	0.50 - 2.00
		CNMG120408-UG	0.8	YG22002178	YG22000099	YG22000139	**£4.77**	0.20 - 0.40	1.00 - 3.00
		CNMG120412-UG	1.2	YG22002199	YG22000199	YG22000200	**£4.77**	0.20 - 0.40	1.50 - 4.00
		CNMG160608-UG	0.8	YG22002599	YG22000748	YG22000749	**£7.84**	0.20 - 0.40	1.50 - 5.00
		CNMG160612-UG	1.2	YG22002430	YG22000508	YG22000531	**£7.84**	0.20 - 0.40	1.50 - 5.00
		CNMG160616-UG	1.6	YG22002600	YG22000510	YG22000535	**£7.84**	0.20 - 0.40	1.80 - 5.00
		CNMG190608-UG	0.8	YG22002601	YG22000802	YG22000803	**£10.39**	0.20 - 0.50	3.00 - 7.00
CNMG (UR) ROUGHING		CNMG120408-UR	0.8	YG22002196	YG22000196	YG22000197	**£4.77**	0.25 - 0.55	1.00 - 4.00
		CNMG120412-UR	1.2	YG22002179	YG22000205	YG22000206	**£4.77**	0.30 - 0.60	1.50 - 5.00
		CNMG120416-UR	1.6	YG22002213	YG22000623	YG22000847	**£4.77**	0.30 - 0.60	2.00 - 5.00
		CNMG160608-UR	0.8	YG22002426	YG22000750	YG22000751	**£7.84**	0.30 - 0.50	1.0 - 5.00
		CNMG160612-UR	1.2	YG22002197	YG22000509	YG22000533	**£7.84**	0.30 - 0.50	1.50 - 5.00
		CNMG160616-UR	1.6	YG22002187	YG22000511	YG22000537	**£7.84**	0.30 - 0.50	2.00 - 5.00
		CNMG190608-UR	0.8	YG22002427	YG22000805	YG22000806	**£10.39**	0.30 - 0.80	3.0 - 9.00
		CNMG190612-UR	1.2	YG22002355	YG22000698	YG22000699	**£10.39**	0.30 - 0.80	3.00 - 9.00
		CNMG190616-UR	1.6	YG22002583	YG22000734	YG22000735	**£10.39**	0.30 - 0.80	3.0 - 9.00
DCMT (UG) MEDIUM to FINISHING		DCMT070204-UG	0.4	YG22002391	YG22000211	YG22000212	**£4.77**	0.15 - 0.25	0.50 - 1.50
		DCMT070208-UG	0.8	YG22002386	YG22000717	YG22001136	**£4.77**	0.15 - 0.25	0.80 - 1.50
		DCMT11T304-UG	0.4	YG22002209	YG22000217	YG22000218	**£5.19**	0.15 - 0.25	0.50 - 2.00
		DCMT11T308-UG	0.8	YG22002215	YG22000223	YG22000224	**£5.19**	0.20 - 0.35	0.80 - 2.50
DNMG (UG) MEDIUM		DNMG150404-UG	0.4	-	YG22000772	YG22001137	**£5.94**	0.15 - 0.25	0.50 - 1.50
		DNMG150408-UG	0.8	YG22002368	YG22000367	YG22000368	**£5.94**	0.20 - 0.35	1.00 - 2.50
		DNMG150412-UG	1.2	-	YG22000487	YG22000704	**£5.94**	0.20 - 0.35	1.50 - 3.00
		DNMG150604-UG	0.4	YG22002375	YG22000229	YG22000230	**£6.35**	0.20 - 0.30	0.50 - 2.00
		DNMG150608-UG	0.8	YG22002212	YG22000235	YG22000236	**£6.35**	0.20 - 0.35	1.00 - 3.00
		DNMG150612-UG	1.2	YG22002356	YG22000244	YG22000245	**£6.35**	0.20 - 0.40	1.50 - 3.50
DNMG (UR) ROUGHING		DNMG150408-UR	0.8	-	YG22001096	YG22001097	**£5.94**	0.30 - 0.50	1.00 - 3.50
		DNMG150412-UR	1.2	YG22002400	YG22001134	YG22001101	**£5.94**	0.30 - 0.50	1.50 - 4.00
		DNMG150608-UR	0.8	YG22002447	YG22000693	YG22000854	**£6.35**	0.30 - 0.50	1.50 - 3.50
		DNMG150612-UR	1.2	YG22002416	YG22000372	YG22000373	**£6.35**	0.30 - 0.50	1.50 - 4.00
KNUX MEDIUM		KNUX160405L11	0.5	YG22002621	YG22000250	YG22000251	**£5.86**	0.20~0.35	1.00~6.00
		KNUX160410L11	1.0	YG22002622	YG22001786	YG22001315	**£5.86**	0.30~0.60	1.50~6.00
		KNUX160405R11	0.5	YG22002408	YG22000253	YG22000254	**£5.86**	0.20~0.35	1.00~6.00
		KNUX160410R11	1.0	YG22002623	YG22001155	YG22001156	**£5.86**	0.30~0.60	1.50~6.00
RCMT (MO) MEDIUM to FINISHING		RCMT0602M0	3.0	YG22002624	YG22000376	YG22001151	**£4.35**	0.05 - 0.25	0.20 - 1.20
		RCMT0803M0	4.0	YG22002625	YG22000379	YG22001152	**£4.51**	0.05 - 0.30	0.50 - 1.50
		RCMT10T3M0	5.0	YG22002626	YG22000382	YG22001153	**£4.77**	0.10 - 0.35	0.50 - 2.50
		RCMT1204M0	6.0	YG22002627	YG22000385	YG22001170	**£5.19**	0.15 - 0.45	0.50 - 3.00

*See page 463 for applicable cutting speeds for steel

STEEL SERIES - CVD COATED TURNING INSERTS (CONTINUED)

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE*		
STEEL	100-450m/min	60-300m/min	70-350m/min
STAINLESS STEEL			80-230m/min
HRSA'S			
CAST IRON			
ALUMINIUM/NON-FERROUS			
HARDENED STEEL			

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG3115	YG3020	YG3030	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
SCMT (UG) MEDIUM to FINISHING		SCMT09T304-UG	0.4	YG22002414	YG22000916	YG22001171	£4.45	0.20 - 0.35	1.00 - 2.50
		SCMT09T308-UG	0.8	YG22002383	YG22000160	YG22000161	£4.45	0.20 - 0.35	1.00 - 2.50
		SCMT120408-UG	0.8	YG22002393	YG22000256	YG22000257	£5.83	0.20 - 0.40	1.00 - 3.50
SNMG (UG) MEDIUM		SNMG120408-UG	0.8	YG22002361	YG22000142	YG22000143	£4.77	0.20 - 0.40	1.00 - 3.00
		SNMG120412-UG	1.2	YG22002411	YG22000259	YG22000260	£4.77	0.20 - 0.45	1.50 - 4.00
		SNMG120416-UG	1.6	YG22002638	YG22001169	YG22001195	£4.77	0.20 - 0.40	2.00 - 3.00
SNMG (UR) ROUGHING		SNMG120408-UR	0.8	YG22002401	YG22000393	YG22000394	£4.77	0.30 - 0.55	1.00 - 4.50
		SNMG120412-UR	1.2	YG22002585	YG22000262	YG22000263	£4.77	0.30 - 0.60	1.50 - 50
		SNMG120416-UR	1.6	YG22002639	YG22000971	YG22000977	£4.77	0.30 - 0.50	1.50 - 5.00
		SNMG190612-UR	1.2	YG22002640	YG22001018	YG22001026	£9.43	0.30 - 0.80	3.00 - 9.00
		SNMG190616-UR	1.6	YG22002641	YG22001583	YG22001584	£9.43	0.30 - 0.80	3.00 - 9.00
TCMT (UG) MEDIUM to FINISHING		TCMT110204-UG	0.4	YG22002642	YG22000265	YG22001366	£4.13	0.15 - 0.25	0.50 -1.50
		TCMT110208-UG	0.8	YG22002362	YG22000715	YG22001204	£4.13	0.15 - 0.25	0.80 - 2.00
		TCMT16T304-UG	0.4	YG22002379	YG22000268	YG22000269	£5.09	0.15 - 0.25	0.50 -2.00
		TCMT16T308-UG	0.8	YG22002175	YG22000157	YG22000158	£5.09	0.20 - 0.35	0.80 - 3.00
TNMG (UG) MEDIUM		TNMG160404-UG	0.4	YG22002171	YG22000274	YG22000275	£4.35	0.20 - 0.30	0.50 - 2.00
		TNMG160408-UG	0.8	YG22002182	YG22000145	YG22000146	£4.35	0.20 - 0.35	1.00 - 3.00
		TNMG160412-UG	1.2	YG22002200	YG22000587	YG22000939	£4.35	0.20 - 0.35	1.50 - 3.00
		TNMG220408-UG	0.8	YG22002394	YG22000286	YG22000287	£5.94	0.20 - 0.30	1.00 - 4.00
		TNMG220412-UG	1.2	YG22002694	YG22001528	YG22001529	£5.94	0.30 - 0.65	1.50 - 4.00
		TNMG220416-UG	1.6	YG22002695	YG22000852	YG22001263	£5.94	0.30 - 0.65	2.00 - 4.00
TNMG (UR) ROUGHING		TNMG160408-UR	0.8	YG22002395	YG22000670	YG22001054	£4.35	0.30 - 0.50	1.00 - 5.00
		TNMG160412-UR	1.2	YG22002406	YG22000405	YG22000406	£4.35	0.30 - 0.50	1.50 - 3.00
		TNMG220412-UR	1.2	YG22002403	YG22000410	YG22000411	£5.94	0.30 - 0.65	1.50 - 4.00
		TNMG220416-UR	1.6	YG22002696	YG22000696	YG22000711	£5.94	0.30 - 0.65	2.00 - 4.00
TNUX MEDIUM		TNUX160404L	0.4	YG22002425	YG22000413	YG22001264	£5.19	0.10 - 0.30	0.50 - 4.00
		TNUX160404R	0.8	YG22002390	YG22000289	YG22000290	£5.19	0.10 - 0.30	0.50 - 4.00
		TNUX160408L	0.4	YG22002198	YG22000415	YG22000675	£5.19	0.10 - 0.40	0.50 - 6.00
		TNUX160408R	0.8	YG22002354	YG22000292	YG22000293	£5.19	0.10 - 0.40	0.50 - 6.00
VBMT (UG) MEDIUM to FINISHING		VBMT160404-UG	0.4	YG22002181	YG22000298	YG22000299	£5.72	0.15 - 0.25	0.50 - 2.50
		VBMT160408-UG	0.8	YG22002211	YG22000304	YG22000305	£5.72	0.20 - 0.40	1.00 - 3.00
VCMT (UF/UG) MEDIUM to FINISHING		VCMT160404-UF	0.4	YG22002385	YG22000421	YG22000955	£5.72	0.05 - 0.25	0.50 - 3.00
		VCMT160408-UF	0.8	YG22002699	YG22000558	-	£5.72	0.15 - 0.30	1.00 - 3.00
		VCMT160408-UG	0.8	YG22002422	YG22000422	YG22000956	£5.72	0.20 - 0.40	1.00 - 3.00
VNMG (UG) MEDIUM		VNMG160404-UG	0.4	YG22002420	YG22000940	YG22000994	£6.31	0.20 - 0.40	0.50 - 3.00
		VNMG160408-UG	0.8	YG22002176	YG22000313	YG22000314	£6.31	0.20 - 0.40	1.00 - 3.00
		VNMG160412-UG	1.2	YG22002407	YG22000927	YG22000917	£6.31	0.20 - 0.40	1.50 - 3.00
WNMG (UF/UG) MEDIUM		WNMG060404-UF	0.4	YG22002415	YG22000436	YG22000437	£4.35	0.05 - 0.20	0.50 - 1.50
		WNMG060408-UG	0.8	YG22002428	YG22000438	YG22000874	£4.35	0.20 - 0.40	1.00 - 2.50
		WNMG080404-UG	0.4	YG22002392	YG22000319	YG22000320	£5.09	0.20 - 0.30	1.50 - 2.50
		WNMG080408-UG	0.8	YG22002194	YG22000148	YG22000149	£5.09	0.20 - 0.40	1.00 - 3.50
		WNMG080412-UG	1.2	YG22002167	YG22000490	YG22000941	£5.09	0.20 - 0.40	1.50 - 3.50
		WNMG080416-UG	1.6	YG22002575	YG22000583	YG22001238	£5.09	0.20 - 0.40	2.00 - 4.00
WNMG (UR) ROUGHING		WNMG060412-UR	1.2	YG22002702	YG22001058	YG22001060	£4.35	0.30 - 0.50	1.50 - 4.00
		WNMG080408-UR	0.8	YG22002353	YG22000471	YG22000472	£5.09	0.30 - 0.60	1.20 - 5.00
		WNMG080412-UR	1.2	YG22002184	YG22000443	YG22000444	£5.09	0.30 - 0.60	1.50 - 5.00
		WNMG080416-UR	1.6	YG22002359	YG22000725	YG22000714	£5.09	0.30 - 0.60	2.00 - 5.00

*See page 463 for applicable cutting speeds for steel

KORLOY

Cermet Steel Series Turning Inserts

P

High speed turning of steel with low cut depth.

Uncoated Cermet grades are ideal for turning carbon and alloy steel where a small cut depth is required.
The uncoated geometry enables a sharper cutting edge and a superior surface finish.

Cermet is ideal for high cutting speeds:

- Carbon steel <400m/min.
- Alloy steel <350m/min.
- Sintered ferrous alloy <300m/min.

- **Grade CN1500 (P15)** is ideal for high speed continuous turning applications.

- **Grade CN2500 (P25)** is ideal for high feed and intermittent cutting operations due to the tougher substrate.

CHIP BREAKER GUIDE

VQ

KORLOY

1st choice chip breaker for medium to finish turning with negative inserts. Excellent chip control up to 3mm depth of cut, with very good surface roughness due to hard cutting edge.



Depth of cut: 1.0-4.0mm

Feed rate: 0.10-0.4mm/rev

VB

KORLOY

1st choice chip breaker for finishing with negative inserts with small depth of cut. Ideal for copy turning with excellent chip control. Exceptional surface roughness.



Depth of cut: 0.5-2.0mm

Feed rate: 0.15-0.45mm/rev

MP

KORLOY

1st choice chip breaker for medium to finishing with positive inserts. Excellent chip control up to 3mm depth of cut, with very good surface roughness due to hard cutting edge.



Depth of cut: 0.3-3.0mm

Feed rate: 0.05-0.3mm/rev

VL

KORLOY

1st choice chip breaker for finishing with positive inserts. High cutting rake provides exceptional surface roughness.



Depth of cut: 0.2-1.5mm

Feed rate: 0.10-0.35mm/rev

RECOMMENDED CUTTING CONDITIONS

Material Group	Material	Surface Speed (m/min)	
		CN1500	CN2500
Steel	Low Carbon Steel	150 - 400	130 - 350
	Alloy Steel	150 - 350	130 - 300
	Pre-Hardened Steel	120 - 300	100 - 250

CERMET SERIES - UNCOATED TURNING INSERTS

High speed turning of steel and sintered alloy with exceptional surface roughness.

KORLOY

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY
- STEEL
- STAINLESS STEEL
- HRSA'S
- CAST IRON
- ALUMINIUM/NON-FERROUS
- HARDENED STEEL

CUTTING SPEED RANGE
- Continuous turning: 120-400m/min
- Continuous / light intermittent: 100-350m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE CN1500	GRADE ORDER CODE CN2500	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCMT (MP) MEDIUM to FINISHING		CCMT060202-MP	0.2	1-03-020717	1-03-021257	£4.47	0.04 - 0.12	0.20 - 1.50
		CCMT060204-MP	0.4	1-03-020718	1-03-020965	£4.47	0.05 - 0.15	0.30 - 1.50
		CCMT09T302-MP	0.2	1-03-020599	1-03-021258	£5.24	0.08 - 0.23	0.40 - 2.40
		CCMT09T304-MP	0.4	1-03-020497	1-03-020967	£5.24	0.07 - 0.22	0.10 - 2.00
		CCMT09T308-MP	0.8	1-03-020498	1-03-020969	£5.24	0.08 - 0.23	0.30 - 3.00
CCMT (VL) FINISHING		CCMT060204-VL	0.4	1-03-020070	1-03-021363	£4.47	0.04 - 0.10	0.08 - 0.90
		CCMT09T304-VL	0.4	1-03-019013	1-03-021365	£5.24	0.05 - 0.10	0.10 - 1.00
		CCMT09T308-VL	0.8	1-03-020071	1-03-021366	£5.24	0.08 - 0.15	0.10 - 1.00
CNMG (VB) MEDIUM to FINISHING		CNMG120404-VB	0.4	1-03-020462	1-03-020932	£6.11	0.15 - 0.35	0.30 - 2.00
		CNMG120408-VB	0.8	1-03-019019	1-03-020936	£6.11	0.15 - 0.45	0.50 - 2.00
CNMG (VQ) FINISHING		CNMG120404-VQ	0.4	1-03-019189	1-03-020875	£6.11	0.05 - 0.30	0.80 - 4.00
		CNMG120408-VQ	0.8	1-03-019022	1-03-020937	£6.11	0.08 - 0.40	0.80 - 4.00
DCMT (MP) MEDIUM to FINISHING		DCMT070202-MP	0.2	1-03-020719	1-03-021259	£5.77	0.04 - 0.12	0.12 - 1.80
		DCMT070204-MP	0.4	1-03-020720	1-03-020975	£5.77	0.05 - 0.15	0.30 - 1.80
		DCMT11T302-MP	0.2	1-03-020600	1-03-021261	£6.83	0.04 - 0.15	0.30 - 2.00
		DCMT11T304-MP	0.4	1-03-020495	1-03-020977	£6.83	0.08 - 0.20	0.50 - 2.30
		DCMT11T308-MP	0.8	1-03-020496	1-03-020979	£6.88	0.10 - 0.30	0.50 - 2.30
DCMT (VL) FINISHING		DCMT070204-VL	0.4	1-03-020072	1-03-021369	£5.77	0.04 - 0.10	0.08 - 0.90
		DCMT11T304-VL	0.4	1-03-019112	1-03-021372	£6.83	0.05 - 0.10	0.10 - 1.00
		DCMT11T308-VL	0.8	1-03-020073	1-03-021374	£6.83	0.08 - 0.15	0.10 - 1.00
DNMG (VB) MEDIUM to FINISHING		DNMG150604-VB	0.4	1-03-020465	1-03-021579	£8.44	0.10 - 0.35	0.30 - 2.00
		DNMG150608-VB	0.8	1-03-020059	1-03-021582	£8.44	0.15 - 0.45	0.50 - 2.00
DNMG (VQ) FINISHING		DNMG110404-VQ	0.4	1-03-020068	-	£6.12	0.05 - 0.30	0.50 - 3.50
		DNMG150604-VQ	0.4	1-03-020065	1-03-021580	£8.44	0.05 - 0.30	0.80 - 4.00
		DNMG150608-VQ	0.8	1-03-019221	1-02-058489	£8.44	0.08 - 0.40	0.80 - 4.00
TCMT (MP) MEDIUM to FINISHING		TCMT16T304-MP	0.4	1-03-020603	1-03-021263	£5.88	0.08 - 0.20	0.30 - 2.50
		TCMT16T308-MP	0.8	1-03-020604	1-03-021264	£5.88	0.10 - 0.30	0.50 - 2.50
TCMT (VL) FINISHING		TCMT16T304-VL	0.4	1-03-021359	1-03-021386	£5.88	0.05 - 0.20	0.30 - 1.50
		TCMT16T308-VL	0.8	1-03-021360	1-03-021388	£5.88	0.05 - 0.20	0.30 - 1.50
TNMG (VB) MEDIUM to FINISHING		TNMG160404-VB	0.4	1-03-020474	1-03-020940	£6.11	0.10 - 0.35	0.30 - 1.50
		TNMG160408-VB	0.8	1-03-020463	1-03-020942	£6.11	0.15 - 0.45	0.50 - 7.00
TNMG (VQ) FINISHING		TNMG160404-VQ	0.4	1-03-019172	1-03-020886	£6.11	0.05 - 0.30	0.80 - 3.50
		TNMG160408-VQ	0.8	1-03-019174	1-03-020943	£6.11	0.08 - 0.40	0.80 - 3.50
VBMT (MP) MEDIUM to FINISHING		VBMT160404-MP	0.4	1-03-020601	1-03-021091	£8.86	0.08 - 0.20	0.30 - 2.00
		VBMT160408-MP	0.8	1-03-020602	1-03-021092	£8.86	0.10 - 0.25	0.50 - 2.30
VNMG (VQ) FINISHING		VNMG160404-VQ	0.4	1-03-019255	1-03-020950	£7.66	0.10 - 0.40	0.50 - 3.50
		VNMG160408-VQ	0.8	1-03-019257	1-03-020954	£7.66	0.12 - 0.45	0.50 - 3.50
WNMG (VQ) FINISHING		WNMG080404-VQ	0.4	1-03-021604	1-03-020891	£5.95	0.05 - 0.30	0.50 - 4.00
		WNMG080408-VQ	0.8	1-03-020768	1-03-021282	£6.00	0.08 - 0.40	0.80 - 4.00

KORLOY

Inox CVD Coated Series Turning Inserts

P M S

CVD coating benefits for stainless steel & HRSA machining:

- CVD coated grades in combination with stainless chip breakers give excellent tool life, chip control and performance.
- The insert coating is thicker than a PVD coating and therefore offers greater tool life in applications where the contact time with the workpiece is longer. On heat resistant materials this can greatly improve tool life
- CVD grades offer a stronger cutting edge than PVD grades and are more suitable for high speed, heavy or rough machining. However, as the coating is thicker, the cutting egde of a CVD insert is not as sharp as a PVD insert so they do not perform as well in fine finishing cuts or small part machining.

CHIP BREAKER GUIDE

MM (KORLOY)

1st choice chip breaker for stainless steel and duplex continuous turning. Wide chip pockets for stable chip evacuation at high depths of cut and high feeds.



Depth of cut: 0.5 - 5.5mm

Feed rate: 0.12 - 0.45mm/rev

MP (KORLOY)

Dedicated chip breaker for positive geometry inserts, excellent performance and surface finish for stainless, inconel and titanium alloy turning.



Depth of cut: 0.3 - 3.0mm

Feed rate: 0.05 - 0.3mm/rev

RM (KORLOY)

1st choice chip breaker for heavy rouging of stainless and exotics. Excellent chip control under high cut depths. Low cutting load under high feed rates.



Depth of cut: 2.0 - 6.0mm

Feed rate: 0.15 - 0.55mm/rev

VP4 (KORLOY)

1st choice for medium to heavy duty cutting of inconel. High hardness and resistant rake angle prevent notch wear in roughing of rugged surfaces.



Depth of cut: 1.0 - 4.5mm

Feed rate: 0.15 - 0.4mm/rev

VP2 (KORLOY)

Medium to finish turning of inconel, nickel alloys and titanium. Positive chip breaker geometry ensures low cutting resistance and stable chip control.

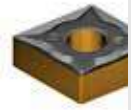


Depth of cut: 0.5 - 4.0mm

Feed rate: 0.05 - 0.4mm/rev

MF (YG)

1st choice chip breaker for finishing applications on stainless steel and exotic materials. Excellent chip control at low feeds and small depths of cut.



Depth of cut: 0.2 - 1.5mm

Feed rate: 0.07 - 0.3mm/rev

MM (YG)

Positive insert with medium chip breaker for stainless steel and exotic materials. Low cutting forces and a wide chip control range.



Depth of cut: 1.0 - 3.5mm

Feed rate: 0.2 - 0.35mm/rev

MG (YG)

Negative insert with medium chip breaker for stainless steel and exotic materials. Low cutting forces and a sharp cutting edge prevents built up edge.



Depth of cut: 1.0 - 4.0mm

Feed rate: 0.18 - 4.0mm/rev

MR (YG)

1st choice for roughing applications on stainless steel and exotic materials. A strong cutting edge with a wide chip control range.



Depth of cut: 1.8 - 5.5mm

Feed rate: 0.3 - 0.55mm/rev

INOX SERIES - CVD GRADE GUIDE

Insert Grade	ISO Range	Manufacturer	Features
UNC805	M25 - M35 S25 - S35	KORLOY	▪ Super-CVD grade for high speed continuous machining of stainless steel, duplex, nickel, chrome and cobalt alloy ▪ Extreme performance & tool life ▪ 1st choice for the most HRSA's or high speed applications where high heat resistance is required
NC9125	P25 - P35 M25 - M35 S25 - S35	KORLOY	▪ Hard wearing M25/S10 grade for medium to high speed turning of stainless steel and nickel alloy ▪ Continous or light intermittent cutting. Also suitable for roughing of steel ▪ Good combination of wear resistance and medium toughness
NC9135	M25 - M35 S25 - S35	KORLOY	▪ Ultra-tough M35/S20 grade for medium to low speed stainless steel and nickel alloy turning ▪ Excellent for medium cutting to heavy roughing ▪ Extremely forgiving under difficult cutting conditions
YG2025	M15 - M35	YG	▪ Super CVD coated M15-M35 stainless grade for production turning ▪ For medium to high speed continuous and light intermittent turning

RECOMMENDED CUTTING CONDITIONS

Material Group	Material	Surface Speed (m/min)			
		UNC805	NC9125	NC9135	YG2025
Steel	Low Carbon Steel	-	100-220	-	-
	Alloy Steel	-	90-190	-	-
	Pre-Hardened Steel	-	50-110	-	-
Stainless Steel	Austenitic Stainless (e.g.316)	150-220	150-200	100-150	150-200
	Martensitic Stainless (e.g.404)	150-250	120-220	100-150	170-220
	Duplex	120-160	100-140	60-100	70-120
	17-4PH	120-160	100-140	60-100	70-120
HRSA's	Inconel, Nickel Alloy	30-60	20-60	20-40	-
	Titanium Alloy	40-80	20-60	20-40	-

INOX SERIES - CVD COATED TURNING INSERTS

KORLOY

Korloy CVD coated INOX grades are designed for optimal turning of stainless steel, duplex, nickel alloys and titanium alloys. Grades are suitable for high speed continuous turning, medium to high speed continuous or light intermittent turning or rough turning and are best suited to medium to large diameter workpieces.

Grade UNC805 — Super-CVD grade for high speed continuous machining of stainless steel, duplex, nickel, chrome and cobalt alloy. Extreme performance & tool life.

Grade NC9125 — Hard wearing M25/S10 grade for medium to high speed turning of stainless steel and nickel alloy. Continuous or light intermittent cutting. Also suitable for roughing of steels.

Grade NC9135 — Ultra-tough M35/S20 grade for medium to low speed stainless steel and nickel alloy turning. Excellent for medium cutting to heavy roughing.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE*		
STEEL		50-220m/min	
STAINLESS STEEL	120-250m/min	100-220m/min	60-150m/min
HRSA'S	30-80m/min	20-60m/min	20-40m/min
CAST IRON			
ALUMINIUM/NON-FERROUS			
HARDENED STEEL			

		ISO REFERENCE	RADIUS	GRADE ORDER CODE UNC805	NC9125	NC9135	Price From	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCMT (MP) MEDIUM to FINISHING		CCMT060202-MP	0.2	-	1-02-061699	1-02-061700	£5.10	0.04 - 0.12	0.20 - 1.50
		CCMT060204-MP	0.4	1-02-077375	1-02-061702	1-02-061703	£5.10	0.05 - 0.15	0.30 - 1.50
		CCMT060208-MP	0.4	1-02-077376	-	-	£5.10	0.07 - 0.15	0.50 - 2.00
		CCMT09T302-MP	0.2	-	1-02-061708	1-02-061709	£5.81	0.07 - 0.15	0.30 - 2.00
		CCMT09T304-MP	0.4	1-02-077377	1-02-061711	1-02-061712	£5.81	0.07 - 0.15	0.50 - 2.00
		CCMT09T308-MP	0.8	1-02-077378	1-02-061717	1-02-061718	£5.81	0.08 - 0.25	0.50 - 2.50
		CCMT120404-MP	0.4	-	1-02-070404	1-02-065377	£6.70	0.10 - 0.30	0.80 - 3.50
		CCMT120408-MP	0.8	-	1-02-070405	1-02-065378	£6.70	0.15 - 0.35	1.00 - 3.50
		CCMT120412-MP	1.2	-	1-02-070406	-	£6.70	0.15 - 0.35	1.00 - 3.50
CNMG (MM) MEDIUM		CNMG090308-MM	0.8	-	1-02-070410	1-02-070411	£5.34	0.10~0.40	0.50~5.00
		CNMG120404-MM	0.4	1-02-075644	1-02-063667	1-02-063690	£5.86	0.10 - 0.40	0.50 - 5.50
		CNMG120408-MM	0.8	1-02-069580	1-02-059540	1-02-059541	£5.86	0.12 - 0.45	0.50 - 5.50
		CNMG120412-MM	1.2	1-02-066754	1-02-060711	1-02-060712	£5.86	0.15 - 0.60	0.50 - 5.50
		CNMG120416-MM	1.6	-	1-02-063669	1-02-063692	£5.86	0.15 - 0.60	0.50 - 5.50
		CNMG160608-MM	0.8	-	1-02-063670	1-02-063693	£9.30	0.12 - 0.45	0.50 - 7.00
		CNMG160612-MM	1.2	-	1-02-063366	1-02-063367	£9.30	0.15 - 0.60	0.50 - 7.00
		CNMG160616-MM	1.6	-	1-02-062504	1-02-062505	£9.30	0.18 - 0.65	0.50 - 7.00
		CNMG190608-MM	0.8	-	1-02-063673	1-02-063695	£11.64	0.12 - 0.45	0.50 - 8.50
		CNMG190612-MM	1.2	-	1-02-062663	1-02-063697	£11.64	0.15 - 0.60	0.50 - 8.50
		CNMG190616-MM	1.6		1-02-063674	1-02-063699	£11.64	0.18 - 0.65	0.50 - 8.50
CNMG (RM) ROUGHING		CNMG120408-RM	0.8	-	1-02-059543	1-02-059544	£5.86	0.12~0.45	0.50~5.50
		CNMG120412-RM	1.2	-	1-02-060809	1-02-060810	£5.86	0.15~0.60	0.50~5.50
		CNMG160612-RM	1.2	-	1-02-063369	1-02-063370	£9.30	0.15~0.60	0.50~7.00
		CNMG160616-RM	1.6	-	1-02-062506	1-02-062507	£9.30	0.25 - 0.70	2.00 - 8.00
		CNMG190612-RM	1.2	-	1-02-062739	1-02-063698	£11.64	0.20 - 0.60	2.00 - 10.00
		CNMG190616-RM	1.6	-	1-02-063675	1-02-063700	£11.64	0.25 - 0.70	2.00 - 10.00
CNMG (VP4) ROUGHING INCONEL		CNMG120408-VP4	0.8	1-02-065941	-	-	£5.86	0.15 - 0.35	1.00 - 4.00
		CNMG120412-VP4	1.2	1-02-070821	-	-	£5.86	0.20 - 0.40	1.00 - 4.00
CNMG (VP2) MEDIUM to FINISHING		CNMG120404-VP2	0.4	1-02-073980	-	-	£5.86	0.05 - 0.30	0.10 - 3.00
		CNMG120408-VP2	0.8	1-02-070820	-	-	£5.86	0.10 - 0.40	0.50 - 4.50
DCMT (MP) MEDIUM to FINISHING		DCMT070202-MP	0.2	-	1-02-061743	1-02-061744	£5.81	0.04~0.12	0.12~1.80
		DCMT070204-MP	0.4	1-02-077379	1-02-061746	1-02-061747	£5.81	0.05~0.15	0.30~1.80
		DCMT070208-MP	0.8	-	1-02-061752	1-02-061753	£5.81	0.08~0.22	0.30~1.80
		DCMT11T302-MP	0.2	-	1-02-061755	1-02-061756	£6.52	0.04~0.15	0.30~2.00
		DCMT11T304-MP	0.4	1-02-074661	1-02-061758	1-02-061760	£6.52	0.08~0.20	0.50~2.30
		DCMT11T308-MP	0.8	1-02-077380	1-02-061765	1-02-061766	£6.52	0.10~0.30	0.50~2.30
		DCMT11T312-MP	1.2	-	1-02-070447	1-02-070448	£6.52	0.25~0.35	0.80~3.00
DNMG (MM) MEDIUM		DNMG110404-MP	0.4	-	1-02-070451	1-02-070452	£5.91	0.08 - 0.35	0.50 - 5.00
		DNMG110404-MM	0.4	1-02-075645	-	-	£5.91	0.08 - 0.35	0.50 - 5.00
		DNMG110408-MM	0.8	-	1-02-067621	1-02-067622	£5.91	0.10 - 0.40	0.50 - 5.00
		DNMG150404-MM	0.4	-	1-02-063676	1-02-063701	£7.34	0.10 - 0.40	0.50 - 6.40
		DNMG150408-MM	0.8	-	1-02-060714	1-02-060715	£7.34	0.12 - 0.45	0.50 - 6.40
		DNMG150412-MM	1.2	-	1-02-060717	1-02-060718	£7.34	0.15 - 0.60	0.50 - 6.40
		DNMG150604-MM	0.4	1-02-071031	1-02-063678	1-02-063703	£8.89	0.10 - 0.40	0.50 - 6.40
		DNMG150608-MM	0.8	1-02-067571	1-02-060720	1-02-060721	£8.89	0.12 - 0.45	0.50 - 6.40
		DNMG150612-MM	1.2	-	1-02-060723	1-02-060724	£8.89	0.15 - 0.60	0.50 - 6.40

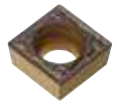
*See page 473 for applicable cutting speeds for stainless steel and HRSA's

INOX SERIES - CVD COATED TURNING INSERTS (CONTINUED)

KORLOY

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE*		
STEEL		50-220m/min	
STAINLESS STEEL	120-250m/min	100-220m/min	60-150m/min
HRSA'S	30-80m/min	20-60m/min	20-40m/min
CAST IRON			
ALUMINIUM/NON-FERROUS			
HARDENED STEEL			

		ISO REFERENCE	RADIUS	GRADE ORDER CODE UNC805	NC9125	NC9135	Price From	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
DNMG (RM) ROUGHING		DNMG150408-RM	0.8	-	1-02-060812	1-02-060813	£7.34	0.15~0.55	2.00~6.00
		DNMG150412-RM	1.2	-	1-02-060815	1-02-060816	£7.34	0.20~0.60	2.00~6.00
		DNMG150608-RM	0.8	-	1-02-060818	1-02-060819	£8.89	0.15~0.55	2.00~6.00
		DNMG150612-RM	1.2	-	1-02-060821	1-02-060822	£8.89	0.20~0.60	2.00~6.00
DNMG (VP2) MEDIUM to FINISHING		DNMG150604-VP2	0.4	1-02-070822	-	-	£10.31	0.05 - 0.30	0.10 - 3.00
		DNMG150608-VP2	0.8	1-02-070824	-	-	£10.31	0.10 - 0.40	0.50 - 4.50
SCMT (MP) MEDIUM to FINISHING		SCMT09T304-MP	0.4	-	-	1-02-061789	£5.69	0.05 - 0.25	0.30 - 2.80
		SCMT09T308-MP	0.8	-	-	1-02-061795	£5.69	0.10 - 0.30	0.50 - 2.80
		SCMT120404-MP	0.4	-	-	1-02-070494	£6.52	0.10 - 0.30	0.50 - 2.80
		SCMT120408-MP	0.8	-	-	1-02-061801	£6.52	0.15 - 0.35	0.80 - 3.50
SNMG (MM) MEDIUM		SNMG120408-MM	0.8	1-02-071032	1-02-060729	1-02-060730	£5.86	0.12 - 0.45	0.50 - 6.40
		SNMG120412-MM	1.2	1-02-066750	1-02-061467	1-02-063705	£5.86	0.15 - 0.60	0.50 - 6.40
		SNMG150612-MM	1.2	-	1-02-063372	1-02-063373	£9.30	0.15 - 0.60	0.50 - 8.00
		SNMG150616-MM	1.6	-	1-02-070499	1-02-070500	£9.30	0.18 - 0.65	0.50 - 8.00
		SNMG190608-MM	0.8	-	1-02-063681	1-02-063707	£9.30	0.12 - 0.45	0.50 - 9.50
		SNMG190612-MM	1.2	-	1-02-062664	1-02-063709	£9.30	0.15 - 0.60	0.50 - 9.50
		SNMG190616-MM	1.6	-	1-02-069095	1-02-069096	£9.30	0.18 - 0.65	0.50 - 9.50
SNMG (RM) ROUGHING		SNMG120404-RM	0.4	-	1-02-060824	1-02-060825	£5.86	0.10 - 0.50	2.00 - 6.00
		SNMG120408-RM	0.8	-	1-02-060827	1-02-060828	£5.86	0.15 - 0.55	2.00 - 6.00
		SNMG120412-RM	1.2	-	1-02-063680	1-02-063706	£5.86	0.20 - 0.60	2.00 - 6.00
		SNMG150612-RM	1.2	-	1-02-063361	1-02-063114	£9.30	0.20 - 0.60	2.00 - 8.00
		SNMG190608-RM	0.8	-	1-02-063682	1-02-063708	£9.30	0.20 - 0.60	2.00 - 10.00
		SNMG190612-RM	1.2	-	1-02-062981	1-02-063112	£9.30	0.20 - 0.60	2.00 - 10.00
		SNMG190616-RM	1.6	-	1-02-074988	-	£9.30	0.27 - 0.70	2.00 - 10.00
SNMG (VP4) ROUGHING INCONEL		SNMG120408-VP4	0.8	1-02-070825	-	-	£7.28	0.15 - 0.35	1.00 - 4.00
		SNMG120412-VP4	1.2	1-02-070826	-	-	£7.28	0.20 - 0.40	1.00 - 4.00
TCMT (MP) MEDIUM to FINISHING		TCMT090204-MP	0.4	-	1-02-061812	1-02-061813	£4.73	0.05 - 0.18	0.10 - 1.00
		TCMT090208-MP	0.8	-	1-02-061815	1-02-061816	£4.73	0.08 - 0.20	0.10 - 1.20
		TCMT110202-MP	0.2	-	1-02-061818	1-02-061819	£5.34	0.03 - 0.12	0.20 - 1.50
		TCMT110204-MP	0.4	-	1-02-061821	1-02-061822	£5.34	0.05 - 0.15	0.20 - 15.0
		TCMT110208-MP	0.8	-	1-02-061824	1-02-061825	£5.34	0.10 - 0.28	0.25 - 2.00
		TCMT16T304-MP	0.4	-	1-02-061827	1-02-061828	£6.52	0.08 - 0.20	0.30 - 2.50
		TCMT16T308-MP	0.8	-	1-02-061833	1-02-061834	£6.52	0.10 - 0.30	0.50 - 2.50
		TCMT16T312-MP	1.2	-	1-02-061839	1-02-061840	£6.52	0.20 - 0.40	0.50 - 2.50
TNMG (MM) MEDIUM		TNMG160404-MM	0.4	1-02-074647	1-02-060732	1-02-060733	£5.34	0.10 - 0.40	0.50 - 4.80
		TNMG160408-MM	0.8	1-02-074648	1-02-060735	1-02-060736	£5.34	0.12 - 0.45	0.50 - 4.80
		TNMG160412-MM	1.2	-	1-02-070228	1-02-070229	£5.34	0.18 - 0.65	0.50 - 4.80
		TNMG220408-MM	0.8	-	1-02-063683	1-02-063710	£8.23	0.12 - 0.45	0.50 - 6.50
		TNMG220412-MM	1.2	-	1-02-063685	1-02-063711	£8.23	0.15 - 0.60	0.50 - 6.50
VBMT (MP) MEDIUM to FINISHING		VBMT110304-MP	0.4		1-02-070538	1-02-070539	£7.41	0.05 - 0.15	0.20 - 1.50
		VBMT160404-MP	0.4	1-02-065878	1-02-061863	1-02-061864	£9.30	0.08 - 0.20	0.30 - 2.00
		VBMT160408-MP	0.8	1-02-065879	1-02-061869	1-02-061870	£9.30	0.10 - 0.25	0.50 - 2.30
		VBMT160412-MP	1.2	1-02-065880	1-02-061875	1-02-061876	£9.30	0.10 - 0.35	0.50 - 2.30
VCMT (MP) MEDIUM to FINISHING		VCMT160404-MP	0.4	1-02-077381	-	1-02-061882	£9.30	0.08 - 0.20	0.30 - 2.00
		VCMT160408-MP	0.8	1-02-077382	-	1-02-061888	£9.30	0.10 - 0.25	0.50 - 2.30
		VCMT160412-MP	1.2	-	-	1-02-061894	£9.30	0.10 - 0.35	0.50 - 2.30
VNMG (MM) MEDIUM		VNMG160404-MM	0.4	1-02-075651	1-02-063687	1-02-063713	£8.18	0.10 - 0.40	0.50 - 4.80
		VNMG160408-MM	0.8	-	1-02-063688	1-02-063714	£8.18	0.12 - 0.45	0.50 - 4.80
WNMG (MM) MEDIUM		WNMG060404-MM	0.4	1-02-077373	-	-	£5.34	0.08 - 0.35	0.50 - 4.00
		WNMG060408-MM	0.8	1-02-075653	1-02-068475	1-02-070587	£5.34	0.10 - 0.40	0.50 - 4.00
		WNMG060412-MM	0.8	-	1-02-070590	1-02-070591	£5.34	0.10 - 0.40	0.50 - 4.00
		WNMG080404-MM	0.4	1-02-075654	1-02-063689	1-02-063716	£6.63	0.10 - 0.40	0.50 - 4.00
		WNMG080408-MM	0.8	1-02-067283	1-02-060738	1-02-060739	£6.63	0.12 - 0.45	0.50 - 4.00
		WNMG080412-MM	1.2	1-02-066752	1-02-060741	1-02-060742	£6.63	0.15 - 0.60	0.50 - 4.00

*See page 473 for applicable cutting speeds for stainless steel and HRSA's

INOX COATED SERIES TURNING INSERTS (CONTINUED)

New CVD turning grade, YG2025, designed for stainless steel turning applications. This innovative grade utilises its high-speed capability and excellent wear resistance, making it an ideal choice for achieving high productivity in stainless steel machining. The combination of the unique substrate and innovative coating technology minimize the occurrence of built-up edge and enhances the grade's overall chipping resistance, ensuring reliable chip control.

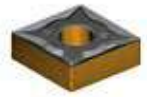
Grade YG2025

Super CVD Coated M15-M35
Medium Stainless Grade.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY
- STEEL
- STAINLESS STEEL
- HRSA'S
- CAST IRON
- ALUMINIUM/NON-FERROUS
- HARDENED STEEL

CUTTING SPEED RANGE
70-220m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG2025	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCMT (MF) FINISHING		CCMT09T302-MF	0.2	YG22002501	£4.77	0.04 - 0.15	0.08 - 2.00
		CCMT09T304-MF	0.4	YG22002502	£4.77	0.06 - 0.25	0.10 - 2.00
		CCMT09T308-MF	0.8	YG22002503	£4.77	0.08 - 0.30	0.15 - 2.00
CCMT (MM) MEDIUM		CCMT09T304-MM	0.4	YG22002514	£4.77	0.08 - 0.25	0.25 - 3.00
		CCMT09T308-MM	0.8	YG22002515	£4.77	0.10 - 0.30	0.50 - 3.00
CNMG (MF) FINISHING		CNMG120404-MF	0.4	YG22002451	£4.77	0.07 - 0.30	0.20 - 1.50
		CNMG120408-MF	0.8	YG22002452	£4.77	0.07 - 0.30	0.20 - 1.50
		CNMG120412-MF	1.2	YG22002453	£4.77	0.07 - 0.30	0.20 - 1.50
CNMG (MG) MEDIUM		CNMG120404-MG	0.4	YG22002465	£4.77	0.20 - 0.40	0.50 - 4.00
		CNMG120408-MG	0.8	YG22002468	£4.77	0.20 - 0.40	1.00 - 4.00
		CNMG120412-MG	1.2	YG22002469	£4.77	0.20 - 0.40	1.50 - 4.00
CNMG (MR) ROUGHING		CNMG120412-MR	1.2	YG22002480	£4.77	0.30 - 0.55	2.00 - 5.50
DCMT (MM) MEDIUM		DCMT070204-MM	0.4	YG22002516	£4.77	0.08 - 0.30	0.20 - 2.30
		DCMT11T304-MM	0.4	YG22002517	£5.19	0.06 - 0.17	0.25 - 3.00
		DCMT11T308-MM	0.8	YG22002518	£5.19	0.08 - 0.25	0.50 - 3.00
DCMT (MF) FINISHING		DCMT070204-MF	0.4	YG22002504	£4.77	0.05 - 0.17	0.08 - 1.50
		DCMT11T302-MF	0.2	YG22002505	£5.19	0.04 - 0.15	0.08 - 2.00
		DCMT11T304-MF	0.4	YG22002506	£5.19	0.06 - 0.25	0.10 - 2.00
		DCMT11T308-MF	0.8	YG22002507	£5.19	0.07 - 0.20	0.15 - 2.00
DNMG (MF) FINISHING		DNMG150404-MF	0.4	YG22002454	£5.94	0.07 - 0.30	0.20 - 1.50
		DNMG150408-MF	0.8	YG22002456	£5.94	0.07 - 0.30	0.20 - 1.50
		DNMG150604-MF	0.4	YG22002455	£6.35	0.07 - 0.30	0.20 - 1.50
		DNMG150608-MF	0.8	YG22002457	£6.35	0.07 - 0.30	0.20 - 1.50
DNMG (MG) MEDIUM		DNMG150404-MG	0.4	YG22002466	£5.94	0.20 - 0.40	0.50 - 4.00
		DNMG150408-MG	0.8	YG22002470	£5.94	0.20 - 0.40	1.00 - 4.00
		DNMG150412-MG	1.2	YG22002483	£5.94	0.20 - 0.40	1.50 - 4.00
		DNMG150604-MG	0.4	YG22002467	£6.35	0.20 - 0.40	0.50 - 4.00
		DNMG150608-MG	0.8	YG22002471	£6.35	0.20 - 0.40	1.00 - 4.00
		DNMG150612-MG	1.2	YG22002484	£6.35	0.20 - 0.40	1.50 - 4.00
DNMG (MR) ROUGHING		DNMG150408-MR	0.8	YG22002492	£5.94	0.30 - 0.55	2.00 - 5.50
		DNMG150608-MR	0.8	YG22002481	£6.35	0.30 - 0.55	2.00 - 5.50
SCMT (MM) MEDIUM TO ROUGHING		SCMT120408-MM	0.8	YG22002519	£5.83	0.10 - 0.30	0.60 - 4.00
SNMG (MG) MEDIUM		SNMG120404-MG	0.4	YG22002485	£4.77	0.20 - 0.40	0.50 - 4.00
		SNMG120408-MG	0.8	YG22002475	£4.77	0.20 - 0.40	1.00 - 4.00
		SNMG120412-MG	1.2	YG22002486	£4.77	0.20 - 0.40	1.00 - 4.00
SNMG (MF) FINISHING		SNMG120408-MF	0.8	YG22002459	£4.77	0.07 - 0.30	0.20 - 1.50
		SNMG120412-MF	1.2	YG22002460	£4.77	0.07 - 0.30	0.20 - 1.50
SNMG (MR) ROUGHING		SNMG120408-MR	0.8	YG22002495	£4.77	0.30 - 0.55	2.00 - 5.50
		SNMG120412-MR	1.2	YG22002496	£4.77	0.30 - 0.55	2.00 - 5.50
		SNMG120416-MR	1.6	YG22002497	£4.77	0.30 - 0.55	2.00 - 5.50

*See page 473 for applicable cutting speeds

INOX COATED SERIES TURNING INSERTS (CONTINUED)

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY
- STEEL
- STAINLESS STEEL
- HRSA'S
- CAST IRON
- ALUMINIUM/NON-FERROUS
- HARDENED STEEL

CUTTING SPEED RANGE
- 70-220m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG2025	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
TCMT (MF) FINISHING		TCMT16T304-MF	0.4	YG22002508	**£5.09**	0.06 - 0.25	0.10 - 2.00
		TCMT16T308-MF	0.8	YG22002509	**£5.09**	0.08 - 0.30	0.15 - 2.00
TCMT (MM) MEDIUM		TCMT16T304-MM	0.4	YG22002520	**£5.09**	0.08 - 0.25	0.25 - 3.00
		TCMT16T308-MM	0.8	YG22002521	**£5.09**	0.10 - 0.30	0.50 - 3.00
TNMG (MF) FINISHING		TNMG160408-MF	0.8	YG22002458	**£4.35**	0.07 - 0.30	0.20 - 1.50
TNMG (MG) MEDIUM		TNMG160404-MG	0.4	YG22002472	**£4.35**	0.20 - 0.40	0.50 - 4.00
		TNMG160408-MG	0.8	YG22002473	**£4.35**	0.20 - 0.40	1.00 - 4.00
		TNMG160412-MG	1.2	YG22002474	**£4.35**	0.20 - 0.50	2.00 - 4.00
TNMG (MR) ROUGHING		TNMG160408-MR	0.8	YG22002493	**£4.35**	0.30 - 0.55	2.00 - 5.50
		TNMG160412-MR	1.2	YG22002494	**£4.35**	0.30 - 0.55	2.00 - 5.50
VBMT (MF) FINISHING		VBMT160402-MF	0.2	YG22002510	**£5.72**	0.04 - 0.15	0.10 - 2.00
		VBMT160404-MF	0.4	YG22002511	**£5.72**	0.05 - 0.20	0.20 - 2.00
		VBMT160408-MF	0.8	YG22002512	**£5.72**	0.07 - 0.27	0.30 - 2.00
VBMT (MM) MEDIUM		VBMT160404-MM	0.4	YG22002522	**£5.72**	0.07 - 0.21	0.25 - 2.70
		VBMT160408-MM	0.8	YG22002523	**£5.72**	0.08 - 0.27	0.50 - 2.70
VCMT (MF) FINISHING		VCMT110304-MF	0.4	YG22002513	**£5.72**	0.05 - 0.20	0.10 - 1.70
VNMG (MG) MEDIUM		VNMG160404-MG	0.4	YG22002489	**£6.31**	0.20 - 0.40	0.50 - 4.00
		VNMG160408-MG	0.8	YG22002490	**£6.31**	0.20 - 0.40	1.00 - 4.00
		VNMG160412-MG	1.2	YG22002491	**£6.31**	0.20 - 0.40	1.50 - 4.00
VNMG (MF) FINISHING		VNMG160408-MF	0.8	YG22002464	**£6.31**	0.07 - 0.30	0.20 - 1.50
VNMG (MR) ROUGHING		VNMG160408-MR	0.8	YG22002500	**£6.31**	0.30 - 0.55	2.00 - 5.50
WNMG (MF) MEDIUM TO FINISHING		WNMG060404-MF	0.4	YG22002461	**£4.35**	0.07 - 0.30	0.20 - 1.50
		WNMG080404-MF	0.4	YG22002462	**£5.09**	0.07 - 0.30	0.20 - 1.50
		WNMG080408-MF	0.8	YG22002463	**£5.09**	0.07 - 0.30	0.20 - 1.50
WNMG (MG) MEDIUM		WNMG060404-MG	0.4	YG22002487	**£4.35**	0.20 - 0.40	0.50 - 3.00
		WNMG060408-MG	0.8	YG22002476	**£4.35**	0.20 - 0.40	1.00 - 3.00
		WNMG060412-MG	1.2	YG22002477	**£4.35**	0.20 - 0.40	1.50 - 3.00
		WNMG080404-MG	0.4	YG22002488	**£5.09**	0.20 - 0.40	0.50 - 4.00
		WNMG080408-MG	0.8	YG22002478	**£5.09**	0.20 - 0.40	1.00 - 4.00
		WNMG080412-MG	1.2	YG22002479	**£5.09**	0.20 - 0.40	1.50 - 4.00
WNMG (MR) ROUGHING		WNMG060412-MR	1.2	YG22002498	**£4.35**	0.30 - 0.55	1.20 - 4.00
		WNMG080408-MR	0.8	YG22002499	**£5.09**	0.30 - 0.55	2.00 - 5.50
		WNMG080412-MR	1.2	YG22002482	**£5.09**	0.30 - 0.55	2.00 - 5.50

*See page 473 for applicable cutting speeds

PVD Coated Series Turning Inserts

P H M S K

For turning of steel, stainless steel, exotics, cast iron, pre-hardened steel and tool steel.

Small Part Turning

- PVD coatings are best suited for applications with relatively low metal removal and shorter contact times with the workpiece.
- Suitable for production turning environments or small batches.

Finish Turning & Boring

- The PVD coating enables a sharper cutting edge making them excellent for finish turning or boring applications (<Ø50mm).

Multipurpose Turning

- PVD grades are excellent for multi-purpose turning applications where one grade is often used across a wide range of materials.
- They offer great performance at medium or low cutting speeds with good wear resistance in general applications.

CHIPBREAKER GUIDE

HMP (KORLOY)

1st choice chip breaker for positive geometry inserts for steel, stainless, cast iron and exotics. Excellent chip control from 0.5mm depth of cut.



Depth of cut: 0.5-3.5mm

Feed rate: 0.08-0.40mm/rev

VL (KORLOY)

Finishing chip breaker for positive geometry inserts. Superior chip control with small depths of cut. Excellent surface finish.



Depth of cut: 0.1-1.0mm

Feed rate: 0.05-0.2mm/rev

VM (KORLOY)

1st choice for medium to rough machining with negative geometry inserts. Strong and stable cutting edge for continuous or intermittent cutting.



Depth of cut: 1.0-5mm

Feed rate: 0.1-0.5mm/rev

VP2 (KORLOY)

Medium to finish turning of stainless steel and HRSA's. High positive cutting edge design gives stable chip control and excellent surface finish in a wide range of cut depths.



Depth of cut: 0.5-3.5mm

Feed rate: 0.08-0.40mm/rev

UG

Chip breaker for medium machining. Positive rake angle gives low cutting resistance and excellent chip control.



Depth of cut: 1.5-4mm

Feed rate: 0.25-0.40mm/rev

UF

Finishing chip breaker for small depths of cut.



Depth of cut: 0.15-1.7mm

Feed rate: 0.07-0.25mm/rev

UR / MR

Roughing chip breakers. Strong and stable cutting edge for continuous or intermittent cutting.



Depth of cut: 2-6mm

Feed rate: 0.3-0.60mm/rev

MM

Medium chip breaker for continuous or light intermittent cutting. Excellent chip control on stainless steel.



Depth of cut: 1-3.5mm

Feed rate: 0.2-0.4mm/rev

PVD COATED SERIES GRADE GUIDE

Insert Grade	ISO Range	FEATURES
PC5300	P30~P40 M20~M30 K20~K30 S15~S25	▪ 1st choice as a universal grade for stainless steel, exotics, steel and interrupted cast iron machining ▪ Excellent for light roughing of stainless steel and exotics in production turning of small parts ▪ High chipping and welding resistance emsures longer tool life ▪ Continuous or light intermittent cutting
PC8110	M15~M25 S10~S20 K10~K20 H05~H10	▪ 1st choice for continuous high speed turning of stainless steel and exotics in small part turning ▪ 1st choice carbide grade for tool steel and pre-hardened steel turning ▪ High speed continuous turning of cast iron on small parts ▪ High wear resistance
YG213	M20~M35 S15~S25	▪ Medium to low speed turning of stainless steel, titanium, inconel and HRSA's ▪ Combines excellent toughness and wear resistance ▪ Continuous or light intermittent cutting
YG214	M30~M40 S25~S30	▪ Rough turning of stainless steel, titanium, inconel and HRSA's ▪ High toughness and fracture resistance ▪ Light to heavy intermittent cutting
YG401	S10~S20	▪ Highly heat-resistant TiAlSiN structure for excellent wear resistance ▪ Exceptional performance at high cutting speeds on HRSA's ▪ For medium to continuous & light intermittent turning applications

RECOMMENDED CUTTING CONDITIONS

Material Group	Material	Surface Speed (m/min)				
		PC5300	PC8110	YG213	YG214	YG401
Steel	Low Carbon Steel	135 - 230	-	-	-	135 - 400
	Alloy Steel	105 - 175	-	-	-	95 - 280
Stainless Steel	Austenitic Stainless (e.g.316)	100 - 165	115 - 190	80 - 150	30 - 120	95 - 240
	Martensitic Stainless (e.g.404)	120 - 200	140 - 230	110 - 180	80 - 150	-
	Duplex	75 - 125	85 - 145	-	-	-
	17-4PH	75 - 125	85 - 145	-	-	-
HRSA's	Inconel, Nickel Alloy	30 - 50	40 - 65	40 - 80	20 - 40	35 - 90
	Titanium, Ti-Alloy	35 - 60	45 - 75	40 - 80	20 - 40	60 - 150
Cast Iron	Grey Cast Iron	80-130	100-170	-	-	-
	Nodular Cast Iron	50-85	65-110	-	-	-
Hardened Steel	Tool Steel, Pre-Hardened Steel	-	70-130	-	-	25 - 80

PVD COATED SERIES TURNING INSERTS

KORLOY

PVD coated inserts are ideal for medium cutting to finish turning operations. Excellent general purpose grades for use on a wide range of materials at medium to low cutting speeds, or for material specific grades on small to medium diameter parts. The thin coating maintains a sharper cutting edge, making them excellent for finishing or light cutting.

Grade PC5300

Superior multi-purpose grade for steel, stainless steel, HRSA's & cast iron. Also exceptional for rough or low-medium speed machining of stainless steel and HRSA's on small parts.

Grade PC8110

Hard wearing grade for medium to high speed turning of stainless steel and HRSA's. Also suitable for medium-rough turning of tool steel.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE	
STEEL	105-230m/min	
STAINLESS STEEL	75-200m/min	85-230m/min
HRSA'S	30-60m/min	40-75m/min
CAST IRON	50-130m/min	65-170m/min
ALUMINIUM/NON-FERROUS		
HARDENED STEEL		60-110m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE PC5300	GRADE ORDER CODE PC8110	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCMT (HMP) MEDIUM		CCMT060202-HMP	0.2	1-02-040141	1-02-034748	**£5.10**	0.03 - 0.12	0.20 - 1.50
		CCMT060204-HMP	0.4	1-02-036390	1-02-034690	**£5.10**	0.06 - 0.17	0.20 - 2.40
		CCMT060208-HMP	0.8	1-02-039724	1-02-035227	**£5.10**	0.08 - 0.23	0.40 - 2.40
		CCMT09T302-HMP	0.2	-	1-02-035228	**£5.81**	0.07 - 0.22	0.10 - 2.00
		CCMT09T304-HMP	0.4	1-02-036391	1-02-034714	**£5.81**	0.08 - 0.23	0.30 - 3.00
		CCMT09T308-HMP	0.8	1-02-036392	1-02-034715	**£5.81**	0.10 - 0.30	0.50 - 3.00
		CCMT120404-HMP	0.4	1-02-037140	-	**£6.70**	0.09 - 0.27	0.30 - 3.50
		CCMT120408-HMP	0.8	1-02-037141	-	**£6.70**	0.24 - 0.36	1.00 - 3.50
CCMT (VL) FINISHING		CCMT060204-VL	0.4	1-02-057953	1-02-058015	**£5.10**	0.04 - 0.10	0.08 - 0.90
		CCMT09T304-VL	0.4	1-02-057955	1-02-050548	**£5.81**	0.05 - 0.10	0.10 - 1.00
		CCMT09T308-VL	0.8	1-02-057956	1-02-050549	**£5.81**	0.08 - 0.15	0.10 - 1.00
CNMG (VM) MED-ROUGH		CNMG120404-VM	0.4	1-02-040144	-	**£5.86**	0.05 - 0.30	0.90 - 5.00
		CNMG120408-VM	0.8	1-02-036484	1-02-034693	**£5.86**	0.10 - 0.50	1.00 - 5.00
		CNMG120412-VM	1.2	1-02-037657	1-02-034752	**£5.86**	0.13 - 0.60	1.30 - 5.00
CNMG (VP2) MED-FINISH		CNMG120404-VP2	0.4	1-02-040924	1-02-040925	**£5.86**	0.05 - 0.30	0.50 - 3.00
		CNMG120408-VP2	0.8	1-02-040927	1-02-040928	**£5.86**	0.10 - 0.40	0.50 - 4.50
DCMT (HMP) MEDIUM		DCMT070202-HMP	0.2	1-02-043507	1-02-040856	**£5.81**	0.03 - 0.12	0.20 - 1.50
		DCMT070204-HMP	0.4	1-02-040150	1-02-034721	**£5.81**	0.06 - 0.17	0.20 - 2.30
		DCMT070208-HMP	0.8	1-02-045079	1-02-038965	**£5.81**	0.08 - 0.23	0.40 - 2.30
		DCMT11T302-HMP	0.2	1-02-036457	1-02-034722	**£6.52**	0.04 - 0.22	0.20 - 2.00
		DCMT11T304-HMP	0.4	1-02-036393	1-02-034723	**£6.52**	0.08 - 0.23	0.30 - 3.00
		DCMT11T308-HMP	0.8	1-02-036394	1-02-034724	**£6.52**	0.10 - 0.30	0.50 - 3.00
		DCMT11T312-HMP	1.2	1-02-046933	-	**£6.52**	0.25 - 0.35	0.80 - 3.00
DCMT (VL) FINISHING		DCMT070204-VL	0.4	1-02-057959	1-02-058025	**£5.81**	0.05 - 0.20	0.30 - 1.20
		DCMT11T304-VL	0.4	1-02-057962	1-02-050550	**£6.52**	0.05 - 0.20	0.30 - 1.50
		DCMT11T308-VL	0.8	1-02-057963	1-02-050551	**£6.52**	0.10 - 0.25	0.30 - 1.50
DNMG (VM) MED-ROUGH		DNMG150404-VM	0.4	1-02-040152	-	**£7.34**	0.05 - 0.30	0.90 - 5.00
		DNMG150408-VM	0.8	1-02-039830	1-02-036905	**£7.34**	0.10 - 0.50	1.00 - 5.00
		DNMG150412-VM	1.2	1-02-036310	-	**£7.34**	0.13 - 0.60	1.30 - 5.00
		DNMG150604-VM	0.4	1-02-053246	-	**£8.89**	0.05 - 0.30	0.90 - 5.00
		DNMG150608-VM	0.8	1-02-037178	-	**£8.89**	0.10 - 0.50	1.00 - 5.00
		DNMG150612-VM	1.2	1-02-047211	-	**£8.89**	0.13 - 0.60	1.30 - 5.00
DNMG (VP2) MED-FINISH		DNMG150404-VP2	0.4	1-02-046233	1-02-046234	**£7.34**	0.05 - 0.30	0.50 - 3.00
		DNMG150408-VP2	0.8	1-02-046238	1-02-046220	**£7.34**	0.10 - 0.40	0.50 - 4.50
		DNMG150604-VP2	0.4	1-02-042369	1-02-046219	**£8.89**	0.05 - 0.30	0.50 - 3.00
		DNMG150608-VP2	0.8	1-02-042370	1-02-042371	**£8.89**	0.10 - 0.40	0.50 - 4.50
SCMT (HMP) MEDIUM		SCMT09T304-VL	0.4	1-02-057965	1-02-050552	**£5.69**	0.05 - 0.10	0.10 - 1.00
		SCMT09T308-VL	0.8	1-02-057966	1-02-050553	**£5.69**	0.08 - 0.15	0.10 - 1.00

*See page 479 for applicable cutting speeds

PVD COATED SERIES TURNING INSERTS (CONTINUED)

KORLOY

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE	
STEEL	105-230m/min	
STAINLESS STEEL	75-200m/min	85-230m/min
HRSA'S	30-60m/min	40-75m/min
CAST IRON	50-130m/min	65-170m/min
ALUMINIUM/NON-FERROUS		
HARDENED STEEL		60-110m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE PC5300	GRADE ORDER CODE PC8110	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
SCMT (VL) FINISHING		SCMT09T304-HMP	0.4	1-02-037142	-	£5.69	0.08 - 0.23	0.30 - 3.00
		SCMT09T308-HMP	0.8	1-02-037143	-	£5.69	0.10 - 0.30	0.50 - 3.00
SNMG (VM) MED-ROUGH		SNMG120404-VM	0.4	1-02-040157	-	£5.86	0.05 - 0.30	0.90 - 5.00
		SNMG120408-VM	0.8	1-02-040158	1-02-034698	£5.86	0.10 - 0.50	1.00 - 5.00
		SNMG120412-VM	1.2	1-02-041008	-	£5.86	0.13 - 0.60	1.30 - 5.00
SNMG (VP2) MED-FINISH		SNMG120404-VP2	0.4	1-02-046224	1-02-046229	£5.86	0.05 - 0.30	0.50 - 3.00
		SNMG120408-VP2	0.8	1-02-046239	1-02-046235	£5.86	0.10 - 0.40	0.50 - 4.50
		SNMG120412-VP2	1.2	1-02-053245	-	£5.86	0.10 - 0.50	0.50 - 5.00
TCMT (HMP) MEDIUM		TCMT110204-HMP	0.4	1-02-037145	1-02-041310	£5.34	0.06 - 0.19	0.20 - 2.50
		TCMT110208-HMP	0.8	1-02-037146	-	£5.34	0.09 - 0.26	0.40 - 2.50
		TCMT16T304-HMP	0.4	1-02-036395	1-02-034839	£6.52	0.08 - 0.23	0.30 - 3.00
		TCMT16T308-HMP	0.8	1-02-037147	1-02-038156	£6.52	0.10 - 0.30	0.50 - 3.00
TCMT (VL) FINISHING		TCMT16T304-VL	0.4	1-02-057970	1-02-050556	£6.52	0.05 - 0.20	0.30 - 1.50
		TCMT16T308-VL	0.8	1-02-057972	1-02-058048	£6.52	0.05 - 0.20	0.30 - 1.50
TNMG (VM) MED-ROUGH		TNMG160404-VM	0.4	1-02-038686	1-02-034733	£5.34	0.05 - 0.30	0.90 - 5.00
		TNMG160408-VM	0.8	1-02-038598	1-02-034735	£5.34	0.10 - 0.50	1.00 - 5.00
		TNMG160412-VM	1.2	1-02-040161	-	£5.34	0.13 - 0.60	1.30 - 5.00
		TNMG220404-VM	0.4	1-02-040164	-	£8.23	0.05 - 0.30	0.90 - 6.60
		TNMG220408-VM	0.8	1-02-040167	1-02-034776	£8.23	0.10 - 0.50	1.00 - 6.60
TNMG (VP2) MED-FINISH		TNMG160404-VP2	0.4	1-02-046225	1-02-046230	£5.34	0.05 - 0.30	0.50 - 3.00
		TNMG160408-VP2	0.8	1-02-046240	1-02-046218	£5.34	0.10 - 0.45	0.50 - 5.00
		TNMG220404-VP2	0.4	1-02-046167	1-02-051719	£8.23	0.05 - 0.30	0.80 - 5.00
		TNMG220408-VP2	0.8	1-02-047148	1-02-051720	£8.23	0.10 - 0.40	0.80 - 5.00
VBMT (HMP) MEDIUM		VBMT110304-HMP	0.4	1-02-036985	-	£7.41	0.03 - 0.20	0.20 - 2.70
		VBMT160404-HMP	0.4	1-02-042704	1-02-034777	£9.30	0.07 - 0.20	0.20 - 2.70
		VBMT160408-HMP	0.8	1-02-037148	1-02-034746	£9.30	0.09 - 0.27	0.50 - 2.70
VBMT (VL) FINISHING		VBMT160404-VL	0.4	1-02-057976	1-02-050560	£9.30	0.05 - 0.20	0.30 - 1.50
		VBMT160408-VL	0.8	1-02-057978	1-02-050561	£9.30	0.10 - 0.20	0.30 - 1.50
VCMT (HMP) FINISHING		VCMT160404-HMP	0.4	1-02-040172	1-02-036124	£9.30	0.07 - 0.20	0.20 - 2.70
		VCMT160408-HMP	0.8	1-02-040173	1-02-036153	£9.30	0.09 - 0.27	0.50 - 2.70
VCMT (VL) FINISHING		VCMT160404-VL	0.4	-	1-02-058054	£9.30	0.05 - 0.20	0.30 - 1.50
		VCMT160408-VL	0.8	-	1-02-050564	£9.30	0.10 - 0.20	0.30 - 1.50
WNMG (VM) MED-ROUGH		WNMG060404-VM	0.4	1-02-039831	-	£5.34	0.10 - 0.45	1.00 - 3.50
		WNMG060408-VM	0.8	1-02-039832	-	£5.34	0.10 - 0.50	1.00 - 4.00
		WNMG080404-VM	0.4	1-02-040182	1-02-041472	£6.63	0.05 - 0.30	0.90 - 5.00
		WNMG080408-VM	0.8	1-02-038008	1-02-034742	£6.63	0.10 - 0.50	1.00 - 5.00
		WNMG080412-VM	1.2	1-02-040186	-	£6.63	0.10 - 0.50	1.00 - 5.00
WNMG (VP2) MED-FINISH		WNMG080404-VP2	0.4	1-02-046226	1-02-046227	£6.63	0.10 - 0.45	0.50 - 3.00
		WNMG080408-VP2	0.8	1-02-045612	1-02-046228	£6.63	0.12 - 0.50	0.50 - 5.00
		WNMG080412-VP2	1.2	1-02-046497	1-02-046496	£6.63	0.05 - 0.30	0.50 - 5.00

*See page 479 for applicable cutting speeds

PVD COATED SERIES TURNING INSERTS (CONTINUED)

Highly wear resistant PVD coated grades for stainless steel and heat resistant super alloy turning.

Grade YG213 — 1st choice YG grade for low cutting speed of stainless steel and exotics.

Grade YG214 — Extra tough substrate, 1st choice YG grade for rough turning and intermittent cutting of stainless steel and exotics.

Grade YG401 — Exceptional performance on stainless steel, HRSA's including inconel, titanium & titanium alloy at high cutting speeds.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE		
STEEL			
STAINLESS STEEL	40-180m/min	30-150m/min	
HRSA'S	20-40m/min	20-40m/min	
CAST IRON			
ALUMINIUM/NON-FERROUS			
HARDENED STEEL			

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG213	YG214	YG401	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCGT (SF) (AL) FINISHING		CCGT060201-SF	0.1	-	-	YG22002065	£5.57	0.20 - 0.15	0.10 - 1.50
		CCGT060202-SF	0.2	-	-	YG22002066	£5.57	0.20 - 0.15	0.10 - 1.50
		CCGT060204-SF	0.4	-	-	YG22002067	£5.57	0.30 - 0.20	0.10 - 2.40
		CCGT09T301-SF	0.1	-	-	YG22002071	£6.25	0.20 - 0.15	0.10 - 2.50
		CCGT09T302-SF	0.2	-	-	YG22002072	£6.25	0.20 - 0.15	0.10 - 2.50
		CCGT09T304-SF	0.4	-	-	YG22002073	£6.25	0.30 - 0.20	0.10 - 2.50
		CCGT09T308-SF	0.8	-	-	YG22002074	£6.25	0.30 - 0.25	0.10 - 2.50
		CCGT120408-AL	0.8	-	-	YG29000138	£7.37	0.04 - 0.30	0.60 - 2.50
CCMT (MF) FINISHING		CCMT09T302-MF	0.2	YG22002003	YG22002004	YG22002028	£4.77	0.04 - 0.15	0.08 - 2.00
		CCMT09T304-MF	0.4	YG22001590	-	-	£4.77	0.06 - 0.25	0.10 - 2.00
		CCMT09T308-MF	0.8	YG22001958	YG22001959	YG22001943	£4.77	0.08 - 0.30	0.15 - 2.00
CCMT (MM) MEDIUM		CCMT09T304-MM	0.4	YG22001592	YG22001946	YG22002039	£4.77	0.08 - 0.25	0.25 - 3.00
		CCMT09T308-MM	0.8	YG22001888	YG22001956	YG22001944	£4.77	0.10 - 0.30	0.50 - 3.00
CNMG (MM) (SM) MEDIUM		CNMG120404-MM	0.4	YG22000548	YG22001709	-	£4.77	0.2 - 0.35	0.50 - 3.00
		CNMG120408-MM	0.8	YG22000495	YG22000607	-	£4.77	0.2 - 0.35	1.00 - 3.50
		CNMG120412-MM	1.2	YG22000550	YG22000626	-	£4.77	0.2 - 0.35	1.50 - 3.50
		CNMG120408-SM	0.8	YG22001089	YG22001395	YG22001189	£4.77	0.10 - 0.25	0.50 - 4.00
		CNMG120412-SM	1.2	YG22001394	-	YG22001292	£4.77	0.10 - 0.25	0.50 - 4.00
CNMG (MR) (SR) ROUGHING		CNMG120408-MR	0.8	YG22000541	YG22000608	-	£4.77	0.30 - 0.55	1.20 - 5.50
		CNMG120412-MR	1.2	YG22000614	YG22000628	-	£4.77	0.30 - 0.55	1.50 - 5.50
		CNMG120416-MR	1.6	YG22001894	YG22001895	-	£4.77	0.30 - 0.55	2.00 - 5.50
		CNMG120408-SR	0.8	-	-	YG22000945	£4.77	0.10 - 0.40	0.50 - 4.00
		CNMG120412-SR	1.2	-	-	YG22001279	£4.77	0.10 - 0.40	0.50 - 4.00
		CNMG120416-SR	1.6	-	-	YG22001912	£4.77	0.10 - 0.40	0.50 - 4.00
DCGT (SF) FINISHING		DCGT070201-SF	0.1	-		YG22002068	£5.83	0.02 - 0.15	0.10 - 1.50
		DCGT070202-SF	0.2	-	-	YG22002069	£5.83	0.02 - 0.15	0.10 - 1.50
		DCGT070204-SF	0.4	-	-	YG22002070	£5.83	0.03 - 0.20	0.10 - 1.50
		DCGT11T301-SF	0.1	-	-	YG22002075	£6.89	0.01 - 0.05	0.10 - 2.50
		DCGT11T302-SF	0.2	YG22000560	-	YG22001474	£6.89	0.02 - 0.15	0.10 - 2.50
		DCGT11T304-SF	0.4	YG22001473	YG22001479	YG22001463	£6.89	0.03 - 0.20	0.10 - 2.50
		DCGT11T308-SF	0.8	-	-	YG22002076	£6.89	0.03 - 0.20	0.10 - 2.50
DCMT (MF) (SF) FINISHING		DCMT070204-MF	0.4	YG22001979	YG22001980	YG22002030	£4.77	0.05 - 0.17	0.08 - 1.50
		DCMT11T302-MF	0.2	-	-	YG22002031	£5.19	0.04 - 0.15	0.08 - 2.00
		DCMT11T304-MF	0.4	YG22001886	YG22001927	YG22002032	£5.19	0.06 - 0.25	0.10 - 2.00
		DCMT11T308-MF	0.8	YG22001964	YG22001965	YG22002033	£5.19	0.07 - 0.20	0.15 - 2.00
		DCMT11T304-SF	0.4	YG22001112	YG22001172	YG22001332	£5.19	0.03 - 0.20	0.10 - 2.50
DCMT (MM) MEDIUM TO ROUGHING		DCMT070204-MM	0.4	YG22002000	YG22002001	YG22002040	£4.77	0.08 - 0.30	0.20 - 2.30
		DCMT11T304-MM	0.4	YG22001991	YG22001992	YG22002041	£5.19	0.06 - 0.17	0.25 - 3.00
		DCMT11T308-MM	0.8	YG22001985	YG22001986	YG22002042	£5.19	0.08 - 0.25	0.50 - 3.00
SCMT (MM) MEDIUM		SCMT120408-MM	0.8	YG22001974	YG22001975	YG22001976	£5.83	0.10 - 0.30	0.60 - 4.00

*See page 479 for applicable cutting speeds

PVD COATED SERIES TURNING INSERTS (CONTINUED)

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE		
STEEL			
STAINLESS STEEL	40-180m/min	30-150m/min	
HRSA'S	20-40m/min	20-40m/min	
CAST IRON			
ALUMINIUM/NON-FERROUS			
HARDENED STEEL			

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG213	YG214	YG401	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
SNMG (MM) (SM) MEDIUM		SNMG120408-MM	0.8	YG22000556	YG22001014	-	£4.77	0.20 - 0.35	1.00 - 3.50
		SNMG120412-MM	1.2	YG22000566	YG22001789	-	£4.77	0.20 - 0.35	1.50 - 3.50
		SNMG120408-SM	0.8	YG22001802	YG22001803	YG22001696	£4.77	0.10 - 0.25	0.50 - 4.00
SNMG (MR) (SR) ROUGHING		SNMG120408-MR	0.8	YG22000658	YG22000819	-	£4.77	0.30 - 0.55	0.15 - 5.50
		SNMG120412-MR	1.2	YG22000660	YG22000822	-	£4.77	0.30 - 0.55	0.15 - 5.50
		SNMG120408-SR	0.8	-	-	YG22001305	£4.77	0.10 - 0.40	0.50 - 4.00
		SNMG120412-SR	1.2	-	-	YG22001304	£4.77	0.10 - 0.40	0.50 - 4.00
TCMT (MF) FINISHING		TCMT16T304-MF	0.4	YG22001982	YG22001983	YG22002034	£5.09	0.06 - 0.25	0.10 - 2.00
		TCMT16T308-MF	0.8	YG22001967	YG22001968	YG22002026	£5.09	0.08 - 0.30	0.15 - 2.00
TCMT (MM) MEDIUM		TCMT16T304-MM	0.4	YG22001994	YG22001995	YG22002043	£5.09	0.08 - 0.25	0.25 - 3.00
		TCMT16T308-MM	0.8	YG22001953	YG22001954	YG22001955	£5.09	0.10 - 0.30	0.50 - 3.00
TNMG (MM) (SM) MEDIUM		TNMG160404-MM	0.4	YG22000568	YG22001790	-	£4.35	0.20 - 0.35	0.50 - 3.00
		TNMG160408-MM	0.8	YG22000570	YG22000913	YG22001281	£4.35	0.15 - 0.30	1.00 - 3.50
		TNMG160412-MM	1.2	YG22000603	YG22001791	YG22001288	£4.35	0.15 - 0.30	1.50 - 3.50
		TNMG160408-SM	0.8	YG22001576	YG22001577	YG22001228	£4.35	0.10 - 0.25	0.50 - 4.00
		TNMG160412-SM	1.2	YG22001636	-	YG22001508	£4.35	0.10 - 0.25	0.50 - 4.00
TNMG (MR) (SR) ROUGHING		TNMG160408-MR	0.8	YG22000985	YG22000726	-	£4.35	0.30 - 0.55	2.00 - 5.50
		TNMG160412-MR	1.2	YG22000827	YG22000828	-	£4.35	0.30 - 0.55	2.00 - 5.50
		TNMG160408-SR	0.8	-	-	YG22001307	£4.35	0.10 - 0.40	0.50 - 4.00
		TNMG160412-SR	1.2	-	-	YG22001306	£4.35	0.10 - 0.40	0.50 - 4.00
TNMG (MF) (SF) FINISHING		TNMG160404-MF	0.4	YG22000775	YG22001457	YG22001343	£4.35	0.07 - 0.30	0.25 - 1.50
		TNMG160408-MF	0.8	YG22000776	YG22000825	YG22001285	£4.35	0.07 - 0.30	0.25 - 1.50
		TNMG160408-SF	0.8	-	-	YG22001427	£4.35	0.10 - 0.25	0.50 - 3.00
VBMT (MF) FINISHING		VBMT160402-MF	0.2	-	-	YG22002036	£5.72	0.04 - 0.15	0.10 - 2.00
		VBMT160404-MF	0.4	YG22001961	YG22001962	YG22002037	£5.72	0.05 - 0.20	0.20 - 2.00
		VBMT160408-MF	0.8	YG22002012	-	YG22002038	£5.72	0.07 - 0.27	0.30 - 2.00
VBMT (MM) MEDIUM		VBMT160404-MM	0.4	YG22001997	YG22001998	YG22002044	£5.72	0.07 - 0.21	0.25 - 2.70
		VBMT160408-MM	0.8	YG22001988	YG22001989	YG22002045	£5.72	0.08 - 0.27	0.50 - 2.70
VCGT (SF) (AL) FINISHING		VCGT110301-SF	0.1	-		YG22002077	£7.00	0.01 - 0.20	0.10 - 1.50
		VCGT110302-SF	0.2	YG22001476	YG22001480	YG22001481	£7.00	0.02 - 0.20	0.10 - 1.50
		VCGT110304-SF	0.4	-	-	YG22002078	£7.00	0.05 - 0.20	0.20 - 1.50
		VCGT110308-SF	0.8	-	-	YG22002079	£7.00	0.05 - 0.20	0.40 - 1.50
		VCGT160404-AL	0.4	-	-	YG29000178	£7.95	0.05 - 0.25	0.50 - 2.00
		VCGT160408-AL	0.8	-	-	YG29000166	£7.95	0.10 - 0.35	1.00 - 3.00
VCMT (MF) FINISHING		VCMT110304-MF	0.4	YG22002015	YG22002016	YG22002035	£5.72	0.05 - 0.20	0.10 - 0.17
VNMG (MM) MEDIUM		VNMG160404-MM	0.4	YG22000662	YG22001792	-	£6.31	0.20 - 0.35	0.50 - 3.50
		VNMG160408-MM	0.8	YG22000664	YG22001793	-	£6.31	0.20 - 0.35	1.00 - 3.50
VNMG (MF) FINISHING		VNMG160404-MF	0.4	-	YG22002267	YG22002019	£6.31	0.07 - 0.30	0.20 - 1.50
		VNMG160408-MF	0.8	YG22000947	YG22002283	-	£6.31	0.07 - 0.30	0.20 -1.50
VNMG (SR) (MR) ROUGHING		VNMG160408-SR	0.8	-	-	YG22001449	£6.31	0.10 - 0.40	0.50 - 4.00
		VNMG160408-MR	0.8	YG22000831	YG22002304	-	£6.31	0.30 - 0.55	2.00 - 5.50
WNMG (MM) (SM) MEDIUM		WNMG080404-MM	0.4	YG22000572	YG22002300	-	£5.09	0.20 - 0.35	0.50 - 3.50
		WNMG080408-MM	0.8	YG22000498	YG22000633	-	£5.09	0.20 - 0.35	1.00 - 3.50
		WNMG080412-MM	1.2	YG22000615	YG22001926	-	£5.09	0.20 - 0.35	1.50 - 3.50
		WNMG080408-SM	0.8	YG22001206	-	YG22001311	£5.09	0.10 - 0.25	0.50 - 4.00
		WNMG080412-SM	1.2	YG22001416	-	YG22001312	£5.09	0.10 - 0.25	0.50 - 4.00
WNMG (MR) (SR) ROUGHING		WNMG080408-MR	0.8	YG22000620	YG22000835		£5.09	0.30 - 0.50	1.20 - 5.00
		WNMG080412-MR	1.2	YG22000666	YG22000836		£5.09	0.30 - 0.50	1.50 - 5.00
		WNMG060412-SR	1.2	-	-	YG22001439	£4.35	0.10 - 0.40	0.50 - 3.00
		WNMG080408-SR	0.8	-	-	YG22001310	£5.09	0.10 - 0.40	0.50 - 4.00
		WNMG080412-SR	1.2	-	-	YG22001309	£5.09	0.10 - 0.40	0.50 - 4.00

*See page 479 for applicable cutting speeds

KORLOY

Swiss Turn Series Turning Inserts

P M S

Performance ground inserts for sliding head lathes & small part turning.

Korloy swiss turn inserts are designed for machining small parts in production turning environments, where contact time is short, high accuracy is needed or high quality surface finish is required.

All swiss turn inserts are precision ground and PVD coated. This ensures a sharp but strong cutting edge and is the optimal coating for small part machining.

- **PC5300 grade:** 1st choice for steel and stainless steel turning. Excellent for exotics where additional toughness is required.
- **PC8110 grade:** 1st choice for exotic turning or stainless steel applications where the highest cutting speeds are required.

CHIP BREAKER GUIDE

VP1

KORLOY

Medium to roughing chip breaker with reinforced cutting edge. Ideal for demanding applications or larger cut depths.



MS

KORLOY

Medium to finishing chip breaker with special surface treatment. Ideal for applications where good surface roughness is required in medium cutting.



FS

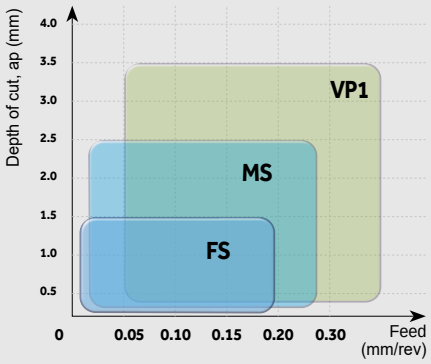
KORLOY

Finishing chip breaker with special surface treatment. Best surface finish, surface roughness and chip control under small depth of cut.



RECOMMENDED CUTTING CONDITIONS

Material Group	Material	PC5300 (m/min)	PC8110 (m/min)
Steel	Low Carbon Steel	135 - 230	-
	Alloy Steel	105 - 175	-
	Pre-Hardened Steel	65 - 110	70 - 130
Stainless Steel	Austenitic Stainless (e.g.316)	100 - 165	115 - 190
	Martensitic Stainless (e.g.404)	120 - 200	140 - 230
	Duplex, PH	75 - 125	85 - 145
HRSA's	Inconel, Nickel Alloy	30 - 50	40 - 65
	Titanium, Ti-Alloy	35 - 60	45 - 75



FOR ENQUIRIES PLEASE CALL **01924 869610** OR EMAIL **SALES@CUTWEL.NET**

cutwel

SWISS TURN SERIES - PVD COATED GROUND TURNING INSERTS

KORLOY

High precision turning inserts for small part turning of steel, stainless steel and heat resistant super alloy.

Grade PC5300

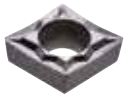
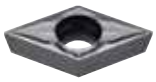
Medium-tough PVD grade, suitable for continuous or intermittent medium-high speed turning of steels or medium-rough turning of stainless steel and heat resistant super alloy.

Grade PC8110

Extremely hard wearing PVD grade, suitable for high speed continuous turning of stainless steel, heat resistant super alloy and tool steel.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE	
STEEL	65-230m/min	
STAINLESS STEEL	75-200m/min	85-230m/min
HRSA'S	30-60m/min	40-75m/min
CAST IRON		
ALUMINIUM/NON-FERROUS		
HARDENED STEEL		70-130m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE PC5300	GRADE ORDER CODE PC8110	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCGT (FS FINISHING		CCGT060201-FS	0.1	1-02-073888	1-02-076418	**£7.05**	0.01 - 0.18	0.03 - 1.60
		CCGT060202-FS	0.2	1-02-076419	1-02-076420	**£7.05**	0.02 - 0.20	0.04 - 1.70
		CCGT060204-FS	0.4	1-02-073936	1-02-073935	**£7.05**	0.04 - 0.21	0.06 - 1.80
		CCGT09T301-FS	0.1	1-02-076421	1-02-076422	**£8.18**	0.01 - 0.20	0.04 - 1.80
		CCGT09T302-FS	0.2	1-02-069405	1-02-069403	**£8.18**	0.02 - 0.23	0.05 - 2.00
		CCGT09T304-FS	0.4	1-02-076423	1-02-071329	**£8.18**	0.04 - 0.23	0.08 - 2.00
		CCGT09T308-FS	0.8	1-02-076462	1-02-076463	**£8.18**	0.06 - 0.25	0.10 - 2.20
CCGT (MS MEDIUM to FINISHING		CCGT09T301-MS	0.1	1-02-075765	1-02-075764	**£8.18**	0.02 - 0.23	0.05 - 2.00
		CCGT09T302-MS	0.2	1-02-075767	1-02-075766	**£8.18**	0.03 - 0.25	0.07 - 2.50
		CCGT09T304-MS	0.4	1-02-075769	1-02-075768	**£8.18**	0.05 - 0.25	0.09 - 2.50
CCGT (VP1 MEDIUM to ROUGHING		CCGT060201-VP1	0.1	1-02-043964	1-02-043965	**£7.05**	0.05 - 0.06	0.06 - 1.00
		CCGT060202-VP1	0.2	1-02-043659	1-02-043660	**£7.05**	0.03 - 0.10	0.08 - 1.50
		CCGT060204-VP1	0.4	1-02-043661	1-02-043662	**£7.05**	0.05 - 0.12	0.10 - 1.50
		CCGT09T301-VP1	0.1	1-02-043794	1-02-043795	**£8.18**	0.03 - 0.13	0.06 - 1.00
		CCGT09T302-VP1	0.2	1-02-043835	1-02-043836	**£8.18**	0.04 - 0.15	0.08 - 1.50
		CCGT09T304-VP1	0.4	1-02-043837	1-02-043838	**£8.18**	0.06 - 0.20	0.10 - 1.50
DCGT (FS FINISHING		DCGT070201-FS	0.1	1-02-076464	1-02-076465	**£7.23**	0.01 - 0.18	0.03 - 1.60
		DCGT070202-FS	0.2	1-02-053393	1-02-076466	**£7.23**	0.02 - 0.20	0.04 - 1.70
		DCGT11T301-FS	0.1	1-02-076424	1-02-076425	**£8.59**	0.01 - 0.20	0.04 - 1.80
		DCGT11T302-FS	0.2	1-02-065403	1-02-065401	**£8.59**	0.02 - 0.23	0.05 - 2.00
		DCGT11T304-FS	0.4	1-02-065067	1-02-065065	**£8.59**	0.04 - 0.23	0.08 - 2.00
		DCGT11T308-FS	0.8	1-02-076467	1-02-076468	**£8.59**	0.06 - 0.25	0.10 - 2.20
DCGT (MS MEDIUM to FINISHING		DCGT11T301-MS	0.1	1-02-075771	1-02-075770	**£8.59**	0.02 - 0.23	0.05 - 2.00
		DCGT11T302-MS	0.2	1-02-075773	1-02-075772	**£8.59**	0.03 - 0.25	0.07 - 2.50
		DCGT11T304-MS	0.4	1-02-075775	1-02-075774	**£8.59**	0.05 - 0.25	0.09 - 2.50
DCGT (VP1 MEDIUM to ROUGHING		DCGT070201-VP1	0.1	1-02-043900	1-02-043901	**£7.23**	0.03 - 0.06	0.06 - 1.00
		DCGT070202-VP1	0.2	1-02-043902	1-02-043903	**£7.23**	0.03 - 0.10	0.08 - 1.50
		DCGT070204-VP1	0.4	1-02-043904	1-02-043905	**£7.23**	0.05 - 0.12	0.10 - 1.50
		DCGT11T301-VP1	0.1	1-02-043893	1-02-043894	**£8.59**	0.03 - 0.13	0.06 - 1.00
		DCGT11T302-VP1	0.2	1-02-043750	1-02-043796	**£8.59**	0.04 - 0.15	0.08 - 1.50
		DCGT11T304-VP1	0.4	1-02-043751	1-02-043797	**£8.59**	0.06 - 0.20	0.10 - 1.50
TCGT (FS FINISHING		TCGT110201-FS	0.1	1-02-076469	1-02-076470	**£7.41**	0.01 - 0.16	0.03 - 1.40
		TCGT110202-FS	0.2	1-02-076471	1-02-026269	**£7.41**	0.02 - 0.18	0.04 - 1.50
		TCGT110204-FS	0.4	1-02-076472	1-02-076473	**£7.41**	0.04 - 0.19	0.06 - 1.60
VBGT (FS FINISHING		VBGT110301-FS	0.1	1-02-075480	1-02-075481	**£8.89**	0.01 - 0.16	0.03 - 1.40
		VBGT110302-FS	0.2	1-02-069408	1-02-069406	**£8.89**	0.02 - 0.18	0.04 - 1.50
		VBGT110304-FS	0.4	1-02-076426	1-02-076427	**£8.89**	0.04 - 0.19	0.06 - 1.60
		VBGT160401-FS	0.1	1-02-076474	1-02-076475	**£9.47**	0.01 - 0.16	0.04 - 1.80
		VBGT160402-FS	0.2	1-02-076476	1-02-076477	**£9.47**	0.02 - 0.18	0.05 - 2.00
		VBGT160404-FS	0.4	1-02-076478	1-02-076479	**£9.47**	0.04 - 0.19	0.08 - 2.00
VCGT (FS FINISHING		VCGT110301-FS	0.1	1-02-076428	1-02-076429	**£8.89**	0.01 - 0.16	0.03 - 1.40
		VCGT110302-FS	0.2	1-02-076430	1-02-076260	**£8.89**	0.02 - 0.18	0.04 - 1.50
		VCGT110304-FS	0.4	1-02-076431	1-02-076432	**£8.89**	0.04 - 0.19	0.06 - 1.60
		VCGT160402-FS	0.2	1-02-076433	1-02-076434	**£9.47**	0.02 - 0.18	0.05 - 2.00
		VCGT160404-FS	0.4	1-02-065070	1-02-065068	**£9.47**	0.04 - 0.19	0.08 - 2.00
VCGT (MS MEDIUM to FINISHING		VCGT110301-MS	0.1	1-02-076480	1-02-076481	**£8.89**	0.02 - 0.23	0.05 - 2.00
		VCGT110302-MS	0.2	1-02-076484	1-02-076485	**£8.89**	0.03 - 0.25	0.07 - 2.50
		VCGT110304-MS	0.4	1-02-076488	1-02-076489	**£8.89**	0.05 - 0.25	0.09 - 2.50
VCGT (VP1 MEDIUM to ROUGHING		VCGT110301-VP1	0.1	1-02-045856	1-02-045857	**£8.89**	0.02 - 0.15	0.05 - 0.50
		VCGT110302-VP1	0.2	1-02-045858	1-02-045859	**£8.89**	0.02 - 0.18	0.10 - 1.00
		VCGT110304-VP1	0.4	1-02-045860	1-02-045861	**£8.89**	0.03 - 0.18	0.15 - 1.20
		VCGT160404-VP1	0.4	-	1-02-053320	**£9.47**	0.05 - 0.20	0.18 - 1.80
		VCGT160408-VP1	0.8	-	1-02-056954	**£9.47**	0.06 - 0.20	0.20 - 1.80

High Positive Series Turning Inserts

P M S N

Uncoated & coated polished high positive inserts for aluminium/non-ferrous turning.

Non-Ferrous Turning

- **Korloy grade H01 (uncoated) & YG-1 grade YG10** are 1st choice for turning non-abrasive or low silicon aluminium and general plastic.
- **Korloy grade PD1000 (DLC coated) & YG-1 grade YG100 (DLC coated)** are 1st choice for abrasive non-ferrous materials or ultra-high speed turning of general aluminium and plastic.

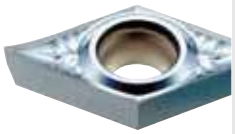
Steel, Stainless & Exotics Finishing

- Highly polished AK-PC5040 PVD coated grade prevents built-up edge.
- Sharp ground cutting edge provides exceptional surface finish from just 0.05mm depth of cut. Excellent for use in boring heads for milling machines.

CHIP BREAKER GUIDE

AK

Ground chip breaker with sharpest cutting edge, ultra-high positive rake and buffed top face. Provides excellent chip control in small to large cut depths whilst ensuring mirror finish results.



AL

Ground chip breaker with sharp cutting edge, high positive rake and buffed top face. Provides excellent chip control in small to medium cut depths, ideal for general turning of aluminium.



HA

M class tolerance chip breaker for negative inserts (CNMG, DNMG etc). Strong cutting edge with high rake chip breaker design provides the best geometry for heavy or unstable turning conditions on aluminium or non-ferrous alloy.



RECOMMENDED CUTTING CONDITIONS

Material Group	Material	H01 / YG10 (m/min)	PD1000 / YG100 (m/min)	PC5040 (m/min)
Steel	Low Carbon Steel	-	-	100-210
	Alloy Steel	-	-	80-190
	Pre-Hardened Steel	-	-	80-140
Stainless Steel	Austenitic Stainless (e.g.316)	-	-	80-180
	Martensitic Stainless (e.g.404)	-	-	80-190
	Duplex, PH	-	-	80-160
HRSA's	Inconel, Nickel Alloy	25-45	-	20-35
	Titanium, Ti-Alloy	30-55	-	40-70
Non-Ferrous	Aluminium Low si (<10%)	330-550	250-2500	-
	Aluminium High si (>10%)	130-220		-
	Copper Alloy, Brass	250-600		-
	Plastic	>500		-

HIGH POSITIVE SERIES - PC5040 PVD COATED TURNING INSERTS

KORLOY

Polished PVD coated grade for fine finish turning & boring of steel, stainless steel and heat resistant super alloy.

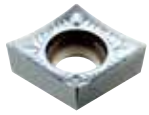
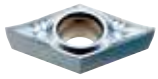
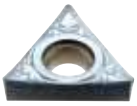
Grade PC5040

Special ultra-thin PVD coating enables the ground cutting edge to maintain it's sharpness. This enables extremely small depths of cut to provide mirror finish results in steel, stainless steel and exotics.

STEEL, INOX & HRSA SUPER FINISHING

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE
STEEL	80-210m/min
STAINLESS STEEL	80-180m/min
HRSA'S	20-70m/min
CAST IRON	
ALUMIUMIUN/NON-FERROUS	
HARDENED STEEL	

		ISO REFERENCE	RADIUS	GRADE ORDER CODE PC5040	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCGT (AK) FINISHING		CCGT060202-AK	0.2	1-02-056452	**£9.24**	0.01 - 0.12	0.05 - 3.00
		CCGT060204-AK	0.4	1-02-056453	**£9.24**	0.02 - 0.15	0.10 - 3.00
		CCGT060208-AK	0.8	1-02-060413	**£9.24**	0.02 - 0.20	0.10 - 4.00
		CCGT09T302-AK	0.2	1-02-056454	**£10.07**	0.02 - 0.20	0.05 - 3.00
		CCGT09T304-AK	0.4	1-02-056455	**£10.07**	0.02 - 0.30	0.10 - 5.00
		CCGT09T308-AK	0.8	1-02-056456	**£10.07**	0.03 - 0.50	0.10 - 5.00
		CCGT120402-AK	0.2	1-02-060456	**£10.55**	0.02 - 0.30	0.05 - 4.00
		CCGT120404-AK	0.4	1-02-056457	**£10.55**	0.03 - 0.50	0.10 - 5.00
		CCGT120408-AK	0.8	1-02-060415	**£10.55**	0.04 - 0.80	0.10 - 5.50
DCGT (AK) FINISHING		DCGT070202-AK	0.2	1-02-056458	**£8.28**	0.01 - 0.20	0.05 - 3.00
		DCGT070204-AK	0.4	1-02-056459	**£8.28**	0.02 - 0.30	0.10 - 4.00
		DCGT070208-AK	0.8	1-02-056460	**£8.28**	0.03 - 0.40	0.10 - 4.00
		DCGT11T302-AK	0.2	1-02-056461	**£9.47**	0.02 - 0.30	0.05 - 4.00
		DCGT11T304-AK	0.4	1-02-056462	**£9.47**	0.03 - 0.50	0.10 - 5.00
		DCGT11T308-AK	0.8	1-02-056463	**£9.47**	0.03 - 0.50	0.10 - 5.00
SCGT (AK) FINISHING		SCGT09T302-AK	0.2	1-02-056464	**£9.47**	0.02 - 0.30	0.10 - 4.00
		SCGT09T304-AK	0.4	1-02-056465	**£9.47**	0.04 - 0.40	0.10 - 5.00
		SCGT09T308-AK	0.8	1-02-060445	**£9.47**	0.03 - 0.40	0.10 - 5.00
		SCGT120404-AK	0.4	1-02-060441	**£10.07**	0.03 - 0.50	0.10 - 5.00
		SCGT120408-AK	0.8	1-02-060446	**£10.07**	0.04 - 0.60	0.15 - 5.50
TCGT (AK) FINISHING		TCGT110202-AK	0.2	1-02-056466	**£8.29**	0.02 - 0.20	0.05 - 4.00
		TCGT110204-AK	0.4	1-02-056467	**£8.29**	0.03 - 0.30	0.10 - 4.00
		TCGT16T302-AK	0.2	1-02-060447	**£9.95**	0.02 - 0.30	0.05 - 5.00
		TCGT16T304-AK	0.4	1-02-060448	**£9.95**	0.03 - 0.40	0.10 - 5.50
		TCGT16T308-AK	0.8	1-02-060449	**£9.95**	0.03 - 0.50	0.10 - 5.50
VBGT (AK) FINISHING		VBGT110302-AK	0.2	1-02-060457	**£9.95**	0.02 - 0.15	0.05 - 3.00
		VBGT110304-AK	0.4	1-02-060458	**£9.95**	0.02 - 0.15	0.10 - 4.00
		VBGT160402-AK	0.2	1-02-060450	**£10.66**	0.03 - 0.30	0.05 - 4.00
		VBGT160404-AK	0.4	1-02-060439	**£10.66**	0.03 - 0.40	0.10 - 5.00
		VBGT160408-AK	0.8	1-02-060451	**£10.66**	0.03 - 0.50	0.10 - 5.00
VCGT (AK) FINISHING		VCGT110302-AK	0.2	1-02-056468	**£10.66**	0.02 - 0.20	0.05 - 3.00
		VCGT110304-AK	0.4	1-02-056469	**£10.66**	0.02 - 0.25	0.10 - 4.00
		VCGT110308-AK	0.8	1-02-060440	**£10.66**	0.03 - 0.30	0.10 - 5.00
		VCGT130302-AK	0.2	1-02-056470	**£10.96**	0.02 - 0.35	0.10 - 5.00
		VCGT130304-AK	0.4	1-02-056471	**£10.96**	0.03 - 0.35	0.10 - 5.00
		VCGT160402-AK	0.2	1-02-060443	**£11.49**	0.02 - 0.30	0.05 - 5.00
		VCGT160404-AK	0.4	1-02-060442	**£11.49**	0.03 - 0.40	0.10 - 5.00
		VCGT160408-AK	0.8	1-02-060444	**£11.49**	0.03 - 0.50	0.10 - 5.00
		VCGT220525-AK	2.5	1-02-060452	**£16.58**	0.03 - 0.60	0.10 - 7.00
		VCGT220530-AK	3.0	1-02-060453	**£16.58**	0.05 - 0.70	0.10 - 7.00

*Insert should only be used for finish cuts with small cut depth on steel, stainless and exotics

AK H01 SERIES TURNING INSERTS

KORLOY

Uncoated high positive turning inserts for aluminium & plastic.

Grade H01

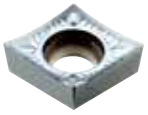
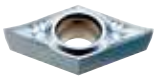
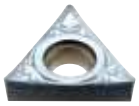
Ideal for high performance mirror finish turning of aluminium, copper and plastic. Available in high-precision G class tolerance or please contact for ultra-precision H class tolerance.

1ST CHOICE FOR PERFORMANCE TURNING OF ALUMINIUM

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY
- STEEL
- STAINLESS STEEL
- HRSA'S
- CAST IRON
- ALUMIUMIUN/NON-FERROUS
- HARDENED STEEL

CUTTING SPEED RANGE
- 130-600m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE H01	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCGT (AK) MEDIUM to FINISHING		CCGT060202-AK	0.2	1-03-000300	£7.05	0.01 - 0.12	0.05 - 3.00
		CCGT060204-AK	0.4	1-03-000311	£7.05	0.02 - 0.15	0.10 - 3.00
		CCGT060208-AK	0.8	1-03-000319	£7.05	0.02 - 0.20	0.10 - 4.00
		CCGT09T302-AK	0.2	1-03-000322	£8.18	0.02 - 0.20	0.05 - 3.00
		CCGT09T304-AK	0.4	1-03-000329	£8.18	0.02 - 0.30	0.10 - 5.00
		CCGT09T308-AK	0.8	1-03-000341	£8.18	0.03 - 0.50	0.10 - 5.00
		CCGT120402-AK	0.2	1-03-000349	£9.36	0.02 - 0.30	0.05 - 4.00
		CCGT120404-AK	0.4	1-03-000354	£9.36	0.03 - 0.50	0.10 - 5.00
		CCGT120408-AK	0.8	1-03-000369	£9.36	0.04 - 0.80	0.10 - 5.50
DCGT (AK) MEDIUM to FINISHING		DCGT070202-AK	0.2	1-03-000489	£7.23	0.01 - 0.20	0.05 - 3.00
		DCGT070204-AK	0.4	1-03-000499	£7.23	0.02 - 0.30	0.10 - 4.00
		DCGT070208-AK	0.8	1-03-011358	£7.23	0.03 - 0.40	0.10 - 4.00
		DCGT11T302-AK	0.2	1-03-000508	£8.59	0.02 - 0.30	0.05 - 4.00
		DCGT11T304-AK	0.4	1-03-000517	£8.59	0.03 - 0.50	0.10 - 5.00
		DCGT11T308-AK	0.8	1-03-000526	£8.59	0.03 - 0.50	0.10 - 5.00
		DCGT11T312-AK	1.2	1-03-000533	£8.59	0.04 - 0.60	0.15 - 5.00
RCGT (AK) MEDIUM to FINISHING		RCGT0602M0-AK	3.0	1-03-000857	£6.99	0.05 - 0.20	0.50 - 2.00
		RCGT0803M0-AK	4.0	1-03-000859	£7.41	0.05 - 0.25	0.50 - 2.50
		RCGT1003M0-AK	5.0	1-03-000864	£9.24	0.10 - 0.30	1.00 - 3.00
		RCGT1204M0-AK	6.0	1-03-000870	£10.78	0.10 - 0.30	1.00 - 3.00
SCGT (AK) MEDIUM to FINISHING		SCGT09T302-AK	0.2	1-03-015095	£7.99	0.02 - 0.30	0.10 - 4.00
		SCGT09T304-AK	0.4	1-03-000981	£7.99	0.04 - 0.40	0.10 - 5.00
		SCGT09T308-AK	0.8	1-03-000985	£7.99	0.03 - 0.40	0.10 - 5.00
		SCGT120404-AK	0.4	1-03-000989	£8.77	0.03 - 0.50	0.10 - 5.00
		SCGT120408-AK	0.8	1-03-000992	£8.77	0.04 - 0.60	0.15 - 5.50
		SCGT120416-AK	1.6	1-03-000996	£8.77	0.04 - 0.60	0.15 - 5.50
TCGT (AK) MEDIUM to FINISHING		TCGT090202-AK	0.2	1-03-009973	£7.05	0.01 - 0.12	0.05 - 3.00
		TCGT090204-AK	0.4	1-03-009972	£7.05	0.02 - 0.15	0.10 - 4.00
		TCGT110202-AK	0.2	1-03-002264	£7.41	0.02 - 0.20	0.05 - 4.00
		TCGT110204-AK	0.4	1-03-002271	£7.41	0.03 - 0.30	0.10 - 4.00
		TCGT110208-AK	0.8	1-03-002279	£7.41	0.03 - 0.40	0.10 - 5.00
		TCGT16T302-AK	0.2	1-03-002286	£9.24	0.02 - 0.30	0.05 - 5.00
		TCGT16T304-AK	0.4	1-03-002294	£9.24	0.03 - 0.40	0.10 - 5.50
		TCGT16T308-AK	0.8	1-03-002306	£9.24	0.03 - 0.50	0.10 - 5.50
		TCGT16T312-AK	1.2	1-03-002309	£9.24	0.04 - 0.60	0.15 - 5.50
VBGT (AK) MEDIUM to FINISHING		VBGT110302-AK	0.2	1-03-003436	£8.89	0.02 - 0.15	0.05 - 3.00
		VBGT110304-AK	0.4	1-03-003439	£8.89	0.02 - 0.15	0.10 - 4.00
		VBGT110308-AK	0.8	1-03-008943	£8.89	0.03 - 0.18	0.10 - 5.00
		VBGT160402-AK	0.2	1-03-003444	£9.47	0.03 - 0.30	0.05 - 4.00
		VBGT160404-AK	0.4	1-03-003449	£9.47	0.03 - 0.40	0.10 - 5.00
		VBGT160408-AK	0.8	1-03-003453	£9.47	0.03 - 0.50	0.10 - 5.00
		VBGT160412-AK	1.2	1-03-003454	£9.47	0.05 - 0.60	0.10 - 5.50
VCGT (AK) MEDIUM to FINISHING		VCGT110301-AK	0.1	1-03-011565	£8.89	0.02 - 0.15	0.05 - 3.00
		VCGT110302-AK	0.2	1-03-003478	£8.89	0.02 - 0.20	0.05 - 3.00
		VCGT110304-AK	0.4	1-03-003482	£8.89	0.02 - 0.25	0.10 - 4.00
		VCGT110308-AK	0.8	1-03-003487	£8.89	0.03 - 0.30	0.10 - 5.00
		VCGT130302-AK	0.2	1-03-003489	£9.18	0.02 - 0.35	0.10 - 5.00
		VCGT130304-AK	0.4	1-03-003491	£9.18	0.03 - 0.35	0.10 - 5.00
		VCGT130308-AK	0.8	1-03-010153	£9.18	0.04 - 0.40	0.10 - 5.00
		VCGT160402-AK	0.2	1-03-003495	£9.47	0.02 - 0.30	0.05 - 5.00
		VCGT160404-AK	0.4	1-03-003503	£9.47	0.03 - 0.40	0.10 - 5.00
		VCGT160408-AK	0.8	1-03-003518	£9.47	0.03 - 0.50	0.10 - 5.00
		VCGT160412-AK	1.2	1-03-003529	£9.47	0.03 - 0.50	0.10 - 5.00
		VCGT220525-AK	2.5	1-03-003536	£15.29	0.03 - 0.60	0.10 - 7.00
		VCGT220530-AK	3.0	1-03-003539	£15.29	0.05 - 0.70	0.10 - 7.00

AL YG10 SERIES TURNING INSERTS

Uncoated high positive turning inserts for aluminium & plastic.

Grade YG10

Ideal for general turning of aluminium, copper and plastic. Polished and ground cutting edge prevents built up edge and enables smooth chip flow.

1ST CHOICE FOR GENERAL ALUMINIUM TURNING

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY: STEEL; STAINLESS STEEL; HRSA'S; CAST IRON; ALUMIUMIUN/NON-FERROUS; HARDENED STEEL

CUTTING SPEED RANGE: ALUMIUMIUN/NON-FERROUS 130-600m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG10	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCGT (AL) MEDIUM to FINISHING		CCGT060202-AL	0.2	YG22001398	£5.57	0.02 - 0.15	0.1 - 2.0
		CCGT060204-AL	0.4	YG22001320	£5.57	0.02 - 0.15	0.5 - 2.0
		CCGT09T302-AL	0.2	YG22000339	£6.25	0.02 - 0.08	0.5 - 1.0
		CCGT09T304-AL	0.4	YG22000081	£6.25	0.05 - 0.25	0.5 - 2.0
		CCGT09T308-AL	0.8	YG22000082	£6.25	0.10 - 0.35	1.0 - 3.0
		CCGT120404-AL	0.4	YG22000475	£7.37	0.04 - 0.20	0.3 - 1.5
		CCGT120408-AL	0.8	YG22000477	£7.37	0.04 - 0.30	0.6 - 2.5
DCGT (AL) MEDIUM to FINISHING		DCGT070204-AL	0.4	YG22001400	£5.83	0.02 - 0.15	0.1 - 2.0
		DCGT11T302-AL	0.2	YG22000341	£6.89	0.02 - 0.08	0.5 - 1.0
		DCGT11T304-AL	0.4	YG22000083	£6.89	0.05 - 0.25	0.5 - 2.0
		DCGT11T308-AL	0.8	YG22000084	£6.89	0.10 - 0.30	1.0 - 2.5
SCGT (AL) MEDIUM to FINISHING		SCGT09T304-AL	0.4	YG22001516	£5.29	0.04 - 0.40	0.1 - 5.0
		SCGT09T308-AL	0.8	YG22001517	£5.29	0.03 - 0.40	0.1 - 5.0
TCGT (AL) MEDIUM to FINISHING		TCGT110204-AL	0.4	YG22001333	£5.83	0.03 - 0.30	0.1 - 4.0
		TCGT16T302-AL	0.2	YG22000343	£5.83	0.02 - 0.05	0.5 - 1.0
		TCGT16T304-AL	0.4	YG22000085	£5.83	0.05 - 0.25	0.5 - 2.0
		TCGT16T308-AL	0.8	YG22000086	£5.83	0.10 - 0.35	1.0 - 3.0
VCGT (AL) MEDIUM to FINISHING		VCGT160402-AL	0.2	YG22000417	£7.95	0.02 - 0.05	0.5 - 1.0
		VCGT160404-AL	0.4	YG22000087	£7.95	0.05 - 0.25	0.5 - 2.0
		VCGT160408-AL	0.8	YG22000419	£7.95	0.10 - 0.35	1.0 - 3.0

AL YG100 SERIES

DLC coated high positive turning inserts for abrasive aluminium & plastic.

Grade YG100

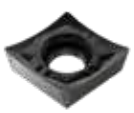
DLC (diamond like carbon) grade, ideal for high speed turning of abrasive aluminium alloy, copper alloy and abrasive plastics or ultra-high speed turning of regular aluminium.

DLC COATED FOR ABRASIVE MATERIALS

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY: STEEL; STAINLESS STEEL; HRSA'S; CAST IRON; ALUMIUMIUN/NON-FERROUS; HARDENED STEEL

CUTTING SPEED RANGE: ALUMIUMIUN/NON-FERROUS 250-2500m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG100	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCGT (AL) MEDIUM to FINISHING		CCGT09T302-AL	0.2	YG22000340	£10.18	0.02 - 0.08	0.5 - 1.0
		CCGT09T304-AL	0.4	YG22000330	£10.18	0.05 - 0.25	0.5 - 2.0
		CCGT09T308-AL	0.8	YG22000331	£10.18	0.10 - 0.35	1.0 - 3.0
		CCGT120404-AL	0.4	YG22000476	£10.83	0.04 - 0.20	0.3 - 1.5
		CCGT120408-AL	0.8	YG22000478	£10.83	0.04 - 0.30	0.6 - 2.5
DCGT (AL) MEDIUM to FINISHING		DCGT11T302-AL	0.2	YG22000342	£6.89	0.02 - 0.08	0.5 - 1.0
		DCGT11T304-AL	0.4	YG22000332	£6.89	0.05 - 0.25	0.5 - 2.0
		DCGT11T308-AL	0.8	YG22000333	£10.56	0.10 - 0.30	1.0 - 2.5
TCGT (AL) MEDIUM to FINISHING		TCGT16T302-AL	0.2	YG22000344	£11.08	0.02 - 0.05	0.5 - 1.0
		TCGT16T304-AL	0.4	YG22000334	£11.08	0.05 - 0.25	0.5 - 2.0
		TCGT16T308-AL	0.8	YG22000335	£11.08	0.10 - 0.35	1.0 - 3.0
VCGT (AL) MEDIUM to FINISHING		VCGT160402-AL	0.2	YG22000418	£11.97	0.02 - 0.05	0.5 - 1.0
		VCGT160404-AL	0.4	YG22000336	£11.97	0.05 - 0.25	0.5 - 2.0
		VCGT160408-AL	0.8	YG22000420	£11.97	0.10 - 0.35	1.0 - 3.0

AK PD1000 SERIES TURNING INSERTS

KORLOY

DLC coated high positive turning inserts for abrasive aluminium & plastic.

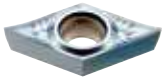
Grade PD1000

DLC (diamond like carbon) grade ideal for high speed turning of abrasive aluminium alloy, copper alloy and abrasive plastic. Exceptionally wear resistance and capable of ultra-high cutting speeds.

DLC COATED FOR ABRASIVE MATERIALS

MACHINING TYPE KEY
- ● Continuous turning
- ● Continuous / light intermittent
- ● Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE
STEEL	
STAINLESS STEEL	
HRSA'S	
CAST IRON	
ALUMIUMIUN/NON-FERROUS	●● 250-2500m/min
HARDENED STEEL	

		ISO REFERENCE	RADIUS	GRADE ORDER CODE PD1000	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCGT (AK) MEDIUM to FINISHING		CCGT060202-AK	0.2	1-02-032120	**£14.30**	0.01 - 0.12	0.05 - 3.00
		CCGT060204-AK	0.4	1-02-019830	**£14.30**	0.02 - 0.15	0.10 - 3.00
		CCGT060208-AK	0.8	1-02-060462	**£14.30**	0.02 - 0.20	0.10 - 4.00
		CCGT09T304-AK	0.4	1-02-020097	**£16.85**	0.02 - 0.30	0.10 - 5.00
		CCGT09T308-AK	0.8	1-02-050783	**£16.85**	0.03 - 0.50	0.10 - 5.00
		CCGT120402-AK	0.2	1-02-045753	**£18.79**	0.02 - 0.30	0.05 - 4.00
		CCGT120408-AK	0.8	1-02-018591	**£18.79**	0.04 - 0.80	0.10 - 5.50
DCGT (AK) MEDIUM to FINISHING		DCGT070202-AK	0.2	1-02-026935	**£14.30**	0.01 - 0.20	0.05 - 3.00
		DCGT070204-AK	0.4	1-02-020099	**£14.30**	0.02 - 0.30	0.10 - 4.00
		DCGT070208-AK	0.8	1-02-060463	**£14.30**	0.03 - 0.40	0.10 - 4.00
		DCGT11T302-AK	0.2	1-02-020100	**£16.85**	0.02 - 0.30	0.05 - 4.00
		DCGT11T304-AK	0.4	1-02-020101	**£16.85**	0.03 - 0.50	0.10 - 5.00
		DCGT11T308-AK	0.8	1-02-020102	**£16.85**	0.03 - 0.50	0.10 - 5.00
RCGT (AK) MEDIUM to FINISHING		RCGT0602M0-AK	3.0	1-02-020103	**£13.86**	0.05 - 0.20	0.50 - 2.00
		RCGT0803M0-AK	4.0	1-02-060465	**£14.50**	0.05 - 0.25	0.50 - 2.50
		RCGT1003M0-AK	5.0	1-02-028552	**£19.37**	0.10 - 0.30	1.00 - 3.00
		RCGT1204M0-AK	6.0	1-02-060466	**£21.14**	0.10 - 0.30	1.00 - 3.00
SCGT (AK) MEDIUM to FINISHING		SCGT09T302-AK	0.2	1-02-060467	**£16.87**	0.02 - 0.30	0.10 - 4.00
		SCGT09T304-AK	0.4	1-02-060468	**£16.87**	0.04 - 0.40	0.10 - 5.00
		SCGT09T308-AK	0.8	1-02-060469	**£16.87**	0.03 - 0.40	0.10 - 5.00
		SCGT120404-AK	0.4	1-02-060470	**£18.79**	0.03 - 0.50	0.10 - 5.00
TCGT (AK) MEDIUM to FINISHING		TCGT090202-AK	0.2	1-02-060472	**£14.73**	0.01 - 0.12	0.05 - 3.00
		TCGT090204-AK	0.4	1-02-060473	**£14.73**	0.02 - 0.15	0.10 - 4.00
		TCGT110204-AK	0.4	1-02-019835	**£14.73**	0.03 - 0.30	0.10 - 4.00
		TCGT110208-AK	0.8	1-02-060475	**£14.73**	0.03 - 0.40	0.10 - 5.00
		TCGT16T302-AK	0.2	1-02-060476	**£18.51**	0.02 - 0.30	0.05 - 5.00
		TCGT16T308-AK	0.8	1-02-036470	**£18.51**	0.03 - 0.50	0.10 - 5.50
		TCGT16T312-AK	1.2	1-02-060478	**£18.51**	0.04 - 0.60	0.15 - 5.50
VBGT (AK) MEDIUM to FINISHING		VBGT110302-AK	0.2	1-02-060480	**£17.91**	0.02 - 0.15	0.05 - 3.00
		VBGT110304-AK	0.4	1-02-060481	**£17.76**	0.02 - 0.15	0.10 - 4.00
		VBGT110308-AK	0.8	1-02-060482	**£17.76**	0.03 - 0.18	0.10 - 5.00
		VBGT160404-AK	0.4	1-02-028039	**£20.18**	0.03 - 0.40	0.10 - 5.00
		VBGT160408-AK	0.8	1-02-060483	**£20.18**	0.03 - 0.50	0.10 - 5.00
		VBGT160412-AK	1.2	1-02-060484	**£20.18**	0.05 - 0.60	0.10 - 5.50
VCGT (AK) MEDIUM to FINISHING		VCGT110301-AK	0.1	1-02-060492	**£17.76**	0.02 - 0.15	0.05 - 3.00
		VCGT110302-AK	0.2	1-02-023707	**£17.76**	0.02 - 0.20	0.05 - 3.00
		VCGT110304-AK	0.4	1-02-020104	**£17.79**	0.02 - 0.25	0.10 - 4.00
		VCGT110308-AK	0.8	1-02-060493	**£17.79**	0.03 - 0.30	0.10 - 5.00
		VCGT130302-AK	0.2	1-02-060494	**£18.98**	0.02 - 0.35	0.10 - 5.00
		VCGT160402-AK	0.2	1-02-023228	**£20.18**	0.02 - 0.30	0.05 - 5.00
		VCGT160404-AK	0.4	1-02-020105	**£20.35**	0.03 - 0.40	0.10 - 5.00
		VCGT160408-AK	0.8	1-02-019730	**£15.29**	0.03 - 0.50	0.10 - 5.00
		VCGT160412-AK	1.2	1-02-018816	**£20.18**	0.03 - 0.50	0.10 - 5.00

HA H01 SERIES TURNING INSERTS

KORLOY

Negative geometry inserts with high positive chipbreaker for rough turning of aluminium.

Grade HA H01

Ideal for high performance mirror finish turning of aluminium, copper and plastic.

1ST FOR ROUGHING APPLICATIONS

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE
STEEL	
STAINLESS STEEL	
HRSA'S	
CAST IRON	
ALUMIUMIUN/NON-FERROUS	130-600m/min
HARDENED STEEL	

		ISO REFERENCE	RADIUS	GRADE ORDER CODE H01	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CNMG (HA) MEDIUM to ROUGHING		CNMG120404-HA	0.4	1-03-009392	**£5.86**	0.05 - 0.20	0.80 - 3.50
		CNMG120408-HA	0.8	1-03-009393	**£5.86**	0.10 - 0.40	0.80 - 3.50
		CNMG120412-HA	1.2	1-03-013556	**£5.86**	0.13 - 0.55	0.80 - 3.50
DNMG (HA) MEDIUM to ROUGHING		DNMG150404-HA	0.4	1-03-012214	**£7.34**	0.05 - 0.30	0.80 - 3.50
		DNMG150408-HA	0.8	1-03-012215	**£7.34**	0.10 - 0.40	0.80 - 3.50
		DNMG150604-HA	0.4	1-03-009390	**£8.89**	0.05 - 0.30	0.80 - 3.50
		DNMG150608-HA	0.8	1-03-009391	**£8.89**	0.10 - 0.40	0.80 - 3.50
SNMG (HA) MEDIUM to ROUGHING		SNMG120404-HA	0.4	1-03-009398	**£5.86**	0.10 - 0.35	0.80 - 3.50
		SNMG120408-HA	0.8	1-03-009396	**£5.86**	0.10 - 0.40	0.80 - 3.50
TNMG (HA) MEDIUM to ROUGHING		TNMG160404-HA	0.4	1-03-009395	**£5.34**	0.05 - 0.30	0.80 - 3.50
		TNMG160408-HA	0.8	1-03-009394	**£5.34**	0.10 - 0.40	0.80 - 3.50
		TNMG160412-HA	1.2	1-03-018844	**£5.34**	0.13 - 0.55	0.80 - 3.50
VNMG (HA) MEDIUM to ROUGHING		VNMG160404-HA	0.4	1-03-011707	**£8.18**	0.08 - 0.35	0.50 - 3.00
		VNMG160408-HA	0.8	1-03-011708	**£8.18**	0.10 - 0.40	0.80 - 3.50
WNMG (HA) MEDIUM to ROUGHING		WNMG060404-HA	0.4	1-03-011679	**£5.34**	0.05 - 0.30	0.10 - 3.00
		WNMG060408-HA	0.8	1-03-011680	**£5.34**	0.10 - 0.40	0.80 - 3.50
		WNMG080404-HA	0.4	1-03-009397	**£6.63**	0.05 - 0.30	0.80 - 3.50
		WNMG080408-HA	0.8	1-03-009399	**£6.63**	0.10 - 0.40	0.80 - 3.50
		WNMG080412-HA	1.2	1-03-012606	**£6.63**	0.13 - 0.55	0.80 - 3.50

K Series Turning Inserts

K

High performance turning of cast iron.

K series coated inserts are designed for turning grey cast iron and ductile cast iron, providing stable tool life in a variety of machining conditions including high feed, heavy interrupted or continuous cutting.

Flat top inserts (without chip breaker) are ideal for heavy duty cutting of grey cast iron in higher powered lathes. They enable a larger cut depth than chip breaker style inserts.

Inserts with a chip breaker help lower cutting resistance and are suitable for grey or ductile cast iron.

CHIP BREAKER GUIDE

MK

1st choice for medium cutting and continuous turning of ductile cast iron. Angled land provides excellent surface finish and low cutting resistance.



Depth of cut: 1.0 - 5.0mm

Feed rate: 0.10 - 0.50mm/rev

RK

1st choice for high speed, roughing, high feed and interrupted turning of ductile and grey cast iron. Flat land provides excellent toughness and chipping resistance.



Depth of cut: 1.5 - 6.0mm

Feed rate: 0.20 - 0.60mm/rev

C25

Dedicated positive chip breaker for cast iron turning. Strong cutting ensures stable tool life whilst enabling good surface finish.



Depth of cut: 0.5 - 3.5mm

Feed rate: 0.05 - 0.36mm/rev

UC

Dedicated YG-1 chip breaker for cast iron turning. Strong cutting edge for medium to rough turning.



Depth of cut: 1.5 - 4.0mm

Feed rate: 0.2 - 0.4mm/rev

RECOMMENDED CUTTING CONDITIONS

Material Group	Material	Surface Speed (m/min)		
		NC6310	NC6315	YG1001
Ductile Cast Iron	Ductile Cast Iron (<400N/mm2)	160 - 390	150 - 340	150 - 340
	Ductile Cast Iron (400 - 600N/mm2)	150 - 350	150 - 200	150 - 200
	Ductile Cast Iron (600 - 800N/mm2)	150 - 350	150 - 200	150 - 200
Grey Cast Iron	Grey Cast Iron (<100N/mm2)	180 - 450	150 - 380	150 - 380
	Grey Cast Iron (100 - 300N/mm2)	160 - 400	150 - 350	150 - 350
	Grey Cast Iron (>300N/mm2)	155 - 350	150 - 340	150 - 340

K SERIES - CVD COATED CARBIDE TURNING INSERTS FOR CAST IRON

KORLOY

Highly wear resistant inserts for ductile and grey cast iron turning.

Grade NC6310

K10 turning grade for high speed with continuous or light interrupted condition which enhances the wear resistance and stable tool life.

Grade NC6315

K15 grade for general machining of grey cast iron and ductile cast iron, providing stable tool life in a variety of machining conditions including high feed, heavy interrupted or continuous cutting.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE	
STEEL		
STAINLESS STEEL		
HRSA'S		
CAST IRON	150-450m/min	150-380m/min
ALUMIUMIUN/NON-FERROUS		
HARDENED STEEL		

		ISO REFERENCE	RADIUS	GRADE ORDER CODE NC6310	GRADE ORDER CODE NC6315	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CCMT (C25) MEDIUM to FINISHING		CCMT060204-C25	0.4	-	1-02-064213	£5.10	0.05 - 0.15	0.60 - 2.30
		CCMT060208-C25	0.8	-	1-02-064695	£5.10	0.07 - 0.20	0.80 - 2.30
		CCMT09T304-C25	0.4	1-02-068749	1-02-064214	£5.81	0.08 - 0.25	0.80 - 3.00
		CCMT09T308-C25	0.8	1-02-068453	1-02-062511	£5.81	0.10 - 0.30	1.00 - 3.00
		CCMT120404-C25	0.4	1-02-068750	1-02-064215	£6.70	0.10 - 0.32	0.80 - 3.00
		CCMT120408-C25	0.8	1-02-068746	1-02-062510	£6.70	0.12 - 0.36	1.20 - 3.50
CNMA (FLAT TOP) ROUGHING		CNMA120408	0.8	1-02-067935	1-02-061297	£5.86	0.15 - 0.60	1.00 - 6.00
		CNMA120412	1.2	1-02-068544	1-02-060507	£5.86	0.15 - 0.70	1.50 - 6.00
		CNMA160612	1.2	-	1-02-062521	£5.86	0.15 - 0.70	2.00 - 6.00
		CNMA160616	1.6	1-02-069356	1-02-063064	£9.30	0.15 - 0.70	2.00 - 6.00
		CNMA190612	1.2	-	1-02-061948	£11.64	0.15 - 0.70	2.00 - 10.00
		CNMA190616	1.6	-	1-02-061949	£11.64	0.20 - 1.00	3.00 - 10.00
CNMG (MK) MEDIUM		CNMG120404-MK	0.4	1-02-068654	1-02-064191	£5.86	0.05 - 0.30	0.90 - 4.00
		CNMG120408-MK	0.8	1-02-068537	1-02-061690	£5.86	0.10 - 0.50	1.00 - 5.00
		CNMG120412-MK	1.2	1-02-068538	1-02-062210	£5.86	0.13 - 0.60	1.30 - 5.00
CNMG (RK) ROUGHING		CNMG120408-RK	0.8	1-02-068531	1-02-061692	£5.86	0.20 - 0.50	1.50 - 6.00
		CNMG120412-RK	1.2	1-02-068532	1-02-062488	£5.86	0.28 - 0.53	1.80 - 6.00
		CNMG120416-RK	1.6	1-02-068658	1-02-064199	£5.86	0.28 - 0.63	2.00 - 6.00
		CNMG160612-RK	1.2	1-02-072675	1-02-066682	£9.30	0.28 - 0.72	2.00 - 8.00
		CNMG160616-RK	1.6	1-02-075164	1-02-066637	£9.30	0.28 - 0.74	2.00 - 8.00
		CNMG190612-RK	1.2	-	1-02-066916	£11.64	0.35 - 0.78	2.60 - 9.50
		CNMG190616-RK	1.6	-	1-02-066917	£11.64	0.35 - 0.80	2.60 - 10.00
DCMT (C25) MEDIUM to FINISHING		DCMT070204-C25	0.4	-	1-02-064703	£5.81	0.05 - 0.20	0.50 - 2.50
		DCMT070208-C25	0.8	-	1-02-064704	£5.81	0.06 - 0.25	0.80 - 2.50
		DCMT11T304-C25	0.4	1-02-068745	1-02-061447	£6.52	0.08 - 0.30	0.80 - 3.00
		DCMT11T308-C25	0.8	1-02-068454	1-02-061524	£6.52	0.10 - 0.30	1.00 - 3.00
DNMA (FLAT TOP) ROUGHING		DNMA150608	0.8	1-02-068557	1-02-064207	£8.53	0.25 - 0.55	0.80 - 4.00
		DNMA150612	1.2	1-02-068665	1-02-064208	£8.53	0.25 - 0.65	1.20 - 4.00
DNMG (MK) MEDIUM		DNMG150404-MK	0.4	-	1-02-064302	£7.34	0.05 - 0.30	0.90 - 5.00
		DNMG150408-MK	0.8	-	1-02-064300	£7.34	0.10 - 0.50	1.00 - 5.00
		DNMG150604-MK	0.4	1-02-073085	1-02-063942	£8.89	0.05 - 0.30	0.90 - 5.00
		DNMG150608-MK	0.8	1-02-068540	1-02-064038	£8.89	0.10 - 0.50	1.00 - 5.00
		DNMG150612-MK	1.2	1-02-068649	1-02-064039	£8.89	0.13 - 0.60	1.30 - 5.00
SNMA (FLAT TOP) ROUGHING		SNMA120408	0.8	1-02-068545	1-02-063393	£5.86	0.15 - 0.70	1.00 - 6.00
		SNMA120412	1.2	1-02-068596	1-02-064209	£5.86	0.20 - 0.80	1.50 - 6.00
		SNMA120416	1.6	-	1-02-064210	£5.86	0.30 - 1.00	2.00 - 6.00
		SNMA190616	1.6	-	1-02-064713	£11.64	0.25 - 0.85	2.50 - 10.00
SNMG (MK) MEDIUM		SNMG120408-MK	0.8	1-02-068541	1-02-064040	£5.86	0.10 - 0.50	1.00 - 5.00
		SNMG120412-MK	1.2	-	1-02-064041	£5.86	0.13 - 0.60	1.30 - 5.00
SNMG (RK) ROUGHING		SNMG120408-RK	0.8	1-02-068653	1-02-064044	£5.86	0.23 - 0.53	1.50 - 6.00
		SNMG120412-RK	1.2	1-02-068533	1-02-064045	£5.86	0.28 - 0.53	1.80 - 6.00

K SERIES - CVD COATED CARBIDE TURNING INSERTS FOR CAST IRON

KORLOY

Highly wear resistant inserts for ductile and grey cast iron turning.

Grade NC6310

K10 turning grade for high speed with continuous or light interrupted conditions which enhance the wear resistance and ensures stable tool life.

Grade NC6315

K15 grade for general machining of grey cast iron and ductile cast iron, providing stable tool life in a variety of machining conditions including high feed, heavy interrupted or continuous cutting.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE	
STEEL		
STAINLESS STEEL		
HRSA'S		
CAST IRON	150-450m/min	150-380m/min
ALUMIUMIUN/NON-FERROUS		
HARDENED STEEL		

		ISO REFERENCE	RADIUS	GRADE ORDER CODE NC6310	GRADE ORDER CODE NC6315	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
TCMT (C25) MEDIUM to FINISHING		TCMT16T304-C25	0.4	-	1-02-064219	**£6.52**	0.08 - 0.28	0.80 - 3.00
		TCMT16T308-C25	0.8	-	1-02-062512	**£6.52**	0.10 - 0.30	1.00 - 3.00
TNMA (FLAT TOP) ROUGHING		TNMA160408	0.8	-	1-02-060508	**£5.34**	0.10 - 0.40	1.00 - 4.00
		TNMA160412	1.2	-	1-02-060509	**£5.34**	0.10 - 0.50	1.50 - 4.50
		TNMA220408	0.8	-	1-02-064211	**£6.83**	0.15 - 0.40	1.50 - 5.00
		TNMA220412	1.2	-	1-02-064212	**£6.83**	0.20 - 0.50	1.50 - 5.00
TNMG (MK) MEDIUM		TNMG160404-MK	0.4	-	1-02-064192	**£5.34**	0.05 - 0.30	0.90 - 3.50
		TNMG160408-MK	0.8	1-02-068648	1-02-064193	**£5.34**	0.10 - 0.50	1.00 - 4.00
		TNMG160412-MK	1.2	-	1-02-064194	**£5.34**	0.12 - 0.60	1.20 - 4.50
TNMG (RK) ROUGHING		TNMG220408-RK	0.8	1-02-068661	1-02-064202	**£8.23**	0.17 - 0.45	1.50 - 5.00
		TNMG220412-RK	1.2	1-02-068662	1-02-064203	**£8.23**	0.21 - 0.50	1.30 - 5.50
		TNMG220416-RK	1.6	-	1-02-064204	**£15.75**	0.23 - 0.52	1.40 - 5.50
VCMT (MP) MEDIUM to FINISHING		VCMT160404-MP	0.4	1-02-068763	1-02-064231	**£9.30**	0.10 - 0.23	0.30 - 2.00
		VCMT160408-MP	0.8	1-02-073082	1-02-064232	**£9.30**	0.10 - 0.33	0.50 - 2.30
VNMG (MK) MEDIUM		VNMG160404-MK	0.4	1-02-067874	1-02-064196	**£8.18**	0.08 - 0.45	0.50 - 3.00
		VNMG160408-MK	0.8	1-02-068222	1-02-064197	**£8.18**	0.10 - 0.50	1.00 - 3.50
		VNMG160412-MK	1.2	1-02-068657	1-02-064198	**£8.18**	0.20 - 0.50	1.50 - 4.00
WNMA (FLAT TOP) ROUGHING		WNMA060408	0.8	-	1-02-064782	**£6.63**	0.10 - 0.30	0.50 - 3.00
		WNMA080408	0.8	1-02-067877	1-02-060512	**£6.63**	0.15 - 0.60	1.00 - 6.00
		WNMA080412	1.2	1-02-068548	1-02-062051	**£6.63**	0.15 - 0.70	1.50 - 6.00
WNMG (MK) MEDIUM		WNMG060408-MK	0.8	1-02-073081	1-02-066758	**£5.34**	0.08 - 0.30	0.80 - 2.50
		WNMG080404-MK	0.4	1-02-067873	1-02-064195	**£6.63**	0.10 - 0.45	1.00 - 3.00
		WNMG080408-MK	0.8	1-02-068543	1-02-061951	**£6.63**	0.10 - 0.50	1.00 - 3.50
		WNMG080412-MK	1.2	1-02-068791	1-02-063938	**£6.63**	0.10 - 0.50	1.00 - 4.00

K SERIES - CVD COATED CARBIDE TURNING INSERTS FOR CAST IRON

Highly wear resistant Inserts for ductile and grey cast iron turning.

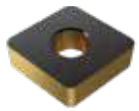
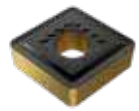
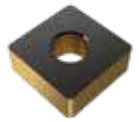
Grade YG1001

K10-K15 turning grade for high speed with continuous or light interrupted conditions which enhances the wear resistance and ensures stable tool life.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY
- STEEL
- STAINLESS STEEL
- HRSA'S
- CAST IRON
- ALUMIUMIUN/NON-FERROUS
- HARDENED STEEL

CUTTING SPEED RANGE
- 150-380m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE YG1001	Price	FEED fn (mm/rev)	DEPTH OF CUT ap (mm)
CNMA (FLAT TOP) ROUGHING		CNMA120404	0.4	YG22000089	**£4.42**	0.15 - 0.50	0.50 - 2.50
		CNMA120408	0.8	YG22000010	**£4.77**	0.15 - 0.50	1.00 - 3.50
		CNMA120412	1.2	YG22000011	**£4.77**	0.15 - 0.50	1.50 - 5.00
		CNMA120416	1.6	YG22001188	**£4.77**	0.15 - 0.30	0.20 - 3.00
		CNMA160612	1.2	YG22000012	**£7.06**	0.15 - 0.50	1.50 - 5.00
		CNMA160616	1.6	YG22000446	**£7.06**	0.15 - 0.50	2.00 - 5.00
		CNMA190612	1.2	YG22000989	**£9.06**	0.15 - 0.30	0.20 - 3.00
		CNMA190616	1.6	YG22000448	**£9.06**	0.15 - 1.00	3.00 - 10.00
CNMG (UC) MEDIUM		CNMG120404-UC	0.4	YG22000096	**£4.77**	0.20 - 0.40	0.50 - 2.50
		CNMG120408-UC	0.8	YG22000062	**£4.77**	0.20 - 0.40	1.00 - 4.00
		CNMG120412-UC	1.2	YG22000088	**£4.77**	0.20 - 0.40	1.50 - 4.50
DCMT (UG) MEDIUM		DCMT11T304-UG	0.4	YG22000677	**£5.19**	0.15 - 0.30	0.50 - 2.00
		DCMT11T308-UG	0.8	YG22000678	**£5.19**	0.15 - 0.30	0.80 - 2.50
DNMG (UC) MEDIUM		DNMG150408-UC	0.8	YG22000577	**£5.94**	0.20 - 0.40	1.00 - 3.00
		DNMG150412-UC	1.2	YG22000579	**£5.94**	0.20 - 0.40	1.50 - 3.50
		DNMG150608-UC	0.8	YG22000090	**£6.35**	0.20 - 0.40	1.00 - 3.00
		DNMG150612-UC	1.2	YG22000098	**£6.35**	0.20 - 0.40	1.50 - 3.50
SNMA (FLAT TOP) ROUGHING		SNMA120408	0.8	YG22000027	**£4.77**	0.15 - 0.50	1.00 - 3.50
		SNMA120412	1.2	YG22000028	**£4.77**	0.15 - 0.50	1.50 - 5.00
		SNMA150612	1.2	YG22000729	**£6.36**	0.15 - 0.50	1.50 - 5.00
		SNMA190616	1.6	YG22001184	**£9.43**	0.15 - 0.50	1.50 - 5.00
SNMG (UC) MEDIUM		SNMG120408-UC	0.8	YG22000073	**£4.77**	0.20 - 0.40	1.00 - 4.00
		SNMG120412-UC	1.2	YG22000074	**£4.77**	0.20 - 0.40	1.50 - 4.50
TNMA (FLAT TOP) ROUGHING		TNMA160404	0.4	YG22001446	**£4.35**	0.15 - 0.30	0.20 - 3.00
		TNMA160408	0.8	YG22000035	**£4.35**	0.15 - 0.50	1.00 - 3.00
		TNMA160412	1.2	YG22000036	**£4.35**	0.15 - 0.50	1.50 - 4.00
TNMG (UC) MEDIUM		TNMG160404-UC	0.4	YG22000399	**£4.35**	0.20 - 0.40	0.50 - 2.50
		TNMG160408-UC	0.8	YG22000075	**£4.35**	0.20 - 0.40	1.00 - 3.00
		TNMG160412-UC	1.2	YG22000076	**£4.35**	0.20 - 0.40	1.50 - 3.50
VBMT (UG) MEDIUM		VBMT160404-UG	0.4	YG22000682	**£5.72**	0.15 - 0.30	0.50 - 2.50
		VBMT160408-UG	0.8	YG22000681	**£5.72**	0.20 - 0.40	1.00 - 3.00
VNMG (UC) MEDIUM		VNMG160404-UC	0.4	YG22000885	**£6.31**	0.20 - 0.40	0.50 - 2.50
		VNMG160408-UC	0.8	YG22000094	**£6.31**	0.20 - 0.40	1.00 - 3.00
		VNMG160412-UC	1.2	YG22001381	**£6.31**	0.20 - 0.40	1.50 - 3.50
WNMG (UC) MEDIUM		WNMG060408-UC	0.8	YG22000095	**£4.35**	0.20 - 0.40	1.0 - 3.0
		WNMG080404-UC	0.4	YG22000097	**£5.09**	0.25 - 0.40	0.50 - 3.50
		WNMG080408-UC	0.8	YG22000077	**£5.09**	0.20 - 0.40	1.00 - 4.00
		WNMG080412-UC	1.2	YG22000078	**£5.09**	0.20 - 0.40	1.50 - 4.50

YG KORLOY

CBN & PCD Series Turning Inserts



H S K N

High performance turning of hardened steel, cast iron, HRSA's, aluminium & plastic.

The inserts feature a ground piece of CBN or PCD material sintered onto a carbide blank. They offer vastly improved cutting speeds, tool life and surface finish compared to carbide inserts.

CBN turning inserts are specifically designed for cutting hardened steels (HRC50-70), abrasive cast iron and finish turning of hard HRSA's such as Inconel.

PCD turning inserts are designed for ultra-high speed turning of aluminium, plastics and composites with extreme tool life and mirror surface finish.

RECOMMENDED CUTTING CONDITIONS

Grade	Type	Workpiece	Cutting Speed (m/min)	Feed fn (mm/rev)	Depth of Cut ap (mm)
DBN250	Standard CBN	Hardened Steel	80 - 120	0.03 - 0.20	0.03 - 0.3
DBN300	Standard CBN		80 - 110	0.03 - 0.20	0.03 - 0.3
DNC100	Coated CBN		120 - 220	0.03 - 0.20	0.03 - 0.3
DNC250	Coated CBN		150 - 300	0.05 - 0.30	0.05 - 0.3
DBN700	Standard CBN	Grey Cast Iron	400 - 1000	0.10 - 0.50	<1.0
		Alloyed Cast Iron	200 - 800	0.03 - 0.20	<0.5
		Ductile Cast Iron	100 - 350	0.05 - 0.30	<0.5
DB7000	Standard CBN	Grey Cast Iron	500 - 2000	0.10 - 0.50	<1.0
		Ductile Cast Iron	80 - 200	0.05 - 0.30	<0.5
		Inconel, Hastelloy (HRSA)	80 - 200	0.1 - 0.30	<0.2
DP150	PCD	Aluminium Alloy (4%-8% Si)	1000 - 3000	0.1 - 0.6	- 3
		Aluminium Alloy (9%-14% Si)	600 - 2500	0.1 - 0.5	- 3
		Aluminium Alloy (15%-18% Si)	300 - 700	0.1 - 0.4	- 3
		Copper, Bronze Alloy	- 1000	0.05 - 0.2	- 3
		Reinforced Plastic	- 1000	0.1 - 0.3	- 2
		Wood	- 4000	0.1 - 0.4	- 3

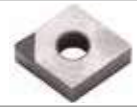
PCD TURNING INSERTS

KORLOY

Grade DP150

Continuous ultra-high speed turning of aluminium. High speed turning of abrasive aluminiinium, plastics and composite materials.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

		MATERIAL SUITABILITY		CUTTING SPEED RANGE	
			STEEL		
			STAINLESS STEEL		
			HRSA'S		
			CAST IRON		
			ALUMIUMIUN/NON-FERROUS	<3000m/min	
			HARDENED STEEL		
				GRADE ORDER CODE	
		ISO REFERENCE	RADIUS	DP150	Price
CCGT (PCD)		CCGT060202	0.2	6-01-027502	**£44.81**
		CCGT060204	0.4	6-01-027503	**£44.81**
		CCGT09T302	0.2	6-01-021759	**£44.81**
		CCGT09T304	0.4	6-01-020819	**£44.81**
		CCGT09T308	0.8	6-01-013810	**£43.60**
		CCGT120404	0.4	6-01-035616	**£43.60**
		CCGT120408	0.8	6-01-026516	**£43.60**
CNMM (PCD)		CNMM120404	0.4	6-01-013884	**£44.81**
		CNMM120408	0.8	6-01-015445	**£44.81**
DCGT (PCD)		DCGT070202	0.2	6-01-027492	**£44.81**
		DCGT070204	0.4	6-01-027493	**£44.81**
		DCGT11T302	0.2	6-01-027495	**£43.60**
		DCGT11T304	0.4	6-01-013808	**£43.60**
		DCGT11T308	0.8	6-01-021123	**£44.81**
TCGT (PCD)		TCGT110202	0.2	6-01-027515	**£43.60**
		TCGT110204	0.4	6-01-027516	**£43.60**
VCGT (PCD)		VCGT110301	0.1	6-01-031146	**£43.60**
		VCGT110302	0.2	6-01-027530	**£44.81**
		VCGT110304	0.4	6-01-021124	**£44.81**
		VCGT160402	0.2	6-01-035624	**£61.29**
		VCGT160404	0.4	6-01-007495	**£63.39**
		VCGT160408	0.8	6-01-026337	**£63.39**



CBN (COATED) TURNING INSERTS

KORLOY

Grade DNC100 Continuous or high speed turning of hardened steel.

Grade DNC250 Continuous and light intermittent turning of hardened steel at high speeds.

MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

MATERIAL SUITABILITY	CUTTING SPEED RANGE	
STEEL		
STAINLESS STEEL		
HRSA'S		
CAST IRON		
ALUMIUMIUN/NON-FERROUS		
HARDENED STEEL	150-300m/min	120-220m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE DNC100	GRADE ORDER CODE DNC250	Price
CCGW (2 EDGE) SINGLE USE		2NU-CCGW060202	0.2	6-01-033775	6-01-025092	£51.96
		2NU-CCGW060204	0.4	-	6-01-025095	£51.96
		2NU-CCGW09T302	0.2	-	6-01-027380	£51.96
		2NU-CCGW09T304	0.4	6-01-043638	6-01-015558	£51.96
		2NU-CCGW09T308	0.8	6-01-036569	6-01-016407	£51.96
CNGA (2 EDGE) SINGLE USE		2NU-CNGA120402	0.2	6-01-045391	6-01-027347	£51.96
		2NU-CNGA120404	0.4	6-01-045392	6-01-015554	£51.96
		2NU-CNGA120408	0.8	6-01-042269	6-01-015555	£51.96
		2NU-CNGA120412	1.2	-	6-01-023763	£51.96
CNGA (4 EDGE) SINGLE USE		4NU-CNGA120404	0.4	-	6-01-018576	£94.38
		4NU-CNGA120408	0.8	6-01-045061	6-01-016517	£94.38
		4NU-CNGA120412	1.2	-	6-01-018798	£94.38
DCGW (2 EDGE) SINGLE USE		2NU-DCGW070202	0.2	-	6-01-030792	£51.96
		2NU-DCGW070204	0.4	6-01-038161	6-01-028123	£51.96
		2NU-DCGW070208	0.8	6-01-045394	-	£51.96
		2NU-DCGW11T302	0.2	-	6-01-029051	£51.96
		2NU-DCGW11T304	0.4	-	6-01-015559	£51.96
		2NU-DCGW11T308	0.8	-	6-01-015876	£51.96
DNGA (2 EDGE) SINGLE USE		2NU-DNGA150404	0.4	-	6-01-015566	£51.96
		2NU-DNGA150408	0.8	-	6-01-015567	£51.96
		2NU-DNGA150412	1.2	-	6-01-017080	£51.96
		2NU-DNGA150604	0.4	6-01-033574	6-01-026918	£51.96
		2NU-DNGA150608	0.8	6-01-033575	6-01-026919	£51.96
DNGA (4 EDGE) SINGLE USE		4NU-DNGA110404	0.4	-	6-01-027772	£94.38
		4NU-DNGA110416	1.6	-	6-01-027927	£94.38
		4NU-DNGA150604	0.4	-	6-01-018791	£94.38
		4NU-DNGA150608	0.8	-	6-01-018792	£94.38
SNGA (4 EDGE) SINGLE USE		4NU-SNGA120404	0.4	-	6-01-025144	£94.38
		4NU-SNGA120408	0.8	-	6-01-021468	£94.38
TCGW (3 EDGE) SINGLE USE		3NU-TCGW090204	0.4	-	6-01-021094	£70.41
		3NU-TCGW110208	0.8	-	6-01-027370	£70.41
TNGA (3 EDGE) SINGLE USE		3NU-TNGA160404	0.4	6-01-046100	6-01-015568	£70.41
		3NU-TNGA160408	0.8	6-01-029232	6-01-015561	£70.41
		3NU-TNGA160412	1.2	6-01-046128	6-01-023771	£70.41
TNGA (6 EDGE) SINGLE USE		6NU-TNGA160404	0.4	-	6-01-020077	£113.95
		6NU-TNGA160408	0.8	-	6-01-016638	£113.95
VBGW (2 EDGE) SINGLE USE		2NU-VBGW110304	0.4	-	6-01-023767	£51.96
		2NU-VBGW110308	0.8	-	6-01-023768	£51.96
		2NU-VBGW160404	0.4	6-01-045396	6-01-016371	£51.96
		2NU-VBGW160408	0.8	6-01-044907	6-01-023769	£51.96
VCGW (2 EDGE) SINGLE USE		2NU-VCGW110302	0.2	-	6-01-027382	£51.96
		2NU-VCGW160404	0.4	-	6-01-026752	£51.96
		2NU-VCGW160408	0.8	-	6-01-026751	£51.96
VNGA (2 EDGE) SINGLE USE		2NU-VNGA160404	0.4	6-01-045397	6-01-015569	£51.96
		2NU-VNGA160408	0.8	6-01-045398	6-01-015626	£51.96

CBN (UNCOATED) TURNING INSERTS

KORLOY

Grade DBN250 Continuous or light intermittent turning of hardened steel.

Grade DBN300 Low speed or intermittent turning of hardened steel.

Grade DBN700 High speed turning of cast iron.

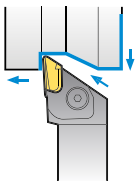
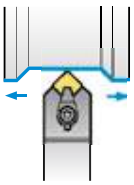
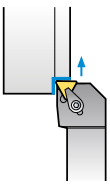
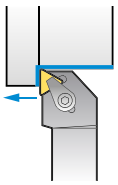
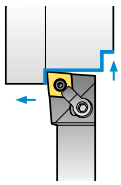
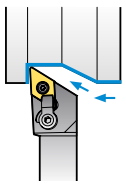
Grade DB7000 High speed turning of sintered alloys, cast iron and HRSA's such as inconel.

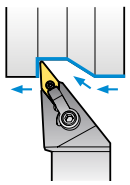
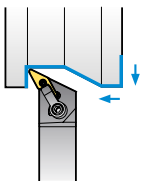
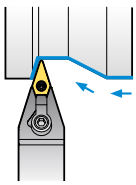
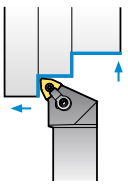
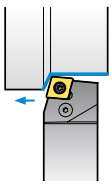
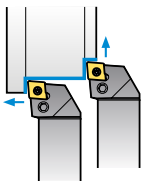
MACHINING TYPE KEY
- Continuous turning
- Continuous / light intermittent
- Intermittent / rough turning

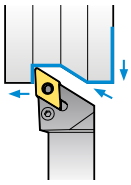
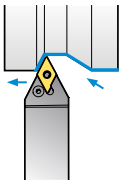
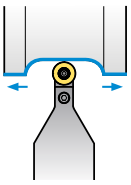
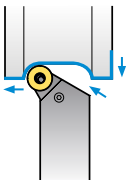
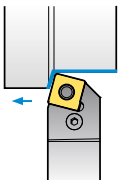
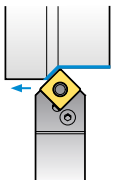
MATERIAL SUITABILITY	CUTTING SPEED RANGE
STEEL	
STAINLESS STEEL	
HRSA'S	80-200m/min
CAST IRON	500-2000m/min, <2000m/min
ALUMIUMIUN/NON-FERROUS	
HARDENED STEEL	80-120m/min, 80-110m/min

		ISO REFERENCE	RADIUS	GRADE ORDER CODE DBN250	DBN300	DBN700	DB7000	Price From
CCGW (1 EDGE) SINGLE USE		NU-CCGW060202	0.2	6-01-021484	-	-	-	£51.96
		NU-CCGW060208	0.8	6-01-021485	6-01-028050	-	-	£51.96
		NU-CCGW09T302	0.2	6-01-010097	-	-	-	£51.96
		NU-CCGW09T304	0.4	6-01-014224	6-01-028074	6-01-021528	-	£26.89
		NU-CCGW09T308	0.8	-	6-01-028082	6-01-021534	-	£26.89
CCGW (2 EDGE) SINGLE USE		2NU-CCGW060202	0.2	6-01-006022	6-01-021516	6-01-028048	-	£51.96
		2NU-CCGW060204	0.4	6-01-007099	6-01-021520	6-01-021064	-	£51.96
		2NU-CCGW09T302	0.2	6-01-016623	6-01-021745	-	-	£26.89
		2NU-CCGW09T304	0.4	-	6-01-021527	-	6-01-045412	£26.89
		2NU-CCGW09T308	0.8	-	6-01-021532	-	6-01-045413	£26.89
CNGA (1 EDGE) REGRINDABLE		CNGA120404	0.4	-	6-01-021504	-	-	£26.89
		CNGA120408	0.8	-	6-01-021506	6-01-025051	-	£26.89
		CNGA120412	1.2	6-01-015088	6-01-010608	-	-	£51.96
CNGA (1 EDGE) SINGLE USE		NU-CNGA120404	0.4	-	6-01-021537	-	6-01-045416	£26.89
		NU-CNGA120408	0.8	6-01-014784	6-01-021540	-	6-01-045417	£51.96
		NU-CNGA120412	1.2	-	6-01-021545	-	6-01-045419	£26.89
CNGA (2 EDGES) SINGLE USE		2NU-CNGA120404	0.4	6-01-021544	6-01-010087	6-01-011294	-	£51.96
		2NU-CNGA120408	0.8	-	6-01-008926	6-01-021056	6-01-045996	£51.96
		2NU-CNGA120412	1.2	-	6-01-008927	-	-	£51.96
DCGW (1 EDGE) SINGLE USE		NU-DCGW070202	0.2	6-01-021548	-	-	-	£26.89
		NU-DCGW070204	0.4	6-01-005580	6-01-028595	-	-	£26.89
		NU-DCGW11T302	0.2	6-01-006278	6-01-016240	-	-	£51.96
		NU-DCGW11T304	0.4	6-01-014275	-	-	-	£51.96
		NU-DCGW11T308	0.8	6-01-015089	6-01-028603	6-01-027268		£26.89
DCGW (2 EDGES) SINGLE USE		2NU-DCGW070204	0.4	6-01-020655	6-01-028124	6-01-028125	-	£51.96
		2NU-DCGW11T302	0.2	-	6-01-028137	6-01-028138	-	£51.96
		2NU-DCGW11T304	0.4	-	6-01-028142	6-01-021057	6-01-036570	£51.96
		2NU-DCGW11T308	0.8	-	6-01-027375	-	6-01-038614	£26.89
DNGA (1 EDGE) SINGLE USE		NU-DNGA150404	0.4	-	-	-	-	£26.89
		NU-DNGA150412	1.2	6-01-021568	6-01-028611	-	6-01-045426	£26.89
		NU-DNGA150604	0.4	6-01-021572	-	6-01-021560	-	£26.89
		NU-DNGA150608	0.8	-	6-01-021564	-	-	£26.89
		NU-DNGA150612	1.2	-	-	-	-	£26.89
SNGA (1 EDGE) SINGLE USE		NU-SNGA120404	0.4	-	-	-	-	£26.89
		NU-SNGA120408	0.8	6-01-021579	-	6-01-021574	-	£26.89
TCGW (1 EDGE) SINGLE USE		NU-TCGW110202	0.2	6-01-021582	-	-	-	£26.89
		NU-TCGW110204	0.4	-	6-01-021577	-	-	£26.89
		NU-TCGW16T304	0.4	-	6-01-021580	6-01-021581	-	£26.89
		NU-TCGW16T308	0.8	-	6-01-021583	-	-	£26.89
TNGA (1 EDGE) REGRINDABLE		TNGA160404	0.4	6-01-013980	6-01-021603	-	-	£40.97
		TNGA160408	0.8	6-01-021604	6-01-021605	-	-	£40.97
TNGA (1 EDGE) SINGLE USE		NU-TNGA160404	0.4	-	-	-	-	£26.89
		NU-TNGA160408	0.8	6-01-004965	6-01-021587	-	-	£26.89
VNGA (1 EDGE) REGRINDABLE		VNGA160404	0.4	6-01-021615	6-01-021616	-	-	£40.97
VNGA (2 EDGES) SINGLE USE		2NU-VNGA160404	0.4	6-01-005999	6-01-021496	-	-	£51.96
		2NU-VNGA160408	0.8	6-01-010671	6-01-028208	-	-	£51.96

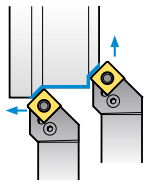
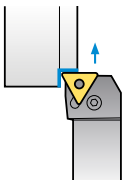
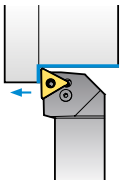
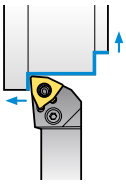
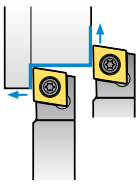
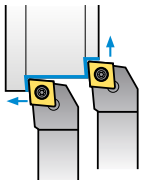
ISO TURNING TOOL HOLDERS INDEX

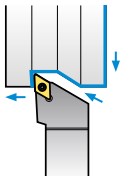
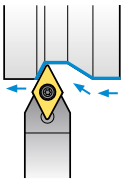
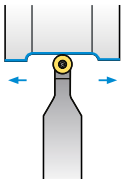
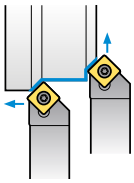
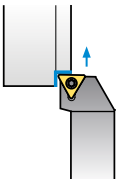
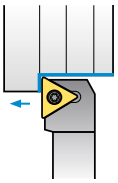
TOOL HOLDER	CKJNR/L	CSDPN	CTFPR/L	CTGPR/L	MCLNR/L	MDJNR/L
Cutting Shape						
Approach Angle	93°	45°	90°	90°	95°	93°
Insert Shape	KN_ _	SP_ _	TP_ _	TP_ _	CN_ _	DN_ _
Page	68	68	69	69	View Online	View Online
APPLICATIONS						
Turning	●	●		●	●	●
Copying	●					●
Facing			●		●	
Chamfering		●				
Back Turning	●				●	●

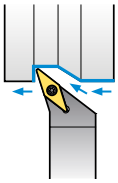
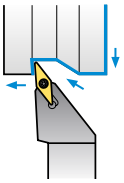
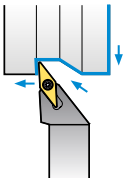
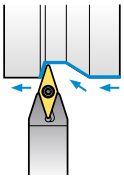
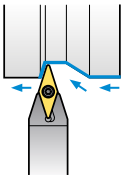
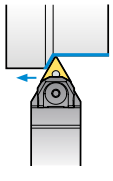
TOOL HOLDER	MVJNR/L	MVQNR/L	MVVNN	MWLNR/L	PCBNR/L	DCLNR/L PCLNR/L
Cutting Shape						
Approach Angle	93°	117.5°	72.5°	95°	75°	95°
Insert Shape	VN_ _	VN_ _	VN_ _	WN_ _	CN_ _	CN_ _
Page	View Online	View Online	View Online	View Online	60	54/61
APPLICATIONS						
Turning	●	●	●	●	●	●
Copying	●	●	●			
Facing				●		●
Chamfering						
Back Turning	●	●		●		●

TOOL HOLDER	DDJNR/L PDJNR/L	PDNNR/L	PRDCN	PRGCR/L	PSBNR/L	DSDNN PSDNN
Cutting Shape						
Approach Angle	93°	62.5°	-	-	75°	45°
Insert Shape	DN_ _	DN_ _	RC_ _	RC_ _	SN_ _	SN_ _
Page	55/61	62	62	63	63	56/64
APPLICATIONS						
Turning	●	●	●	●	●	●
Copying	●	●	●	●		
Facing						
Chamfering						●
Back Turning	●					

ISO TURNING TOOL HOLDERS INDEX

TOOL HOLDER	DSSNR/L PSSNR/L	PTFNR/L	PTGNR/L	DWLNR/L PWLNR/L	SCACR/L	SCLCR/L
Cutting Shape						
Approach Angle	45°	90°	90°	95°	90°	95°
Insert Shape	SN_ _	TN_ _	TN_ _	WN_ _	CC_ _	CC_ _
Page	57/65	65	66	59/66	76	76
APPLICATIONS						
Turning	●		●	●	●	●
Copying						
Facing	●	●		●	●	●
Chamfering	●					
Back Turning				●		●

TOOL HOLDER	SDJCR/L	SDNCN	SRDCN	SSSCR/L	STFCR/L	STGCR/L
Cutting Shape						
Approach Angle	93°	63°	-	45°	90°	90°
Insert Shape	DC_ _	DC_ _	RC_ _	SC_ _	TC_ _	TC_ _
Page	76	77	71	72	72	73
APPLICATIONS						
Turning	●	●	●	●		●
Copying	●	●	●			
Facing	●			●	●	
Chamfering				●		
Back Turning	●					

TOOL HOLDER	SVHBR/L	SVJBR/L	SVJCR/L	SVVBN	SVVCN	WTENN
Cutting Shape						
Approach Angle	107.5°	93°	93°	72.5°	72.5°	60°
Insert Shape	VB_ _	VB_ _	VC_ _	VB_ _	VC_ _	TN_ _
Page	74	74	74	75	75	67
APPLICATIONS						
Turning	●	●	●	●	●	●
Copying	●	●	●	●	●	●
Facing	●	●	●			
Chamfering						
Back Turning	●	●	●			

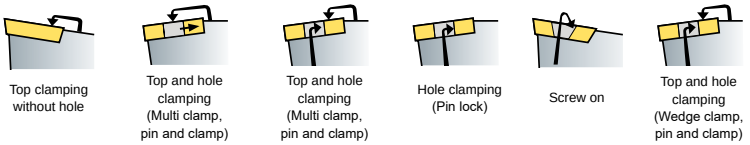
LATHE TOOLS

ISO TURNING TOOL HOLDERS - CODE SYSTEM FOR EXTERNAL TURNING

P	S	K	N	R	25	25-	M	12
1	2	3	4	5	6	7	8	9
Clamping Method of Insert	Insert Shape	Holder Style	Clearance Angle of Insert	Hand	Height of Shank	Width of Shank	Length of Holder	Length of Insert Cutting Edge

1 Clamping Method of Insert

P S K N R 25 25 - M 12



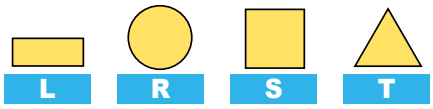
Top clamping without hole	Top and hole clamping (Multi clamp, pin and clamp)	Top and hole clamping (Multi clamp, pin and clamp)	Hole clamping (Pin lock)	Screw on	Top and hole clamping (Wedge clamp, pin and clamp)
C	D	M	P	S	W

2 Insert Shape

P S K N R 25 25 - M 12



C D E K



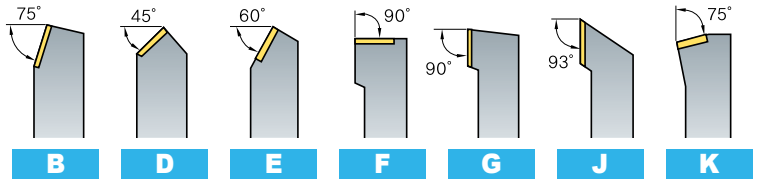
L R S T



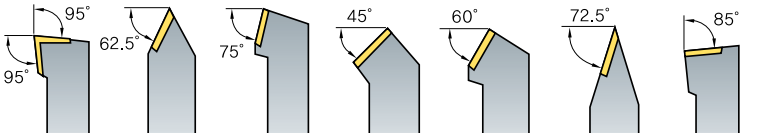
V W

3 Holder Style

P S K N R 25 25 - M 12



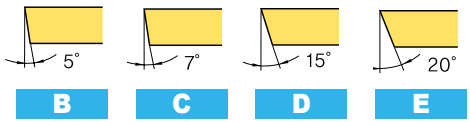
B D E F G J K



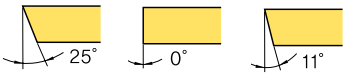
L N R S T V Y

4 Clearance Angle of Insert

P S K N R 25 25 - M 12



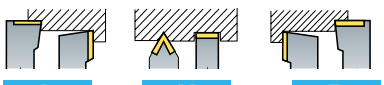
B C D E



F N P

5 Hand

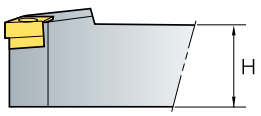
P S K N R 25 25 - M 12



L N R

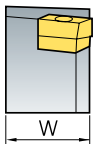
6 Height of Shank

P S K N R 25 25 - M 12



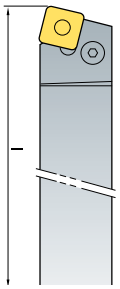
7 Width of Shank

P S K N R 25 25 - M 12



8 Length of Holder

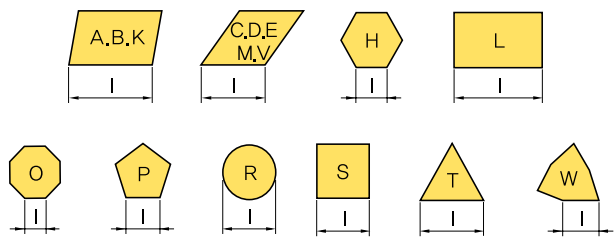
P S K N R 25 25 - M 12



A - 32	H - 100	Q - 180	X-Special Item
B - 40	J - 110	R - 200	
C - 50	K - 125	S - 250	
D - 60	L - 140	T - 300	
E - 70	M - 150	U - 350	
F - 80	N - 160	V - 400	
G - 90	P - 170	W - 450	

9 Length of Cutting Edge

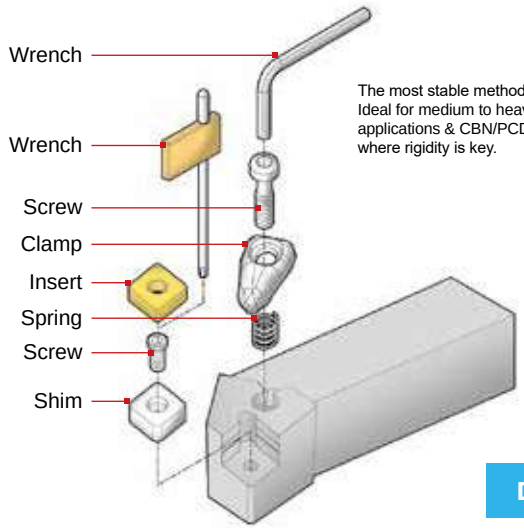
P S K N R 25 25 - M 12



ISO TURNING TOOL HOLDER - TYPES

For External Turning

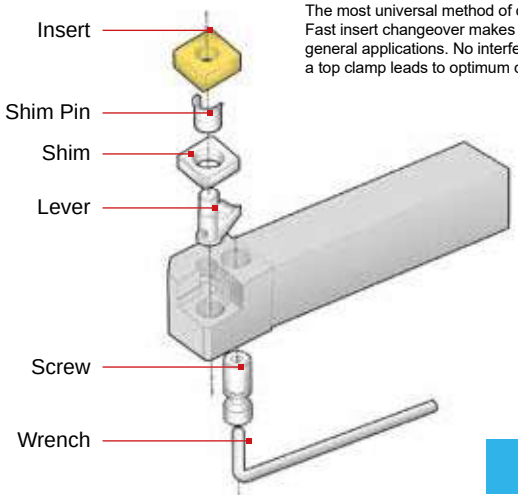
Double Clamp System



The most stable method of clamping. Ideal for medium to heavy roughing applications & CBN/PCD inserts where rigidity is key.

D Style

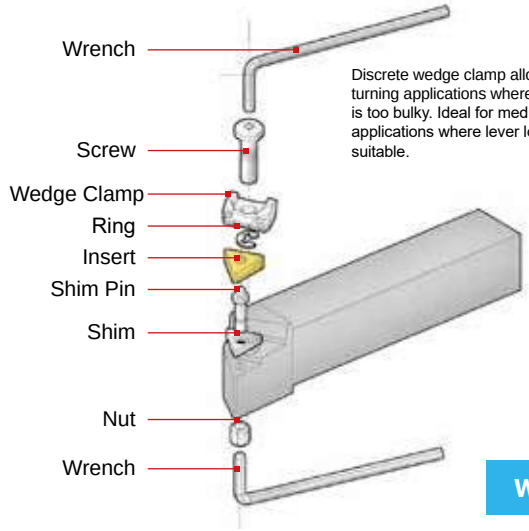
Lever Lock System



The most universal method of clamping. Fast insert changeover makes it great for general applications. No interference with a top clamp leads to optimum chip flow.

P Style

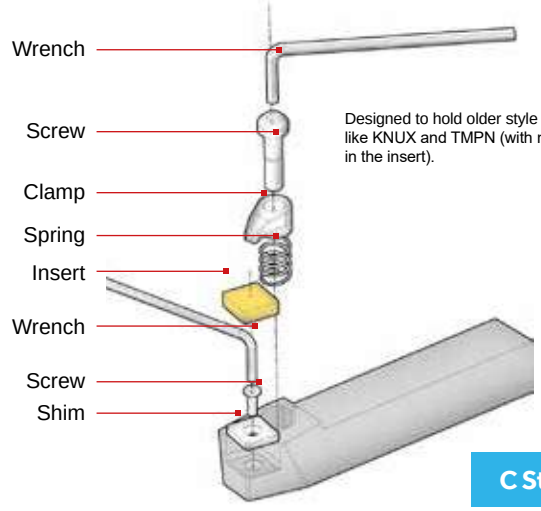
Wedge Clamp System



Discrete wedge clamp allows for turning applications where top clamp is too bulky. Ideal for medium to heavy applications where lever lock isn't suitable.

W Style

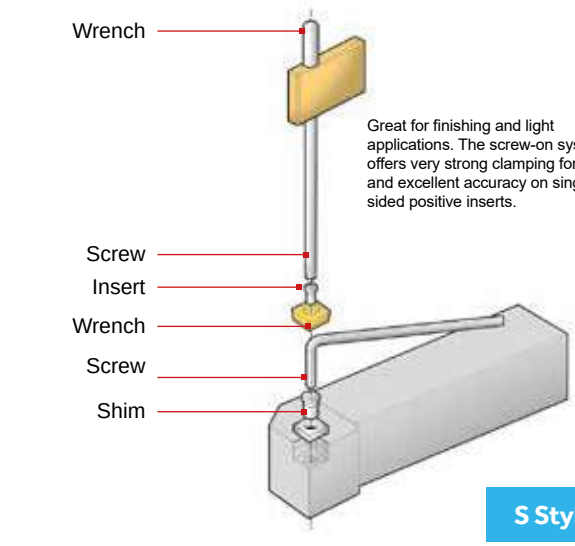
Clamp On System



Designed to hold older style inserts like KNUX and TMPN (with no hole in the insert).

C Style

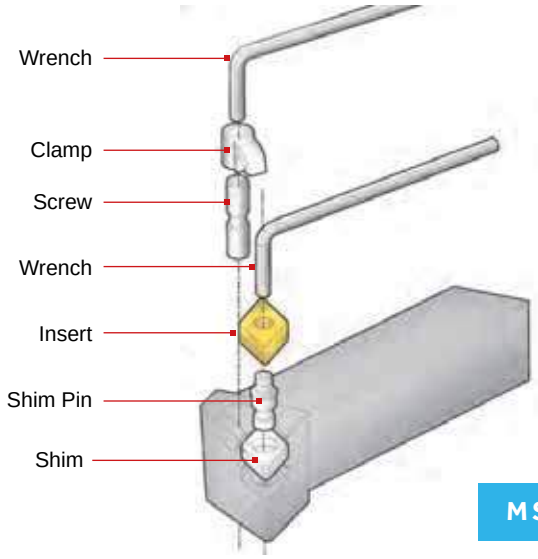
Screw On System



Great for finishing and light applications. The screw-on system offers very strong clamping forces and excellent accuracy on single sided positive inserts.

S Style

Multi Lock System



M Style

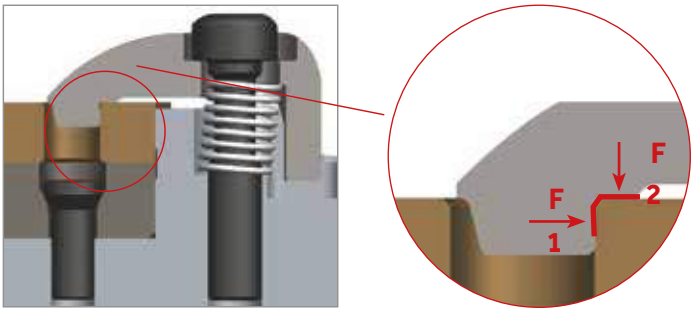
KORLOY

Double Clamp System

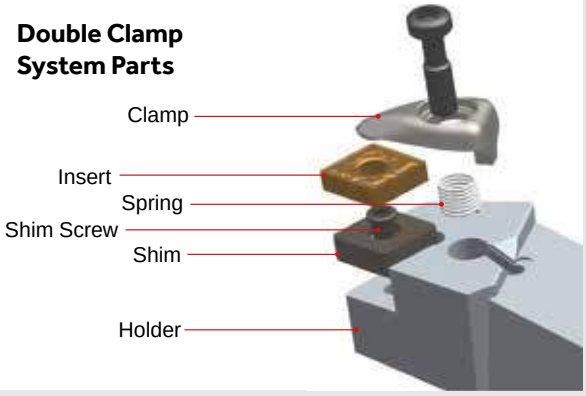
Stable clamping with double clamp system.

- Simple and powerful clamping system operated by only a single clamp screw.
- The powerful double-clamping system prevents the insert from lifting and reduces vibration, increasing tool life and surface finish quality.
- The holder offers precision due to the special design in the rear of the clamp.
- Compact and optimised design for avoiding chip interference with a powerful clamp.





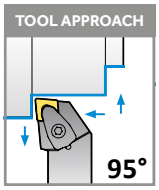
Double Clamp System Parts



DCLNR/L

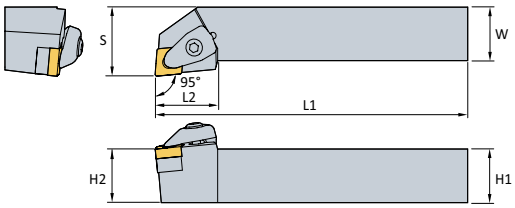
Double Clamp System - For External Turning

- Tool holder (double clamp)
- 95° approach angle
- CN_ _ style inserts



Right hand shown





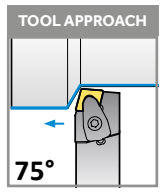
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	24.5	20	25	DCLNR/L2020-K09	**£62.66**	CN_ _0903_ _	CVH3	CHX0415	SC32V	FTKA0307	SPR0510	HW25P
25	25	150	24.5	25	32	DCLNR/L2525-M09	**£66.09**							
20	20	125	30	20	25	DCLNR/L2020-K12	**£62.66**	CN_ _1204_ _	CVH4	CHX0518	SC44V	FTKA0410	SPR0714	HW30P
25	25	150	30	25	32	DCLNR/L2525-M12	**£66.09**							
32	32	170	30	25	32	DCLNR/L3225-P12	**£73.04**							
32	32	170	30	32	40	DCLNR/L3232-P12	**£88.69**							
25	25	150	36	25	32	DCLNR/L2525-M16	**£66.09**	CN_ _1606_ _	CVH5	CHX0622	SC54V	FTNA0511	SPR0811	HW40L
32	32	170	36	25	32	DCLNR/L3225-P16	**£73.04**							
32	32	170	36	32	40	DCLNR/L3232-P16	**£88.69**							
25	25	150	40	25	32	DCLNR/L2525-M19	**£66.09**	CN_ _1906_ _	CVH6	CHX0622	SC63V	FTNA0511	SPR0811	HW40L
32	32	170	40	25	32	DCLNR/L3225-P19	**£73.04**							
32	32	170	40	32	40	DCLNR/L3232-P19	**£88.69**							
40	40	250	40	40	50	DCLNR/L4040-S19	**£118.80**							

DCBNR/L

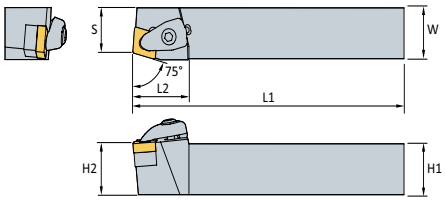
Double Clamp System - For External Turning

- Tool holder (double clamp)
- 75° approach angle
- CN_ _ style inserts



Right hand shown





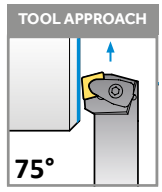
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	31	20	17	DCBNR/L2020-K12	**£62.66**	CN_ _1204_ _	CVH4	CHX0518	SC44V	FTKA0410	SPR0714	HW30P
25	25	150	31	25	22	DCBNR/L2525-M12	**£66.09**							
32	25	170	31	32	22	DCBNR/L3225-P12	**£73.04**							
25	25	150	36	25	22	DCBNR/L2525-M16	**£66.09**	CN_ _1606_ _	CVH5	CHX0622	SC54V	FTNA0511	SPR0811	HW40L
32	32	170	40	32	27	DCBNR/L3232-P19	**£88.69**	CN_ _1906_ _	CVH6	CHX0622	SC63V	FTNA0511	SPR0811	HW40L
40	40	250	40	40	35	DCBNR/L4040-S19	**£118.80**							

DCKNR/L

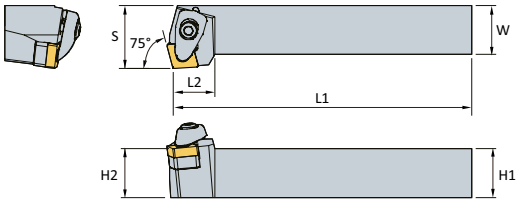
Double Clamp System - For External Turning

- Tool holder (double clamp)
- 75° approach angle
- CN_ _ style inserts



Right hand shown





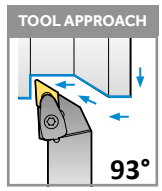
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	21	20	25	DCKNR/L2020-K12	**£62.66**	CN_ _1204_ _	CVH4	CHX0518	SC44V	FTKA0410	SPR0714	HW30P
25	25	150	21	25	32	DCKNR/L2525-M12	**£66.09**							
32	32	170	26	32	40	DCKNR/L3232-P16	**£88.69**	CN_ _1606_ _	CVH5	CHX0622	SC54V	FTNA0511	SPR0811	HW40L
40	40	250	26	40	50	DCKNR/L4040-S16	**£118.80**							

DDJNR/L

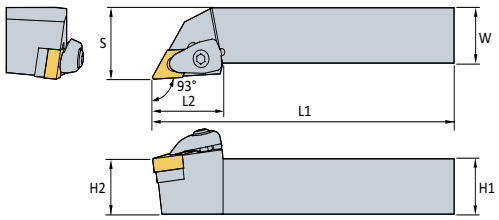
Double Clamp System - For External Turning

- Tool holder (double clamp)
- 93° approach angle
- DN_ _ style inserts



Right hand shown





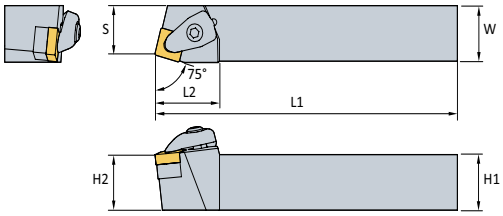
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	30	20	25	DDJNR/L2020-K11	**£62.66**	DN_ _1104_ _	CVH3	CHX0415	SD32V	FTKA0307	SPR0510	HW25P
25	25	150	30	25	32	DDJNR/L2525-M11	**£66.09**							
32	32	170	30	32	40	DDJNR/L3232-P11	**£88.69**							
20	20	125	35	20	25	DDJNR/L2020-K15	**£62.66**	DN_ _1506_ _	CVH4	CHX0518	SD43V	FTKA0410	SPR0714	HW30P
25	25	150	35	25	32	DDJNR/L2525-M15	**£66.09**							
32	32	170	35	32	40	DDJNR/L3232-P15	**£88.69**							
20	20	125	35	20	25	DDJNR/L2020-K15-3	**£62.66**	DN_ _1504_ _	CVH4	CHX0518	SD44V	FTKA0410	SPR0714	HW30P
25	25	150	35	25	32	DDJNR/L2525-M15-3	**£66.09**							
32	32	170	35	32	40	DDJNR/L3232-P15-3	**£88.69**							

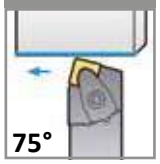
DSBNR/L

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 75° approach angle
- SN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



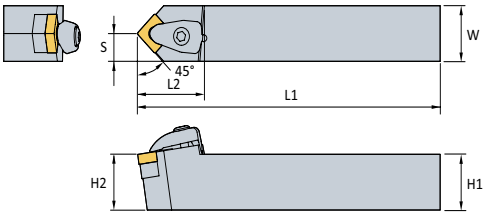
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	25	20	17	DSBNR/L2020-K09	**£62.66**	SN_ _0903_ _	CVH3	CHX0415	SS32V	FTKA0307	SPR0510	HW25P
25	25	150	25	25	22	DSBNR/L2525-M09	**£66.09**							
20	20	125	32	20	17	DSBNR/L2020-K12	**£62.66**	SN_ _1204_ _	CVH4	CHX0518	SS44V	FTKA0410	SPR0714	HW30P
25	25	150	32	25	22	DSBNR/L2525-M12	**£66.09**							
32	32	170	32	32	27	DSBNR/L3232-P12	**£88.69**							
25	25	150	38	25	22	DSBNR/L2525-M15	**£66.09**	SN_ _1506_ _	CVH5	CHX0622	SS54V	FTKA0511	SPR0811	HW40L
32	32	170	38	32	27	DSBNR/L3232-P15	**£88.69**							
32	32	170	43	32	27	DSBNR/L3232-P19	**£88.69**	SN_ _1906_ _	CVH6	CHX0622	SS64V	FTNA0511	SPR0811	HW40L
40	40	250	43	40	35	DSBNR/L4040-S19	**£118.80**							

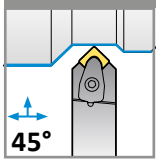
DSDNN

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 45° approach angle
- SN_ _ style inserts



TOOL APPROACH



INSERTS



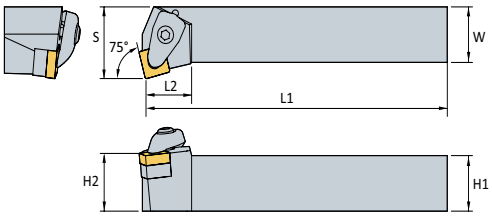
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	10	20	26.5	DSDNN2020-K09	**£62.66**	SN_ _0903_ _	CVH3	CHX0415	SS32V	FTKA0307	SPR0510	HW25P
20	20	125	10	20	33	DSDNN2020-K12	**£62.66**	SN_ _1204_ _	CVH4	+CHX0518	SS44V	FTKA0410	SPR0714	HW30P
25	25	150	12.5	25	33	DSDNN2525-M12	**£66.09**							
32	25	170	12.5	32	33	DSDNN3225-P12	**£73.04**							
32	32	170	16	32	33	DSDNN3232-P12	**£88.69**							
25	25	150	12.5	25	39.4	DSDNN2525-M15	**£66.09**	SN_ _1506_ _	CVH5	CHX0622	SS54V	FTKA0511	SPR0811	HW40L
32	32	170	16	32	43	DSDNN3232-P19	**£88.69**	SN_ _1906_ _	CVH6	CHX0622	SS64V	FTNA0511	SPR0811	HW40L
40	40	250	20	40	45	DSDNN4040-S19	**£118.80**							

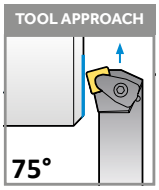
DSKNR/L

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 75° approach angle
- SN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



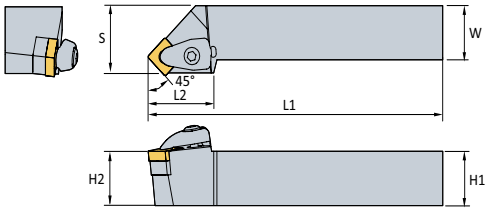
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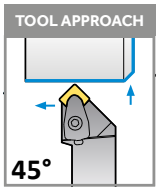
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	20	20	25	DSKNR/L2020-K09	**£62.66**	SN_ _0903_ _	CVH3	CHX0415	SS32V	FTKA0307	SPR0510	HW25P
20	20	125	23	20	25	DSKNR/L2020-K12	**£62.66**	SN_ _1204_ _	CVH4	CHX0518	SS44V	FTKA0410	SPR0714	HW30P
25	25	150	23	25	32	DSKNR/L2525-M12	**£66.09**							
32	32	170	23	32	40	DSKNR/L3232-P12	**£88.69**							
32	32	170	35	32	40	DSKNR/L3232-P19	**£88.69**	SN_ _1906_ _	CVH6	CHX0622	SS64V	FTNA0511	SPR0811	HW40L
40	40	250	43	40	50	DSKNR/L4040-S19	**£118.80**							

DSSNR/L

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 45° approach angle
- SN_ _ style inserts





Right hand shown



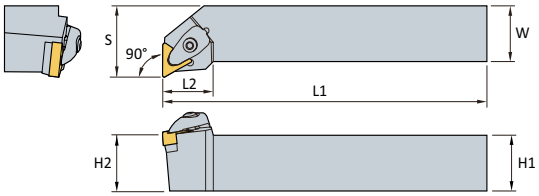
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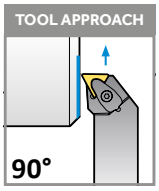
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	28.5	20	25	DSSNR/L2020-K09	**£62.66**	SN_ _0903_ _	CVH3	CHX0415	SS32V	FTKA0307	SPR0510	HW25P
20	20	125	35	20	25	DSSNR/L2020-K12	**£62.66**	SN_ _1204_ _	CVH4	CHX0518	SS44V	FTKA0410	SPR0714	HW30P
25	25	150	35	25	32	DSSNR/L2525-M12	**£66.09**							
32	32	170	35	25	32	DSSNR/L3225-P12	**£73.04**							
32	32	170	35	32	40	DSSNR/L3232-P12	**£88.69**							
25	25	150	38.5	25	32	DSSNR/L2525-M15	**£66.09**	SN_ _1506_ _	CVH5	CHX0622	SS54V	FTKA0511	SPR0811	HW40
32	32	170	38.5	32	40	DSSNR/L3232-P15	**£88.69**							
32	32	170	46	32	40	DSSNR/L3232-P19	**£88.69**	SN_ _1906_ _	CVH6	CHX0622	SS64V	FTNA0511	SPR0811	HW40L
40	40	250	46	40	50	DSSNR/L4040-S19	**£118.80**							

DTFNR/L

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 90° approach angle
- TN_ _ style inserts





Right hand shown



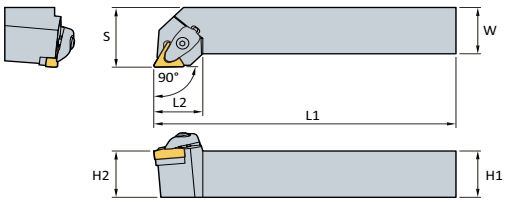
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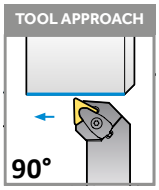
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	24.5	20	25	DTFNR/L2020-K16	**£62.66**	TN_ _1604_ _	CVH3	CHX0415	ST32V	FTKA0307	SPR0510	HW25P
25	25	150	24.5	25	32	DTFNR/L2525-M16	**£66.09**							
32	32	170	23.5	32	40	DTFNR/L3232-P16	**£88.69**							
25	25	150	33	25	32	DTFNR/L2525-M22	**£66.09**	TN_ _2204_ _	CVH4	CHX0518	ST44V	FTKA0410	SPR0714	HW30P
32	32	170	33	32	40	DTFNR/L3232-P22	**£88.69**							

DTGNR/L

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 90° approach angle
- TN_ _ style inserts





Right hand shown



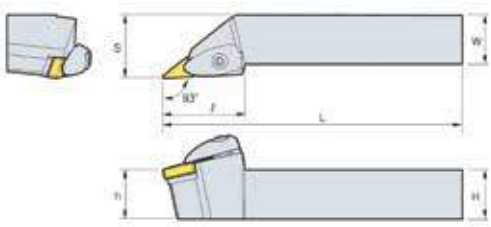
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	25	20	24.5	DTGNR/L2020-K16	**£62.66**	TN_ _1604_ _	CVH3	CHX0415	ST32V	FTKA0307	SPR0510	HW25P
25	25	150	32	25	24.5	DTGNR/L2525-M16	**£66.09**							
32	32	170	40	32	24.5	DTGNR/L3232-P16	**£88.69**							
25	25	150	32	25	32.6	DTGNR/L2525-M22	**£66.09**	TN_ _2204_ _	CVH4	CHX0518	ST44V	FTKA0410	SPR0714	HW30P
32	25	170	32	32	32.6	DTGNR/L3225-P22	**£73.04**							
32	32	170	40	32	32.6	DTGNR/L3232-P22	**£88.69**							

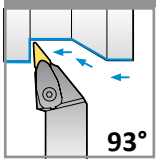
DVJNR/L

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 93° approach angle
- VN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



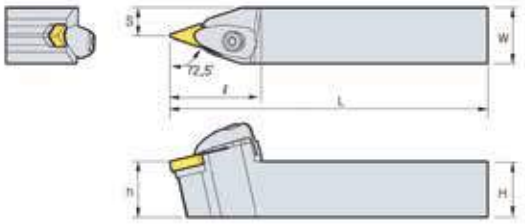
KORLOY

W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	41.5	20	25	DVJNR/L2020-K16	**£69.70**	VN_ _1604_ _	CVH3V	CHX0518	SV32V	FTNA03508	SPR0714	HW30P
25	25	150	41.5	25	32	DVJNR/L2525-M16	**£73.52**							
32	32	170	41.5	32	40	DVJNR/L3232-P16	**£102.49**							

DVVNN

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 72.5° approach angle
- VN_ _ style inserts



TOOL APPROACH



INSERTS



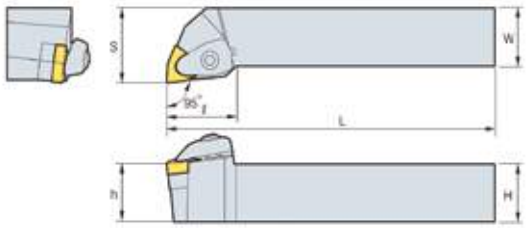
KORLOY

W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	40	20	10	DVVNN2020-K16	**£62.66**	VN_ _1604_ _	CVH3V	CHX0518	SV32V	FTNA03508	SPR0714	HW30P
25	25	150	40	25	12.5	DVVNN2525-M16	**£66.09**							
32	32	170	40	32	16	DVVNN3232-P16	**£92.13**							

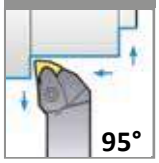
DWLNR/L

Double Clamp System - For External Turning

- Tool holder (double clamp)
- 95° approach angle
- WN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



KORLOY

W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Wrench
20	20	125	26	20	25	DWLNR/L2020-K06	**£69.70**	WN_ _0604_ _	CVH3	CHX0415	ST32V	FTKA0307	SPR0510	HW25P
25	25	150	26	25	32	DWLNR/L2525-M06	**£73.52**							
20	20	125	32	20	25	DWLNR/L2020-K08	**£69.70**	WN_ _0804_ _	CVH4	CHX0518	ST44V	FTKA0410	SPR0714	HW30P
25	25	150	32	25	32	DWLNR/L2525-M08	**£73.52**							

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KORLOY

Lever Lock System

Stable clamping for negative turning inserts.

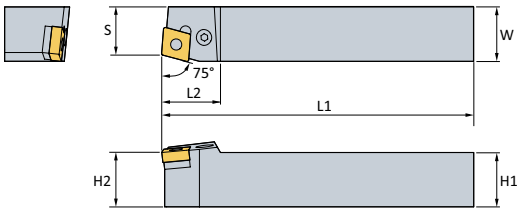
- The most common clamping system on turning tools, ideal for general machining.
- Quick and simple change over of inserts.
- Strong clamping.
- No interference with chips.



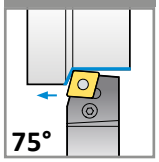
PCBNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 75° approach angle
- CN_ _ style inserts

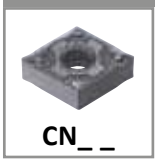


TOOL APPROACH



Right hand shown

INSERTS



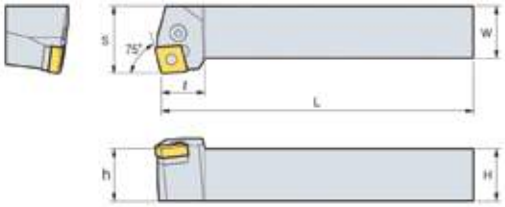
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
20	20	125	27	20	17	PCBNR/L2020-K12	**£34.22**	CN_ _1204_ _	LV4	VHX0821	SC42	SP4	HW30L	LSPS8
25	25	150	27	25	22	PCBNR/L2525-M12	**£38.52**							
32	32	170	27	25	22	PCBNR/L3225-P12	**£45.02**							
25	25	150	33	25	22	PCBNR/L2525-M16	**£38.52**	CN_ _1606_ _	LV5	VHX0825	SC53	SP5	HW30L	LSPS6
32	32	170	33	32	27	PCBNR/L3232-P16	**£45.02**							
32	32	170	36	32	27	PCBNR/L3232-P19	**£45.02**	CN_ _1906_ _	LV6N	VHX1027N	SC63N	SP6N	HW40L	LSPS6
40	40	250	36	40	35	PCBNR/L4040-S19	**£92.09**							
40	40	250	47	40	35	PCBNR/L4040-S25	**£92.09**	CN_ _2509_ _	LV8N	VHX1236N	SC84N	SP8N	HW50L	LSPS8
40	40	250	47	40	35	PCBNR/L4040-S25-5	**£92.09**	CN_ _2507_ _	LV8N	VHX1236N	SC84N	SP8N	HW50L	LSPS8

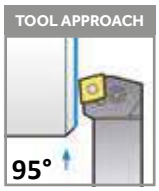
PCKNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 95° approach angle
- CN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



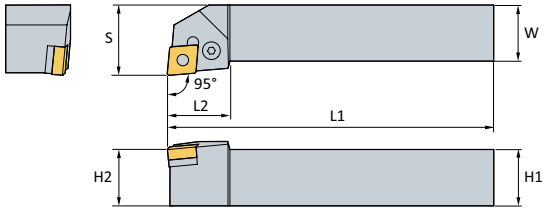
KORLOY

W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
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25	25	150	27	25	32	PCKNR/L2525-M12	**£38.52**							
32	32	170	30	32	40	PCKNR/L3225-P12	**£45.02**							
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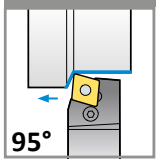
PCLNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 95° approach angle
- CN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



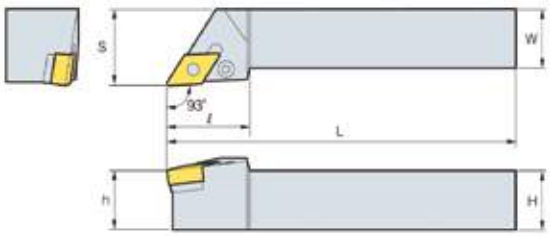
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
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25	25	150	22	25	32	PCLNR/L2525-M09	**£38.52**							
16	16	100	28	16	20	PCLNR/L1616-H12	**£32.50**	CN_ _1204_ _	LV4	VHX0821	SC42	SP4	HW30L	LSPS4
20	20	125	28	20	25	PCLNR/L2020-K12	**£34.22**							
25	25	150	28	25	32	PCLNR/L2525-M12	**£38.52**							
32	32	170	28	25	32	PCLNR/L3225-P12	**£45.02**							
32	32	170	28	32	40	PCLNR/L3232-P12	**£45.02**							
25	25	150	33	25	32	PCLNR/L2525-M16	**£38.52**	CN_ _1606_ _	LV4	VHX0825	SC53	SP5	HW30L	LSPS5
32	32	170	33	32	40	PCLNR/L3232-P16	**£45.02**							
25	25	150	36	25	32	PCLNR/L2525-M19	**£38.52**	CN_ _1906_ _	LV6N	VHX1027N	SC63N	SP6N	HW40L	LSPS6
32	32	170	36	25	32	PCLNR/L3225-P19	**£45.02**							
32	32	170	36	32	40	PCLNR/L3232-P19	**£45.02**							
40	40	170	36	40	50	PCLNR/L4040-P19	**£92.09**							
40	40	250	36	40	50	PCLNR/L4040-S19	**£92.09**							
40	40	250	47	40	50	PCLNR/L4040-S25	**£92.09**	CN_ _2509_ _	LV8N	VHX1236N	SC84N	SP8N	HW50L	LSPS8
50	50	300	47	50	60	PCLNR/L5050-T25	**£182.48**							

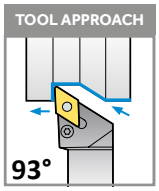
PDJNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 93° approach angle
- DN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



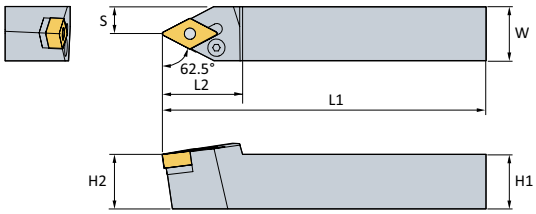
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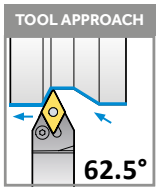
W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
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25	25	150	30	25	32	PDJNR/L2525-M11	**£49.29**							
20	20	125	35	20	25	PDJNR/L2020-K15	**£43.52**	DN_ _1506_ _	LV4B	VHX0821	SD42	SP4	HW30L	LSPS4
25	25	150	35	25	32	PDJNR/L2525-M15	**£49.29**							
32	32	170	35	25	32	PDJNR/L3225-P15	**£57.68**							
32	32	170	35	32	40	PDJNR/L3232-P15	**£57.68**							
20	20	125	35	20	25	PDJNR/L2020-K15-3	**£43.52**	DN_ _1504_ _	LV4	VHX0821	SD42	SP4	HW30L	LSPS4
25	25	150	35	25	32	PDJNR/L2525-M15-3	**£49.29**							
32	32	170	35	32	40	PDJNR/L3232-P15-3	**£57.68**							

PDNNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 62.5° approach angle
- DN_ _ style inserts





Right hand shown



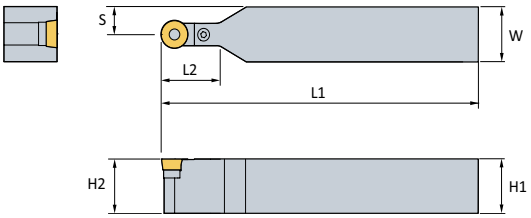
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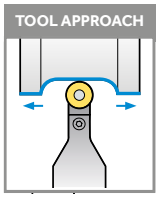
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
20	20	125	37	20	8	PDNNR/L2020-K15	**£43.52**	DN_ _1506_ _	LV4B	VHX0821	SD42	SP4	HW30L	LSPS4
25	25	150	37	25	12.5	PDNNR/L2525-M15	**£49.29**							
32	32	150	37	32	16	PDNNR/L3232-P15	**£57.68**							
40	32	170	37	25	12.5	PDNNR/L4025-M15	**£92.09**							
25	25	150	37	25	12.5	PDNNR/L2525-M15-3	**£49.29**	DN_ _1504_ _	LV4	VHX0821	SD42	SP4	HW30L	LSPS4
40	25	150	37	25	12.5	PDNNR/L4025-M15-3	**£92.09**							

PRDCN

Lever Lock System - For External Turning

- Tool holder (lever lock)
- Neutral hand
- RCMX style inserts







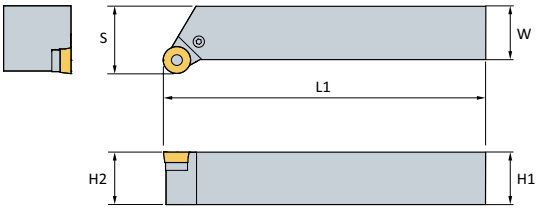
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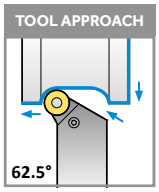
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
20	20	150	24	20	10	PRDCN2020-M10	**£33.30**	RCMX 1003M0	LR10	VHX0514	SR10	SP3	HW20L	LSPS3
25	25	150	24	25	12.5	PRDCN2525-M10	**£34.22**							
25	25	150	24	25	12.5	PRDCN2525-M12	**£34.22**	RCMX 1204M0	LR12	VHX0617	SR12	SP3	HW25L	LSPS3
20	20	125	24	20	10	PRDCN2020-K12	**£33.30**							
32	32	180	24	25	12.5	PRDCN3225-Q12	**£57.68**							
25	25	180	30	25	12.5	PRDCN2525-Q16	**£34.22**	RCMX 1606M0	LR16	VHX0621	SR16	SP4	HW25L	LSPS4
32	32	180	30	25	12.5	PRDCN3225-Q16	**£57.68**							
32	32	180	35	32	16	PRDCN3232-Q16	**£57.68**							
32	32	180	40	32	16	PRDCN3232-Q20	**£57.68**	RCMX 2006M0	LR20	VHX0823	SR20	SP5-1	HW30L	LSPS5
40	40	250	42	40	20	PRDCN4040-S25	**£137.93**	RCMX 2507M0	LR25	VHX1030	SR25	SP6N	HW40L	LSPS6
40	40	300	42	40	20	PRDCN4040-T25	**£151.72**							
50	50	350	52	50	25	PRDCN5050-U32	**£291.98**	RCMX 3209M0	LR32	VHX1236	SR32	SP8N	HW50L	LSPS8

PRGCR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 62.5° approach angle
- RCMX style inserts





Right hand shown



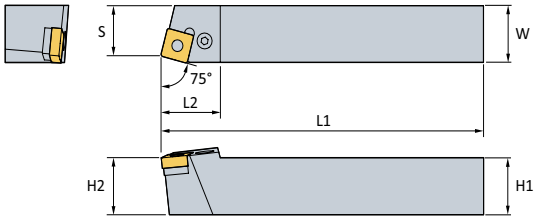
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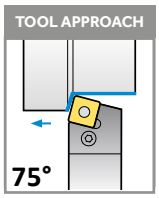
H1	H2	L1	W	S	Order Code	Price	Inserts	Spares					
								Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
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25	25	150	25	32	PRGCR/L2525-M10	**£45.02**							
20	20	125	20	25	PRGCR/L2020-K12	**£40.76**	RCMX 1204M0	LR12	VHX0617	SR12	SP3	HW25L	LSPS3
25	25	150	25	32	PRGCR/L2525-M12	**£45.02**							
32	32	170	25	32	PRGCR/L3225-P12	**£57.68**							
25	25	150	25	32	PRGCR/L2525-M16	**£45.02**	RCMX 1606M0	LR16	VHX0621	SR16	SP4	HW25L	LSPS4
32	32	170	25	32	PRGCR/L3225-P16	**£57.68**							
32	32	170	32	40	PRGCR/L3232-P20	**£57.68**	RCMX 2006M0	LR20	VHX0823	SR20	SP5-1	HW30L	LSPS5

PSBNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 75° approach angle
- SN_ _ style inserts





Right hand shown



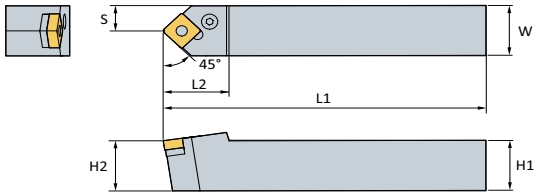
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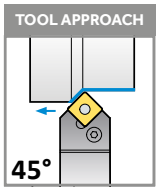
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
16	16	100	21	16	13	PSBNR/L1616-H09	**£32.50**	SN_ _0903_ _	LV3	VHX0617	SS32	SP3	HW25L	LSPS3
20	20	125	23	20	17	PSBNR/L2020-K09	**£34.22**							
20	20	125	28	20	17	PSBNR/L2020-K12	**£34.22**	SN_ _1204_ _	LV4	VHX0821	SS42	SP4	HW30L	LSPS4
25	25	150	28	25	22	PSBNR/L2525-M12	**£38.52**							
32	32	170	28	32	22	PSBNR/L3225-P12	**£45.02**							
32	32	170	28	32	27	PSBNR/L3232-P12	**£45.02**							
25	25	150	35	25	22	PSBNR/L2525-M15	**£38.52**	SN_ _1506_ _	LV5	VHX0825	SS53	SP5	HW30L	LSPS5
32	32	170	35	32	27	PSBNR/L3232-P15	**£45.02**							
32	32	170	40	32	27	PSBNR/L3232-P19	**£45.02**	SN_ _1906_ _	LV6N	VHX1027N	SS63N	SP6N	HW40L	LSPS6
40	40	250	40	40	35	PSBNR/L4040-S19	**£92.09**							
40	40	250	50	40	35	PSBNR/L4040-S25	**£92.09**	SN_ _2507_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS8
40	40	250	50	40	35	PSBNR/L4040-S25-6	**£92.09**	SN_ _2509_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS8
50	50	300	50	50	43	PSBNR/L5050-T25	**£182.48**	SN_ _2507_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS8

PSDNN

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 45° approach angle
- Neutral hand
- SN_ _ style inserts







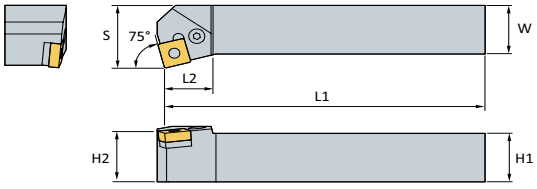
KORLOY

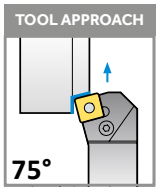
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
16	16	100	23	16	8	PSDNN1616-H09	**£32.50**	SN_ _0903_ _	LV3	VHX0617	SS32	SP3	HW25L	LSPS3
20	20	125	30	20	10	PSDNN2020-K12	**£34.22**	SN_ _1204_ _	LV4	VHX0821	SS42	SP4	HW30L	LSPS4
25	25	150	30	25	12.5	PSDNN2525-M12	**£38.52**							
32	32	170	40	32	16	PSDNN3232-P12	**£45.02**							
25	25	150	40	25	12.5	PSDNN2525-M15	**£38.52**	SN_ _1506_ _	LV5	VHX0825	SS53	SP5	HW30L	LSPS5
32	32	170	40	32	16	PSDNN3232-P15	**£45.02**							
32	32	170	40	25	12.5	PSDNN3225-P19	**£45.02**	SN_ _1906_ _	LV6N	VHX1027N	SS63N	SP6N	HW40L	LSPS6
32	32	170	40	32	16	PSDNN3232-P19	**£45.02**							
40	40	250	40	40	20	PSDNN4040-S19	**£92.09**							
40	40	250	50	40	20	PSDNN4040-S25	**£92.09**	SN_ _2507_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS8
50	50	300	50	50	25	PSDNN5050-T25	**£182.48**							
40	40	250	50	40	20	PSDNN4040-S25-6	**£92.09**	SN_ _2509_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS8
50	50	300	50	50	25	PSDNN5050-T25-6	**£182.48**							

PSKNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 75° approach angle
- SN_ _ style inserts





Right hand shown



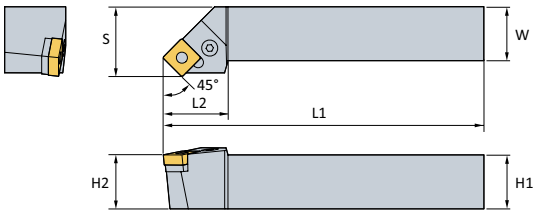
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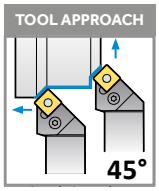
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
16	16	100	17	16	20	PSKNR/L1616-H09	**£32.50**	SN_ _0903_ _	LV3	VHX0617	SS32	SP3	HW25L	LSPS3
20	20	125	20	20	25	PSKNR/L2020-K09	**£34.22**							
20	20	125	23	20	25	PSKNR/L2020-K12	**£34.22**	SN_ _1204_ _	LV4	VHX0821	SS42	SP4	HW30L	LSPS4
25	25	150	23	25	32	PSKNR/L2525-M12	**£38.52**							
32	32	170	23	32	40	PSKNR/L3232-P12	**£45.02**							
25	25	150	28	25	32	PSKNR/L2525-M15	**£38.52**	SN_ _1506_ _	LV5	VHX0825	SS53	SP5	HW30L	LSPS5
32	32	170	28	32	40	PSKNR/L3232-P15	**£45.02**							
32	32	170	41.5	32	40	PSKNR/L3232-P19	**£45.02**	SN_ _1906_ _	LV6N	VHX1027N	SS63N	SP6N	HW40L	LSPS36
40	40	250	41.5	40	50	PSKNR/L4040-S19	**£92.09**							
40	40	250	46	40	50	PSKNR/L4040-S25	**£92.09**	SN_ _2507_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS8
40	40	250	46	40	50	PSKNR/L4040-S25-6	**£92.09**	SN_ _2509_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS3
50	50	300	37.5	50	60	PSKNR/L5050-T25-6	**£182.48**	SN_ _2509_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS3

PSSNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 45° approach angle
- SN_ _ style inserts





Right hand shown



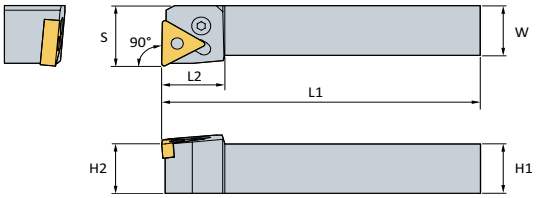
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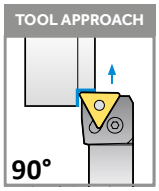
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
16	16	100	25	16	20	PSSNR/L 1616-H09	**£32.50**	SN_ _0903_ _	LV3	VHX0617	SS32	SP3	HW25L	LSPS3
20	20	125	30	20	25	PSSNR/L2020-K12	**£34.22**	SN_ _1204_ _	LV4	VHX0821	SS42	SP4	HW30L	LSPS4
25	25	150	36	25	32	PSSNR/L2525-M12	**£38.52**							
32	32	170	36	25	32	PSSNR/L3225-P12	**£45.02**							
32	32	170	40	32	40	PSSNR/L3232-P12	**£45.02**							
25	25	150	36	25	32	PSSNR/L2525-M15	**£38.52**	SN_ _1506_ _	LV5	VHX0825	SS53	SP5	HW30L	LSPS5
32	32	170	45	32	40	PSSNR/L3232-P15	**£45.02**							
32	32	170	41.5	32	40	PSSNR/L3232-P19	**£45.02**	SN_ _1906_ _	LV6N	VHX1027N	SS63N	SP6N	HW40L	LSPS6
40	40	200	41.5	40	50	PSSNR/L4040-R19	**£92.09**							
40	40	250	41.5	40	50	PSSNR/L4040-S19	**£92.09**							
40	40	250	48	40	50	PSSNR/L4040-S25	**£92.09**	SN_ _2507_ _	LV8N	VHX1236N	SS84N	SP8N	HW50L	LSPS8
40	40	250	48	40	50	PSSNR/L4040-S25-6	**£92.09**							

PTFNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 90° approach angle
- TN_ _ style inserts





Right hand shown



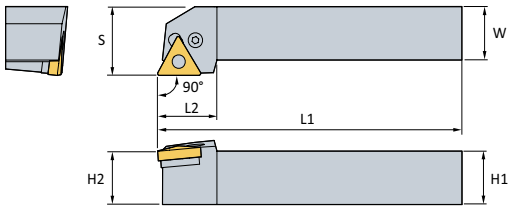
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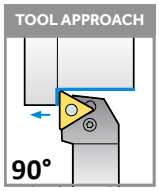
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
16	16	100	20	16	20	PTFNR/L1616-H16	**£32.91**	TN_ _1604_ _	LV3	VHX0617	ST317	SP3	HW25L	LSPS3
20	20	125	20	20	25	PTFNR/L2020-K16	**£34.22**							
25	25	150	20	25	32	PTFNR/L2525-M16	**£38.52**							
25	25	150	25	25	32	PTFNR/L2525-M22	**£38.52**	TN_ _2204_ _	LV4	VHX0821	ST42	SP4	HW30L	LSPS4
32	32	170	25	32	40	PTFNR/L3232-P22	**£45.02**							
32	32	170	34	32	40	PTFNR/L3232-P27	**£45.02**	TN_ _2706_ _	LV5	VHX0825	ST53	SP5	HW30L	LSPS5
40	40	250	34	40	50	PTFNR/L4040-S27	**£92.09**							

PTGNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 90° approach angle
- TN_ _ style inserts





Right hand shown



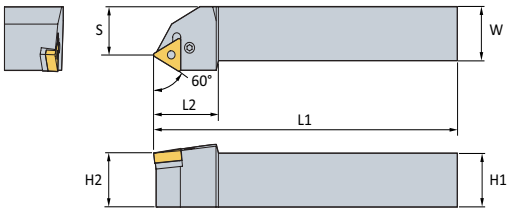
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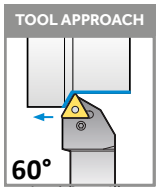
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
12	12	80	16	12	16	PTGNR/L1212-F11	**£32.91**	TN_ _1103_ _	LV2	VHX0509B	-	-	HW20L	-
16	16	100	18	16	20	PTGNR/L1616-H11	**£32.91**							
20	20	125	19	20	25	PTGNR/L2020-K11	**£34.22**							
25	25	150	20	25	32	PTGNR/L2525-M11	**£38.52**							
16	16	100	20	16	20	PTGNR/L1616-H16	**£32.91**	TN_ _1604_ _	LV3	VHX0617	ST317	SP3	HW25L	LSPS3
20	20	125	20	20	25	PTGNR/L2020-K16	**£34.22**							
25	25	150	20	25	32	PTGNR/L2525-M16	**£38.52**							
25	25	150	20	25	32	PTGNR/L2525-M22	**£38.52**	TN_ _2204_ _	LV4	VHX0821	ST42	SP4	HW30L	LSPS4
32	32	170	20	32	40	PTGNR/L3232-P22	**£45.02**							
32	32	170	33	32	40	PTGNR/L3232-P27	**£45.02**	TN_ _2706_ _	LV5	VHX0825	ST53	SP5	HW30L	LSP55
40	40	250	33	40	50	PTGNR/L4040-S27	**£92.09**							

PTTNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 60° approach angle
- TN_ _ style inserts





Right hand shown



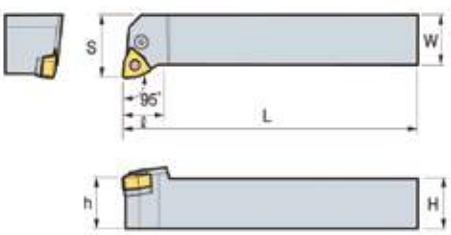
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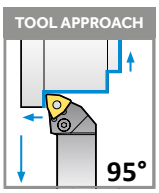
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
16	16	100	25	16	13	PTTNR/L1616-H16	**£32.91**	TN_ _1604_ _	LV3	VHX0617	ST317	SP3	HW25L	LSPS3
20	20	125	25	20	17	PTTNR/L2020-K16	**£34.22**							
25	25	150	32	25	22	PTTNR/L2525-M16	**£38.52**							
25	25	150	32	25	22	PTTNR/L2525-M22	**£38.52**	TN_ _2204_ _	LV4	VHX0821	ST42	SP4	HW30L	LSPS4

PWLNR/L

Lever Lock System - For External Turning

- Tool holder (lever lock)
- 95° approach angle
- WN_ _ style inserts





Right hand shown



KORLOY

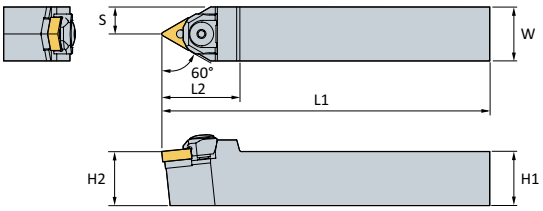
W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Wrench	Shim Pin Punch
16	16	100	20	16	20	PWLNR/L1616-H06	**£32.50**	WN_ _0604_ _	LV3	VHX0617	SW317	SP3	HW25L	LSPS3
20	20	125	20	20	25	PWLNR/L2020-K06	**£34.22**							
25	25	150	20	25	32	PWLNR/L2525-M06	**£38.52**							
20	20	125	26	20	25	PWLNR/L2020-K08	**£34.22**	WN_ _0804_ _	LV4	VHX0821	SW42	SP4	HW230L	LSPS4
25	25	150	26	25	32	PWLNR/L2525-M08	**£38.52**							

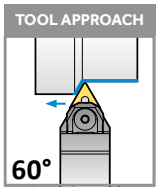
Wedge Clamp System

WTENN

Wedge Clamp System - For External Turning

- Tool holder (wedge clamp)
- 60° approach angle
- Neutral hand.
- TN_ _ style inserts





Right hand shown



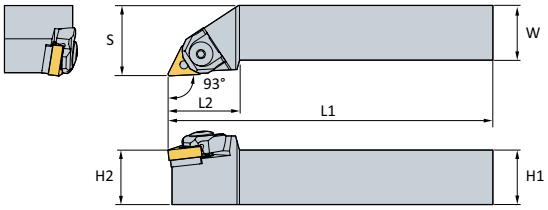
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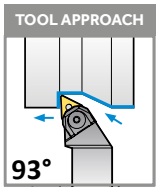
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares						
									Wedge Clamp	Screw	Stopper Ring	Shim	Shim Pin	Nut	Wrench
20	20	125	36	20	10	WTENN2020-K16	**£51.02**	TN_ _1604_ _	CMH6R6	MHX0626	ER04	ST32M	SP3M-1 SP3M	N0407	HW30L
25	25	150	36	25	12.5	WTENN2525-M16	**£56.20**								
25	25	150	42	25	12.5	WTENN2525-M22	**£56.20**	TN_ _2204_ _	CMH6R1	MHX0626	ER04	ST43M	SP4M	N0508	HW30L
32	32	170	42	32	16	WTENN3232-P22	**£66.86**								

WTJNR/L

Wedge Clamp System - For External Turning

- Tool holder (wedge clamp)
- 93° approach angle
- TN_ _ style inserts





Right hand shown



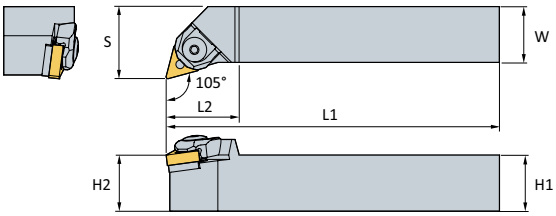
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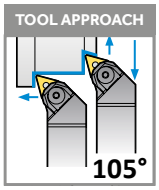
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares						
									Wedge Clamp	Screw	Stopper Ring	Shim	Shim Pin	Nut	Wrench
20	20	125	33	20	25	WTJNR/L2020-K16	**£51.02**	TN_ _1604_ _	CMH6R6	MHX0626	ER04	ST32M	SP3M-1 SP3M	N0407	HW30L
25	25	150	33	25	32	WTJNR/L2525-M16	**£56.20**								
32	32	170	33	32	40	WTJNR/L3232-P16	**£66.86**								
25	25	150	35	25	32	WTJNR/L2525-M22	**£56.20**	TN_ _2204_ _	CMH6R1	MHX0626	ER04	ST43M	SP4M	N0508	HW30L
32	32	170	35	32	40	WTJNR/L3232-P22	**£66.86**								

WTXNR/L

Wedge Clamp System - For External Turning

- Tool holder (wedge clamp)
- 105° approach angle
- TN_ _ style inserts





Right hand shown



KORLOY

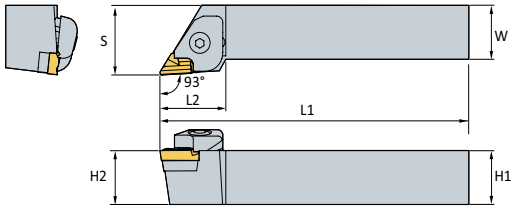
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares						
									Wedge Clamp	Screw	Stopper Ring	Shim	Shim Pin	Nut	Wrench
20	20	125	30	20	25	WTXNR/L2020-K16	**£51.02**	TN_ _1604_ _	CMH6R6	MHX0626	ER04	ST32M	SP3M-1 SP3M	N0407	HW25L HW30L
25	25	150	33	25	32	WTXNR/L2525-M16	**£56.20**								

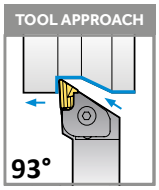
Clamp On System

CKJNR/L

Clamp On System - For External Turning

- Tool holder (clamp on)
- 93° approach angle
- KN_ _ style inserts





Right hand shown



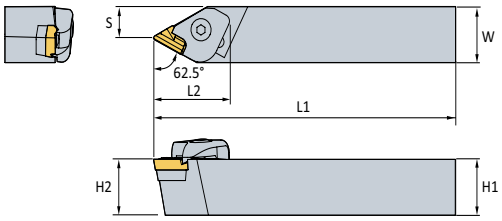
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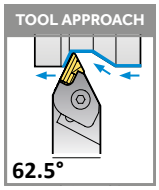
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares						
									Clamp	Clamp Screw	Spring	Shim	Pin & Spring	Shim Screw	Wrench
20	20	125	32	20	25	CKJNR2020-K16	**£68.06**	KN_ _1604_ _R	CTH6R1	CHX0625	SR3	SK33C	PN0515 SR4	SHX0310	HW20L HW40L
25	25	150	32	25	32	CKJNR2525-M16	**£75.62**								
32	32	150	32	25	32	CKJNR3225-M16	**£79.40**								
32	32	170	32	25	32	CKJNR3225-P16	**£79.40**								
32	32	170	32	32	40	CKJNR3232-P16	**£79.40**								
40	40	200	32	40	50	CKJNR4040-R16	**£82.35**								
20	20	125	32	20	25	CKJNL2020-K16	**£68.06**	KN_ _1604_ _L	CTH6L1	CHX0625	SR3	SK33CL	PN0515 SR4	SHX0310	HW20L HW40L
25	25	150	32	25	32	CKJNL2525-M16	**£75.62**								
32	32	170	32	32	40	CKJNL3232-P16	**£79.40**								
40	40	200	32	40	50	CKJNL4040-R16	**£82.35**								

CKNNR/L

Clamp On System - For External Turning

- Tool holder (clamp on)
- 62.5° approach angle
- KN_ _ style inserts





Right hand shown



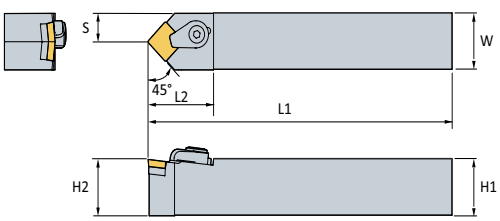
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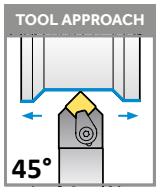
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares						
									Clamp	Clamp Screw	Spring	Shim	Pin & Spring	Shim Screw	Wrench
25	25	150	37	25	14.3	CKNNR2525-M16	**£75.62**	KN_ _1604_ _R	CTH6R1	CHX0625	SR3	SK33C	PN0515 SR4	SHX0310	HW20L HW40L
32	32	170	37	32	16.8	CKNNR3232-P16	**£79.40**								
25	25	150	37	25	14.3	CKNNL2525-M16	**£75.62**	KN_ _1604_ _L	CTH6L1	CHX0625	SR3	SK33CL	PN0515 SR4	SHX0310	HW20L HW40L
32	32	170	37	32	16.8	CKNNL3232-P16	**£79.40**								

CSDPN

Clamp On System - For External Turning

- Tool holder (clamp on)
- 45° approach angle
- Neutral hand
- SP_ _ style inserts







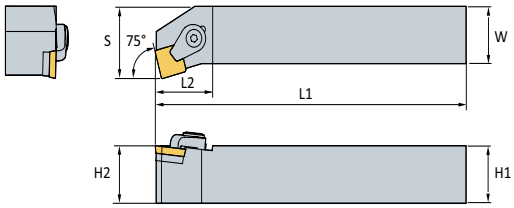
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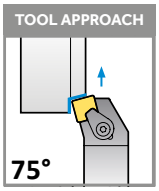
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Pin	C-Ring	Wrench
25	25	150	35	25	12.5	CSDPN2525-M12	**£77.26**	SP_ _ 1203_ _	CH6R5	CHX0622C	SS42C	SP3C	CR04C	HW30L

CSKPR/L

Clamp On System - For External Turning

- Tool holder (clamp on)
- 75° approach angle
- SP_ _ style inserts





Right hand shown



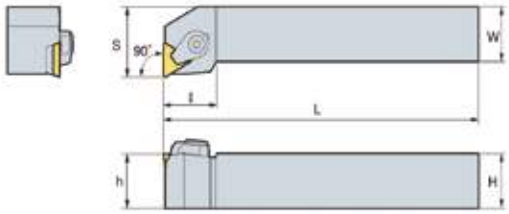
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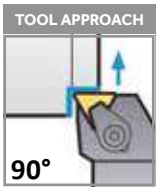
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Pin	C-Ring	Wrench
25	20	150	32	25	32	CSKPR/L2525-M12	**£77.26**	SP_ _ 1203_ _	CH6R5	CHX0622C	SS42C	SP3C	CR04C	HW30L

CTFPR/L

Clamp On System - For External Turning

- Tool holder (clamp on)
- 90° approach angle
- TP_ _ style inserts





Right hand shown



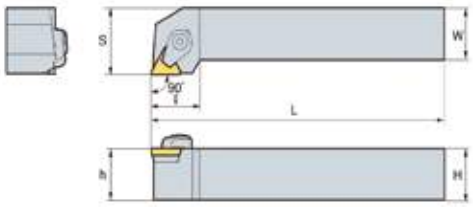
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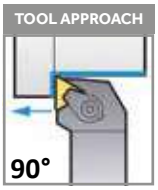
W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Pin	C-Ring	Wrench
20	20	125	32	20	25	CTFPR/L2020-K16	**£69.50**	TP_ _ 1603_ _	CH6R5	CHX0622C	SS32C	SP3C	CR04C	HW30L
25	25	150	32	25	32	CTFPR/L2525-M16	**£77.26**							

CTGPR/L

Clamp On System - For External Turning

- Tool holder (clamp on)
- 90° approach angle
- TP_ _ style inserts





Right hand shown



KORLOY

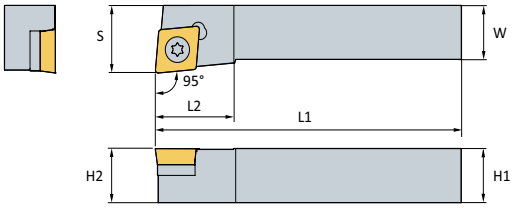
W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares					
									Clamp	Clamp Screw	Shim	Shim Pin	C-Ring	Wrench
12	12	80	20	12	16	CTGPR/L1212-F11	**£66.04**	TP_ _ 1103_ _	CH53R1	CHX0515C	-	-	CR03C	HW25L
16	16	100	20	16	20	CTGPR/L1616-H11	**£69.50**							
20	20	125	20	20	25	CTGPR/L2020-K11	**£69.50**							
20	20	125	25	20	25	CTGPR/L2020-K16	**£69.50**	TP_ _ 1603_ _	CH6R5	CHX0622C	ST32C	SP3C	CR04C	HW30L
25	25	150	25	25	32	CTGPR/L2525-M16	**£77.26**							
25	25	150	32	25	32	CTGPR/L2525-M22	**£77.26**	TP_ _ 2204_ _	CH83R1	CHX0823C	ST43C	SP4C	CR05C	HW40L
32	32	170	32	32	40	CTGPR/L3232-P22	**£85.12**							

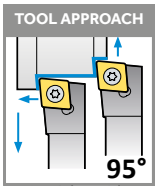
Screw On System

SCLCR/L

Screw On System - For External Turning

- Tool holder (screw on)
- 95° approach angle
- CC_ _ style inserts





Right hand shown



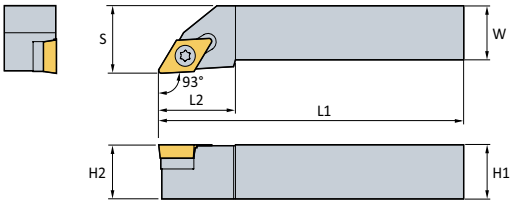
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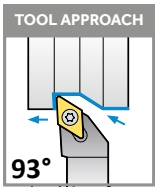
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
8	8	60	10	8	10	SCLCR/L0808-D06	**£40.12**	CC_ _0602_ _	FTKA02565	-	-	TW07P
10	10	70	10	10	16	SCLCR/L1010-E06	**£40.12**					
12	12	80	16	12	20	SCLCR/L1212-F09	**£42.21**	CC_ _09T3_ _	FTGA03508	-	-	TW15P
16	16	100	16	16	20	SCLCR/L1616-H09	**£42.21**					
20	20	125	16	20	25	SCLCR/L2020-K09	**£51.45**					
20	20	125	25	20	25	SCLCR/L2020-K12	**£51.45**	CC_ _1204_ _	FTGA0411F	SC42S	SHXN0610F	TW15P HW40L
25	25	150	26	25	32	SCLCR/L2525-M12	**£54.93**					

SDJCR/L

Screw On System - For External Turning

- Tool holder (screw on)
- 93° approach angle
- DC_ _ style inserts





Right hand shown



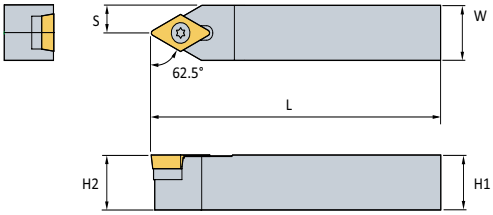
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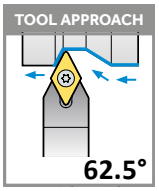
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
10	10	70	15	10	12	SDJCR/L1010-E07	**£40.12**	DC_ _0702_ _	FTKA02565	-	-	TW07P
12	12	80	15	12	16	SDJCR/L1212-F07	**£42.21**					
16	16	100	18	16	20	SDJCR/L1616-H07	**£42.21**					
20	20	125	15	20	25	SDJCR/L2020-K07	**£51.45**					
12	12	80	15	12	16	SDJCR/L1212-F11	**£42.21**	DC_ _11T3_ _	FTGA03512	SD32S	SHXN0509F	TW15P HW35L
16	16	100	24	16	20	SDJCR/L1616-H11	**£42.21**					
20	20	125	24	20	25	SDJCR/L2020-K11	**£51.45**					
25	25	150	29	25	32	SDJCR/L2525-M11	**£54.93**					

SDNCN

Screw On System - For External Turning

- Tool holder (screw on)
- 62.5° approach angle
- Neutral style
- DC_ _ style inserts







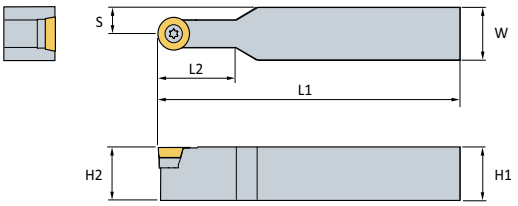
KORLOY

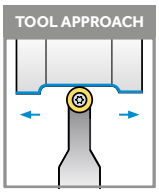
H1	H2	L	W	S	Order Code	Price	Inserts	Spares			
								Screw	Shim	Shim Screw	Wrench
10	10	70	10	5	SDNCN1010-E07	**£40.12**	DC_ _0702_ _	FTKA02565	-	-	TW07P
12	12	80	12	6	SDNCN1212-F07	**£42.21**					
12	12	100	12	6	SDNCN1212-H11	**£42.21**	DC_ _11T3_ _	FTGA03508	-	-	TW15P
16	16	100	16	8	SDNCN1616-H11	**£42.21**					
20	20	125	20	10	SDNCN2020-K11	**£51.45**	DC_ _11T3_ _	FTGA03512	SD32S	SHXN0509F	TW15P HW35L

SRDCN

Screw On System - For External Turning

- Tool holder (screw on)
- Neutral style
- RC_ _ style inserts







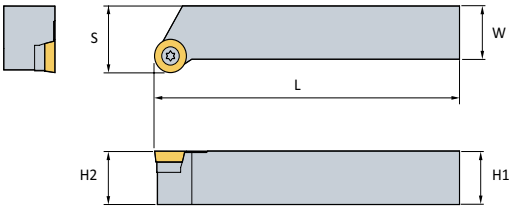
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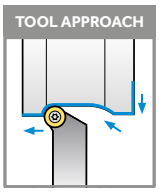
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
10	10	70	10	10	5	SRDCN1010-E06	**£40.12**	RC_ _ 0602MO	FTKA0307	-	-	TW07P
12	12	80	12	12	6	SRDCN1212-F06	**£42.21**					
16	16	100	12	16	8	SRDCN1616-H06	**£42.21**					
25	25	150	20	25	12.5	SRDCN2525-M06	**£54.93**					
16	16	100	16	16	8	SRDCN1616-H08	**£42.21**	RC_ _ 0803MO	FTNA0307	-	-	TW09P
20	20	125	20	20	10	SRDCN2020-K08	**£51.45**					
25	25	150	20	25	12.5	SRDCN2525-M08	**£54.93**					
16	16	100	25	16	8	SRDCN1616-H10	**£42.21**	RC_ _ 1003MO	FTKA03511A	SR10S	SHXN0509F	TW15P HW35L
20	20	125	25	20	10	SRDCN2020-K10	**£51.45**					
25	25	150	25	25	12.5	SRDCN2525-M10	**£54.93**					
20	20	125	28	20	10	SRDCN2020-K12	**£51.45**	RC_ _ 1204MO	FTGA03512	SR12S	SHXN0509F	TW15P HW35L
25	25	150	28	25	12.5	SRDCN2525-M12	**£54.93**					

SRGCR/L

Screw On System - For External Turning

- Tool holder (screw on)
- RC_ _ style inserts





Right hand shown



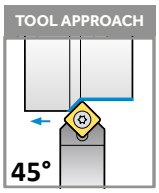
KORLOY

H1	H2	L	W	S	Order Code	Price	Inserts	Spares			
								Screw	Shim	Shim Screw	Wrench
10	10	70	10	12	SRGCR/L1010-E06	**£40.12**	RC_ _ 0602M0	FTKA02565	-	-	TW07P
12	12	80	12	16	SRGCR/L1212-F06	**£42.21**					
16	16	100	16	20	SRGCR/L1616-H06	**£42.21**					
16	16	100	16	20	SRGCR/L1616-H08	**£42.21**	RC_ _ 0803M0	FTNA0307	-	-	TW09P
20	20	125	20	25	SRGCR/L2020-K08	**£51.45**					
25	25	150	25	32	SRGCR/L2525-M08	**£54.93**					
16	16	100	16	20	SRGCR/L1616-H10	**£42.21**	RC_ _ 1003M0	FTKA03511A	SR10S	SHXN0509F	TW15P HW35L
20	20	125	20	25	SRGCR/L2020-K10	**£51.45**					
25	25	150	25	32	SRGCR/L2525-M10	**£54.93**					
20	20	125	20	25	SRGCR/L2020-K12	**£51.45**	RC_ _ 1204M0	FTGA03512	SR12S	SHXN0509F	TW15P HW35L
25	25	150	25	32	SRGCR/L2525-M12	**£54.93**					

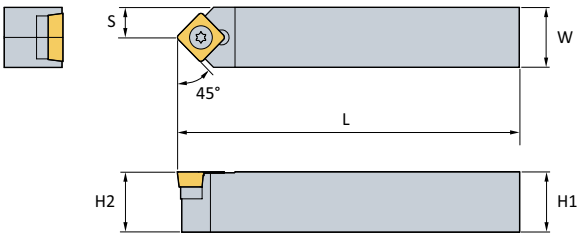
SSDCN

Screw On System - For External Turning

- Tool holder (screw on)
- 45° approach angle
- Neutral hand
- SC_ _ style inserts







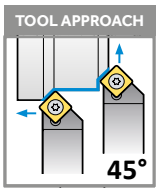
KORLOY

H1	H2	L	W	S	Order Code	Price	Inserts	Spares			
								Screw	Shim	Shim Screw	Wrench
12	12	80	12	6	SSDCN1212-F09	**£42.21**	SC_ _09T3_ _	FTGA03508	-	-	TW15P
16	16	100	16	8	SSDCN1616-H09	**£42.21**		FTGA03512	SS32S	SHXN0509F	TW15P, HW35L

SSSCR/L

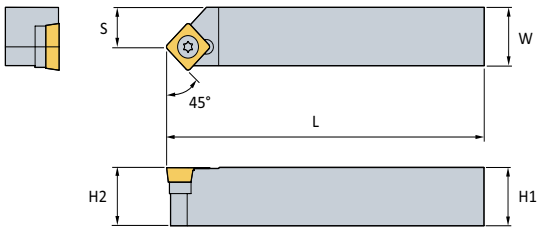
Screw On System - For External Turning

- Tool holder (screw on)
- 45° approach angle
- SC_ _ style inserts



Right hand shown





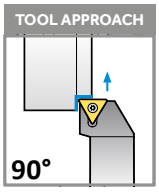
KORLOY

H1	H2	L	W	S	Order Code	Price	Inserts	Spares			
								Screw	Shim	Shim Screw	Wrench
16	16	100	16	17	SSSCR/L1616-H09	**£42.21**	SC_ _09T3_ _	FTGA03512	SS32S	SHXN0509F	TW15P HW35L
20	20	125	20	21	SSSCR/L2020-K12	**£51.45**	SC_ _1204_ _	FTGA0411F	SS42S	SHXN0610F	TW15P HW40L

STFCR/L

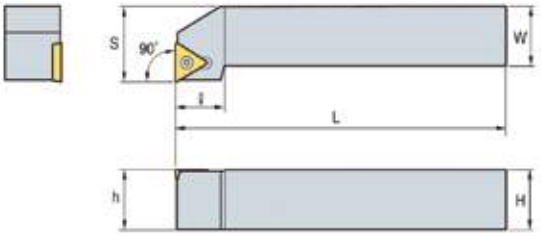
Screw On System - For External Turning

- Tool holder (screw on)
- 90° approach angle
- TC_ _ style inserts



Right hand shown





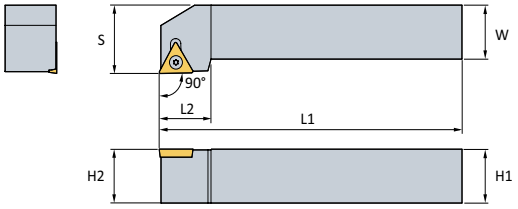
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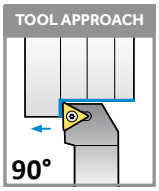
W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
10	10	70	10	10	12	STFCR/L1010-E09	**£40.12**	TC_ _0902_ _	FTKA02206	-	-	TW06P
12	12	80	14	12	16	STFCR/L1212-F11	**£42.21**	TC_ _1102_ _	FTKA02565	-	-	W07P
16	16	100	14	16	20	STFCR/L1616-H11	**£42.21**					
16	16	100	19	16	20	STFCR/L1616-H16	**£42.21**	TC_ _16T3_ _	FTGA03512	ST32S	SHXN0509F	TW15P HW35L
20	20	125	19	20	25	STFCR/L2020-K16	**£51.45**					

STGCR/L

Screw On System - For External Turning

- Tool holder (screw on)
- 90° approach angle
- TC_ _ style inserts





Right hand shown



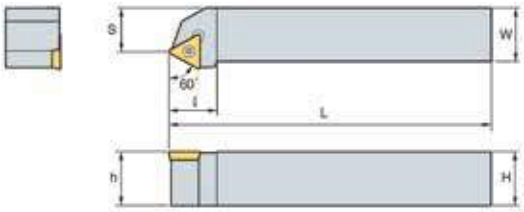
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
08	08	60	11	08	10	STGCR/L0808-D09	**£40.12**	TC_ _0902_ _	FTKA02206	-	-	TW06P
10	10	70	11	10	12	STGCR/L1010-E09	**£40.12**					
12	12	80	14	12	16	STGCR/L1212-F11	**£42.21**	TC_ _1102_ _	FTKA02565	-	-	TW07P
16	16	100	16	16	20	STGCR/L1616-H11	**£42.21**					
20	20	125	21	20	25	STGCR/L2020-K16	**£51.45**	TC_ _16T3_ _	FTGA03512	ST32S	SHXN0509F	TW15P HW35L
25	25	150	21	25	32	STGCR/L2525-M16	**£54.93**					

STTCR/L

Screw On System - For External Turning

- Tool holder (screw on)
- 60° approach angle
- TC_ _ style inserts





Right hand shown



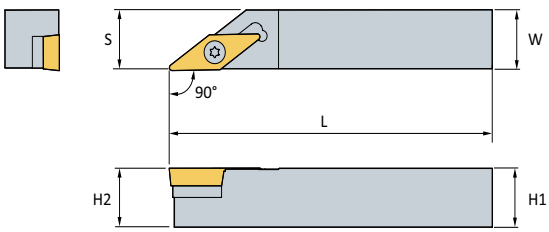
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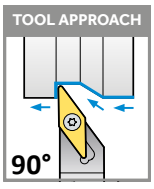
W	H	L	ℓ	h	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
16	16	100	14	16	13	STTCR/L1616-H11	**£42.21**	TC_ _1102_ _	FTKA02565	-	-	TW07P
16	16	100	19	16	13	STTCR/L1616-H16	**£45.02**	TC_ _16T3_ _	FTGA03512	ST32S	SHXN0509F	TW15P HW35L
20	20	125	19	20	17	STTCR/L2020-K16	**£51.45**					

SVABR/L

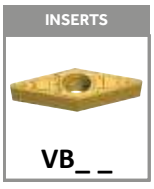
Screw On System - For External Turning

- Tool holder (screw on)
- 90° approach angle
- VB_ _ style inserts





Right hand shown



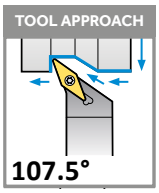
KORLOY

H1	H2	L	W	S	Order Code	Price	Inserts	Spares			
								Screw	Shim	Shim Screw	Wrench
16	16	100	16	16.5	SVABR/L1616-H16	**£42.21**	VB_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
20	20	125	20	20.5	SVABR/L2020-K16	**£51.45**					

SVHBR/L

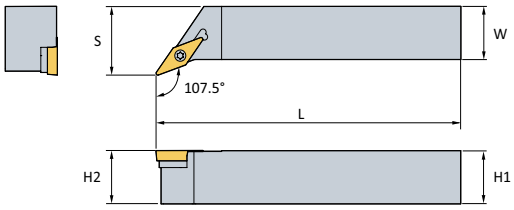
Screw On System - For External Turning

- Tool holder (screw on)
- 107.5° approach angle
- VB_ _ style inserts



Right hand shown





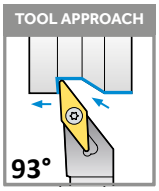
KORLOY

H1	H2	L	W	S	Order Code	Price	Inserts	Spares			
								Screw	Shim	Shim Screw	Wrench
25	25	150	25	32	SVHBR/L2525-M16	**£54.93**	VB_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
32	32	170	25	32	SVHBR/L3225-P16	**£82.05**					

SVJBR/L

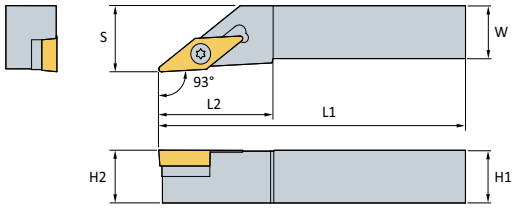
Screw On System - For External Turning

- Tool holder (screw on)
- 93° approach angle
- VB_ _ style inserts



Right hand shown





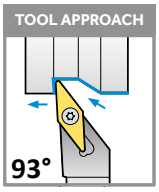
KORLOY

H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
12	12	80	27	12	16	SVJBR/L1212-F11	**£42.21**	VB_ _1102_ _	FTKA02565	-	-	TW07P
16	16	100	27	16	20	SVJBR/L1616-H11	**£42.21**					
20	20	125	27	20	25	SVJBR/L2020-K11	**£51.45**					
16	16	100	36	16	20	SVJBR/L1616-H16	**£42.21**	VB_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
20	20	125	41	20	25	SVJBR/L2020-K16	**£51.45**					
25	25	150	41	25	32	SVJBR/L2525-M16	**£54.93**	VB_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
32	32	170	55	25	32	SVJBR/L3225-P16	**£82.05**					

SVJCR/L

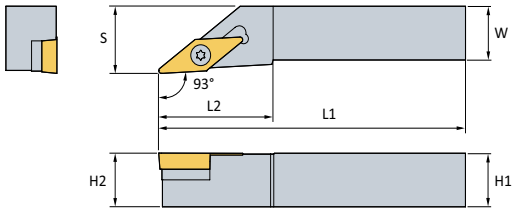
Screw On System - For External Turning

- Tool holder (screw on)
- 93° approach angle
- VC_ _ style inserts



Right hand shown





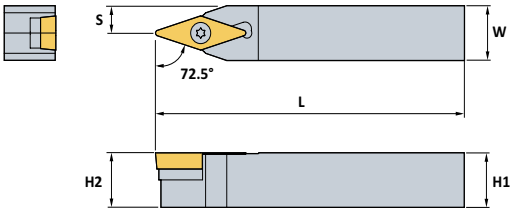
KORLOY

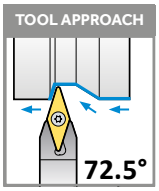
H1	H2	L1	L2	W	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
12	12	80	25	12	16	SVJCR/L1212-F11	**£42.21**	VC_ _1103_ _	FTKA02565	-	-	TW07P
16	16	100	25	16	20	SVJCR/L1616-H11	**£42.21**					
20	20	125	25	20	25	SVJCR/L2020-K11	**£51.45**					
12	12	80	32	12	16	SVJCR/L1212-F13	**£42.21**	VC_ _1303_ _	FTKA0307	-	-	TW09P
16	16	100	32	16	20	SVJCR/L1616-H13	**£42.21**					
20	20	125	32	20	25	SVJCR/L2020-K13	**£51.45**					
16	16	100	40	16	20	SVJCR/L1616-H16	**£42.21**	VC_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
20	20	125	40	20	25	SVJCR/L2020-K16	**£51.45**					
25	25	150	40	25	32	SVJCR/L2525-M16	**£54.93**					

SVVBN

Screw On System - For External Turning

- Tool holder (screw on)
- 72.5° approach angle
- VB_ _ style inserts







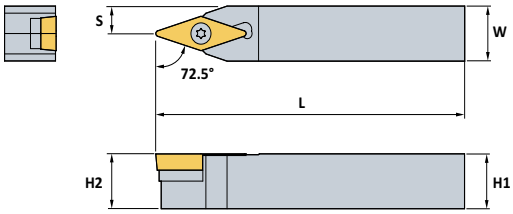
KORLOY

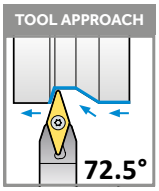
H1	H2	L	W	S	Order Code	Price	Inserts	Spares			
								Screw	Shim	Shim Screw	Wrench
12	12	80	12	6	SVVBN1212-F11	**£42.21**	VB_ _1102_ _	FTKA02565	-	-	TW07P
16	16	100	16	8	SVVBN1616-H11	**£42.21**					
20	20	125	20	10	SVVBN2020-K11	**£51.45**					
16	16	100	16	8	SVVBN1616-H16	**£42.21**	VB_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
20	20	125	20	10	SVVBN2020-K16	**£51.45**					
25	25	150	25	12.5	SVVBN2525-M16	**£54.93**					
32	32	170	25	12.5	SVVBN3225-P16	**£82.05**					

SVVCN

Screw On System - For External Turning

- Tool holder (screw on)
- 72.5° approach angle
- Neutral hand
- VC_ _ style inserts







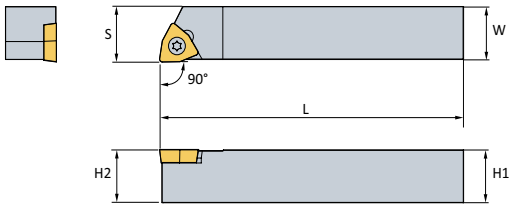
KORLOY

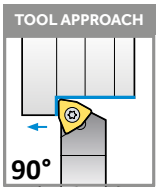
H1	H2	L	W	S	Order Code	Price	Inserts	Spares			
								Screw	Shim	Shim Screw	Wrench
12	12	80	12	6	SVVCN1212-F11	**£42.21**	VC_ _1103_ _	FTKA02565	-	-	TW07P
16	16	100	16	8	SVVCN1616-H11	**£42.21**					
20	20	125	20	10	SVVCN2020-K11	**£51.45**					
12	12	80	12	6	SVVCN1212-F13	**£42.21**	VC_ _1303_ _	FTKA0307	-	-	TW09P
16	16	100	16	8	SVVCN1616-H13	**£42.21**					
20	20	125	20	10	SVVCN2020-K13	**£51.45**					
16	16	100	16	8	SVVCN1616-H16	**£42.21**	VC_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P HW35L
20	20	125	20	10	SVVCN2020-K16	**£51.45**					
25	25	150	25	12.5	SVVCN2525-M16	**£54.93**					

SWACR/L

Screw On System - For External Turning

- Tool holder (screw on)
- 90° approach angle
- WC_ _ style inserts





Right hand shown



KORLOY

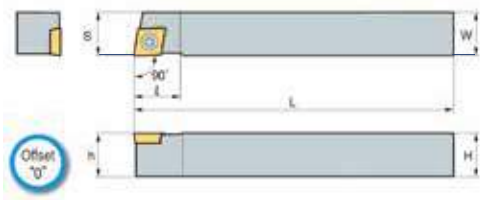
H1	H2	L	W	S	Order Code	Price	Inserts	Spares	
								Screw	Wrench
10	10	70	10	10.1	SWACR/L1010-E04	**£40.12**	WC_ _0402_ _	FTKA02565	TW07P
12	12	80	12	12.1	SWACR/L1212-F04	**£42.21**			
16	16	100	16	16.1	SWACR/L1616-H06	**£42.21**	WC_ _06T3_ _	FTGA03508	TW15P

Swiss Turning Toolholders

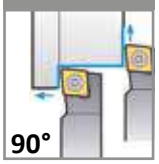
SCACR/L

Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- 90° approach angle
- CC_ _ style inserts
- Offset "0"
- 120mm long

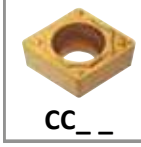


TOOL APPROACH



Right hand shown

INSERTS



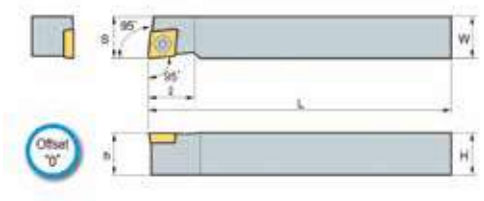
KORLOY

H	W	L	S	h	ℓ	Order Code	Price	Inserts	Spares	
									Screw	Wrench
8	8	120	8	8	10	SCACR/L 0808-X06A	**£35.09**	CC_ _0602_ _	FTKA02565	TW07P
10	10	120	10	10	10	SCACR/L 1010-X06A	**£43.18**			
10	10	120	12	10	13	SCACR/L 1010-X09A	**£49.02**	CC_ _09T3_ _	FTKA0410	TW15P
12	12	120	12	12	16	SCACR/L 1212-X09A	**£47.68**			
16	16	120	16	16	16	SCACR/L 1616-X09A	**£56.32**			

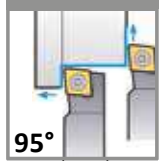
SCLCR/L

Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- 95° approach angle
- CC_ _ style inserts
- Offset "0"
- 120mm long

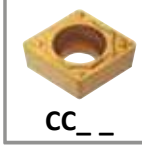


TOOL APPROACH



Right hand shown

INSERTS



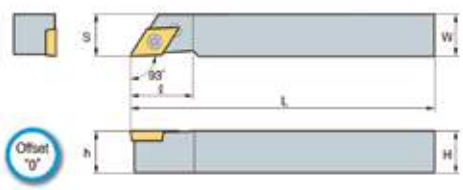
KORLOY

H	W	L	S	h	ℓ	Order Code	Price	Inserts	Spares	
									Screw	Wrench
8	8	120	8	8	10	SCLCR/L 0808-X06A	**£33.77**	CC_ _0602_ _	FTKA02565	TW07P
10	10	120	10	10	10	SCLCR/L 1010-X06A	**£41.56**			
10	10	120	12	10	13	SCLCR/L 1010-X09A	**£47.20**	CC_ _09T3_ _	FTKA0410	TW15P
12	12	120	12	12	16	SCLCR/L 1212-X09A	**£47.68**			
16	16	120	16	16	16	SCLCR/L 1616-X09A	**£56.32**			

SDJCR/L

Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- 93° approach angle
- DC_ _ style inserts
- Offset "0"
- 120mm long





TOOL APPROACH



Right hand shown

INSERTS



KORLOY

H	W	L	S	h	K	ℓ	Order Code	Price	Inserts	Spares	
										Screw	Wrench
8	8	120	10	8	2	18	SDJCR/L 0808-X07A	**£39.91**	DC_ _0702_ _	FTKA02565	TW07P
10	10	120	10	10	-	15	SDJCR/L 1010-X07A	**£43.17**			
10	10	120	14	10	4	18	SDJCR/L 1010-X11A	**£52.35**	DC_ _11T3_ _	FTKA0410	TW15P
12	12	120	14	12	2	18	SDJCR/L 1212-X11A	**£52.86**			
16	16	120	16	16	-	22	SDJCR/L 1616-X11A	**£59.53**			

SDNCN

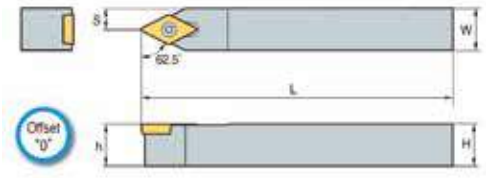
Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- 62.5° approach angle
- DC_ _ style inserts
- Offset "0"
- Neutral hand



Right hand shown





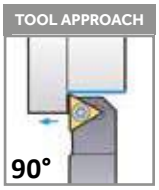
KORLOY

H	W	L	S	h	Order Code	Price	Inserts	Spares	
								Screw	Wrench
8	8	120	4	8	SDNCN 0808-X07A	**£36.77**	DC_ _0702_ _	FTKA02565	TW07P
10	10	120	5	10	SDNCN 1010-X07A	**£43.40**			
10	10	120	7	10	SDNCN 1010-X11A	**£43.40**	DC_ _11T3_ _	FTKA0410	TW15P
12	12	120	6	12	SDNCN 1212-X11A	**£53.92**			
16	16	120	8	16	SDNCN 1616-X11A	**£59.90**			

STACR/L

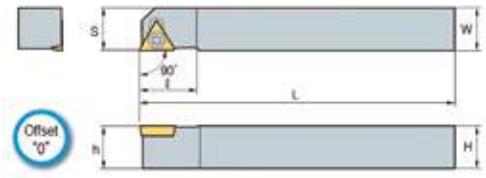
Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- 90° approach angle
- TC_ _ style inserts
- Offset "0"
- 120mm long



Right hand shown





KORLOY

H	W	L	S	h	K	ℓ	Order Code	Price	Inserts	Spares	
										Screw	Wrench
8	8	120	8	8	1	12	STACR/L 0808-X08A	**£37.01**	TC_ _0802_ _	FTNA206	TW06P
10	10	120	10	10	3	12	STACR/L 1010-X08A	**£44.77**			

SVJBR/L

Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- 93° approach angle
- VB_ _ style inserts
- Offset "0"
- 120mm long

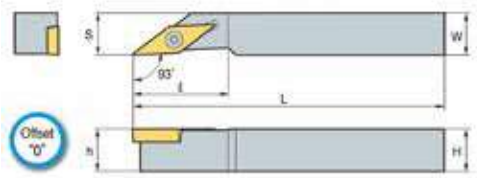
TOOL APPROACH



Right hand shown

INSERTS





KORLOY

H	W	L	S	h	ℓ	Order Code	Price	Inserts	Spares	
									Screw	Wrench
10	10	120	10	10	22	SVJBR/L 1010-X11A	**£47.39**	VB_ _1103_ _	FTKA2565	TW07P
12	12	120	12	12	22	SVJBR/L 1212-X11A	**£47.59**			
16	16	120	16	16	24	SVJBR/L 1616-X11A	**£56.02**			

SVJCR/L

Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- 93° approach angle
- VC_ _ style inserts
- Offset "0"
- 120mm long

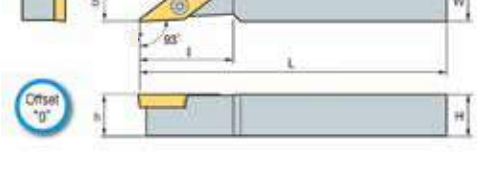
TOOL APPROACH



Right hand shown

INSERTS





KORLOY

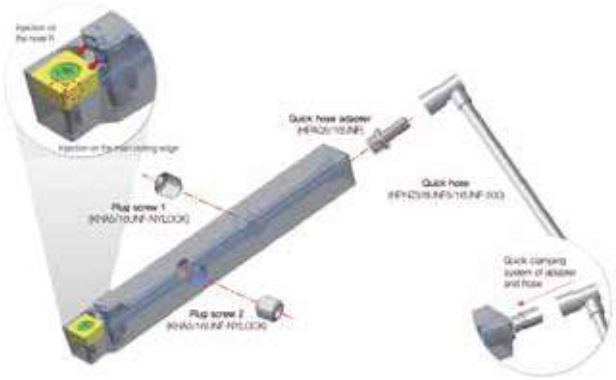
H	W	L	S	h	ℓ	Order Code	Price	Inserts	Spares	
									Screw	Wrench
10	10	120	10	10	22	SVJCR/L 1010-X11A	**£50.55**	VC_ _1103_ _	FTKA2565	TW07P
12	12	120	12	12	22	SVJCR/L 1212-X11A	**£50.77**			
16	16	120	16	16	24	SVJCR/L 1616-X11A	**£59.75**			

Through coolant turning tool holders for Swiss turning

Screw On System for External Turning

- High productivity on automatic lathes
- Dual coolant holes direct to cutting edge improves tool life and chip control
- Easy clamping system of quick hose and adapters

KORLOY

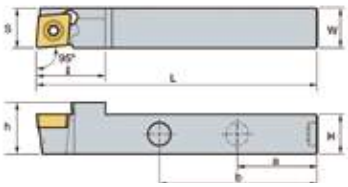


SCLCR/L

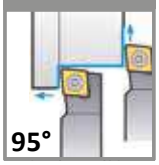
Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- Through Coolant
- CC_ _ style inserts
- 95° approach angle
- 120mm long



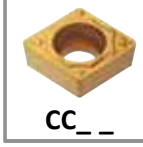


TOOL APPROACH



Right hand shown

INSERTS



KORLOY

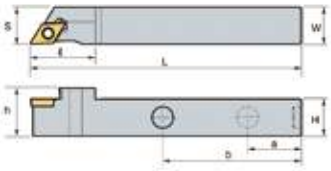
H	W	L	S	h	ℓ	a	b	Order Code	Price	Inserts	Spares		
											Screw	Screw Plug	Wrench
12	12	120	12	15.5	21	40	70	SCLCR/L 1212-X09A-KHP	**£147.95**	CC_ _09T3_ _	FTKA0410	KHA0404-NYLOCK	TW15P

SDJCR/L

Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- Through Coolant.
- DC_ _ style inserts
- 93° approach angle
- 120mm long





TOOL APPROACH



Right hand shown

INSERTS



KORLOY

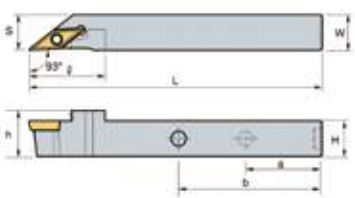
H	W	L	S	h	ℓ	a	b	Order Code	Price	Inserts	Spares		
											Screw	Screw Plug	Wrench
12	12	120	14	15.5	21	40	70	SDJCR/L 1212-X07A-KHP	**£147.95**	DC_ _0702_ _	FTKA02565	KHA0404-NYLOCK	TW07P
12	12	120	14	15.5	29.8	40	70	SDJCR/L 1212-X11A-KHP	**£147.95**	DC_ _11T3_ _	FTKA0410	KHA0404-NYLOCK	TW15P

SVJCR/L

Offset "0" Screw On System - For External Turning

- Tool holder (screw on)
- Through Coolant.
- VC_ _ style inserts
- 93° approach angle
- 120mm long





TOOL APPROACH



Right hand shown

INSERTS



KORLOY

H	W	L	S	h	ℓ	a	b	Order Code	Price	Inserts	Spares		
											Screw	Screw Plug	Wrench
12	12	120	12	15.5	26	40	70	SVJCR/L 1212-X11A-KHP	**£174.94**	VC_ _1103_ _	FTKA02565	KHA0404-NYLOCK	TW07P
12	12	120	12	15.5	26	40	70	SVJCR/L 1212-X12A-KHP	**£174.94**	VC_ _1203_ _	FTKA02565	KHA0404-NYLOCK	TW07P

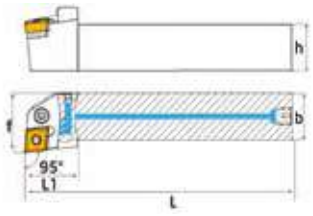
External Holders with Internal Coolant

PCLNR

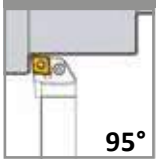
Internal Coolant - For External Turning

- Tool holder (internal through coolant)





TOOL APPROACH



Right hand shown

INSERTS



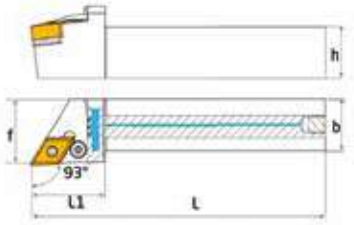
h	L	L1	F	b	Designation	Order Code	Price	Inserts	Spares				
									Clamp Screw	Shim	Lock Pin	Lever	Allen Key
16	100	28	20	16	PCLNR 1616 H12-IC	AP129	**£75.16**	CNMG 1204	TH818 M8	TA016-1	TS4	TS4	3 Allen
20	125	28	25	20	PCLNR 2020 K12-IC	AP130	**£75.16**	CNMG 1204	TH821 M8	TA016-1	TS4	TS4	
25	150	30	32	25	PCLNR 2525 M12-IC	AP132	**£79.45**						

PDJNR

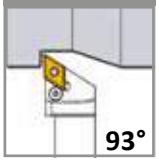
Internal Coolant - For External Turning

- Tool holder (internal through coolant)





TOOL APPROACH



Right hand shown

INSERTS



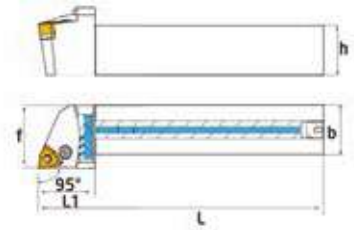
h	L	L1	F	b	Designation	Order Code	Price	Inserts	Spares				
									Clamp Screw	Shim	Lock Pin	Lever	Allen Key
20	125	40	25	20	PDJNR 2020 K15-IC	AP110	**£75.16**	DNMG 1506	TH-822 M8	TA014-1	TS-4	TL4B	3 Allen
25	150	40	32	25	PDJNR 2525 M15-IC	AP112	**£79.45**						

PWLNR 06

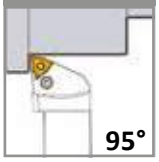
Internal Coolant - For External Turning

- Tool holder (internal through coolant)





TOOL APPROACH



Right hand shown

INSERTS



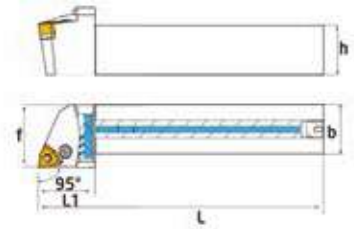
h	L	L1	F	b	Designation	Order Code	Price	Inserts	Spares				
									Clamp Screw	Shim	Lock Pin	Lever	Allen Key
16	100	30	20	16	PWLNR 1616 H06-IC	AP158	**£75.16**	WNMG 0604	TH-617 M6	TA021	TS3	TL3	2.5 Allen
20	125	30	25	20	PWLNR 2020 K06-IC	AP160	**£75.16**						
25	150	30	32	25	PWLNR 2525 M06-IC	AP161	**£79.45**						

PWLNR 08

Internal Coolant - For External Turning

- Tool holder (internal through coolant)





TOOL APPROACH



Right hand shown

INSERTS



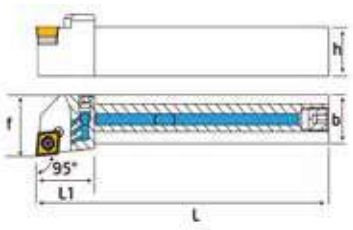
h	L	L1	F	b	Designation	Order Code	Price	Inserts	Spares				
									Clamp Screw	Shim	Lock Pin	Lever	Allen Key
20	125	30	25	20	PWLNR 2020 K08-IC	AP165	**£75.16**	WNMG 0804	TH-821 M9	TA020-1	TS4	TL4	3 Allen
25	150	38	32	25	PWLNR 2525 M08-IC	AP166	**£79.45**						

SCLCR

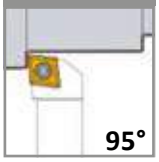
Internal Coolant - For External Turning

- Tool holder (internal through coolant)





TOOL APPROACH



Right hand shown

INSERTS



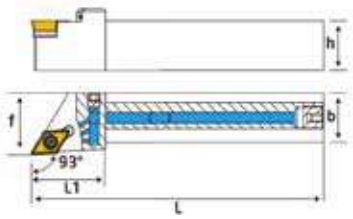
h	L	L1	F	b	Designation	Order Code	Price	Inserts	Spares			
									Clamp Screw	Shim	Shim Screw	Torx Key
16	100	25	20	16	SCLCR 1616 H09-IK	AP500	**£64.43**	CCMT 09T3	TC068 M3,5x11	TA015	TC048 M5	T8
20	125	25	25	20	SCLCR 2020 K09-IK	AP501	**£66.57**					
25	150	30	32	25	SCLCR 2525 M12-IK	AP503	**£69.80**	CCMT 1204	ST411-60F M4x11	TA015-1	SHS610F M6	T15

SDJCR

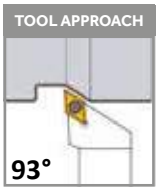
Internal Coolant - For External Turning

- Tool holder (internal through coolant)





TOOL APPROACH



Right hand shown

INSERTS



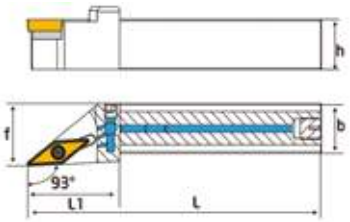
h	L	L1	F	b	Designation	Order Code	Price	Inserts	Spares			
									Clamp Screw	Shim	Shim Screw	Torx Key
16	100	32	16	16	SDJCR 1616 H11-IK	AP510	**£64.43**	DCMT 11T3	TC068 M3,5x11	TA030	TC048	T8
20	125	32	25	20	SDJCR 2020 K11-IK	AP511	**£66.57**					
25	150	35	32	25	SDJCR 2525 M11-IK	AP512	**£69.80**					

SVJBR

Internal Coolant - For External Turning

- Tool holder (internal through coolant)





TOOL APPROACH



Right hand shown

INSERTS



h	L	L1	F	b	Designation	Order Code	Price	Inserts	Spares			
									Clamp Screw	Shim	Shim Screw	Torx Key
10	110	30	12	10	SVJBR 1010 J11-IK	AP540	**£62.28**	VBMT 1103	TC061 M2, 5x6,5	-	-	T8
12	110	32	16	12	SVJBR 1212 J11-IK	AP541	**£62.28**					
20	125	40	25	20	SVJBR 2020 K16-IK	AP545	**£66.57**	VBMT 1604	TC068 M3,5x11	TA034	TC048 M5	T15
25	150	40	32	25	SVJBR 2525 M16-IK	AP546	**£69.80**					

LATHE TOOLS

ISO BORING BARS - CODE SYSTEM

Steel or Carbide Shank / Solid or Through Coolant

S	12	M	- S	T	F	P	R	- 11
1	2	3	4	5	6	7	8	9
Type of Bar	Bar Diameter	Bar Length	Method of Mounting Insert	Insert Shape	Lead Angle of Boring Bar	Relief Angle of Insert	Hand of Bar	Length of Cutting Edge

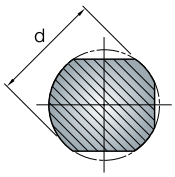
1 Type of Bar

S 12 M - S T F P R - 11

- **A** Steel with coolant hole
- **E** Carbide bar with fixed steel head and coolant hole
- **C** Carbide shank
- **S** Steel shank
- **X** Special type

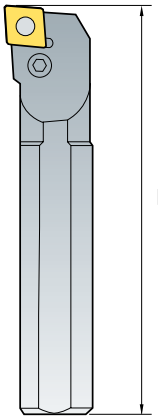
2 Bar Diameter

S 12 M - S T F P R - 11



3 Bar Length

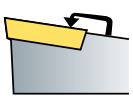
S 12 M - S T F P R - 11

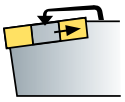


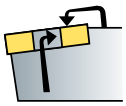
Letter	L(mm)
H	100
J	110
K	125
M	150
N	160
Q	180
R	200
S	250
T	300
U	350
V	400
W	450
Y	500

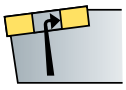
4 Method of Mounting Insert

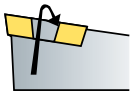
S 12 M - S T F P R - 11


Top clamping **C**


Top and hole clamping **D**

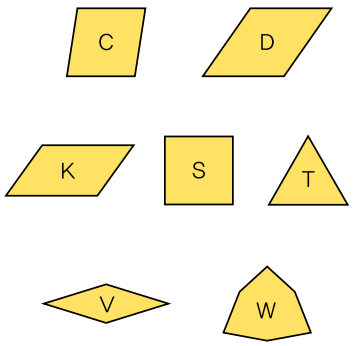

Top and hole clamping **M**


Hole clamping **P**


Screw on **S**

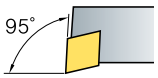
5 Insert Shape

S 12 M - S T F P R - 11

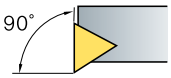


6 Lead Angle of Boring Bar

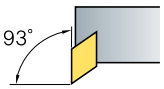
S 12 M - S T F P R - 11



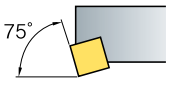
L



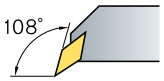
F



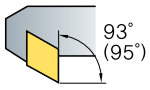
U



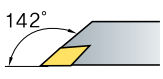
K



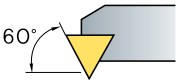
Q



Z



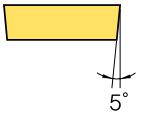
J



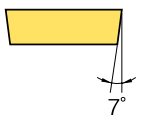
W

7 Relief Angle of Insert

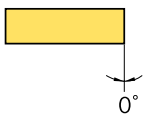
S 12 M - S T F P R - 11



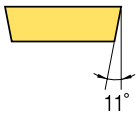
B



C



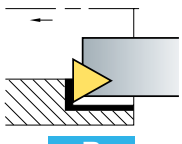
N

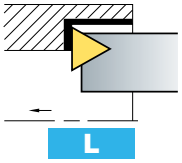


P

8 Hand of Bar

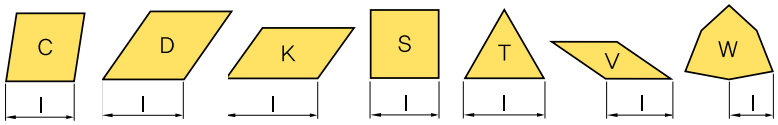
S 12 M - S T F P R - 11


R


L

6 Length of Cutting Edge

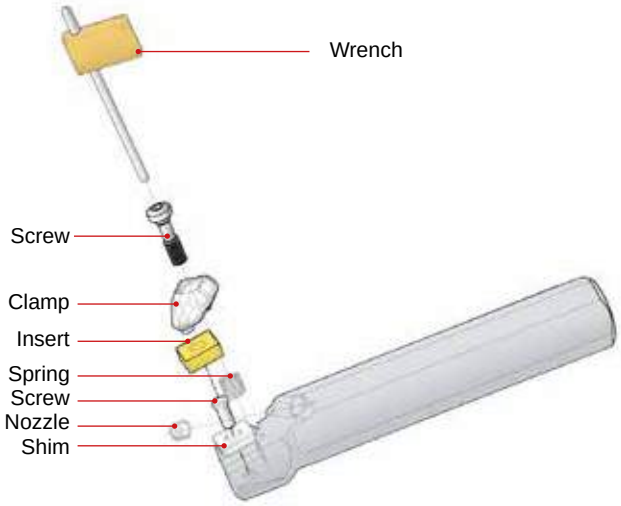
S 12 M - S T F P R - 11



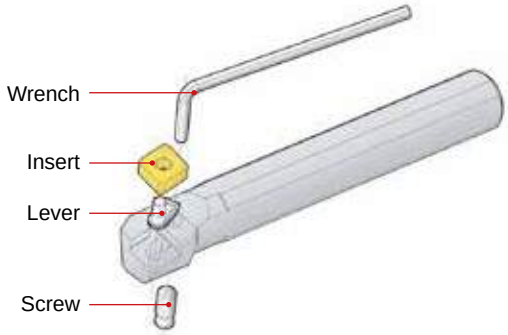
ISO BORING BAR - TYPES

Steel or Carbide Shank Solid and Through Coolant

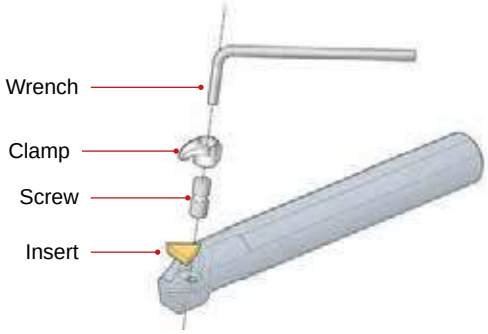
Double Clamp System



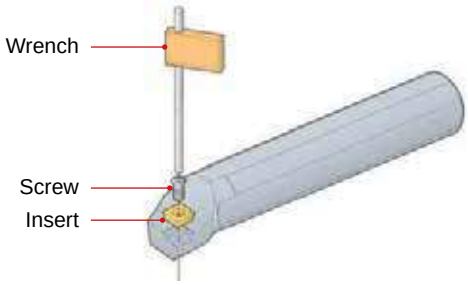
Lever Lock System



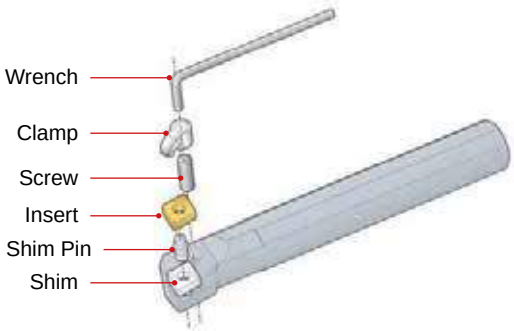
Clamp On System



Screw On System



Multi Lock System



KORLOY

Double Clamp System

Longer tool life and excellent surface finish can be achieved with the adjustable coolant nozzle.

- Simple and powerful clamping system operated by only a single clamp screw.
- The powerful double-clamping system prevents the insert from lifting and reduces vibration, increasing tool life and surface finish quality.
- High precision due to the special design in the rear of the clamp.
- Compact and optimised design for avoiding chip interference.

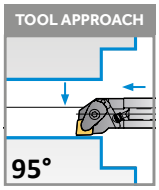


DCLNR/L

Double Clamp System

- Steel shank through coolant boring bar (double clamp)
- 95° approach angle
- CN_ _ style inserts

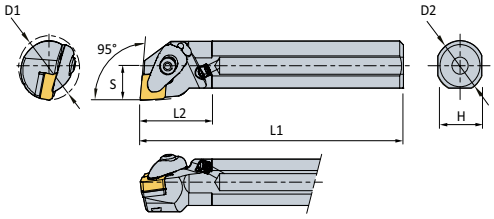
TOOL APPROACH



Right hand shown

INSERTS





*D1 = Minimum machining diameter.

KORLOY

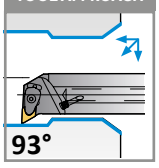
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares						
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Nozzle	Wrench
32	25	200	27	23	17	A25R-DCLNR/L-09	**£104.97**	CN_ _0903_ _	CVH3	CHX0415	SC32V	FTKA0307	SPR0510	CN0605	HW25P
32	25	200	28	23	17	A25R-DCLNR/L-12	**£104.97**	CN_ _1204_ _	CVH4	CHX0518	SC42V	FTKA0410	SPR0714	CN0605	HW30P
40	32	250	27	30	22	A32S-DCLNR/L-12	**£133.23**								
50	40	300	30	37	27	A40T-DCLNR/L-12	**£169.19**								
63	50	350	40	47	35	A50U-DCLNR/L-16	**£211.48**	CN_ _1606_ _	CVH5	CHX0622	SC54V	FTNA0511	SPR0811	CN0605	HW40L

DDUNR/L

Double Clamp System

- Steel shank through coolant boring bar (double clamp)
- 93° approach angle
- DN_ _ style inserts

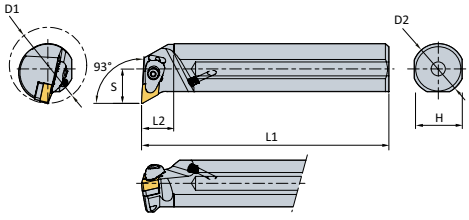
TOOL APPROACH



Right hand shown

INSERTS





*D1 = Minimum machining diameter.

KORLOY

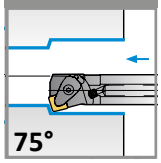
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares						
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Nozzle	Wrench
50	40	300	25	37	27	A40T-DDUNR/L-15	**£169.19**	DN_ _1506_ _	CVH4	CHX0518	SD44V	FTKA0410	SPR0714	CN0605	HW30P
63	50	350	30	47	35	A50U-DDUNR/L-15	**£211.48**								
50	40	300	25	37	27	A40T-DDUNR/L-15-3	**£169.19**	DN_ _1504_ _	CVH4	CHX0518	SD43V	FTKA0410	SPR0714	CN0605	HW30P
63	50	350	30	47	35	A50U-DDUNR/L-15-3	**£211.48**								

DSKNR/L

Double Clamp System

- Steel shank through coolant boring bar (double clamp)
- 75° approach angle
- SN_ _ style inserts

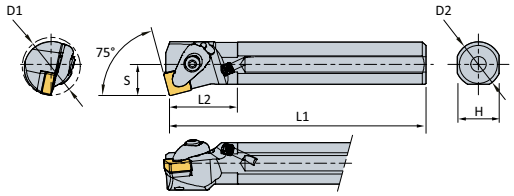
TOOL APPROACH



Right hand shown

INSERTS





*D1 = Minimum machining diameter.

KORLOY

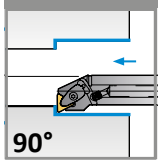
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares						
									Clamp	Clamp Screw	Shim	Shim Screw	Spring	Nozzle	Wrench
32	25	200	27	23	17	A25R-DSKNR/L-09	**£104.97**	SN_ _0903_ _	CVH3	CHX0415	SS32V	FTKA0307	SPR0510	CN0605	HW25P
32	25	200	28	23	17	A25R-DSKNR/L-12	**£104.97**	SN_ _1204_ _	CVH4	CHX0518	SS42V	FTKA0410	SPR0714	CN0605	HW30P
40	32	250	28	30	22	A32S-DSKNR/L-12	**£133.23**								
50	40	300	28	37	27	A40T-DSKNR/L-12	**£169.19**								

DTFNR/L

Double Clamp System

- Steel shank through coolant boring bar (double clamp)
- 90° approach angle
- TN_ _ style inserts

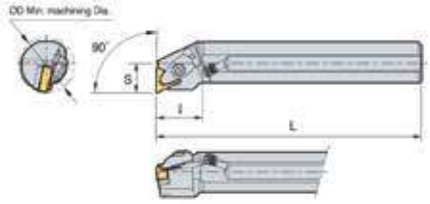
TOOL APPROACH

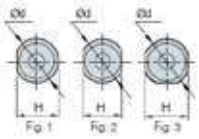


Right hand shown

INSERTS







*D1 = Minimum machining diameter.

KORLOY

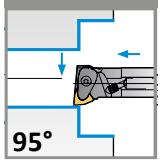
ØD*	Ød	L	ℓ	H	S	Fig	Order Code	Price	Inserts	Spares						
										Clamp	Clamp Screw	Shim	Shim Screw	Spring	Nozzle	Wrench
32	25	200	40	24	17	1	A25R-DTFNR/L-16	**£104.97**	TN_ _1604_ _	CVH3	CHX0415	ST32V	FTKA0307	SPR0510	CN0605	HW25P
40	32	250	50	30	22	3	A32S-DTFNR/L-16	**£133.23**								
50	40	300	60	38	27	3	A40T-DTFNR/L-22	**£169.19**	TN_ _2204_ _	CVH4	CHX0518	ST44V	FTKA0410	SPR0714	CN0605	HW30P
63	50	350	70	47	35	3	A50U-DTFNR/L-22	**£211.48**								

DWLNR/L

Double Clamp System

- Steel shank through coolant boring bar (double clamp)
- 95° approach angle
- WN_ _ style inserts

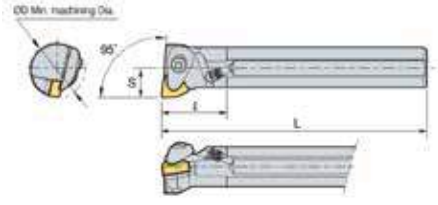
TOOL APPROACH

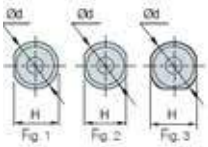


Right hand shown

INSERTS







*D1 = Minimum machining diameter.

KORLOY

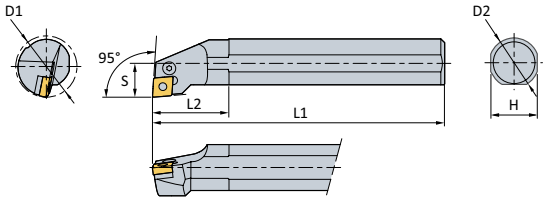
ØD*	Ød	L	ℓ	H	S	Fig	Order Code	Price	Inserts	Spares						
										Clamp	Clamp Screw	Shim	Shim Screw	Spring	Nozzle	Wrench
32	25	200	40	24	17	1	A25R-DWLNR/L-06	**£104.97**	WN_ _0604_ _	CVH3	CHX0415	SW32V	FTKA0307	SPR0510	CN0605	HW25P
40	32	250	50	30	22	3	A32S-DWLNR/L-06	**£133.23**								
50	40	300	60	38	27	3	A40T-DWLNR/L-06	**£169.19**								
33	25	200	40	24	17	1	A25R-DWLNR/L-08	**£104.97**	WN_ _0804_ _	CVH4	CHX0518	SW42V	FTKA0410	SPR0714	CN0605	HW30P
40	32	250	50	30	22	3	A32S-DWLNR/L-08	**£133.23**								
50	40	300	60	38	27	3	A40T-DWLNR/L-08	**£169.19**								
63	50	350	70	47	35	3	A50U-DWLNR/L-08	**£211.48**								

Lever Lock System

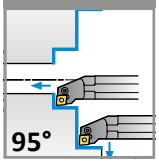
PCLNR/L

Lever Lock System

- Steel shank with optional through coolant
- 95° approach angle
- DN_ _ style inserts

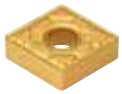


TOOL APPROACH



Right hand shown

INSERTS



*D1 = Minimum machining diameter.

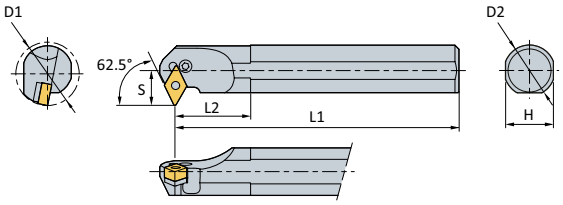
KORLOY

D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Shim Pin Punch	Wrench
Solid														
20	16	200	28	15	11	S16R-PCLNR/L-09	**£59.39**	CN_ _0903_ _	LV3C	VHX0509B	-	-	-	HW20L
25	20	250	32	18	13	S20S-PCLNR/L-09	**£67.79**							
32	25	200	36	23	17	S25R-PCLNR/L-09	**£66.17**							
32	25	200	40	23	17	S25R-PCLNR/L-12	**£66.17**	CN_ _1204_ _	LV4A	VHX0613A	-	-	-	HW25L
40	32	250	50	30	22	S32S-PCLNR/L-12	**£83.95**		LV4	VHX0821	SC42B	SP4	LSPS4	HW30L
50	40	300	55	37	27	S40T-PCLNR/L-12	**£105.81**							
63	50	350	55	47	35	S50U-PCLNR/L-12	**£105.81**							
70	50	350	63	47	35	S50U-PCLNR/L-19	**£105.81**	CN_ _1906_ _	LV6	VHX1027	SC63	SP6	LSPS6	HW40L
Through Coolant														
32	25	200	40	24	17	A25R-PCLNR/L-12	**£88.86**	CN_ _1204_ _	LV4A	VHX0613A	-	-	-	HW25L
44	32	250	50	31	22	A32S-PCLNR/L-12	**£112.77**		LV4	VHX0821	SC42B	SP4	LSPS4	HW30L
50	40	300	60	47	27	A40T-PCLNR/L-12	**£143.35**							

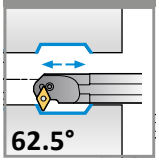
PDSNR/L

Lever Lock System

- Steel shank solid with optional through coolant
- 62.5° approach angle
- DN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



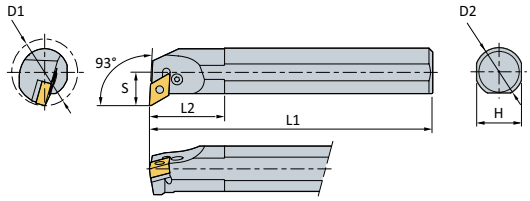
*D1 = Minimum machining diameter.

D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Shim Pin Punch	Wrench
Solid														
40	32	250	45	30	22	S32S-PDSNR/L-15	**£83.95**	DN_ _1506_ _	LV4B	VHX0821	SD42	SP4	LSPS4	HW30L
50	40	300	43	37	27	S40T-PDSNR/L-15	**£105.81**							
40	32	450	45	30	22	S32S-PDSNR/L-15-3	**£83.95**	DN_ _1504_ _	LV4	VHX0821	SD42	SP4	LSPS4	HW30L
50	40	300	43	37	27	S40T-PDSNR/L-15-3	**£105.81**							
Through Coolant														
40	32	250	45	31	22	A32S-PDSNR/L-15	**£112.77**	DN_ _1506_ _	LV4B	VHX0821	SD42	SP4	LSPS4	HW30L
40	32	250	45	31	22	A32S-PDSNR/L-15-3	**£112.77**	DN_ _1504_ _	LV4	VHX0821	SD42	SP4	LSPS4	HW30L

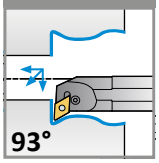
PDUNR/L

Lever Lock System

- Steel shank solid with optional through coolant
- 93° approach angle
- DN_ _ style inserts

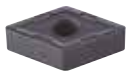


TOOL APPROACH



Right hand shown

INSERTS



KORLOY

D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Shim Pin Punch	Wrench
Solid														
25	20	250	30	18	13	S20S-PDUNR/L-11	**£67.79**	DN_ _1104_ _	LV3D	VHX0512B	-	-	-	HW20L
32	25	200	35	23	17	S25R-PDUNR/L-11	**£66.17**							
40	32	250	40	30	22	S32S-PDUNR/L-11	**£83.95**		LV3	VHX0617	SD317	SP3	LSPS3	HW25L
40	32	250	50	30	22	S32S-PDUNR/L-15	**£83.95**	DN_ _1506_ _	LV4B	VHX0821	SD42	SP4	LSPS4	HW30L
50	40	300	50	37	27	S40T-PDUNR/L-15	**£105.81**							
63	50	350	63	47	35	S50U-PDUNR/L-15	**£105.81**							
40	32	250	50	30	22	S32S-PDUNR/L-15-3	**£83.95**	DN_ _1504_ _	LV4	VHX0821	SD42	SP4	LSPS4	HW30L
50	40	300	50	37	27	S40T-PDUNR/L-15-3	**£105.81**							
Through Coolant														
40	32	250	50	31	22	A32S-PDUNR/L-15	**£112.77**	DN_ _1506_ _	LV4B	VHX0821	SD42	SP4	LSPS4	HW30L
40	32	250	50	31	22	A32S-PDUNR/L-15-3	**£112.77**	DN_ _1504_ _	LV4	VHX0821	SD42	SP4	LSPS4	HW30L

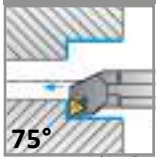
PSKNR/L

Lever Lock System

- Steel shank with optional through coolant
- 75° approach angle
- SN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



*D1 = Minimum machining diameter.

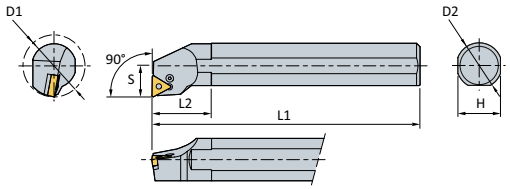
KORLOY

ØD	Ød	L	ℓ	H	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Shim Pin Punch	Wrench
Solid														
32	25	200	40	23	17	S25R-PSKNR/L-12	**£66.17**	SN_ _1204_ _	LV4A	VHX0613A	-	-	-	HW30L
40	32	250	50	30	22	S32S-PSKNR/L-12	**£83.95**		LV4	VHX0821	SS42B	SP4	LSPS4	HW30L
50	40	300	60	38	27	S40T-PSKNR/L-12	**£105.81**							
Through Coolant														
32	25	200	40	24	17	A25R-PSKNR/L-12	**£88.86**	SN_ _1204_ _	LV4A	VHX0613A	-	SP4	-	HW25L
40	32	250	50	30	22	A32S-PSKNR/L-12	**£112.77**		LV4	VHX0821	SS42B	SP4	LSPS4	HW30L

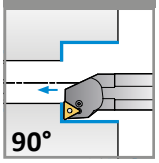
PTFNR/L

Lever Lock System

- Steel shank with optional through coolant
- 90° approach angle
- TN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



*D1 = Minimum machining diameter.

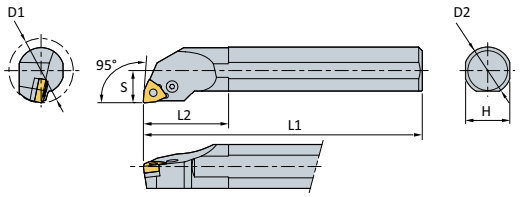
KORLOY

D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Shim Pin Punch	Wrench
Solid														
20	16	200	28	15	11	S16R-PTFNR/L-11	**£59.39**	TN_ _1103_ _	LV2	VHX0509B	-	-	-	HW25L
25	20	250	33	18	13	S20S-PTFNR/L-11	**£67.79**							
32	25	200	36	23	17	S25R-PTFNR/L-11	**£66.17**							
32	25	200	42	23	17	S25R-PTFNR/L-16	**£66.17**	TN_ _1604_ _	LV3B	VHX0512B	-	-	-	HW20L
44	32	250	50	30	22	S32S-PTFNR/L-16	**£83.95**		LV3	VHX0617	ST317B	SP3	LSPS3	HW25L
54	40	300	55	37	27	S40T-PTFNR/L-16	**£105.81**							
Through Coolant														
32	25	200	40	24	17	A25R-PTFNR/L-16	**£88.86**	TN_ _1604_ _	LV3	VHX0617	ST317B	SP3	LSPS3	HW25L
40	32	250	50	31	22	A32S-PTFNR/L-16	**£112.77**							

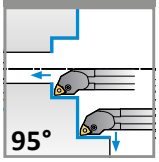
PWLNR/L

Lever Lock System

- Steel shank with optional through coolant
- 95° approach angle
- WN_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



*D1 = Minimum machining diameter.

KORLOY

D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares					
									Lever	Screw	Shim	Shim Pin	Shim Pin Punch	Wrench
25	20	250	40	18	13	S20S-PWLNR/L-06	**£67.79**	WN_ _0604_ _	LV3B	VHX0512B	-	-	-	HW20L
32	25	200	40	23	17	S25R-PWLNR/L-06	**£66.17**							
44	32	250	45	30	22	S32S-PWLNR/L-06	**£83.95**		LV3B	VHX0613B	SW317	SP3	LSPS3	HW25L
32	25	200	45	23	17	S25R-PWLNR/L-08	**£66.17**	WN_ _0804_ _	LV4A	VHX0613A	-	-	-	HW25L
44	32	250	50	30	22	S32S-PWLNR/L-08	**£83.95**		LV4	VHX0821	SW42	SP4	LSPS3	HW30L

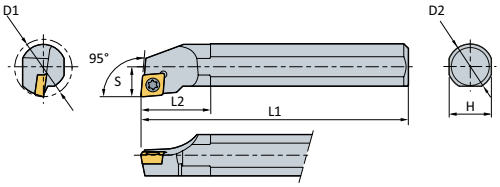
cutwel

Screw On System

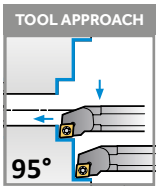
SCLCR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 95° approach angle
- CC_ _ style inserts



*D1 = Minimum machining diameter.



Right hand shown



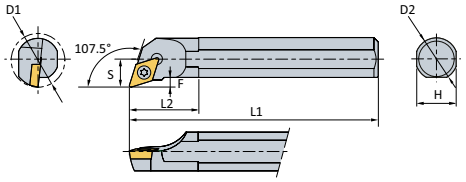
KORLOY

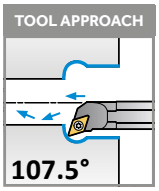
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
Steel Shank Solid												
11	8	125	14	7	5	S08K-SCLCR/L-06	**£35.58**	CC_ _0602_ _	FTKA02555	-	-	TW07P
13	10	125	14	9	6	S10K-SCLCR/L-06	**£33.46**		FTKA02565	-	-	TW07P
13	10	150	14	9	6	S10M-SCLCR/L-06	**£33.46**					
16	12	150	25	11	9	S12M-SCLCR/L-06	**£36.11**					
20	16	200	32	15	11	S16R-SCLCR/L-06	**£43.79**					
16	12	150	25	11	9	S12M-SCLCR/L-09	**£36.11**	CC_ _09T3_ _	FTGA03508	-	-	TW15P
20	16	200	32.5	15	11	S16R-SCLCR/L-09	**£43.79**					
25	20	250	38	18	13	S20S-SCLCR/L-09	**£53.66**					
32	25	200	45	23	17	S25R-SCLCR/L-09	**£60.93**		FTGA03510	-	-	TW15P
32	25	200	45	23	17	S25R-SCLCR/L-12	**£60.93**	CC_ _1204_ _	FTGA0411F	-	-	TW15P
40	32	250	50	30	22	S32S-SCLCR/L-12	**£76.65**		FTKA02555	SC42S	SHXN0610F	HW40L, TW15P
50	40	300	60	37	27	S40T-SCLCR/L-12	**£97.80**					
Steel Shank Through Coolant												
10	8	80	14	7.5	5	A08F-SCLCR/L-06	**£56.60**	CC_ _0602_ _	FTKA02565	-	-	TW07P
12	10	100	14	9.5	6	A10H-SCLCR/L-06	**£51.83**		FTGA03508	-	-	TW07P
16	12	125	25	11	9	A12K-SCLCR/L-06	**£56.07**					
16	12	125	25	11	9	A12K-SCLCR/L-09	**£56.07**	CC_ _09T3_ _	FTGA03510	-	-	TW15P
20	16	150	32.5	15	11	A16M-SCLCR/L-09	**£63.41**					
25	20	180	-	19	13	A20Q-SCLCR/L-09	**£76.99**					
32	25	200	45	24	17	A25R-SCLCR/L-09	**£83.17**		FTGA03510	-	-	TW15P
32	25	200	45	24	17	A25R-SCLCR/L-12	**£83.17**	CC_ _1204_ _	FTGA0411F	-	-	TW15P
40	32	250	50	31	32	A32S-SCLCR/L-12	**£104.58**		FTGA0411F	SC42S	SHXN0610F	HW40L, TW15P
Carbide Shank Solid												
5	4	90	-	3.8	2.5	C04G-SCLCR/L-03	**£75.24**	CC_ T0301_ _	FTNA01633	-	-	TW06P
6	5	100	-	4.4	3	C05H-SCLCR/L-03	**£75.24**					
7	6	100	-	5.4	3.5	C06H-SCLCR/L-04	**£75.24**	CC_ T0401_ _	FTNA0238	-	-	
8	7	125	-	6.4	4	C07K-SCLCR/L-04	**£78.51**					
10	8	125	-	7	5	C08K-SCLCR/L-06	**£81.79**	CC_ T0602_ _	FTKA02555	-	-	TW07P
12	10	125	-	9	6	C10K-SCLCR/L-06	**£93.23**		FTKA02565			
12	10	150	-	9	6	C10M-SCLCR/L-06	**£111.23**					
14	12	150	-	11	7	C12M-SCLCR/L-06	**£111.23**					
14	12	180	-	11	7	C12Q-SCLCR/L-06	**£150.48**					
15	12	150	-	11	8	C12M-SCLCR/L-09	**£111.23**	CC_ T09T3_ _	FTGA03508	-	-	TW15P
15	12	180	-	11	8	C12Q-SCLCR/L-09	**£150.48**					
20	16	200	-	15	10	C16R-SCLCR/L-09	**£215.92**					
20	16	250	-	15	10	C16S-SCLCR/L-09	**£284.61**					
25	20	200	-	18	13	C20R-SCLCR/L-09	**£292.22**					
25	20	250	-	18	13	C20S-SCLCR/L-09	**£387.50**					
32	25	300	-	23	17	C25T-SCLCR/L-12	**£730.53**	CC_ T1204_ _	FTGA0411F	-	-	TW15P
Carbide Shank Through Coolant												
7	6	100	-	5.4	3.5	E06H-SCLCR/L-04	**£107.95**	CC_ T0401_ _	FTNA0238	-	-	TW06P
8	7	125	-	6.4	4	E07K-SCLCR/L-04	**£107.95**					
10	8	125	-	7	5	E08K-SCLCR/L-06	**£107.95**	CC_ T0602_ _	FTKA02555	-	-	TW07P
12	10	125	-	9	6	E10K-SCLCR/L-06	**£117.78**		FTKA02565			
12	10	150	-	9	6	E10M-SCLCR/L-06	**£147.21**					
14	12	150	-	11	7	E12M-SCLCR/L-06	**£155.39**					
14	12	180	-	11	7	E12Q-SCLCR/L-06	**£179.93**					
15	12	150	-	11	8	E12M-SCLCR/L-09	**£155.39**	CC_ T09T3_ _	FTGA03508	-	-	TW15P
15	12	180	-	11	8	E12Q-SCLCR/L-09	**£179.93**					
20	16	200	-	15	11	E16R-SCLCR/L-09	**£268.26**					
20	16	250	-	15	10	E16S-SCLCR/L-09	**£369.68**					
25	20	200	-	18	13	E20R-SCLCR/L-09	**£419.26**					
25	20	250	-	19	13	E20S-SCLCR/L-09	**£476.43**					
32	25	300	-	23	17	E25T-SCLCR/L-12	**£835.35**	CC_ T1204_ _	FTGA0411F	-	-	TW15P

SDQCR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 107.5° approach angle
- DC_ _ style inserts





Right hand shown



*D1 = Minimum machining diameter.

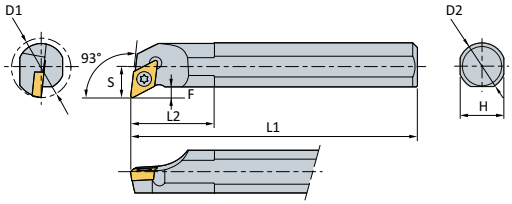
KORLOY

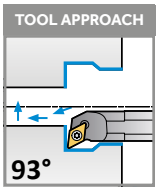
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares	
									Screw	Wrench
Steel Shank Solid										
13	10	150	20	9	7	S10M-SDQCR/L-07	**£33.46**	DC_ _0702_ _	FTKA02555	TW07P
16	12	150	22	11	9	S12M-SDQCR/L-07	**£36.11**		FTKA02565	
20	16	200	27	15	11	S16R-SDQCR/L-07	**£43.79**			
20	16	200	32	15	11	S16R-SDQCR/L-11	**£43.79**	DC_ _11T3_ _	FTGA03508	TW15P
25	20	250	32	18	13	S20S-SDQCR/L-11	**£53.66**			
32	25	200	32	23	17	S25R-SDQCR/L-11	**£60.93**		FTGA03510	
Steel Shank Through Coolant										
13	10	100	20	9.5	7	A10H-SDQCR/L-07	**£51.83**	DC_ _0702_ _	FTKA02555	TW07P
16	12	125	22	11	9	A12K-SDQCR/L-07	**£56.07**		FTKA02565	
20	16	150	27	15	11	A16M-SDQCR/L-11	**£63.41**	DC_ _11T3_ _	FTGA03508	TW15P
25	20	180	32	19	13	A20Q-SDQCR/L-11	**£76.99**			
32	25	200	32	24	17	A25R-SDQCR/L-11	**£83.17**		FTGA03510	
Carbide Shank Solid										
10	8	125	-	7	6	C08K-SDQCR/L-07	**£81.79**	DC_ T0702_ _	FTKA02555	TW07P
13	10	125	-	9	7	C10K-SDQCR/L-07	**£93.23**			
16	12	150	-	11	9	C12M-SDQCR/L-07	**£114.50**		FTKA02565	
20	16	200	-	15	11	C16R-SDQCR/L-07	**£215.92**			
20	16	200	-	15	11	C16R-SDQCR/L-11	**£215.92**	DC_ T11T3_ _	FTGA03508	TW15P
25	20	200	-	18	13	C20R-SDQCR/L-11	**£292.22**			
25	20	250	-	18	13	C20S-SDQCR/L-11	**£387.50**			
Carbide Shank Through Coolant										
10	8	125	-	7	6	E08K-SDQCR/L-07	**£107.95**	DC_ T0702_ _	FTKA02555	TW07P
13	10	125	-	9	7	E10K-SDQCR/L-07	**£117.78**			
16	12	150	-	11	9	E12M-SDQCR/L-07	**£155.39**		FTKA02565	
20	16	200	-	15	11	E16R-SDQCR/L-07	**£268.26**			
20	16	200	-	15	11	E16R-SDQCR/L-11	**£268.26**	DC_ T11T3_ _	FTGA03508	TW15P
25	20	200	-	18	13	E20R-SDQCR/L-11	**£419.26**			
25	20	250	-	18	13	E20S-SDQCR/L-11	**£476.43**			

SDUCR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 93° approach angle
- DC_ _ style inserts





Right hand shown



*D1 = Minimum machining diameter.

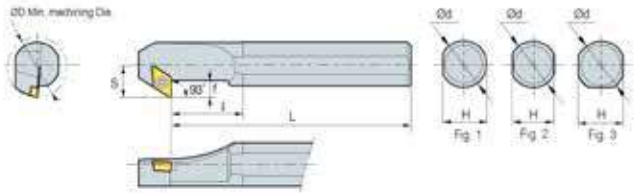
KORLOY

D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares	
									Screw	Wrench
Steel Shank Solid										
13	10	150	20	9	7	S10M-SDUCR/L-07	**£33.46**	DC_ _0702_ _	FTKA02555	TW07P
16	12	150	22	11	9	S12M-SDUCR/L-07	**£36.11**		FTKA02565	
20	16	200	27	15	11	S16R-SDUCR/L-07	**£43.79**			
20	16	200	27	15	11	S16R-SDUCR/L-11	**£43.79**	DC_ _11T3_ _	FTGA03508	TW15P
25	20	250	40	18	13	S20S-SDUCR/L-11	**£53.66**			
32	25	200	46	23	17	S25R-SDUCR/L-11	**£60.93**		FTGA03510	
40	32	250	50	30	22	S32S-SDUCR/L-11	**£76.65**			
Steel Shank Through Coolant										
13	10	100	20	9.5	7	A10H-SDUCR/L-07	**£51.83**	DC_ _0702_ _	FTKA02555	TW07P
16	12	125	22	11	9	A12K-SDUCR/L-07	**£56.07**		FTKA02565	
20	16	150	27	15	11	A16M-SDUCR/L-07	**£63.41**			
25	20	180	35	19	13	A20Q-SDUCR/L-11	**£76.99**	DC_ _11T3_ _	FTGA03508	TW15P
32	25	200	46	24	17	A25R-SDUCR/L-11	**£83.17**		FTGA03510	
Carbide Shank Solid										
13	10	125	-	9	7	C10K-SDUCR/L-07	**£93.23**	DC_ T0702_ _	FTKA02555	TW07P
13	10	150	-	9	7	C10M-SDUCR/L-07	**£111.23**			
16	12	150	-	11	9	C12M-SDUCR/L-07	**£114.50**		FTKA02565	
16	12	180	-	11	9	C12Q-SDUCR/L-07	**£150.48**			
20	16	200	-	15	11	C16R-SDUCR/L-07	**£215.92**			
20	16	250	-	15	11	C16S-SDUCR/L-07	**£284.61**			
20	16	200	-	15	11	C16R-SDUCR/L-11	**£215.92**	DC_ T11T3_ _	FTGA03508	TW15P
20	16	250	-	15	11	C16S-SDUCR/L-11	**£284.61**			
25	20	200	-	18	13	C20R-SDUCR/L-11	**£292.22**			
25	20	250	-	18	13	C20S-SDUCR/L-11	**£387.50**			
32	25	300	-	23	17	C25T-SDUCR/L-11	**£746.40**		FTGA03510	
Carbide Shank Through Coolant										
13	10	125	-	9	7	E10K-SDUCR/L-07	**£117.78**	DC_ T0702_ _	FTKA02555	TW07P
13	10	150	-	9	7	E10M-SDUCR/L-07	**£147.21**			
16	12	150	-	11	9	E12M-SDUCR/L-07	**£155.39**		FTKA02565	
16	12	180	-	11	9	E12Q-SDUCR/L-07	**£179.93**			
20	16	200	-	15	11	E16R-SDUCR/L-07	**£268.26**			
20	16	250	-	15	11	E16S-SDUCR/L-07	**£369.68**			
20	16	200	-	15	11	E16R-SDUCR/L-11	**£268.26**	DC_ T11T3_ _	FTGA03508	TW15P
20	16	250	-	15	11	E16S-SDUCR/L-11	**£369.68**			
25	20	200	-	18	13	E20R-SDUCR/L-11	**£419.26**			
25	20	250	-	18	13	E20S-SDUCR/L-11	**£476.43**			
32	25	300	-	23	17	E25T-SDUCR/L-11	**£835.35**		FTGA03510	

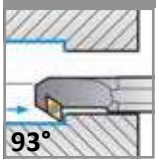
SDZCR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 93° approach angle
- DC_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



*D1 = Minimum machining diameter.

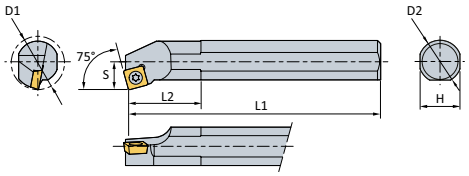
KORLOY

ØD*	Ød	L	H	S	f	ℓ	Order Code	Price	Inserts	Spares			
										Screw	Shim	Shim Screw	Wrench
Steel Shank Solid													
20	16	200	14	11	6.5	25	S16R-SDZCR/L-07	**£43.79**	DC_ _0702_ _	FTKA02565	-	-	TW07P
25	20	250	18	13	7.5	32	S20S-SDZCR/L-07	**£53.66**					
32	25	200	23	17	9	40	S25R-SDZCR/L-11	**£60.93**	DC_ _11T3_ _	FTGA03510	-	-	TW15P
40	32	250	30	22	11	50	S32S-SDZCR/L-11	**£76.65**		FTGA03512	SD32S	SHXN0509F	TW15P, HW35L
50	40	300	38	27	11	60	S40T-SDZCR/L-11	**£97.80**					
Steel Shank Through Coolant													
32	25	200	24	17	9	40	A25R-SDZCR/L-11	**£83.17**	DC_ _11T3_ _	FTGA03510	-	-	TW15P
40	32	250	30	22	11	50	A32S-SDZCR/L-11	**£104.58**		FTGA03512	SD32S	SHXN0509F	TW15P, HW35L

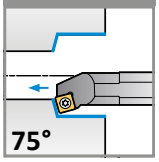
SSKCR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 75° approach angle
- SC_ _ style inserts



TOOL APPROACH



Right hand shown

INSERTS



*D1 = Minimum machining diameter.

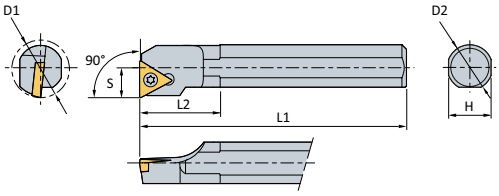
KORLOY

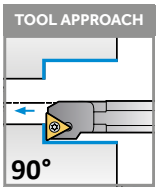
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
Steel Shank Solid												
16	12	150	26	11	9	S12M-SSKCR/L-09	**£36.11**	SC_ _09T3_ _	FTGA03507	-	-	TW15P
20	16	200	40	15	11	S16R-SSKCR/L-09	**£43.79**		FTGA03508			
25	20	250	46	18	13	S20S-SSKCR/L-09	**£53.66**					
32	25	200	36	23	17	S25R-SSKCR/L-12	**£60.93**	SC_ _1204_ _	FTGA0411F	-	-	TW15P
40	32	250	43	30	22	S32S-SSKCR/L-12	**£76.65**			SS42S	SHXN0610F	TW15P, HW40L
Steel Shank Through Coolant												
20	16	150	32	15	11	A16M-SSKCR/L-09	**£63.41**	SC_ _1204_ _	FTGA03508	-	-	TW15P
25	20	180	34	19	13	A20Q-SSKCR/L-09	**£76.99**					
32	25	200	36	24	17	A25R-SSKCR/L-12	**£83.17**		FTGA0411F	SS42S	SFXN0610F	TW15P, HW40L
40	32	250	43	31	22	A32S-SSKCR/L-12	**£104.58**					

STFCR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 90° approach angle
- TC_ _ style inserts





Right hand shown



*D1 = Minimum machining diameter.

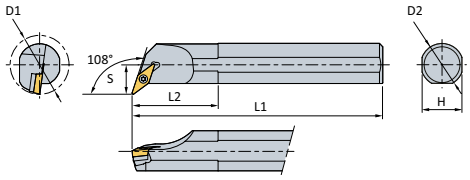
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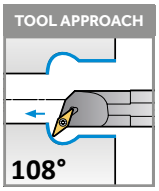
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
Steel Shank Solid												
13	10	150	23	9	7	S10M-STFCR/L-09	**£33.46**	TC_ _0902_ _	FTKA02206	-	-	TW06P
16	12	150	28	11	9	S12M-STFCR/L-09	**£36.11**					
16	12	150	30	11	9	S12M-STFCR/L-11	**£36.11**	TC_ _1102_ _	FTKA02565	-	-	TW07P
20	16	200	35	15	11	S16R-STFCR/L-11	**£43.79**					
25	20	250	36	18	13	S20S-STFCR/L-11	**£53.66**					
25	20	250	36	18	13	S20S-STFCR/L-16	**£53.66**	TC_ _16T3_ _	FTGA03510	-	-	TW15P
32	25	200	49	23	17	S25R-STFCR/L-16	**£60.93**					
40	32	250	50	30	22	S32S-STFCR/L-16	**£76.65**	TC_ _16T3_ _	FTGA03512	ST32S	SHXN0509F	TW15P, HW35L
50	40	300	60	37	27	S40T-STFCR/L-16	**£97.80**					
Steel Shank Through Coolant												
13	10	100	23	9.5	7	A10H-STFCR/L-09	**£51.83**	TC_ _0902_ _	FTKA02206	-	-	TW06P
16	12	125	23	11	9	A12K-STFCR/L-09	**£56.07**					
16	12	125	30	11	9	A12K-STFCR/L-11	**£56.07**					
20	16	150	30	15	11	A16M-STFCR/L-11	**£63.41**	TC_ _1102_ _	FTKA02565	-	-	TW07P
25	20	180	36	19	13	A20Q-STFCR/L-11	**£76.99**					
32	25	200	49	24	17	A25R-STFCR/L-16	**£83.17**	TC_ _16T3_ _	FTKA03510	-	-	TW15P
40	32	250	50	31	22	A32S-STFCR/L-16	**£104.58**		FTGA03512	ST32S	SHXN0509F	TW15P, HW35L
Carbide Shank Solid												
10	8	125	-	7	5	C08K-STFCR/L-09	**£81.79**	TC_ T0902_ _	FTKA02206	-	-	TW06P
12	10	125	-	9	6	C10K-STFCR/L-09	**£93.23**					
12	10	125	-	9	6	C10K-STFCR/L-11	**£93.23**	TC_ T1102_ _	FTKA02565	-	-	TW07P
15	12	150	-	11	8	C12M-STFCR/L-11	**£114.50**					
20	16	200	-	15	10	C16R-STFCR/L-11	**£215.92**					
25	20	200	-	18	13	C20R-STFCR/L-11	**£292.22**					
25	20	250	-	18	13	C20S-STFCR/L-11	**£387.50**					
25	20	200	-	18	13	C20R-STFCR/L-16	**£292.22**	TC_ T16T3_ _	FTGA03510	-	-	TW15P
25	20	250	-	18	13	C20S-STFCR/L-16	**£387.50**					
Carbide Shank Through Coolant												
10	8	125	-	7	5	E08K-STFCR/L-09	**£107.95**	TC_ T0902_ _	FTKA02206	-	-	TW06P
12	10	125	-	9	6	E10K-STFCR/L-09	**£117.78**					
12	10	125	-	9	6	E10K-STFCR/L-11	**£117.78**	TC_ T1102_ _	FTKA02565	-	-	TW07P
15	12	150	-	11	8	E12M-STFCR/L-11	**£155.39**					
20	16	200	-	15	10	E16R-STFCR/L-11	**£268.26**					
25	20	200	-	18	13	E20R-STFCR/L-11	**£419.26**					
25	20	250	-	18	13	E20S-STFCR/L-11	**£476.43**					
25	20	200	-	18	13	E20R-STFCR/L-16	**£419.26**	TC_ T16T3_ _	FTGA03510	-	-	TW15P
25	20	250	-	18	13	E20S-STFCR/L-16	**£476.43**					

SVQBR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 108° approach angle
- VB_ _ style inserts





Right hand shown



*D1 = Minimum machining diameter.

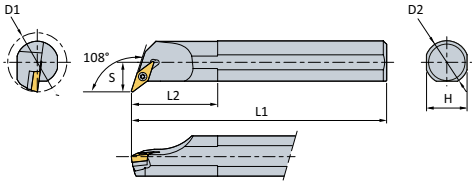
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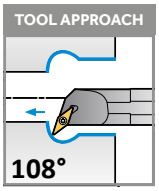
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
Steel Shank Solid												
40	32	250	56	30	22	S32S-SVQBR/L-16	**£76.65**	VB_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P, HW35L
50	40	300	64	37	27	S40T-SVQBR/L-16	**£97.80**					
Steel Shank Through Coolant												
40	32	250	56	31	22	A32S-SVQBR/L-16	**£104.58**	VB_ _1604_ _	FTGA03512	SV32S	SHXN0509F	TW15P, HW35L

SVQCR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 108° approach angle
- VC_ _ style inserts





Right hand shown



*D1 = Minimum machining diameter.

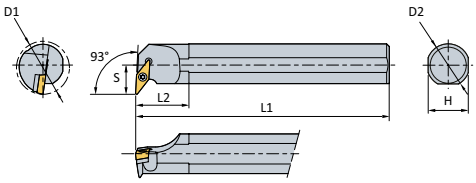
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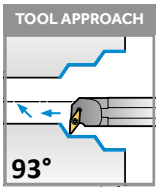
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
20	16	200	35	15	11	S16R-SVQCR/L-11	**£43.79**	VC_ _1103_ _	FTKA02565	-	-	TW07P
25	20	250	38	18	13	S20S-SVQCR/L-11	**£53.66**					
32	25	200	42	23	17	S25R-SVQCR/L-11	**£60.93**					
25	20	250	42	18	13	S20S-SVQCR/L-13	**£53.66**	VC_ _1303_ _	FTKA0307	-	-	TW07P
32	25	200	45	23	17	S25R-SVQCR/L-13	**£60.93**					
32	25	200	50	23	17	S25R-SVQCR/L-16	**£60.93**	VC_ _1604_ _	FTGA03510	-	-	TW15P
40	32	250	56	30	22	S32S-SVQCR/L-16	**£76.65**		FTGA03512	SV32S	SHXN0509F	TW15P, HW35L
50	40	300	64	37	27	S40T-SVQCR/L-16	**£97.80**					

SVUBR/L

Screw On System

- Steel & carbide shank solid or through coolant boring bar (screw on)
- 93° approach angle
- VB_ _ style inserts





Right hand shown



*D1 = Minimum machining diameter.

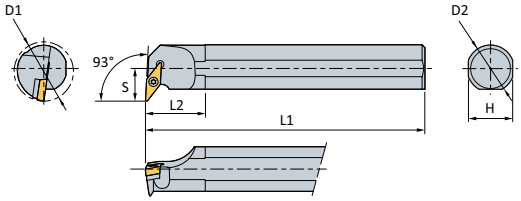
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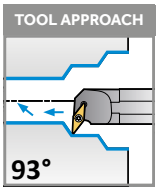
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
Steel Shank Solid												
40	32	250	56	30	22	S32S-SVUBR/L-16	**£76.65**	VB_ _1604_ _	FTGA03510	SV32S	SHXN0509F	TW15P, HW35L
50	40	300	64	37	27	S40T-SVUBR/L-16	**£97.80**					
Steel Shank Through Coolant												
40	32	250	56	31	22	A32S-SVUBR/L-16	**£104.58**	VB_ _1604_ _	FTGA03510	SV32S	SHXN0509F	TW15P, HW35L

SVUCR/L

Screw On System

- Steel shank solid boring bar (screw on)
- 93° approach angle
- VC_ _ style inserts





Right hand shown



*D1 = Minimum machining diameter.

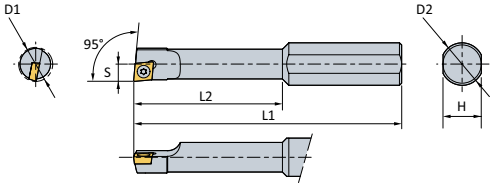
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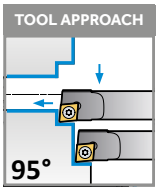
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares			
									Screw	Shim	Shim Screw	Wrench
20	16	200	30	15	13	S16R-SVUCR/L-11	**£43.79**	VC_ _1103_ _	FTKA02565	-	-	TW07P
25	20	250	33	18	14	S20S-SVUCR/L-11	**£53.66**					
32	25	300	38	23	17	S25T-SVUCR/L-11	**£60.93**					
28	20	250	35	18	16	S20S-SVUCR/L-13	**£53.66**	VC_ _1303_ _	FTKA0307	-	-	TW09P
32	25	200	40	23	17	S25R-SVUCR/L-13	**£60.93**					
32	25	200	50	23	19	S25R-SVUCR/L-16	**£60.93**	VC_ _1604_ _	FTGA03510	-	-	TW15P
40	32	250	56	30	22	S32S-SVUCR/L-16	**£76.65**		FTGA03512	SV32S	SHXN0509F	TW15P, HW35L
50	40	300	64	37	27	S40T-SVUCR/L-16	**£97.80**					

SCLCR/L

Screw On System

- Compact mini steel shank solid boring bar (screw on)
- 95° approach angle
- CCET style inserts
- PLEASE NOTE: Holder takes opposite handed inserts





Right hand shown



*D1 = Minimum machining diameter.

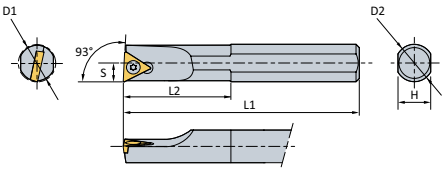
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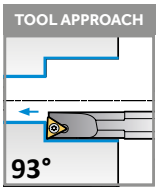
D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares	
									Screw	Wrench
5	10	100	25	9	2.5	S10H-SCLCR/L-0305	**£77.49**	CCET0301_ _	FTNA01633	TW06P
6	10	100	25	9	3.0	S10H-SCLCR/L-0306	**£77.49**			
7	10	110	30	9	3.5	S10J-SCLCR/L-0407	**£77.49**	CCET0401_ _	FTNA0238	TW06P
8	10	110	30	9	4.0	S10J-SCLCR/L-0408	**£77.49**			

STUBR/L

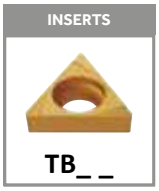
Screw On System

- Compact mini steel shank solid boring bar (screw on)
- 93° approach angle
- TB_ _ style inserts
- PLEASE NOTE: Holder takes opposite handed inserts





Right hand shown



*D1 = Minimum machining diameter.

KORLOY

D1*	D2	L1	L2	H	S	Order Code	Price	Inserts	Spares	
									Screw	Wrench
Steel Shank Solid										
8	8	125	30	7	4	S08K-STUBR/L-06	**£44.50**	TB_ _0601_ _R/L	FTNA0204	TW06P
Steel Shank Through Coolant										
8	8	80	30	7.5	4	A08F-STUBR/L-06	**£56.60**	TB_ _0601_ _R/L	FTNA0204	TW06P

Anti-Vibration Modular Boring Bars

Silent Boring Bars For Deep Hole Boring & Threading <7xD

- Boring and internal threading up to 7xD
- Silent machining
- Through coolant
- Interchangeable heads
- Longer lengths available on request



CANELA

ANTI-VIBRATION MODULAR SHANK

- Max cutting depth up to 7xD
- Anti vibration shank with internal coolant



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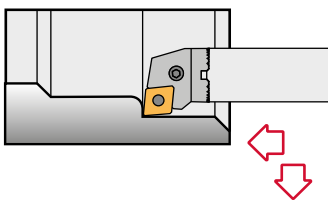
Shank Dia	Head Size	Length	Order Code	Price
25	25	300	J25/300	**£867.36**
32	32	350	J32/350	**£1,084.49**
40	40	400	J40/400	**£1,222.30**
50	50	550	J50/550	**£1,616.02**
60	60	650	J60/650	**£1,655.44**
80	60	1000	J80/1000	**£5,692.60**
100	60	1200	J100/1200	**£7,348.04**

PCLNR/L 95°

Boring Head for CNMG Inserts

- Boring head for internal turning applications equipped with rhombic negative inserts (angle 80°).





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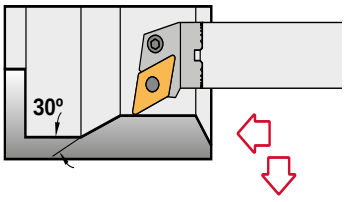
Head Size	Insert	Length	Order Code	Price
25	CNMG 1204	25	A25XPCLNR/L12-N	**£210.44**
32		30	A32XPCLNR/L12-N	**£272.44**
40		30	A40XPCLNR/L12-N	**£229.43**
50		40	A50XPCLNR/L12-N	**£241.80**
60	CNMG 1606	40	A60XPCLNR/L16-N	**£292.97**

PDUNR/L 93°

Boring Head for DNMG Inserts

- Boring head for internal turning and profiling applications equipped with rhombic negative inserts (angle 55°).





CANELA

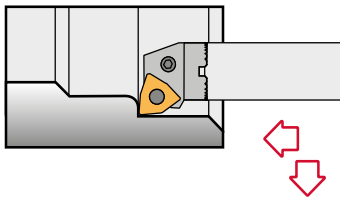
Head Size	Insert	Length	Order Code	Price
32	DNMG 1506	35	A32XPDUNR/L15-N	**£210.44**
40		30	A40XPDUNR/L15-N	**£229.43**
50		40	A50XPDUNR/L15-N	**£282.33**
60		40	A60XPDUNR/L 15-N	**£292.97**

PWLNR/L 95°

Boring Head for WNMG Inserts

- Boring head for internal turning applications equipped with trigon negative inserts (angle 80°)
- For general applications, roughing and finishing





CANELA

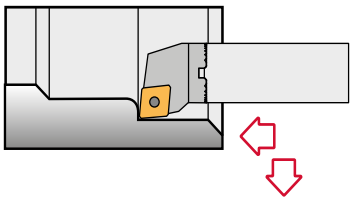
Head Size	Insert	Length	Order Code	Price
40	WNMG 0804	30	A40XPWLNR/L08-N	£229.43
50		40	A50XPWLNR/L08-N	£241.80
60		40	A60XPWLNR/L08-N	£292.97

SCLCR/L 93°

Boring Head for CCMT Inserts

- Multi-purpose boring head equipped with rhombic positive insert (angle 80°)
- For finishing applications or use on low powered machines





CANELA

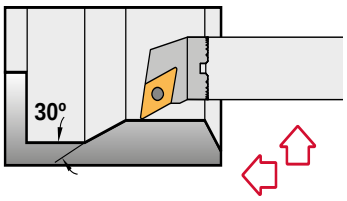
Head Size	Insert	Length	Order Code	Price
25	CCMT 09T3	25	A25XSCLCR/L09-N	£199.71
32	CCMT 1204	30	A32XSCLCR/L12-N	£210.44
40		30	A40XSCLCR/L12-N	£229.43
50		40	A50XSCLCR/L12-N	£241.80
60		40	A60XSCLCR/L12-N	£292.97

SDUCR/L 93°

Boring Head for DCMT/DCGT Inserts

- Multi-purpose profiling boring head equipped with diamond positive insert (angle 55°)





CANELA

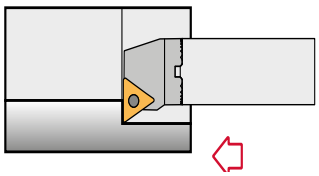
Head Size	Insert	Length	Order Code	Price
25	DCMT 11T3	25	A25XSDUCR/L11-N	£199.71
32		30	A32XSDUCR/L11-N	£210.44
40		30	A40XSDUCR/L11-N	£229.43
50		40	A50XSDUCR/L11-N	£244.11
60		40	A60XSDUCR/L11-N	£292.97

STFCR/L 93°

Boring Head for TCMT/TCGT Inserts

- Multi-purpose boring head equipped with triangular positive insert
- For general applications, roughing, semi-finishing and finishing





CANELA

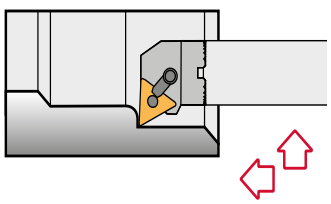
Head Size	Insert	Length	Order Code	Price
25	TCMT 09T3	25	A25XSTFCR/L16-N	£199.71
32	TCMT 1204	30	A32XSTFCR/L16-N	£210.44
40		30	A40XSTFCR/L16-N	£229.43
50		40	A50XSTFCR/L16-N	£241.80
60		40	A60XSTFCR/L16-N	£292.97

MTUNR/L 93°

Boring Head for TNMG Inserts

- Internal turning and profiling boring head equipped with triangular negative double-sided insert
- For general applications, roughing, semi-finishing and finishing





CANELA

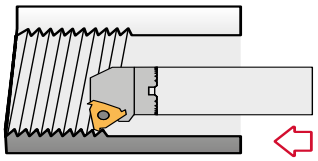
Head Size	Insert	Length	Order Code	Price
32	TNMG1604	30	A32XMTUNR/L16-N	£210.44
40		30	A40XMTUNR/L16-N	£229.43
50		30	A50XMTUNR/L16-N	£241.80
60	TNMG2204	40	A60XMTUNR/L22-N	£292.97

STXNR/L 93°

Internal Threading Head

- Internal thread turning applications





CANELA

Head Size	Insert	Length	Order Code	Price
25	16NR / 3IR	25	A25XSTXNR16-N	£193.43
32		30	A32XSTXNR16-N	£193.43
32	22NR / 4IR	32	A32XSTXNR22-N	£229.06
40		32	A40XSTXNR22-N	£249.35
50		40	A50XSTXNR22-N	£193.43
60		40	A60XSTXNR22-N	£193.43



KORLOY

Saw Man-X

PERFORMANCE
★★★★★

The Sawman-X Parting range is the 1st choice system for high performance parting off and stable deep grooving.

Sawman-X inserts feature a special treatment on the cutting edge for higher precision chip control and longer tool life.

The three-way V-Rail clamping system provides enhanced stability and reduced vibration in high feed parting or deep grooving.

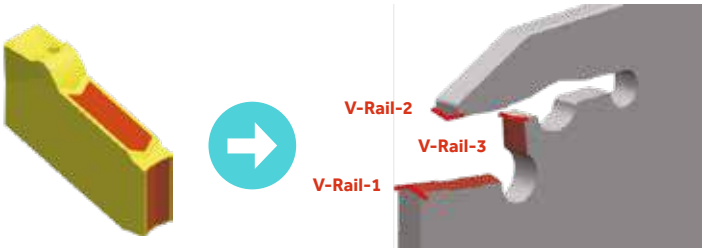
Advantages:

- Ideal for high speed, high feed and high depth of cut machining.
- Unique special cutting edge provides exceptional chip control.
- The special geometry also ensures a long lasting insert.



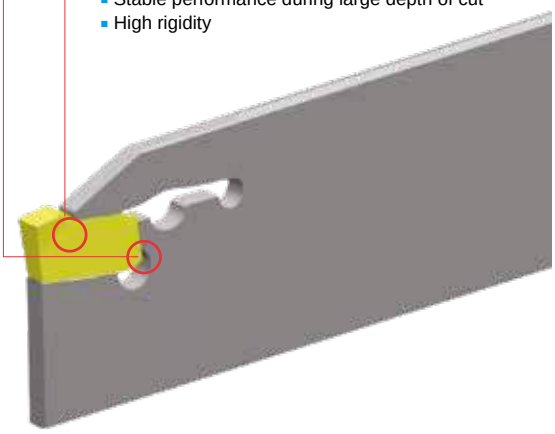
THREE-WAY V-RAIL CLAMPING SYSTEM

- Insert is tightly clamped in the tip seat, preventing tool pull out
- Reduced vibration increases stability during machining
- Stable high speed, high feed and high depth of cut machining is possible



SPECIAL CUTTING EDGE

- Exceptional chip control in high feed parting
- Stable performance during large depth of cut
- High rigidity

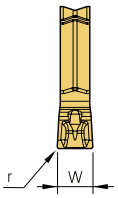


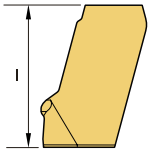
SAWMAN-X PARTING INSERTS - KSP

For High Performance Parting

- High performance parting off applications
- Stable high speed, high feed and high depth of cut machining
- Exceptional chip control and long tool life
- KSP200/300 left and right inserts have a 6° lead angle
- KSP400 left and right inserts have a 4° lead angle







KORLOY

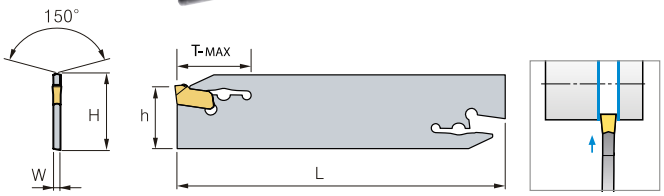
Dimensions			Grades			Hand	Order Code	Price	Blades / Holders
W	L	R	PC3035	PC5300	PC8110				
Type N - 1st Choice for Steel & Cast Iron									
2.0	11.0	0.2	-	●	-	Left	KSP200L	**£8.06**	KSPB2 / KSPH2
			●	●	●	Neutral	KSP200		
			●	●	●	Right	KSP200R		
3.0	12.0	0.2	-	●	-	Left	KSP300L	**£9.42**	KSPB3 / KSPH3
			●	●	●	Neutral	KSP300		
			●	●	●	Right	KSP300R		
4.0	12.5	0.25	-	●	-	Left	KSP400L	**£9.77**	KSPB4 / KSPH4
			●	●	●	Neutral	KSP400		
			●	-	●	Right	KSP400R		
Type S - Dedicated for Stainless Steel & Exotics									
2.0	11.0	0.2	-	●	●	Neutral	KSP200-020-S	**£8.06**	KSPB2 / KSPH2
3.0	12.0	0.2	-	●	●	Neutral	KSP300-020-S	**£9.42**	KSPB3 / KSPH3
4.0	12.5	0.25	-	●	●	Neutral	KSP400-025-S	**£9.77**	KSPB4 / KSPH4

SAWMAN-X PARTING BLADE

For High Performance Parting

- High performance parting off applications
- Strong and stable clamping with 3-way V-Rail system to minimise vibration and eliminate tool pull out risk
- Suitable for parting off and deep grooving applications
- Supplied with wrench





Workpiece		Grade	Cutting Conditions	
			vc (m/min)	fn (mm/rev)
Steel	Carbon Steel	PC5300	80-200	0.08-0.28
		PC3035	80-220	0.08-0.28
	Alloy Steel	PC5300	80-160	0.08-0.28
		PC3035	80-180	0.08-0.28
Stainless Steel	316, 404, 17-4PH, Duplex	PC5300	80-160	0.08-0.28
Cast Iron	Grey Cast Iron	PC8110	100-220	0.10-0.28
		PC5300	100-200	0.10-0.28
	Modular Cast Iron	PC8110	80-200	0.10-0.25
		PC5300	80-180	0.10-0.25
HRSA's	Inconel, Hastelloy, Titanium Alloy	PC8110	35-65	0.05-0.15
		PC5300	25-55	0.05-0.15

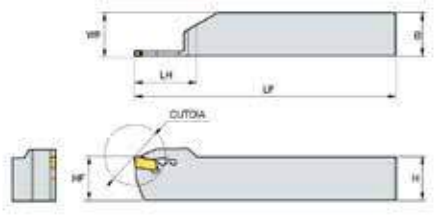
KORLOY

H (Blade Height)	h	L	W	t max	Insert Width mm	Order Code	Price	Inserts	Spares Wrench
26	21	110	1.6	25	2	KSPB 2026	**£61.17**	KSP200-020-N	CW08
			2.4	36	3	KSPB 3026		KSP300-020-N	
			3.2	36	4	KSPB 4026		KSP400-025-N	
32	25	150	1.6	26	2	KSPB 2032	**£61.17**	KSP200-020-N	
			2.4	60	3	KSPB 3032		KSP300-020-N	
			3.2	60	4	KSPB 4032		KSP400-025-N	

SAWMAN-X INTEGRAL PARTING HOLDER

For High Performance Parting

- Square shank stopper type holder
- Placed directly into a integral static tool holder (no need for a parting block)
- Increased rigidity compared to block and blade type setup



KORLOY

B (Shank)	LH	LF	HF	Cut Diameter	Insert Width mm	Order Code	Price	Inserts	Spares Wrench
25	33	150	1.6	50	2	KSPH 225R	**£75.00**	KSP200-020-N	CW08
20	35	120	2.4	54	3	KSPH 320R		KSP300-020-N	
25	36	150	3.2	56	3	KSPH 325R		KSP300-020-N	
20	40	120	1.6	64	4	KSPH 420R		KSP400-025-N	
25	41	150	2.4	66	4	KSPH 425R		KSP400-025-N	

SAWMAN CLASSIC PARTING INSERTS

For General Parting Off Applications

- Right and Left options with 8° lead angle



KORLOY

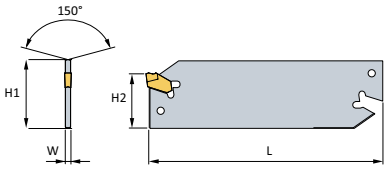
Dimensions			Grades					Hand	Order Code	Price	Blades / Holders
W	L	R	NC3225	NC3030	PC9030	PC5300	H01				
2.2	9.3	0.2	-	●	-	-	-	Left	SP200L	£8.59	**SPB226, SPB232,** SPH 216R, SPH220, SPH225
			-	●	●	●	●	Neutral	SP200		
			-	●	●	-	-	Right	SP200R		
3.1	11.3	0.2	-	●	-	-	-	Left	SP300L	£8.96	**SPB326, SPB332,** SPH 216R, SPH320, SPH325
			●	●	●	●	●	Neutral	SP300		
			-	●	●	-	-	Right	SP300R		
4.1	11.3	0.25	-	●				Left	SP400L	£9.67	**SPB426, SPB432,** SPH420, SPH425
			●	●	●	●	●	Neutral	SP400		
			-	●	●	-	-	Right	SP400R		
5.1	11.4	0.3	-	●	-	-	-	Left	SP500L	£10.12	**SPB532,** SPH520, SPH525
			●	●	●	-	-	Neutral	SP500		
			-	●	-	-	-	Right	SP500R		
6.4	11.4	0.35	-	●	-	-	-	Left	SP600L	£11.07	**SPB632,** SPH620, SPH625
			-	●	-	●	-	Neutral	SP600		
			-	●	-	-	-	Right	SP600R		

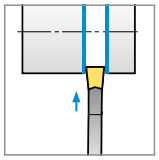
SAWMAN CLASSIC PARTING BLADE (SPB)

For General Parting Off

- For general parting off applications
- Stopper type for higher precision location of the insert
- SW15S Wrench sold separately







CUTWEL PRO KORLOY

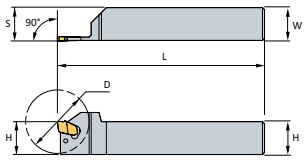
H1 (Bllade Height)	H2	L	W	Order Code				Inserts	Spares
				Korloy	Price	Cutwel Pro	Price		Wrench
26	21	110	1.6	SPB 226-S	£60.07	SPB 226-C	£33.90	SP200, 200R/L	SW15S
			2.4	SPB 326-S		SPB 326-C		SP300, 300R/L	
			3.2	SPB 426-S		SPB 426-C		SP400, 400R/L	
32	25	150	1.6	SPB 232-S		SPB 232-C		SP200, 200R/L	
			2.4	SPB 332-S		SPB 332-C		SP300, 300R/L	
			3.2	SPB 432-S		SPB 432-C		SP400, 400R/L	
			4	SPB 532-S		-		SP500, 500R/L	
			5.2	SPB 632-S		-		SP600, 600R/L	

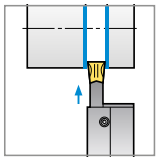
SAWMAN CLASSIC INTEGRAL PARTING HOLDER (SPH)

For General Parting Off

- For general parting off applications
- Increased rigidity compared to block and blade type setup
- SW15S wrench sold separately







Right hand shown

KORLOY

W	H	D	L	S	Order Code	Price	Inserts	Spares
								Wrench
16	16	28	100	16.2	SPH 216R/L-S	£61.00	SP200, 200R/L	SW15S
20	20	30	120	20.2	SPH 220R/L-S			
25	25	31	150	25.2	SPH 225R/L-S			
16	16	32	100	16.3	SPH 316R/L-S		SP300, 300R/L	
20	20	40	120	20.3	SPH 320R/L-S			
25	25	50	150	25.3	SPH 325R/L-S			
20	20	50	120	20.4	SPH 420R/L-S		SP400, 400R/L	
25	25	60	150	25.4	SPH 425R/L-S			
20	20	60	120	20.5	SPH 520R/L-S		SP500, 500R/L	
25	25	70	150	25.5	SPH 525R/L-S			

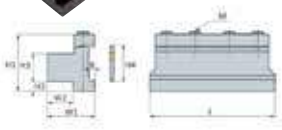
RECOMMENDED CUTTING CONDITIONS

Workpiece	Speed (m/min)					Feed (mm/rev) by cutting width (mm)				
	NC3225	NC3030	PC9030	PC5300	H01	2	3	4	5	6
Steel	80 - 180	70 - 150		70 - 150		0.02 - 0.15	0.03 - 0.2	0.08 - 0.3	0.10 - 0.4	0.12 - 0.5
Stainless Steel		60 - 120	60 - 140	50 - 120		0.02 - 0.1	0.03 - 0.15	0.08 - 0.25	0.1 - 0.35	0.12 - 0.40
Cast Iron				50 - 100	50 - 100	0.05 - 0.12	0.1 - 0.25	0.1 - 0.30	0.1 - 0.35	0.1 - 0.40
Non-Ferrous					200 - 450	0.05 - 0.1	0.05 - 0.2	0.05 - 0.25	005 - 0.30	0.05 - 0.35

STANDARD PARTING BLADE BLOCKS

- Compatible with 26mm & 32mm parting blades





H3	H4	Order Code			
		Korloy	Price	Cutwel Pro	Price
16	26	SMBB16-26	£84.86	-	£44.94
20	26	SMBB20-26		SMBB2026-C	
20	32	SMBB20-32		SMBB2032-C	
25	26	SMBB25-26		SMBB2526-C	
25	32	SMBB25-32		SMBB2532-C	
32	32	SMBB32-32		-	

BMT PARTING BLADE HOLDERS

- For Doosan, SMEC, Hwacheon, Haas BMT, Hyundai, Victor etc BMT turrets
- External coolant



BMT	Blade Height	Order Code	Price
45	26	T.BMT.45H12600H	£433.77
55	26	T.BMT.55H12600H	£433.77
55	32	T.BMT.55H13200H	£433.77
65	32	T.BMT.65H13200H	£515.85

VDI DIN 69980 PARTING BLADE HOLDERS

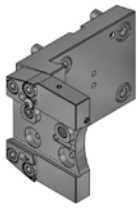
- For VDI DIN 69980 turrets
- External coolant



VDI	Blade Height	Order Code	Price
Right Hand			
30	26	AR3026	£216.37
30	32	AR3032	£225.98
40	32	AR4026	£216.37
Left Hand			
30	26	AL3026	£216.37
30	32	AL3032	£296.60
40	32	AL4026	£216.37
Right Hand Upside Down			
30	26	ARU3026	£216.37
30	32	ARU3032	£225.98
40	32	ARU4026	£216.37

DMG MORI BOLT-ON (BMT) PARTING BLADE HOLDERS

- For DMG Mori NLX/NTX/NZ
- For right & left hand use
- External coolant



*if unsure of your machine connection please contact us

BMT	Blade Height	Order Code	Price
40	32	48-98891	£644.81
60	32	48-98901	£647.72

OKUMA BOLT-ON (BMT) PARTING BLADE HOLDERS

- For Okuma LB/LT/LU/Genos bolt-on turrets
- For right & left hand use
- External coolant

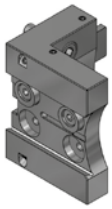


*if unsure of your machine connection please contact us

BMT	Blade Height	Order Code	Price
40	32	48-99034	£663.06
60	32	48-99290	£663.06

NAKAMURA BOLT-ON (BMT) PARTING BLADE HOLDERS

- For Nakamura bolt-on turrets
- For right & left hand use
- External coolant



*if unsure of your machine connection please contact us

BMT	Blade Height	Order Code	Price
44	26	48-100419	£490.10
55	32	48-99637	£513.51

MIYANO BOLT-ON (BMT) PARTING BLADE HOLDERS

- Compatible with 32mm parting blades
- For Miyano bolt-on turrets
- 48-100684R: Internal/external coolant, right hand only
- 48-1006304: External coolant, right & left hand use

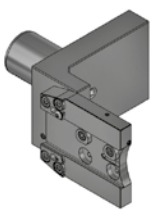


*if unsure of your machine connection please contact us

BMT	Blade Height	Order Code	Price
45	32	48-100684R	£981.83
54	32	48-106304	£679.90

MAZAK (VDI) PARTING BLADE HOLDERS

- Compatible with 32mm blades
- For Mazak VDI turrets
- External coolant
- Parting blade both sides usable

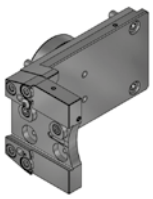


*if unsure of your machine connection please contact us

VDI	Blade Height	Series	Order Code	Price
40	32	QTN2	48-99067	£663.13
50	32	QTN3	48-100356	£843.32

MAZAK BOLT-ON (BMT) PARTING BLADE HOLDERS

- For Mazak bolt-on turrets
- For right & left hand use
- External coolant & left hand use



*if unsure of your machine connection please contact us

BMT	Blade Height	Order Code	Price
68	32	48-112064	£669.40
80	32	48-93039	£852.82

KORLOY TEKNIK Cutting Tools

KGT Multi-Directional Tools

The 1st choice for multi-directional turning, grooving, parting and profiling.

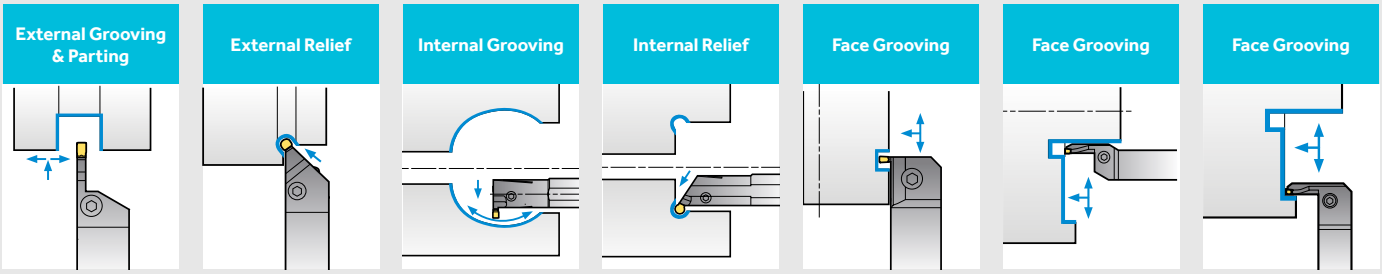
Performance
★★★★

KGT is a multi-functional tooling system with tool holders for external grooving, face grooving, parting off and internal grooving.

The 4 point clamping system offers exceptional rigidity and clamping security for both high precision or heavy groove-turn-part off applications.



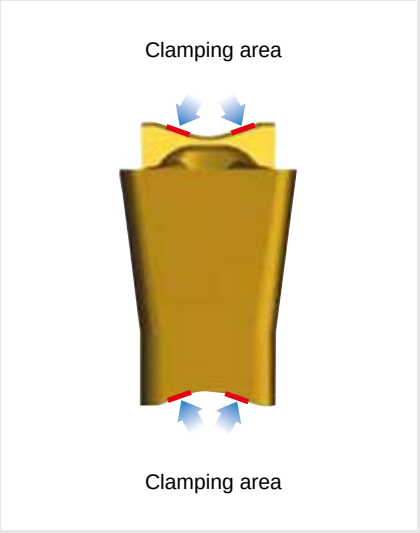
INSERT APPLICATION



Insert	Designation	Application							
		External			Face Grooving		Internal		Profiling
		Parting	Grooving	Turning	Grooving	Turning	Grooving	Turning	Copying
KGMN	L Light Grooving	○	●		○				
	R Rough Grooving	○	●		○				
	T Turning/Grooving	○	●	●	●	●			
KRMN	C Copying								●
KGMI	T Internal Grooving						●	●	
KGMR/L	LP Light Parting	●							
	RP Rough Parting	●							
KRGN	A Aluminium Grooving								●
KGGN	B Precision Grooving		○						
	A Aluminium Grooving	○	●	○					

● **Excellent** ○ **Good**

4 POINT STABLE CLAMPING



FOR ENQUIRIES PLEASE CALL **01924 869610** OR EMAIL **SALES@CUTWEL.NET**

GRADE GUIDE & CUTTING DATA

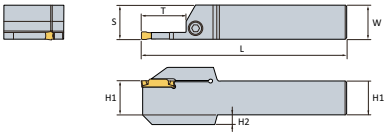
Grade	Features	Recommended Cutting Speed (m/min)					
		Steel	Alloy Steel	Stainless Steel	HRSA's	Cast Iron	Non-Ferrous
NC3225	1st choice for steel machining	130-220	130-220	-	-	-	-
NC5330	Excellent multi-purpose grade for steel, stainless, cast iron	120-200	90-180	75-125	-	95-160	95-160
PC5300	Tough multi-purpose grade for steel, stainless, exotics	70-120	60-105	70-115	20-35	55-90	55-90
PC9030	1st choice for stainless steel	-	-	70-115	-	-	-
H01	Uncoated grade 1st choice for aluminium & non-ferrous applications	-	-	-	-	-	200-790

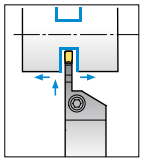
EXTERNAL TOOL HOLDER

Korloy KGT Multi-Directional Turning System

- For grooving, profiling & parting off







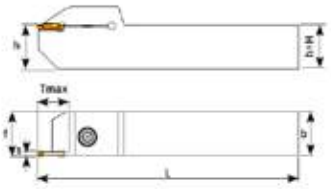
KORLOY

H1	W	L	S	H2	t max	Order Code	Price	Inserts	Spares	
									Screw	Wrench
16	16	100	16.2	-	14	KGEHR/L 1616-1.5-T14	£74.87	1.5mm Wide KGMN150	MHA0512	HW40L
20	20	125	20.2	-	14	KGEHR/L 2020-1.5-T14	£74.87			
25	25	150	25.2		14	KGEHR/L 2525-1.5-T14	£80.50			
10	10	125	10.2	2	10	KGEHR/L 1010-2-D20A	£92.29	2mm Wide KGMN200 KGMR200 KRMN200	ETNA0412	TW15L
12	12	125	12.2	2	12.5	KGEHR/L 1212-2-D25A	£92.29			
14	14	125	14.2	-	14.2	KGEHR/L 1414-2-D25A	£92.29			
16	16	100	16.2	-	8	KGEHR/L 1616-2-T08	£74.87		MHA0512	HW40L
16	16	100	16.2	-	12	KGEHR/L 1616-2-T12	£74.87			
16	16	125	16.2	-	16.2	KGEHR/L 1616-2-D32A	£92.29		ETNA0412	TW15L
16	16	100	16.2	-	17	KGEHR/L 1616-2-T17	£74.87		MHA0512	HW40L
20	20	125	20.2	-	8	KGEHR/L 2020-2-T08	£74.87			
20	20	125	20.2	-	12	KGEHR/L 2020-2-T12	£74.87			
20	20	125	20.2	-	17	KGEHR/L 2020-2-T17	£74.87			
25	25	150	25.2	-	8	KGEHR/L 2525-2-T08	£80.50			
25	25	150	25.2	-	12	KGEHR/L 2525-2-T12	£80.50			
25	25	150	25.2	-	17	KGEHR/L 2525-2-T17	£80.50			
16	16	100	16.3	-	17	KGEHR/L 1616-2.5-T17	£74.87	2.5mm Wide KGMN250	MHA0512	HW40L
20	20	125	20.3	-	17	KGEHR/L 2020-2.5-T17	£74.87			
25	25	150	25.3	-	17	KGEHR/L 2525-2.5-T17	£80.50			
12	12	125	12.4	2	12.5	KGEHR/L 1212-3-D25A	£92.29	3mm Wide KGMN300 KGMR300 KRMN300 KGGN300	ETNA0412	TW15L
16	16	100	16.4	-	10	KGEHR/L 1616-3-T10	£74.87		MHA0512	HW40L
16	16	100	16.4	-	13	KGEHR/L 1616-3-T13	£74.87			
16	16	125	16.4	-	16	KGEHR/L 1616-3-D32A	£92.29		ETNA0412	TW15L
16	16	100	16.4	-	20	KGEHR/L 1616-3-T20	£74.87		MHA0512	HW40L
20	20	125	20.4	-	10	KGEHR/L 2020-3-T10	£74.87			
20	20	125	20.4	-	13	KGEHR/L 2020-3-T13	£74.87			
20	20	125	20.4	-	20	KGEHR/L 2020-3-T20	£74.87			
25	25	150	25.4	-	10	KGEHR/L 2525-3-T10	£80.50			
25	25	150	25.4	-	13	KGEHR/L 2525-3-T13	£80.50			
25	25	150	25.4	-	20	KGEHR/L 2525-3-T20	£80.50			
25	25	150	25.4	-	25	KGEHR/L 2525-3-T25	£80.50			
32	32	170	32.4	-	20	KGEHR/L 3232-3-T20	£87.03			
16	16	100	16.4	-	10	KGEHR/L 1616-4-T10	£74.87	4mm Wide KGMN400 KGMR400 KRMN400	BHA0616	HW50L
16	16	100	16.4	-	15	KGEHR/L 1616-4-T15	£74.87			
16	16	100	16.4	-	20	KGEHR/L 1616-4-T20	£74.87			
16	16	100	16.4	-	25	KGEHR/L 1616-4-T25	£74.87			
20	20	125	20.4	-	10	KGEHR/L 2020-4-T10	£74.87			
20	20	125	20.4	-	20	KGEHR/L 2020-4-T20	£74.87			
20	20	125	20.4	-	25	KGEHR/L 2020-4-T25	£74.87			
25	25	150	25.4	-	10	KGEHR/L 2525-4-T10	£80.50			
25	25	150	25.4	-	20	KGEHR/L 2525-4-T20	£80.50			
25	25	150	25.4	-	25	KGEHR/L 2525-4-T25	£80.50			
32	32	170	32.4	-	20	KGEHR/L 3232-4-T20	£87.03			
20	20	125	20.5	-	12	KGEHR/L 2020-5-T12	£74.87	5mm Wide KGMN500 KRMN500	BHA0616	HW50L
20	20	125	20.5	-	20	KGEHR/L 2020-5-T20	£74.87			
25	25	150	25.5	-	12	KGEHR/L 2525-5-T12	£80.50			
25	25	150	25.5	7	32	KGEHR/L 2525-5-T32	£80.50		BHA0620	
32	32	170	32.5	-	20	KGEHR/L 3232-5-T20	£87.03			
20	20	125	20.5	-	12	KGEHR/L 2020-6-T12	£74.87	6mm Wide KGMN600 KRMN600	BHA0616	HW50L
20	20	125	20.5	-	20	KGEHR/L 2020-6-T20	£74.87			
25	25	150	25.5	-	12	KGEHR/L 2525-6-T12	£80.50			
25	25	150	25.5	7	32	KGEHR/L 2525-6-T32	£80.50		BHA0620	
32	32	170	32.5	-	20	KGEHR/L 3232-6-T20	£87.03			
25	25	150	26	-	16	KGEHR/L 2525-8-T16	£80.50	8mm Wide KGMN800 KRMN800-C	BHA0616	HW50L
25	25	150	26	7	36	KGEHR/L 2525-8-T36	£80.50			
32	32	170	33	-	25	KGEHR/L 3232-8-T25	£87.03		BHA0620	
32	32	170	33	-	36	KGEHR/L 3232-8-T36	£87.03			

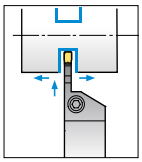
EXTERNAL GROOVING HOLDER

Teknik KGT Multi-Directional Turning System

- Strong 4 point clamping minimises vibration and reduces risk of tool failure
- Wide selection of chip breakers ensures best performance in different applications
- Insert widths from 2-4mm







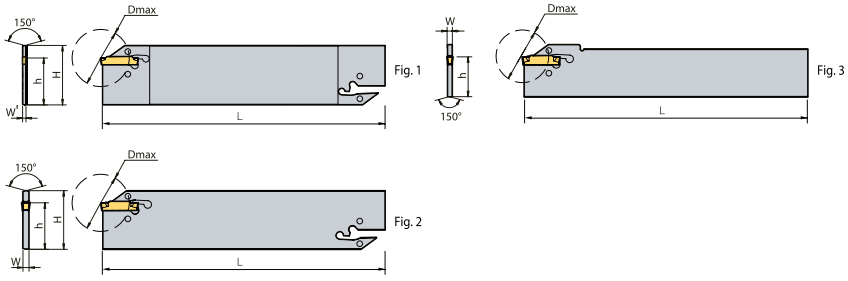
Shank	Tmax	Length	Insert Width	Order Code	Price	Inserts	Spares	
							Screw	Wrench
20	18	125	2	D635	**£56.14**	2mm Wide KGMN/KGGN/KRMN200	MHA0512	HW40L
25	18	150		D636	**£57.26**			
20	20	125	3	D637	**£56.14**	3mm Wide KGMN/KGGN/KRMN300		
25	22	150	3	D638	**£57.26**			
20	20	125	4	D639	**£56.14**	4mm Wide KGMN/KGGN/KRMN400		
25	22	150		D640	**£57.26**			

PARTING BLADE

Korloy KGT Multi-Directional Turning System

- For parting off
- 4 point clamping system which offers exceptional rigidity and clamping
- Suitable for KSP parting inserts





ØD MAX-1 is maximum part off diameter when using one cutting egde (the back edge of the insert will be sacrificed when parting deeper than ØD MAX-2)
Both cutting edges can be used when parting off up to ØD MAX-2

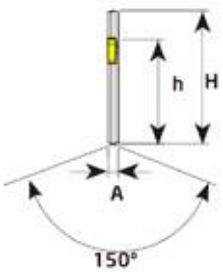
H	W	W¹	L	h	ØD MAX-1	ØD MAX-2	Fig	Order Code	Price	Inserts	Wrench
26	2.4	1.0	150	21	-	26	3	KGTB1526S	**£42.05**	1.5mm Wide KGMN150	EW1203 (Sold Seperately)
32	2.4	1.0	150	25	-	26	1	KGTB1532	**£60.07**		
26	2.4	1.8	150	21	50	39	3	KGTB2026S	**£42.05**	2mm Wide KGMN200 KGMR200	
32	2.4	1.8	150	25	50	39	1	KGTB2032	**£60.07**		
26	2.4	-	150	21	100	39	3	KGTB3026S	**£42.05**	3mm Wide KGMN300 KGMR300	
32	2.4	-	150	25	100	39	2	KGTB3032	**£60.07**		
26	3.2	-	150	21	100	39	3	KGTB4026S	**£42.05**	4mm Wide KGMN400 KGMR400	
32	3.2	-	150	25	100	39	2	KGTB4032	**£60.07**		
32	4	-	150	25	120	49	2	KGTB5032	**£60.07**	5mm Wide KGMN500	
32	5.2	-	150	25	120	49	2	KGTB6032	**£60.07**	6mm Wide KGMN600	

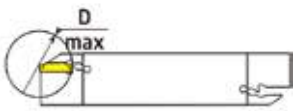
PARTING BLADE

Teknik KGT Multi Directional Turning System

- For parting off





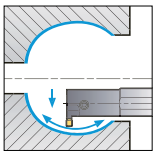


H	h	A	L	D max	Order Code	Price	Inserts	Wrench
26	21.4	1.65	110	36	KL37	**£55.00**	2mm Wide KGMN200	EW1203 (Sold Separately)
32	25	1.65	150	36	KL34	**£58.39**		
26	21.4	2.45	110	36	KL38	**£55.00**	3mm Wide KGMN300	
32	25	2.45	150	36	KL35	**£58.39**		
26	21.4	3.45	110	36	KL39	**£55.00**	4mm Wide KGMN400	
32	25	3.45	150	36	KL36	**£58.39**		

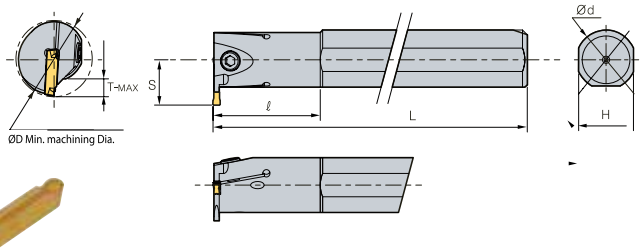
INTERNAL GROOVING HOLDER

Korloy KGT Multi-Directional Turning System

- For grooving & profiling
- Strong clamping minimises vibration and reduces risk of tool failure







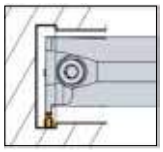
KORLOY

Ød Shank	ØD Min Bore	L	ℓ	t max	H	S	Order Code	Price	Inserts	Spares	
										Screw	Wrench
16	20	125	35	4	15	12	KGIVR/L 2016-1.5	**£76.49**	1.5mm Wide KGMN150	MHB0410	HW30L
20	25	150	45	6	18	15.5	KGIVR/L 2520-1.5	**£89.97**			
25	32	200	45	7	23	19	KGIVR/L 3225-1.5	**£104.80**		MHA0512	HW40L
16	25	125	35	6.5	15	14	KGIVR/L 2516-2	**£89.97**	2mm Wide KGMI200 KRMI200	MHB0410	HW30L
20	25	150	45	6.5	18	15.5	KGIVR/L 2520-2	**£89.97**			
25	32	200	45	7	23	19	KGIVR/L 3225-2	**£104.80**		MHA0512	HW40L
16	25	125	35	6.5	15	14	KGIVR/L 2516-2.5	**£89.97**	2.5mm Wide KGMN250	MHB0410	HW30L
20	25	150	45	6.5	18	15.5	KGIVR/L 2520-2.5	**£89.97**			
25	32	200	45	7	23	19	KGIVR/L 3225-2.5	**£104.80**		MHA0512	HW40L
20	25	150	45	6.5	18	15.5	KGIVR/L 2520-3	**£89.97**	3mm Wide KGMI300 KRMI300	MHB0410	HW30L
25	32	200	45	7	23	19	KGIVR/L 3225-3	**£104.80**		MHA0512	HW40L
32	40	250	55	7.5	30	22.5	KGIVR/L 4032-3	**£166.44**		BHA0616	HW50L
20	25	150	45	6.5	18	15.5	KGIVR/L 2520-4	**£89.97**	4mm Wide KGMI400 KRMI400	MHB0410	HW30L
25	32	200	45	7	23	19	KGIVR/L 3225-4	**£104.80**		MHA0512	HW40L
32	40	250	55	7.5	30	22.5	KGIVR/L 4032-4	**£166.44**		BHA0616	HW50L
25	32	200	45	7.5	23	19.5	KGIVR/L 3225-5	**£104.80**	5mm Wide KGMN500 KRMN500	MHA0512	HW40L
32	40	250	55	8.5	30	23.5	KGIVR/L 4032-5	**£151.45**		BHA0616	HW50L
25	32	200	45	7.5	23	19.5	KGIVR/L 3225-6	**£104.80**	6mm Wide KGMN600 KRMN600	MHA0512	HW40L
32	40	250	55	8.5	30	23.5	KGIVR/L 4032-6	**£151.45**		BHA0616	HW50L
32	40	250	55	8.5	30	23.5	KGIVR/L 4032-8	**£151.45**	8mm Wide KGMN800 KRMN800	BHA0616	HW50L
40	45	300	70	8.5	37	26.5	KGIVR/L 4540-8	**£166.44**			

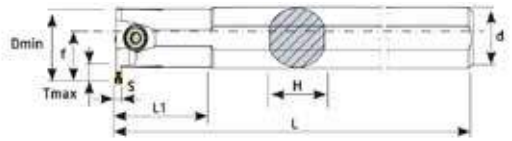
INTERNAL GROOVING HOLDER

Teknik KGT Multi-Directional Turning System

- Strong 4 point clamping minimises vibration and reduces risk of tool failure
- Wide selection of chip breakers ensures best performance in different applications
- Insert widths from 2-4mm







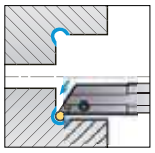
TEKNIK Cutting Tools

Shank	Min Bore Diameter	t max	Length	Insert Width mm	Order Code	Price	Inserts	Spares	
								Screw	Wrench
16	23	6.6	125	2	K660	**£46.03**	2mm Wide KGMI200 KRMN200	TC130	4mm Allen Key
20	25	6.5	150		K661	**£51.64**		TC130	
25	32	7	200		K662	**£56.14**		TC131	
20	25	6.5	150	3	K663	**£51.64**	3mm Wide KGMI 300 KRMN300	TC130	
25	32	7	200		K664	**£56.14**		TC131	
32	40	7.5	250		K665	**£62.87**		TC134	5mm Allen Key
20	25	6.5	150	4	K666	**£51.64**	4mm Wide KGMI400 KRMN400	TC130	4mm Allen Key
25	32	7	200		K667	**£56.14**		TC131	
32	40	7.5	250		K668	**£62.87**		TC134	5mm Allen Key

INTERNAL RELIEF TOOL HOLDER (45°)

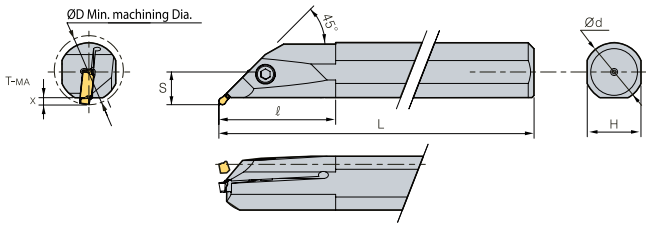
Korloy KGT Multi-Directional Turning System

- For relief grooving
- Strong clamping minimises vibration and reduces risk of tool failure
- Wide selection of chip breakers ensures best performance in different applications



• R type insert





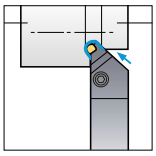
KORLOY

Ød Shank	ØD Min Bore	L	ℓ	t max	H	S	Order Code	Price	Inserts	Spares	
										Screw	Wrench
20	35	150	45	3.5	18	13	KGIUR/L 3520-3	£201.99	3mm Wide KRMN300	MHA0512	HW40L
25	40	200	50	3.5	23	15.5	KGIUR/L 4025-3				
32	50	250	65	3.5	30	19	KGIUR/L 5032-3				
20	35	150	45	3.5	18	13	KGIUR/L 3520-4		4mm Wide KRMN400	MHA0512	HW40L
25	40	200	50	3.5	23	15.5	KGIUR/L 4025-4				
32	50	250	65	3.5	30	19	KGIUR/L 5032-4				
25	40	200	50	3.5	23	15.5	KGIUR/L 4025-5		5mm Wide KRMN500	MHA0512	HW40L
32	50	250	65	3.5	30	19	KGIUR/L 5032-5				

EXTERNAL RELIEF TOOL HOLDER

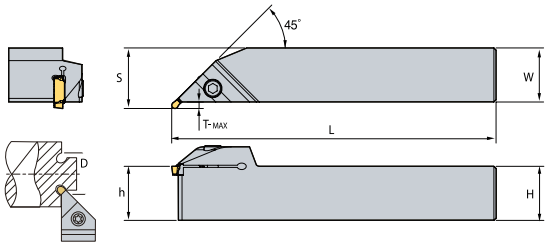
Korloy KGT Multi-Directional Turning System

- For relief grooving
- Wide selection of chip breakers ensures best performance in different applications



• R type insert





KORLOY

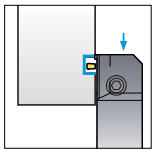
H=h	W	L	S	ØD MIN	t max	Order Code	Price	Inserts	Spares	
									Screw	Wrench
20	20	125	23	40	2.8	KGEUR/L 2020-3-T00	**£86.05**	3mm Wide KRMN300	MHA0512	HW40L
25	25	150	28	40	2.8	KGEUR/L 2525-3-T00	**£93.31**			
32	32	170	35	40	2.8	KGEUR/L 3232-3 -T00	**£100.53**			
20	20	125	23	40	2.8	KGEUR/L 2020-4-T00	**£86.05**	4mm Wide KRMN400	BHA0616	HW50L
25	25	150	28	40	2.8	KGEUR/L 2525-4-T00	**£93.31**			
32	32	170	35	40	2.8	KGEUR/L 3232-4 -T00	**£100.53**			
20	20	125	23.5	50	3.3	KGEUR/L 2020-5 -T00	**£86.05**	5mm Wide KRMN500	BHA0616	HW50L
25	25	150	28.5	50	3.3	KGEUR/L 2525-5 -T00	**£93.31**			
32	32	170	35.5	50	3.3	KGEUR/L 3232-5 -T00	**£100.53**			

cutwel

FACE GROOVING TOOL HOLDER (90°)

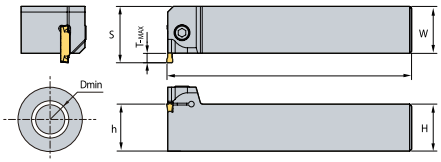
Korloy KGT Multi-Directional Turning System

- For shallow face grooving & turning
- Wide selection of chip breakers ensures best performance in different applications



• R type insert





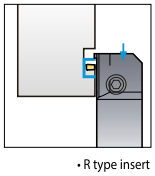
KORLOY

H=h	W	L	S	ØD MIN	t max	Order Code	Price	Inserts	Spares	
									Screw	Wrench
20	20	125	23.5	120	3	KGEVR/L 2020-1.5-T00	**£70.20**	1.5mm Wide KGMN150	MHA0512	HW40L
25	25	150	28.5	120	3	KGEVR/L 2525-1.5-T00	**£76.13**			
32	32	170	35.5	120	3	KGEVR/L 3232-1.5-T00	**£82.02**			
20	20	125	23.5	120	3	KGEVR/L 2020-2-T00	**£70.20**	2mm Wide KGMN200 KRMN200 KGGN200	MHA0512	HW40L
25	25	150	28.5	120	3	KGEVR/L 2525-2-T00	**£76.13**			
32	32	170	35.5	120	3	KGEVR/L 3232-2-T00	**£82.02**			
20	20	125	24.5	80	4	KGEVR/L 2020-2.5-T00	**£70.20**	2.5mm Wide KGMN250	MHA0512	HW40L
25	25	150	29.5	80	4	KGEVR/L 2525-2.5-T00	**£76.13**			
32	32	170	36.5	80	4	KGEVR/L 3232-2.5-T00	**£82.02**			
20	20	125	25	80	4.8	KGEVR/L 2020-3-T00	**£70.20**	3mm Wide KGMN300 KRMN300 KGGN200 KRGN300	MHA0512	HW40L
25	25	150	30	80	4.8	KGEVR/L 2525-3-T00	**£76.13**			
32	32	170	37	80	4.8	KGEVR/L 3232-3-T00	**£82.02**			
20	20	125	25	80	4.8	KGEVR/L 2020-4-T00	**£70.20**	4mm Wide KGMN400 KRMN400 KGGN400 KRGN400	BHA0616	HW50L
25	25	150	30	80	4.8	KGEVR/L 2525-4-T00	**£76.13**			
32	32	170	37	80	4.8	KGEVR/L 3232-4-T00	**£82.02**			
20	20	125	29.5	60	6	KGEVR/L 2020-5-T00	**£70.20**	5mm Wide KGMN500 KRMN500 KGGN500 KRGN500	BHA0616	HW50L
25	25	150	31.5	60	6	KGEVR/L 2525-5-T00	**£76.13**			
32	32	170	38.5	60	6	KGEVR/L 3232-5-T00	**£82.02**			
20	20	125	26.5	60	6	KGEVR/L 2020-6-T00	**£70.20**	6mm Wide KGMN600 KRMN600 KGGN600 KRGN600	BHA0616	HW50L
25	25	150	31.5	80	6	KGEVR/L 2525-6-T00	**£76.13**			
32	32	170	38.5	60	6	KGEVR/L 3232-6-T00	**£82.02**			
25	25	150	33.5	50	8	KGEVR/L 2525-8-T00	**£76.13**	8mm Wide KGMN800 KRMN800 KRGN800	BHA0616	HW50L
32	32	170	38.5	50	8	KGEVR/L 3232-8-T00	**£82.02**			

FACE GROOVING HOLDER (90°)

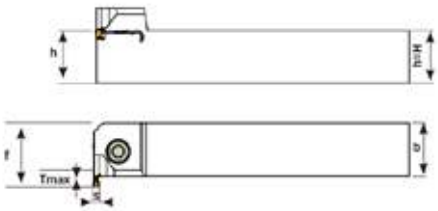
Korloy KGT Multi-Directional Turning System

- For shallow face grooving & turning
- Wide selection of chip breakers ensures best performance in different applications
- The KGT-TEKNIK-F series holders are suitable for face grooving applications



• R type insert





TEKNIK Cutting Tools

Shank	D min	t max	Length	Insert Width mm	Order Code	Price	Inserts	Spares	
								Screw	Wrench
20	120	3.5	125	2	D622	**£56.14**	KGMI200 KRMN200	TC132	4mm Allen Key
25	80	3.5	150		D623	**£57.26**		TC134	5mm Allen Key
20	120	5	125	3	D624	**£56.14**	KGMI300 KRMN300	TC132	4mm Allen Key
25	80	5	150		D625	**£57.26**		TC134	5mm Allen Key
20	120	5	125	4	D626	**£56.14**	KGMI400 KRMN400	TC132	4mm Allen Key
25	80	5	150		D627	**£57.26**		TC134	5mm Allen Key

FACE GROOVING TOOL HOLDER, STRAIGHT

Korloy KGT Multi-Directional Turning System

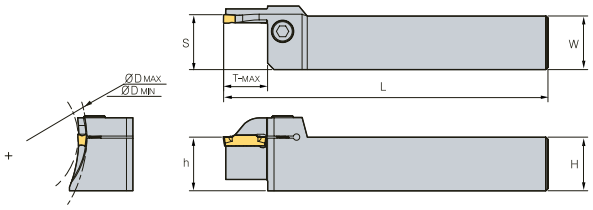
- For face grooving
- Wide selection of chip breakers ensures best performance in different applications
- The KGT KGFHR/L series holders are suitable for deep face grooving operations up to 20mm deep



• R type insert

*Min/Max diameter for first plunge





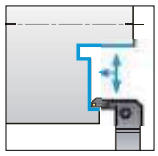
KORLOY

H=h	W	L	S	t max	ØD Min*	ØD Max*	Order Code	Price	Inserts	Spares	
										Screw	Wrench
20	20	150	20.5	10	34	50	KGFHR/L 320-34/50-T10	£125.78	3mm Wide KGMN300 KRMN300 KGGN300 KRGN300	MHA0512	HW40L
20	20	150	20.5	15	44	70	KGFHR/L 320-44/70-T15				
20	20	150	20.5	15	64	100	KGFHR/L 320-64/100-T15				
25	25	150	25.5	10	34	50	KGFHR/L 325-34/50-T10				
25	25	150	25.5	15	44	70	KGFHR/L 325-44/70-T15				
25	25	150	25.5	15	64	100	KGFHR/L 325-64/100-T15				
20	20	150	20.5	16	34	50	KGFHR/L 420-34/50-T16		4mm Wide KGMN400 KRMN400 KGGN400 KRGN400	BHA0616	HW50L
20	20	150	20.5	16	42	70	KGFHR/L 420-42/70-T16				
20	20	150	20.5	16	62	120	KGFHR/L 420-62/120-T16				
20	20	150	20.5	16	112	200	KGFHR/L 420-112/200-T16				
25	25	150	25.6	20	34	50	KGFHR/L 425-34/50-T20				
25	25	150	25.6	10	40	60	KGFHR/L 425-40/60-T10				
25	25	150	25.6	20	44	70	KGFHR/L 425-44/70-T20				
25	25	150	25.6	20	84	92	KGFHR/L 425-84/92-T20				
25	25	150	25.6	20	60	120	KGFHR/L 425-60/120-T20				
25	25	150	25.6	20	112	200	KGFHR/L 425-112/200-T20				
25	25	150	25.6	15	50	80	KGFHR/L 525-50/80-T15		5mm Wide KGMN500 KRMN500 KGGN500 KRGN500	BHA0616	HW50L
25	25	150	25.6	25	50	80	KGFHR/L 525-50/80-T25				
25	25	150	25.6	15	70	110	KGFHR/L 525-70/110-T15				
25	25	150	25.6	25	70	110	KGFHR/L 525-70/110-T25				
25	25	150	25.6	25	100	150	KGFHR/L 525-100/150-T25				
25	25	150	25.6	25	140	200	KGFHR/L 525-140/200-T25				
25	25	150	25.6	10	190	220	KGFHR/L 525-190/220-T10				
25	25	150	25.6	25	200	-	KGFHR/L 525-200-T25				

FACE GROOVING TOOL HOLDER, CRANKED

Korloy KGT Multi-Directional Turning System

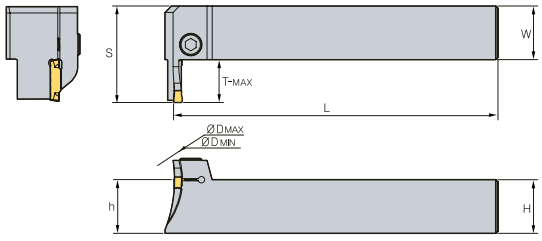
- For face grooving
- Wide selection of chip breakers ensures best performance in different applications



• R type insert

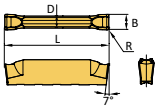
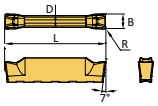
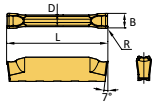
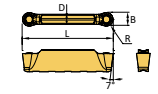
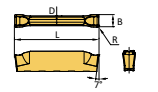
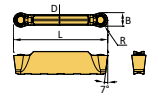
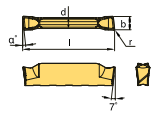
*Min/Max diameter for first plunge





KORLOY

H=h	W	L	S	t max	ØD Min*	ØD Max*	Order Code	Price	Inserts	Spares	
										Screw	Wrench
25	25	150	36	10	34	50	KGFVR/L 325-34/50-T10	£155.43	3mm Wide KGMN300 KRMN300 KGGN300 KRGN300	MHA0512	HW40L
25	25	150	41	15	44	60	KGFVR/L 325-44/60-T15				
25	25	150	41	15	54	85	KGFVR/L 325-54/85-T15				
25	25	150	41	15	32	50	KGFVR/L 425-32/50-T15		4mm Wide KGMN400 KRMN400 KGGN400 KRGN400	BHA0616	HW50L
25	25	150	41	15	42	60	KGFVR/L 425-42/60-T15				
25	25	150	45.5	20	44	70	KGFVR/L 425-44/70-T20				
25	25	150	41	15	52	85	KGFVR/L 425-52/85-T15				
25	25	150	45.5	20	60	120	KGFVR/L 425-60/120-T20				
25	25	150	45.5	20	112	200	KGFVR/L 425-112/200-T20				
25	25	150	46	20	50	80	KGFVR/L 525-50/80-T20		5mm Wide KGMN500 KRMN500 KGGN500 KRGN500	BHA0616	HW50L
25	25	150	46	20	100	150	KGFVR/L 525-100/150-T20				
25	25	150	46	20	140	200	KGFVR/L 525-140/200-T20				
25	25	150	46	20	200	-	KGFVR/L 525-200-T20				

Image	Tech Diagram	b Width	r	l	d	a°	NC3225	NC5330	PC5300	PC9030	H01	Grooving	Turning	Parting	Bar	Tube	Interrupted	Order Code	Price
		KGMN-T External / Internal Inserts for Turning & Multi Grooving																	
		1.5	0.15	16	1.2	-	●	-	●	●	-	✓	✓	-	✓	-	-	KGMN 150-015-T	**£11.87**
		2.0	0.2	20	1.7	-	●	●	●	-	-							KGMN 200-02-T	**£11.87**
		2.5	0.2	20	2.0	-	●	●	●	-	-							KGMN 250-02-T	**£11.87**
		3.0	0.2	20	2.3	-	●	●	●	●	-							KGMN 300-02-T	**£12.17**
		3.0	0.4	20	2.3	-	●	●	●	●	-							KGMN 300-04-T	**£12.17**
		4.0	0.4	20	3.3	-	●	●	●	●	-							KGMN 400-04-T	**£12.69**
		4.0	0.8	20	3.3	-	●	●	●	●	-							KGMN 400-08-T	**£12.69**
		5.0	0.4	25	4.1	-	●	●	●	●	-							KGMN 500-04-T	**£14.11**
		5.0	0.8	25	4.1	-	●	●	●	●	-							KGMN 500-08-T	**£14.11**
		6.0	0.4	25	5.1	-	●	-	●	-	-							KGMN 600-04-T	**£15.39**
		6.0	0.8	25	5.1	-	●	-	●	-	-							KGMN 600-08-T	**£15.39**
		8.0	0.8	30	6.1	-	●	-	●	-	-							KGMN 800-08-T	**£21.80**
		KGMI-T Internal Inserts for Turning & Multi Grooving																	
		2.0	0.2	20	1.7	-	-	●	●	●	-	✓	✓	-	✓	-	-	KGMI 200-02-T	**£11.87**
		3.0	0.4	20	2.3	-	-	●	●	●	-							KGMI 300-04-T	**£12.17**
		4.0	0.4	20	3.3	-	-	●	●	●	-							KGMI 400-04-T	**£12.69**
		KGMN-R Inserts for Rough / Heavy Grooving & Parting																	
		1.5	0.15	16	1.2	-	-	●	●	●	-	✓	-	-	✓	-	✓	KGMN150-015-R	**£11.87**
		2.0	0.2	20	1.7	-	●	●	●	●	-							KGMN 200-02-R	**£11.87**
		3.0	0.2	20	2.3	-	●	●	●	●	-							KGMN 300-02-R	**£12.17**
		4.0	0.3	20	3.3	-	●	●	●	●	-							KGMN 400-03-R	**£12.69**
		5.0	0.3	25	4.1	-	-	●	●	-	-							KGMN 500-03-R	**£14.11**
		6.0	0.3	25	5.1	-	-	●	●	-	-							KGMN 600-03-R	**£15.39**
		8.0	0.4	30	6.1	-	-	●	●	-	-							KGMN 800-04-R	**£21.81**
		KGMN-L Inserts for Light Grooving & Parting																	
		2.0	0.2	20	1.7	-	●	-	●	●	-	✓	-	✓	✓	✓	-	KGMN 200-02-L	**£11.87**
		3.0	0.2	20	2.3	-	●	-	●	●	-							KGMN 300-02-L	**£12.17**
		4.0	0.2	20	3.3	-	●	-	●	●	-							KGMN 400-02-L	**£12.69**
		5.0	0.3	25	4.1	-	●	-	●	●	-							KGMN 500-03-L	**£14.11**
		6.0	0.3	25	5.1	-	●	-	●	●	-							KGMN 600-03-L	**£15.39**
		KRMN-C External / Internal Inserts for Full Radius Turning & Multi-Grooving																	
		2.0	1.0	20	1.7	-	●	●	●		-	✓	✓	-	✓	-	-	KRMN 200-C	**£11.87**
		3.0	1.5	20	2.3	-	●	●	●	●	-							KRMN 300-C	**£12.17**
		4.0	2.0	20	3.3	-	●	●	●	●	-							KRMN 400-C	**£12.69**
		5.0	2.5	25	4.1	-	●	●	●	●	-							KRMN 500-C	**£14.11**
		6.0	3.0	25	5.1	-	●	-	●	-	-							KRMN 600-C	**£15.39**
		8.0	4.0	30	6.1	-	●	-	●	-	-							KRMN 800-C	**£21.81**
		KGGN-A Inserts for Aluminium Grooving, Profiling & Parting																	
		2.0	0.2	20	1.7	-	-	-	-	-	●	✓	✓	✓	✓	-	-	KGGN 200-02-A	**£17.94**
		3.0	0.2	20	2.3	-	-	-	-	-	●							KGGN 300-02-A	**£17.94**
		4.0	0.4	20	3.3	-	-	-	-	-	●							KGGN 400-04-A	**£18.60**
		5.0	0.4	25	4.1	-	-	-	-	-	●							KGGN 500-04-A	**£19.24**
		6.0	0.4	25	5.1	-	-	-	-	-	●							KGGN 600-04-A	**£20.51**
		KRGN-A Inserts for Full Radius Aluminium Grooving, Profiling & Parting																	
		3.0	1.5	20	2.3	-	-	-	-	-	●	✓	✓	-	✓	-	-	KRGN 300-A	**£17.94**
		4.0	2.0	20	3.3	-	-	-	-	-	●							KRGN 400-A	**£18.60**
		5.0	2.5	25	4.1	-	-	-	-	-	●							KRGN 500-A	**£19.24**
		6.0	3.0	25	5.1	-	-	-	-	-	●							KRGN 600-A	**£20.51**
		KGMR-LP Right Hand Inserts for Light / Regular Parting																	
		2.0	0.2	20	1.7	6°	-	●	●	-	-	-	-	✓	-	-	-	KGMR 200-6D-LP	**£11.87**
		3.0	0.2	20	2.3	6°	-	●	●	-	-							KGMR 300-6D-LP	**£12.17**
		4.0	0.3	20	3.3	4°	-	●	●	-	-							KGMR 400-4D-LP	**£12.69**
		2.0	0.2	20	1.7		-	●	●	-	-							KGMR 200-15D-LP	**£11.87**
		3.0	0.2	20	2.3	15°	-	●	●	-	-							KGMR 300-15D-LP	**£12.17**
		4.0	0.3	20	3.3		-	●	●	-	-							KGMR 400-15D-LP	**£12.69**
		KGMR-RP Right Hand Inserts for Rough / Heavy Parting																	
		2.0	0.2	20	1.7	6°	-	●	●	-	-	-	-	✓	-	-	-	KGMR 200-6D-RP	**£11.87**
		3.0	0.2	20	2.3	6°	-	●	●	-	-							KGMR 300-6D-RP	**£12.17**
		4.0	0.3	20	3.3	4°	-	●	●	-	-							KGMR 400-4D-RP	**£12.69**
		2.0	0.2	20	1.7		-	●	●	-	-							KGMR 200-15D-RP	**£11.87**
		3.0	0.2	20	2.3	15°	-	●	●	-	-							KGMR 300-15D-RP	**£12.17**
		4.0	0.3	20	3.3		-	●	●	-	-							KGMR 400-15D-RP	**£12.69**

GRADE GUIDE

INSERT GRADE	Carbon Steel Alloy Steel Tool Steel	Stainless Steel	Exotics	Cast Iron	Aluminium	Copper Alloy
NC5330	●	●		●		
NC3225	●					
PC5300	●	●	●	●		
PC9030		●	●			
H01					●	●

KORLOY TEKNIK Cutting Tools

MGT Multi-Grooving Tools

Multi-directional turning system for economical grooving and parting up to 40mm depth.

Performance
★★★

MGT (Multi Grooving Tools) are ideal for general applications where low tool cost is essential.

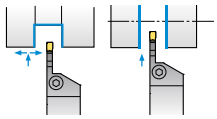
Utilising the double ended MGMN/MRMN insert, MGT is suitable for grooving, profiling and parting in external or internal applications.



EXTERNAL GROOVING TOOL HOLDER

MGEHR Series - Teknik MGT-ECO Groove

- Right handed holder



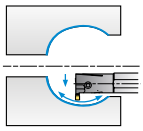


Shank	Insert Width mm	t max	Order Code	Price
12	2	16	D658	**£32.40**
16		16	D660	**£35.64**
20		16	D662	**£35.64**
25		16	D664	**£35.64**
32		16	D666	**£42.12**
12	3	18	D667	**£32.40**
16		18	D668	**£35.64**
20		18	D670	**£35.64**
25		18	D672	**£35.64**
25		25	D960	**£50.22**
25		40	D963	**£53.46**
32		18	D675	**£35.64**
20	4	18	D676	**£35.64**
25		18	D678	**£35.64**
25		25	D961	**£50.22**
25		40	D964	**£53.46**
32		18	D680	**£42.12**
20	5	24	D682	**£35.64**
25		24	D684	**£35.64**
32		24	D686	**£42.12**
25	6	24	D687	**£35.64**

INTERNAL GROOVING TOOL HOLDER

MGIVR Series - Teknik MGT-ECO Groove

- Right handed holder





Shank	Min Bore	Insert Width mm	Reach	O/All Length	t max	Order Code	Price
16	21	2	35	180	5	K600	**£29.16**
20	26		35	180	5.7	K602	**£32.40**
25	31		35	200	5.7	K603	**£35.64**
20	26	3	35	180	6	K604	**£32.40**
25	32		40	200	6.7	K606	**£35.64**
32	38		45	250	6.1	K608	**£40.50**
40	45		60	300	7.4	K609	**£48.60**
20	26	4	35	180	6	K610	**£32.40**
25	31		40	200	6	K612	**£35.64**
32	38		60	250	6	K614	**£40.50**
40	47		60	300	7.7	K616	**£48.60**
25	32	5	40	200	7	K618	**£35.64**
32	39		60	250	7	K620	**£40.50**
40	47		60	300	7.4	K622	**£48.60**

GROOVING & PROFILING INSERT



KORLOY

Insert Width mm	Radius	Order Code	Price
2	0.2	MGMN 200-M NC3030	**£10.09**
3	0.4	MGMN 300-M NC3030	**£10.75**
4	0.4	MGMN 400-M NC3030	**£11.45**
5	0.8	MGMN 500-M NC3030	**£12.77**
6	0.8	MGMN 600-M NC3030	**£14.12**

GROOVING & PROFILING INSERT

- Full radius

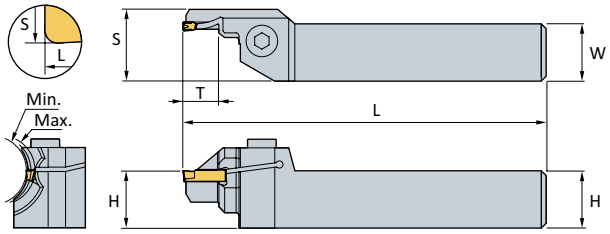


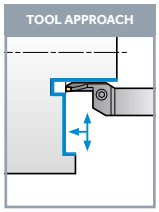
KORLOY

Insert Width mm	Radius	Order Code	Price
2	1.0	MRMN 200-M NC3030	**£10.09**
3	1.5	MRMN 300-M NC3030	**£10.75**
4	2.0	MRMN 400-M NC3030	**£11.45**
5	2.5	MRMN 500-M NC3030	**£12.77**
6	3.0	MRMN 600-M NC3030	**£14.12**

MGT FACE GROOVE AXIAL APPROACH TOOL HOLDER

FGHH



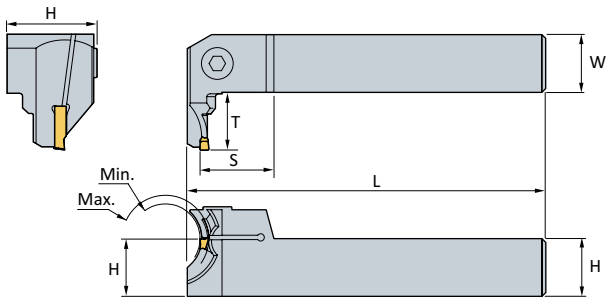


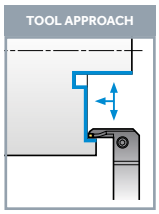
Right hand only



MGT FACE GROOVE RADIAL APPROACH TOOL HOLDER

FGHH





Right hand only



For face grooves up to 25mm deep.

KORLOY

H=h	W	L	S	t max	ØD Min	ØD Max	Order Code	Price From	Inserts	Spares	
										Screw	Wrench
20	20	125	20.6	12	25	30	FGHH/FGVH 320R-25/30	**£90.14**	FMM300R-03 (3mm)	BHA0616	HW50L
20	20	125	20.6	12	30	35	FGHH/FGVH 320R-30/35	**£90.14**			
20	20	125	20.6	12	35	48	FGHH/FGVH 320R-35/48	**£90.14**			
25	25	150	25.6	12	25	30	FGHH/FGVH 325R-25/30	**£100.13**			
25	25	150	25.6	12	30	35	FGHH/FGVH 325R-30/35	**£100.13**			
25	25	150	25.6	12	35	48	FGHH/FGVH 325R-35/48	**£100.13**			
25	25	150	25.6	22	48	60	FGHH/FGVH 325R-48/60	**£100.13**	FGD300R-03 (3mm)		
25	25	150	25.6	22	60	75	FGHH/FGVH 325R-60/75	**£100.13**			
25	25	150	25.6	22	75	100	FGHH/FGVH 325R-75/100	**£100.13**			
25	25	150	25.6	22	100	140	FGHH/FGVH 325R-100/140	**£100.13**			
20	20	125	20.6	12	25	30	FGHH/FGVH 420R-25/30	**£90.14**	FMM400R-04 (4mm)		
20	20	125	20.6	12	30	35	FGHH/FGVH 420R-30/35	**£90.14**			
20	20	125	20.6	12	35	48	FGVH 420R-35/48	**£90.14**			
25	25	150	25.6	12	25	30	FGHH/FGVH 425R-25/30	**£100.13**			
25	25	150	25.6	12	30	35	FGHH/FGVH 425R-30/35	**£100.13**			
25	25	150	25.6	12	35	48	FGHH 425R-35/48	**£100.13**			
25	25	150	25.6	25	48	60	FGHH/FGVH 425R-48/60	**£100.13**	FGD400R-04 (4mm)		
25	25	150	25.6	25	60	75	FGHH/FGVH 425R-60/75	**£100.13**			
25	25	150	25.6	25	75	100	FGHH/FGVH 425R-75/100	**£100.13**			
25	25	150	25.6	25	100	140	FGHH/FGVH 425R-100/140	**£100.13**			
20	20	125	20.6	12	25	30	FGHH/FGVH 520R-25/30	**£90.14**	FMM500R-04 (5mm)		
20	20	125	20.6	12	30	35	FGHH 520R-30/35	**£90.14**			
20	20	125	20.6	20	35	40	FGHH/FGVH 520R-35/40	**£90.14**			
20	20	125	20.6	20	40	48	FGHH/FGVH 520R-40/48	**£90.14**			
25	25	150	25.6	12	25	30	FGVH 525R-25/30	**£100.13**			
25	25	150	25.6	12	30	35	FGHH/FGVH 525R-30/35	**£100.13**			
25	25	150	25.6	20	35	40	FGHH/FGVH 525R-35/40	**£100.13**			
25	25	150	25.6	20	40	48	FGVH 525R-40/48	**£100.13**			
25	25	150	25.6	25	48	60	FGHH 525R-48/60	**£100.13**	FGD500R-04 (5mm)		
25	25	150	25.6	25	60	75	FGHH/FGVH 525R-60/75	**£100.13**			
25	25	150	25.6	25	75	100	FGHH/FGVH 525R-75/100	**£100.13**			
25	25	150	25.6	25	100	140	FGHH/FGVH 525R-100/140	**£100.13**			

FGD/FMM FACE GROOVING INSERTS

KORLOY



Insert Width mm	Radius	Order Code	Price
3	1.0	FGD300R-03NC3030	**£10.33**
4	1.5	FGD400R-04NC3030	**£10.65**
5	2.0	FGD500R-04NC3030	**£11.11**
3	1.0	FMM300R-03NC3030	**£10.33**
4	1.5	FMM400R-04-N3030	**£10.65**
5	2.0	FMM500R-04 NC3030	**£11.11**

vargus

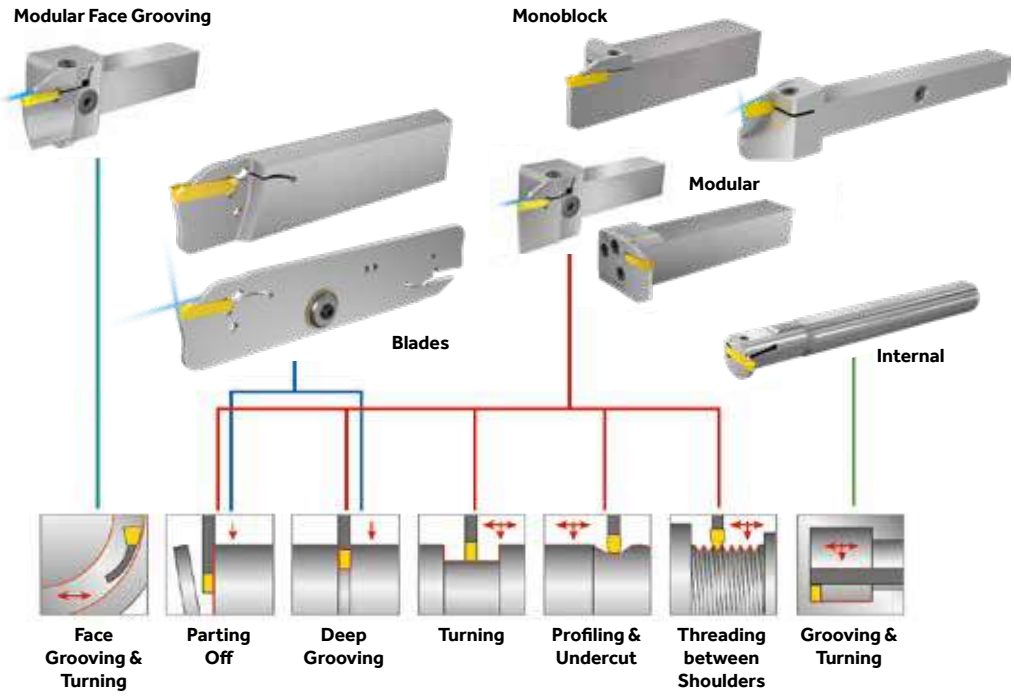
VG-Cut Parting & Grooving

High performance grooving, parting, boring & threading. Groove, turn, profile or thread with one holder!

Performance
★★★★★

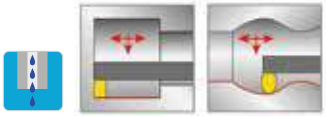
External and internal tool holders available with through coolant for 5 times more tool life. VG-Cut tools cover a wide range of threading standards for machining between shoulders and close to the spindle with shoulder depths up to 10mm.

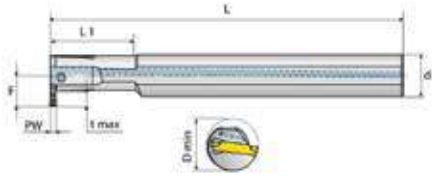




INTERNAL VG-CUT HOLDERS WITH THROUGH COOLANT

- For grooving, boring & profiling





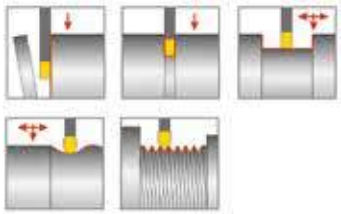


vargus

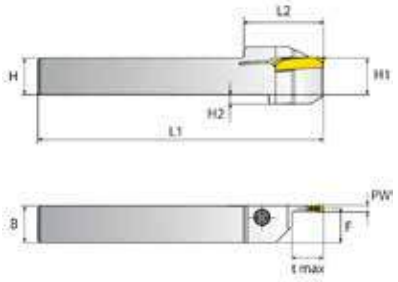
Insert Width mm	d Shank	D Min	L1 Reach	L Length	t max	Order Code	Price
2	20	25	40.5	180	7	VGIR/L-20-25-2C	**£239.24**
	25	32	50.5	200	9	VGIR/L-25-32-2C	**£278.66**
3	20	25	40.5	180	7	VGIR/L-20-25-3C	**£239.24**
	25	32	50.5	200	9	VGIR/L-25-32-3C	**£278.66**
	32	40	64.0	250	11	VGIR/L-32-40-3C	**£323.26**
4	20	28	41.0	180	9	VGIR/L-20-28-4C	**£239.24**
	25	32	51.0	200	9	VGIR/L-25-32-4C	**£278.66**
5	32	40	64.0	250	11	VGIR-32-40-5C	**£323.26**
6	40	51	80.0	295	10	VGIR-40-50-6C	**£379.49**

EXTERNAL VG-CUT HOLDERS

- For grooving, parting off, turning & threading
- Can be used with double or single end inserts







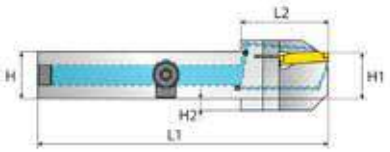
vargus

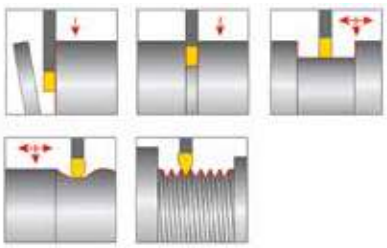
Insert Width mm	Shank H+B	t max	H1	F	L2	H2	Order Code	Price
2	16	12	16	15.3	125	4.0	VGER/L1616-2T12	**£112.01**
	20	12	20	19.3	125	-	VGER/L2020-2T12	**£128.94**
	25	8	25	24.3	125	-	VGER/L2525-2T08	**£86.14**
3	12	12	12	10.8	125	4.0	VGER/L1212-3T12	**£62.51**
	16	12	16	14.8	125	4.0	VGER/L1616-3T12	**£112.01**
	16	21	16	14.8	125	4.0	VGER/L1616-3T21	**£116.48**
	20	8	20	18.8	125	-	VGER/L2020-3T08	**£76.53**
	20	12	20	18.8	125	-	VGER/L2020-3T12	**£121.31**
	20	21	20	18.8	125	-	VGER/L2020-3T21	**£128.94**
	25	8	25	23.8	125	-	VGER/L2525-3T08	**£81.32**
	25	12	25	23.8	125	-	VGER/L2525-3T12	**£139.44**
	25	21	25	23.8	125	-	VGER/L2525-3T21	**£148.22**
4	16	21	16	14.5	125	4.0	VGER/L1616-4T21	**£71.42**
	20	21	20	18.5	125	-	VGER/L2020-4T21	**£82.27**
	25	8	25	23.52	125	-	VGER/L2525-4T08	**£81.30**
	25	12	25	23.5	125	-	VGER/L2525-4T12	**£86.22**
	25	21	25	23.5	125	-	VGER/L2525-4T21	**£143.56**
	32	21	32	32.52	125	-	VGER/L3232-4T21	**£94.16**
5	25	22	25	23.0	150	-	VGER/L2525-5T22	**£112.53**
	32	22	32	30.0	170	-	VGER/L3232-5T22	**£136.64**
6	25	24	25	22.5	150	-	VGER/L2525-6T24	**£112.53**
	32	24	32	29.5	170	-	VGER/L3232-6T24	**£136.64**

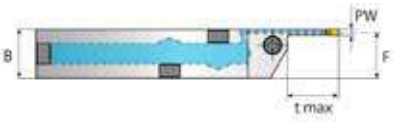
EXTERNAL VG-CUT HOLDERS WITH THROUGH COOLANT

- For grooving, parting off, turning & threading
- Through coolant can increase tool life up to 500%
- 3 coolant input ports: Can be used on lathes with internal or external coolant (Connection kit available on request)









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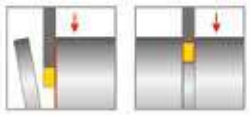
Insert Width mm	Shank H+B	t max	H1	F	L1	L2	Order Code	Price
3	20	12	20	18.8	124.6	28.5	VGER/L2020-3T12C	**£150.53**
	20	21	20	18.8	124.6	37.6	VGER/L2020-3T21C	**£150.53**
	25	12	25	23.8	124.6	30.6	VGER/L2525-3T12C	**£169.89**
	25	21	25	23.8	124.6	37.6	VGER/L2525-3T21C	**£169.89**
4	25	21	25	23.3	124.6	37.6	VGER/L2525-4T21C	**£169.89**

HIGH PRESSURE COOLANT ACCESSORIES

Accessory		Order Code
Tube Connector 25-6P		013-00941
Angled Fitting G1 8x6P		013-00947
Straight Fitting G1 8x6P		013-00942
Plug G1/8"P		013-00948
Plug DIN 916 GALV M6x8P		013-00940

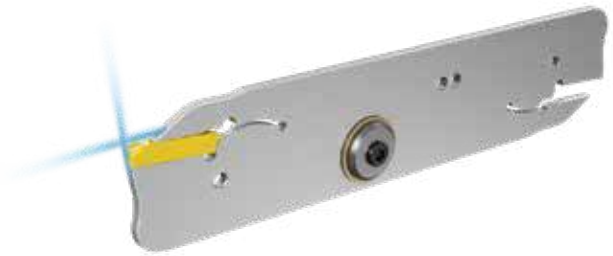
VG-CUT BLADES FOR GROOVING & PARTING OFF

- Available with or without through coolant
- Through coolant can increase tool life up to 500%
- For deep parting off or grooving, use single ended inserts





*D max applies to single edge inserts
(D max for double edge inserts = Insert t max x 2)



Optional through coolant

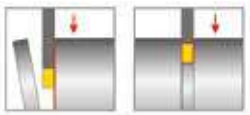
vargus

Insert Width mm	Blade Height	Length	Max Part Off Dia*	Type	Order Code	Price	Wrench
2	26	110	50	Standard	VGP26-2D	**£64.07**	
2	32	150	50	Standard	VGP32-2D	**£64.07**	
3	26	110	70	Standard	VGP26-3D	**£68.20**	VP-3
3	26	110	70	Through Coolant	VGP26-3DC	**£143.33**	(sold seperately)
3	32	150	100	Standard	VGP32-3D	**£68.20**	
3	32	150	100	Through Coolant	VGP32-3DC	**£183.82**	
4	32	150	100	Standard	VGP32-4D	**£68.20**	VP-4
4	32	150	100	Through Coolant	VGP32-4DC	**£183.82**	(sold seperately)

VG-CUT REINFORCED BLADES FOR GROOVING & PARTING OFF

- Ideal for applications where parting blades snap





*D max applies to single edge inserts
(D max for double edge inserts = Insert t max X 2)

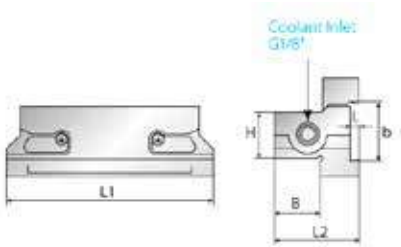
vargus

Insert Width mm	Blade Height	Length	Max Part Off Dia*	Order Code	Price	Wrench
2	26	110	50	VGWR/L26-2S	**£124.20**	VP-3
3	26	110	50	VGWR/L26-3S	**£132.16**	(sold seperately)

VG-CUT BLADE HOLDERS

- Suitable for through coolant parting blades
- For coolant hose and accessories see page 563

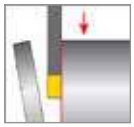
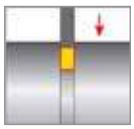




vargus

Blade Height	Shank B	H	L1	L2	Order Code	Price
26	20	20	90	37.0	VBA 2020-26	**£215.10**
32	20	25	110	37.7	VBA 2520-32	**£217.94**

INSERT GUIDE

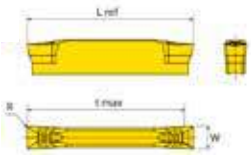
Application	Material Group	Standard Conditions	Extreme Conditions
 Parting Off	P Alloy Steel; H Hardened Material; K Cast Iron	 GT — Recommended choice for machining alloy and stainless steel. Positive rake chip former leads to low cutting forces during cutting. A multifunctional chip former for parting, grooving and turning.	 GP — Recommended choice for machining cast iron, for interrupted cuts and for unstable applications where accuracy and overall machining stability aren't clear. Reinforced cutting edge for parting off and grooving.
 Grooving	M Stainless Steel; S Heat Resistance; N Non-Ferrous; P Mild Steel	 GM — Recommended choice for stainless steel. Positive sharp cutting edge decreases buildup on edge for parting off and grooving in low feeds.	 GT — Recommended choice for machining alloy and stainless steel. Positive rake chip former leads to low cutting forces during cutting, with multifunctional chip former for parting, grooving and turning.

VG-CUT PARTING & GROOVING INSERTS

- For high performance Parting Off, Grooving & Turning applications
- Double sided insert with 2 cutting edges for economical machining







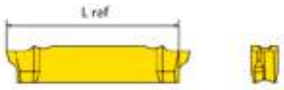
vargus

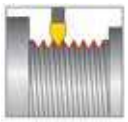
Width mm	Rad	L ref mm	t max	Order Code	Price
2	0.2	22	20	VGD2.00-020-GT VPG	£10.76
3	0.3	22	20	VGD3.00-030-GT VPG	£10.76
4	0.2	25	23	VGD4.00-020-GT VPG	£12.56
4	0.4	25	23	VGD4.00-040-GT VPG	£12.56
5	0.4	25	23	VGD5.00-040-GT VPG	£16.15
6	0.4	25	23	VGD6.00-040-GT VPG	£17.06
2	0.2	22	20	VGD2.00-020-GP VPG	£10.76
3	0.2	22	20	VGD3.00-020-GP VPG	£10.76
4	0.3	25	23	VGD4.00-030-GP VPG	£12.56

VG-CUT THREADING INSERTS ISO METRIC

- Full profile Metric ISO threading inserts
- Ideal for threading between shoulders







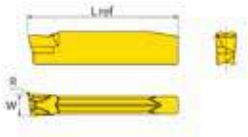
vargus

Pitch mm	Width	L ref mm	Order Code	Price
0.5	3	22	VGD3.0ISO0.50RH-RS VPG	£13.06
0.75			VGD3.0ISO0.75RH-RS VPG	
1			VGD3.0ISO1.00RH-RS VPG	
1.25			VGD3.0ISO1.25RH-RS VPG	
1.5			VGD3.0ISO1.50RH-RS VPG	
1.75			VGD3.0ISO1.75RH-RS VPG	
2			VGD3.0ISO2.00RH-RS VPG	
2.5			VGD3.0ISO2.50RH-RS VPG	

VG-CUT SINGLE ENDED INSERTS FOR PARTING OR DEEP GROOVING

- For high performance Parting Off & Deep Hole Grooving applications
- Single sided insert with 1 cutting edge







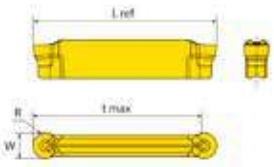
vargus

Width mm	Rad	L ref mm	t max	Order Code	Price
3	0.2	22	-	VGS3.00-020-GM VPG	£8.90
4	0.4	25	-	VGS4.00-040-GM VPG	£11.27
3	0.2	22	-	VGS3.00-020-GP VPG	£8.90
4	0.3	25	-	VGS4.00-030-GP VPG	£11.27

VG-CUT PROFILING INSERTS

- For high performance Grooving & Profiling applications
- Double sided insert with 2 cutting edges for economical machining





vargus

Width mm	Rad	L ref mm	t max	Order Code	Price
2	1	22	18	VGD2.00-100-GR VPG	£10.76
3	1.5	22	18	VGD3.00-150-GR VPG	£10.76
4	2	25	20	VGD4.00-200-GR VPG	£12.56
6	3	25	20	VGD6.00-300-GR VPG	£17.06

SIMTEK

simturn K2

Performance

★★★★★

Simturn K2 was designed to meet the highest expectations in small part external machining.

Two-edged indexable cutting inserts and square shank holder sizes from 10-16mm. Ideal for sliding head lathes or small fixed head lathes.

All inserts are precision ground for high accuracy machining and one tool holder can be used for various applications including: turning, grooving, profiling, threading and parting off.



Advantages:

- Ideal for sliding head lathes or small parts.
- One tool holder for multiple applications.
- High precision ground inserts provide exceptional accuracy and surface finish.

SMALL PART HIGH PRECISION EXTERNAL MACHINING

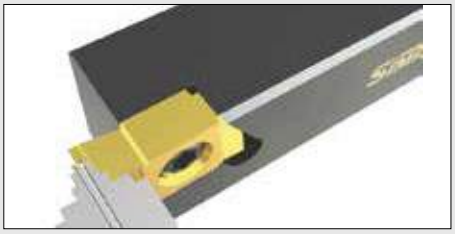
- Simturn K2 offers high precision and versatility.
- The compact design of the tool holder is ideal for sliding head lathes as the insert cutting edge is in line with the holder.
- One holder can be used for several applications.

MAIN APPLICATIONS



Grooving & Profiling

- 0.5 - 3mm wide inserts for grooving and profiling.



Custom Solutions

- Inserts made to your specification.



Back Turning

- Inserts available in 0.2-0.4mm corner radius with 59° relief angle, ideal for profile turning.



Threading

- Metric ISO full profile thread turning inserts available from 0.25-3.0mm pitch.



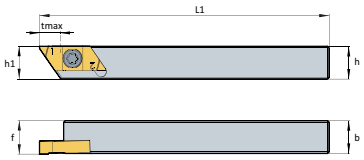
Parting Off

- 1mm, 1.5mm or 2mm wide inserts for parting off up to 7mm deep.

EXTERNAL TOOL HOLDER

Simturn K2 External Multifunctional Tooling System

- One holder can take all Simturn K2 inserts

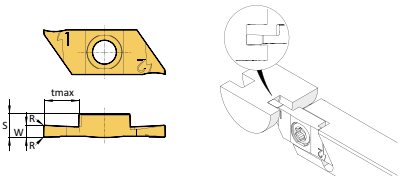


h	b	L1	h1	t max	Designation	Order Code		Price
						RH	LH	
10	10	140	10	7	TK2.G.1010.A.14.04 R/L	AYGQ	AYGS	£77.53
12	12	140	12	7	TK2.G.1212.A.14.04 R/L	AYGK	AYGM	
16	16	140	16	7	TK2.G.1616.A.14.04 R/L	AYGF	AYGG	

GROOVING & PROFILING INSERT

Simturn K2 External Multifunctional Tooling System

- Radius corner
- X8 Gradium ground coated grade
- Suitable for turning / profiling



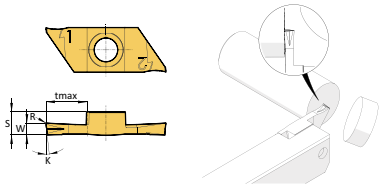
W (±0.05)

W	R	t max	Designation	Order Code		Price
				RH	LH	
0.5	0.05	2.5	TK2.G.050.005.025 NS R/L	AYHAX800	AYG9X800	£23.87
0.75	0.05	3.75	TK2.G.075.005.038 NS R/L	AYG7X800	AYG8X800	
1	0.05	5	TK2.G.100.005.050 NS R/L	AYG6X800	AYG5X800	
1.5	0.2	4.5	TK2.G.150.020.045 NS R/L	AYG4X800	AYG3X800	
2	0.2	6	TK2.G.200.020.060 NS R/L	AYG2X800	AYG1X800	
2.5	0.2	7	TK2.G.250.020.070 NS R/L	AYG0X800	AYGZX800	
3	0.2	7	TK2.G.300.020.070 NS R/L	AYGYX800	AYGXX800	

PARTING INSERT

Simturn K2 External Multifunctional Tooling System

- Right or left handed
- 6° or 12° lead angle
- Suitable for small diameter parting



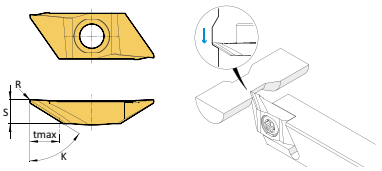
W (±0.05)

W	R	t max	K	Designation	Order Code		Price
					RH	LH	
1	0.05	4	6°	TK2.G.R100.06.005 PT R/L	AYJKX800	A2S0X800	£25.61
1	0.05	4		TK2.G.R100.12.005 PT R	AYJSX800	-	
1.5	0.05	6		TK2.G.R150.06.005 PT R/L	AYJMX800	A2S1X800	
1.5	0.05	6	12°	TK2.G.R150.12.005 PT R	AYJTX800	-	
2	0.05	7		TK2.G.R200.06.005 PT R	AYJNX800	-	
2	0.05	7		TK2.G.R200.12.005 PT R	AYJUX800	-	

BACK TURNING INSERT

Simturn K2 External Multifunctional Tooling System

- 59° approach angle
- X8 Gradium ground coated grade
- Suitable for turning / profiling / back turning

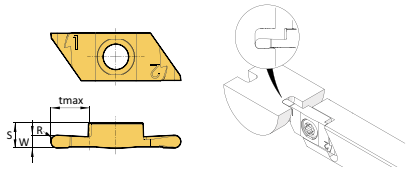


K	R	t max	Designation	Order Code		Price
				RH	LH	
59°	0.2	5	TK2.G.059.02.05.20 YYR/L	AYFHX800	AYFJX800	£27.22
59°	0.4	5	TK2.G.059.02.05.40 YYR/L	AYFMX800	AYFKX800	

GROOVING & PROFILING INSERT

Simturn K2 External Multifunctional Tooling System

- Full radius
- X8 Gradium ground coated grade
- Suitable for turning / profiling

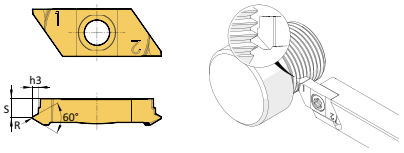


W (±0.05)	R	t max	Designation	Order Code		Price
				RH	LH	
1	0.5	3	TK2.G.100.050.030 VS R/L	AYH0X800	AYHZX800	£24.86
1.2	0.6	3.6	TK2.G.120.060.036 VS R/L	AYHYX800	AYHXX800	
1.6	0.8	4.8	TK2.G.160.080.048 VS R/L	AYHVX800	AYHWX800	
2	1	6	TK2.G.200.100.060 VS R/L	AYHTX800	AYHUX800	

ISO METRIC THREADING INSERT

Simturn K2 External Multifunctional Tooling System

- External full profile
- X8 Gradium ground coated grade



Pitch	h3	R	Designation	Order Code R/H	Price
0.25	0.15	0.04	TK2.G.M025.02 EMU R	AYM5X800	£25.71
0.35	0.22	0.05	TK2.G.M035.02 EMU R	AYM7X800	
0.4	0.25	0.06	TK2.G.M040.02 EMU R	AYM9X800	
0.45	0.28	0.07	TK2.G.M045.02 EMU R	AYNBX800	
0.5	0.31	0.07	TK2.G.M050.02 EMU R	AYNDX800	
0.7	0.43	0.1	TK2.G.M070.02 EMU R	AYNEX800	
0.75	0.46	0.11	TK2.G.M075.02 EMU R	AYNHX800	
0.8	0.49	0.11	TK2.G.M080.02 EMU R	AYNKX800	
1	0.61	0.12	TK2.G.M100.02 EMU R	AYNNX800	
1.25	0.77	0.15	TK2.G.M125.02 EMU R	AYNQX800	
1.5	0.92	0.2	TK2.G.M150.02 EMU R	AYNTX800	
1.75	1.07	0.25	TK2.G.M175.02 EMU R	AYNVX800	
2	1.23	0.25	TK2.G.M200.02 EMU R	AYNXX800	
2.5	1.53	0.35	TK2.G.M250.02 EMU R	AYNZX800	
3	1.84	0.4	TK2.G.M300.02 EMU R	AYN1X800	

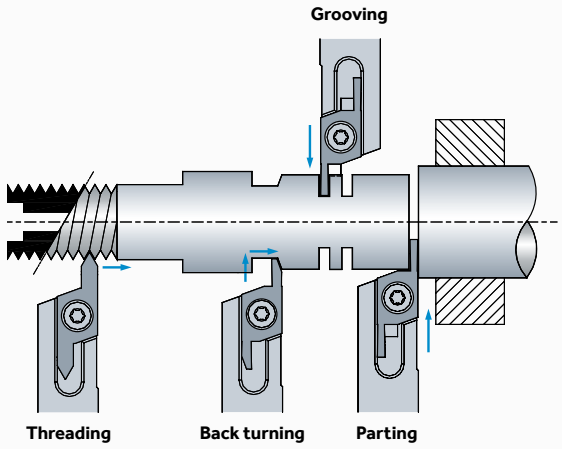
KORLOY

Auto Tool

Designed for applications where size & precision matter.

Performance ★★★★

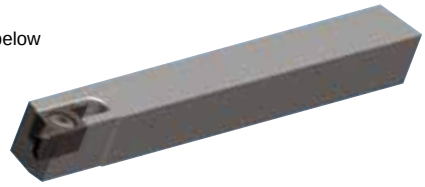
- Precision ground to the highest tolerance for ultimate accuracy
- ISO holders Offset “0”
- Shanks from 10mm make it ideal for automatic lathes, sliding heads or where small shank tooling is required

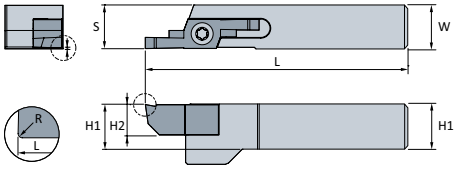


SXGNR/L

Auto Tool Holder

- One holder can take all inserts listed below





KORLOY

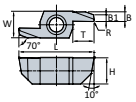
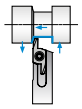
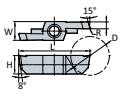
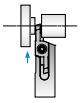
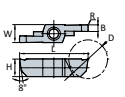
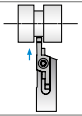
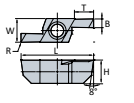
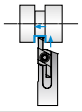
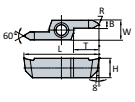
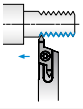
H1	W	L1 H2	L	S	Order Code	Price	Inserts	Spares	
								Screw	Wrench
10	10	6	125	10	SXGNR/L 1010-X06A	**£49.46**	S_R/L 06	FTNA0408	TW15P
12	12	6	125	12	SXGNR/L 1212-X06A	**£50.54**			
16	16	6	125	16	SXGNR/L 1616-X06A	**£60.34**			
20	20	6	125	20	SXGNR/L 2020-X06A	**£70.83**			

AUTO TOOL INSERTS

***D = Maximum machining diameter**

PC9030

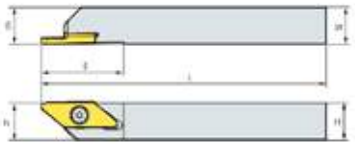
KORLOY

Insert	Dimensions									Designation	Tool Approach	Order Code	Price
	b	B1	W	L	R	H	t max	D*	Pitch				
Inserts FOR BACK TURNING													
SB 	2	1	8	22	0.05	6	5.5	-	-			SBR/L 060520-10-R05	**£23.10**
	3	2	8	24	0.1	6	6.5	-	-			SBR/L 060530-20-R10	
	4	2	8	27	0.1	8	8.5	-	-			SBR/L 080840-20-R10	
	-	-	-	-	-	-	-	-	-			-	
	-	-	-	-	-	-	-	-	-			-	
Inserts FOR PARTING OFF													
SC 	1	-	8	24	0.1	6	-	11	-			SCR060610-R10	**£23.10**
	1.5	-	8	24	0.1	6	-	11	-			SCR060615-R10	
	2	-	8	24	0.1	6	-	11	-			SCR060620-R10	
	-	-	-	-	-	-	-	-	-			-	
	-	-	-	-	-	-	-	-	-			-	
Inserts FOR GROOVING PROFILE													
SGR 	1	-	8	24	0.1	6	-	11	-			SGR/L 060610-R10	**£23.10**
	1.5	-	8	24	0.1	6	-	11	-			SGR/L 060615-R10	
	2	-	8	24	0.1	6	-	11	-			SGR/L 060620-R10	
	-	-	-	-	-	-	-	-	-			-	
	-	-	-	-	-	-	-	-	-			-	
Inserts FOR GROOVING & BACK TURNING													
SGB 	2	-	8	22	0.1	6	5.5	-	-			SGBR/L 0604520-R10	**£23.10**
	2.5	-	8	22	0.1	6	5.5	-	-			SGBR/L 0604525-R10	
	3	-	8	24	0.1	6	6.5	-	-			SGBR/L 0605530-R10	
	-	-	-	-	-	-	-	-	-			-	
	-	-	-	-	-	-	-	-	-			-	
Inserts FOR THREADING													
STR 	3.2	-	8	25	0.06	6	7	-	0.5-1.5			STR/L 06073215	**£23.10**
	3.2	-	8	25	0.19	6	7	-	1.5-3.0			STR/L 06073230	
	-	-	-	-	-	-	-	-	-			-	
	-	-	-	-	-	-	-	-	-			-	
	-	-	-	-	-	-	-	-	-			-	

BLADE TYPE AUTO TOOL HOLDERS

SBHR/L Series

- Blade insert for automatic lathes
- For external machining of precise small parts
- 4 types - SSB (for back turning), SGB (for grooving), SBT (for threading), SBC (for parting off)
- Convenient use of one holder to all blade inserts
- Exclusive holder for close cutting action to the sub spindle (SBHR/L-X)



KORLOY

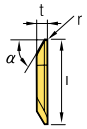
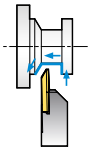
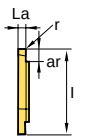
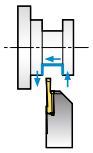
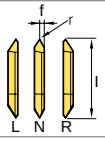
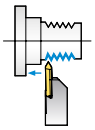
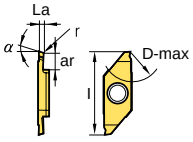
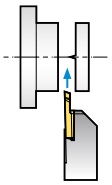
H	W	L	S	S2	h	ℓ	Order Code	Price	Inserts	Spares	
										Screw	Wrench
SBHR/L											
10	10	125	10	-	10	27	SBHR/L 1010-K25	**£87.85**	SBR/L25	FTKA0409S	TW09P
12	12	125	12	-	12	27	SBHR/L 1212-K25	**£87.85**			
16	16	125	16	-	16	27	SBHR/L 1616-K25	**£87.85**			
SBHR/L-X (Sub Spindle Type)											
10	10	125	10	7.5	10	27	SBHR/L 1010-K25-X	**£87.85**	SBR/L25	FTKA0407S	TW09P
12	12	125	12	7.5	12	27	SBHR/L 1212-K25-X	**£87.85**			

BLADE TYPE AUTO TOOL INSERTS

*D = Maximum machining diameter

PC5300 PC8110

KORLOY

Insert	Dimensions									Designation	Tool Approach	Order Code	Price
	l	α	t	r	La	ar	f	D*-Max	Pitch				
Inserts FOR BACK TURNING													
SBBR/L	25	59	3.18	0.05	-	-	-	-	-			SBBR/L 25005	
	25	59	3.18	0.1	-	-	-	-	-			SBBR/L 25010	
	25	59	3.18	0.2	-	-	-	-	-			SBBR/L 25020	**£25.00**
	-	-	-	-	-	-	-	-	-			-	
	-	-	-	-	-	-	-	-	-			-	
Inserts FOR GROOVING													
SBGR/L	25	-	-	0.05	0.5	1.35	-	-	-			SBGR/L 2505	
	25	-	-	0.05	1	2.75	-	-	-			SBGR/L 2510	
	25	-	-	0.05	1.5	3.75	-	-	-			SBGR/L 2515	**£25.00**
	25	-	-	0.05	2	3.75	-	-	-			SBGR/L 2520	
	25	-	-	0.05	2.5	3.75	-	-	-			SBGR/L 2525	
Inserts FOR THREADING (60° PROFILE)													
SBTR/L	25	-	-	0.05	-	-	1.59	-	0.2-2			SBTR/L 2560-N-005	
	25	-	-	0.1	-	-	1.59	-	1-2			SBTR/L 2560-N-010	
	25	-	-	0.05	-	-	0.6	-	0.2-1.5			SBTR/L 2560-R-005	**£25.00**
	25	-	-	0.1	-	-	0.6	-	1-1.5			SBTR/L 2560-R-010	
	25	-	-	0.05	-	-	0.6	-	0.2-1.5			SBTR/L 2560-L-005	
	25	-	-	0.1	-	-	0.6	-	1-1.5			SBTR/L 2560-L-010	
Inserts FOR PARTING OFF													
SBCR/L	25	0	-	0.05	0.7	4.3	-	8	-			SBCR/L 250708-N	
	25	0	-	0.05	1	6.3	-	12	-			SBCR/L 251012-N	
	25	0	-	0.05	1.5	6.3	-	12	-			SBCR/L 251512-N	
	25	0	-	0.05	2	8.3	-	16	-			SBCR/L 252016-N	
	25	15	-	0.05	0.7	4.3	-	8	-			SBCR/L 250708-R	
	25	15	-	0.05	1	6.3	-	12	-			SBCR/L 251012-R	
	25	15	-	0.05	1.5	6.3	-	12	-			SBCR/L 251512-R	
	25	15	-	0.05	2	8.3	-	16	-			SBCR/L 252016-R	**£25.00**
	25	15	-	0.05	0.7	4.3	-	8	-			SBCR/L 250708-L	
	25	15	-	0.05	1	6.3	-	12	-			SBCR/L 251012-L	
	25	15	-	0.05	1.5	6.3	-	12	-			SBCR/L 251512-L	
	25	15	-	0.05	2	8.3	-	16	-			SBCR/L 252016-L	
	25	0	-	0.05	1	6.3	-	12	-			SBCR/L 251012-T	
	25	0	-	0.05	1.5	6.3	-	12	-			SBCR/L 251512-T	
	25	0	-	0.05	2	8.3	-	16	-			SBCR/L 252016-T	

RECOMMENDED CUTTING CONDITIONS

Workpiece	Turning		Grooving		Parting		Back Turning	
	Speed (m/min)	Feed (mm/rev)	Speed (m/min)	Feed (mm/rev)	Speed (m/min)	Feed (mm/rev)	Speed (m/min)	Feed (mm/rev)
Carbon Steel	50 - 150	0.01 - 0.25	50 - 150	0.02 - 0.08	50 - 150	0.02 - 0.08	50 - 150	0.01 - 0.25
Free-Cutting Steel	30 - 150	0.02 - 0.25	30 - 150	0.02 - 0.08	30 - 150	0.02 - 0.08	30 - 150	0.01 - 0.25
Stainless Steel	50 - 120	0.02 - 0.20	30 - 120	0.02 - 0.05	30 - 120	0.02 - 0.05	30 - 120	0.02 - 0.20
Non-Ferrous	70 - 200	0.03 - 0.25	70 - 200	0.03 - 0.10	70 - 200	0.03 - 0.10	70 - 200	0.03 - 0.30

SIMTEK

simturn AX

Performance
★★★★★

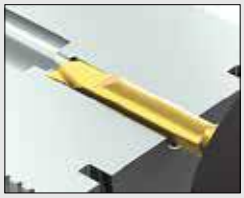
The first choice for micro-machining with high precision & performance.

Advantages:

- Combines high precision and versatility without compromise. With Inserts available for boring, profiling, grooving, threading, chamfering and face grooving, the system has the widest choice of tools in the market.
- Inserts feature a 45° angle ground wedge for fast and accurate location in the Simturn AX holder, with the cutting edge positioned perfectly without the need for adjustment.
- The system is completed with a range of high performance holders, with both standard sleeves and specifically designed holders for different machine tools such as sliding head lathes or multitasking mill-turn machines.

PRECISE INTERNAL MACHINING FROM Ø0.3mm

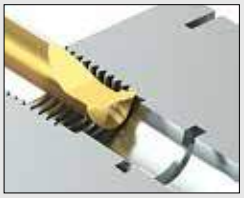
MAIN APPLICATIONS



Boring
- From Ø0.3mm bores
- Standard & back boring



Grooving
- From Ø2mm bores
- Square or full radius



Thread Turning
- From 0.4mm pitch and 28 TPI
- Metric, UN and BSW



Face Grooving
- From 0.8mm wide
- Face grooving in bores or external face grooves



Custom Solutions
- Inserts made to your specification

STANDARD TOOL HOLDERS WITH FAST LOCATION PIN

- Stop pin and wedge design for fast and optimum positioning of the insert
- Immediate and accurate
- High repeatability from insert to insert



'ME' CONCENTRIC CLAMPING TOOL HOLDERS

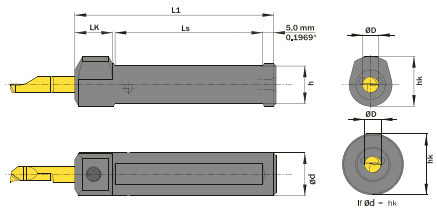
- Concentric clamping of the insert with high precision collet and nut
- Steel shank for standard applications or carbide shank for long reach applications
- Stop pin and wedge design for optimum positioning of the insert
- 4 types of through coolant with 1 holder
- 1st choice for the highest precision applications



STANDARD CLAMPING TOOL HOLDER

Simturn AX Multifunctional System for Small Parts

- Round shank
- Through coolant
- Single ended

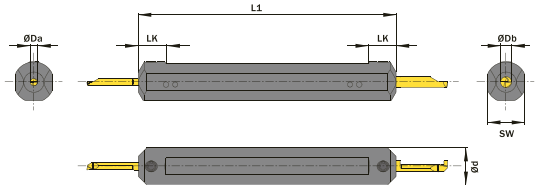


ØD	Ød	h	hk	L1	LK	Ls	Designation	Order Code	Price	Series
4	10	8	14.5	65	14	45	A04.0010	AE46	**£73.86**	A04
4	12	10	15.5	70	14	50	A04.0012	AE0X	**£70.93**	
4	16	14	17.5	75	14	55	A04.0016	AF2K	**£67.03**	
4	20	18	20	90	14	70	A04.0020	AC6Y	**£70.93**	
4	22	20	22	110	-	90	A04.0022	AD0V	**£75.79**	
4	25	23	25	110	-	90	A04.0025	ACAS	**£75.79**	
5	10	8	15	65	14	45	A05.0010	ABMY	**£73.86**	A05
5	12	10	16	70	14	50	A05.0012	AEA9	**£70.93**	
5	16	14	18	75	14	55	A05.0016	AEGF	**£67.03**	
5	20	18	20	90	14	70	A05.0020	ABDK	**£70.93**	
5	22	20	22	110	-	90	A05.0022	AG78	**£75.79**	
5	25	23	25	110	-	90	A05.0025	AMVA	**£75.79**	
6	12	10	16.5	70	14	50	A06.0012	AE6Z	**£70.93**	A06
6	16	14	18.5	75	14	55	A06.0016	ANUJ	**£67.03**	
6	20	18	22	90	14	70	A06.0020	AEV6	**£70.93**	
6	22	20	22	110	-	90	A06.0022	AAW6	**£75.79**	
6	25	23	25	110	-	90	A06.0025	AGFG	**£74.13**	
7	16	14	19	75	14	55	A07.0016	ANSH	**£67.03**	A07
7	20	18	22	90	14	70	A07.0020	AJ4T	**£70.93**	
7	22	20	22	110	-	90	A07.0022	AE9S	**£75.79**	
7	25	23	25	110	-	90	A07.0025	AEK6	**£75.79**	
8	16	14	19.5	75	14	55	A08.0016	AAAV	**£91.60**	A08
8	20	18	25	90	14	70	A08.0020	AD6N	**£91.60**	
8	25	23	25	110	-	90	A08.0025	AMAS	**£97.20**	
10	20	18	25	90	14	70	A10.0020	AGQZ	**£91.60**	A10
10	25	23	25	110	-	90	A10.0025	ABB8	**£97.20**	

DOUBLE ENDED, STANDARD CLAMPING TOOL HOLDER

Simturn AX Multifunctional System for Small Parts

- Round shank
- Double ended for Swiss machining

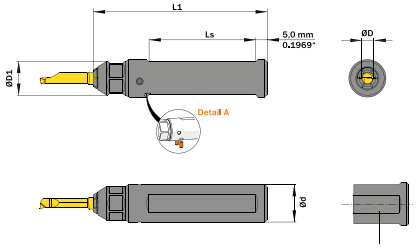


ØDa	ØDb	Ød	L1	LK	SW	Designation	Order Code	Price	Series
4	4	20	140	15	17	A04.0020.0140.A04	APJQ	**£114.14**	A04/A04
4	5	20	140	15	17	A04.0020.0140.A05	AMF0	**£128.00**	A04/A05
4	6	20	140	15	18	A04.0020.0140.A06	AAWT	**£128.00**	A04/A06
4	4	22	140	15	20	A04.0022.0140.A04	AGV1	**£117.35**	A04/A04
4	6	22	140	15	20	A04.0022.0140.A06	AA6P	**£128.00**	A04/A06
4	6	25	140	15	23	A04.0025.0140.A06	AEZP	**£115.46**	A04/A06
4	6	28	140	15	26	A04.0028.0140.A06	AB7A	**£128.00**	A04/A06
5	5	20	140	15	17	A05.0020.0140.A05	AK9Y	**£128.00**	A05/A05
5	6	20	140	15	17	A05.0020.0140.A06	APND	**£119.25**	A05/A06
6	6	20	140	15	17	A06.0020.0140.A06	AGXT	**£118.05**	A06/A06
6	6	22	140	15	19	A06.0022.0140.A06	AJC6	**£128.00**	A06/A06

'ME' CONCENTRIC CLAMPING TOOL HOLDER

Simturn AX Multifunctional System for Small Parts

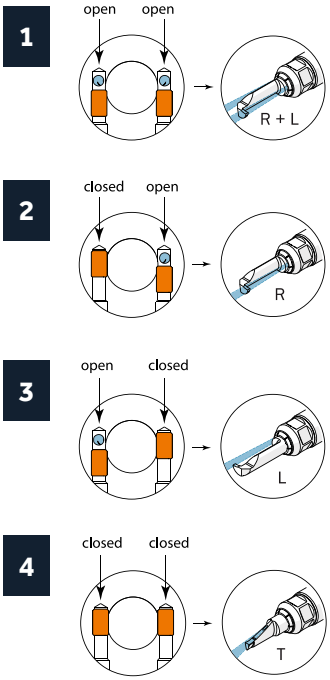
- Round shank
- 4 different types of through coolant can be achieved
- Single ended, 'ME' concentric clamping for highest accuracy machining



ØD	Ød	ØD1	L1	Ls	Designation	Order Code	Price	Series
4	12	14.5	70	42	A04.0012.ME ST T	AY7A	**£145.37**	A04
4	16	14.5	75	47	A04.0016.ME ST T	AY7B	**£141.00**	
4	20	14.5	90	58	A04.0020.ME ST T	AY7C	**£145.37**	
4	22	14.5	110	80	A04.0022.ME ST T	AZJ1	**£150.83**	
4	25	14.5	110	80	A04.0025.ME ST T	AY7D	**£150.83**	
5	12	14.5	70	41	A05.0012.ME ST T	AY7F	**£145.37**	A05
5	16	14.5	75	46	A05.0016.ME ST T	AY7G	**£141.00**	
5	20	14.5	90	58	A05.0020.ME ST T	AY7H	**£145.37**	
5	22	14.5	110	79	A05.0022.ME ST T	AZJ3	**£150.83**	
5	25	14.5	110	79	A05.0025.ME ST T	AY7J	**£150.83**	
6	12	16.5	70	37.5	A06.0012.ME ST T	AZJ5	**£145.37**	A06
6	16	16.5	75	42.5	A06.0016.ME ST T	AY7M	**£141.00**	
6	20	16.5	90	57.5	A06.0020.ME ST T	AY7N	**£145.37**	
6	22	16.5	110	77.5	A06.0022.ME ST T	AZJ6	**£150.83**	
6	25	16.5	110	77.5	A06.0025.ME ST T	AY7P	**£150.83**	
7	16	16.5	75	42.5	A07.0016.ME ST T	AY7Q	**£141.00**	A07
7	20	16.5	90	57.5	A07.0020.ME ST T	AY7S	**£145.37**	
7	22	16.5	110	78	A07.0022.ME ST T	AZM0	**£150.83**	
7	25	16.5	110	78	A07.0025.ME ST T	AY7T	**£150.83**	
8	16	19	75	42	A08.0016.ME ST T	AY67	**£151.95**	A08
8	20	19	90	55	A08.0020.ME ST T	AY7U	**£156.30**	
8	25	19	110	75	A08.0025.ME ST T	AY7V	**£161.77**	
10	20	19	90	55	A10.0020.ME ST T	AY7W	**£156.30**	A10
10	25	19	110	75	A10.0025.ME ST T	AY7X	**£161.77**	

'ME' TOOL HOLDERS

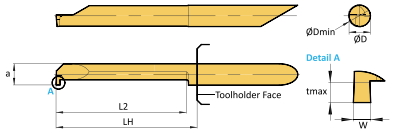
4 Different Types Of Through Coolant Can Be Achieved

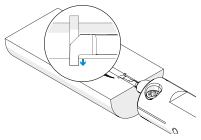


GROOVING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision grooving from Ø2mm bores



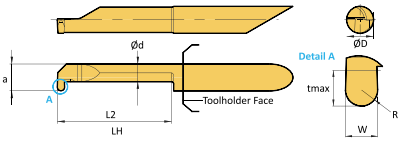


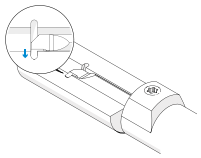
ØD	Min Bore	W (+0.03)	L2	t max	a	Designation	Order Code	Price	Series
4	2	0.5	6.1	0.4	1.75	A04.C050.06.20 GR	ABQ4X800	**£25.10**	
4	2	0.5	9.1	0.4	1.75	A04.C050.09.20 GR	AG6VX800	**£25.75**	
4	3	0.7	8.1	0.6	2.75	A04.C070.08.30 GR	AM07X800	**£23.48**	
4	3	0.7	16.3	0.6	2.75	A04.C070.16.30 GR	AB70X800	**£29.63**	
4	4.2	0.79	10.2	0.8	3.95	A04.0078.10.42 GR	AFQBX800	**£21.87**	A04
4	4.2	0.79	20.3	0.8	3.95	A04.0078.20.42 GR	AKJAX800	**£27.52**	
4	4.2	1	10.2	0.8	3.95	A04.0100.10.42 GR	ANMYX800	**£21.87**	
4	4.2	1	15.2	0.8	3.95	A04.0100.15.42 GR	AAQTX800	**£25.14**	
4	4.2	1	20.3	0.8	3.95	A04.0100.20.42 GR	ABMQX800	**£27.52**	
5	5.2	0.79	10.2	1	4.95	A05.0078.10.52 GR	AD73X800	**£20.77**	
5	5.2	0.79	15.2	1	4.95	A05.0078.15.52 GR	AKYBX800	**£26.87**	
5	5.2	0.79	25.4	1	4.95	A05.0078.25.52 GR	AHZ2X800	**£30.18**	
5	5.2	1	10.2	1	4.95	A05.0100.10.52 GR	AEBCX800	**£20.77**	
5	5.2	1	20.3	1	4.95	A05.0100.20.52 GR	AAXAX800	**£27.13**	
5	5.2	1	25.4	1	4.95	A05.0100.25.52 GR	AGA3X800	**£33.68**	
5	5.2	1.17	20.3	1	4.95	A05.0117.20.52 GR	AF9GX800	**£27.13**	
5	5.2	1.17	30.5	1	4.95	A05.0117.30.52 GR	AC54X800	**£33.58**	
5	5.2	1.5	10.2	1	4.95	A05.0150.10.52 GR	AG38X800	**£20.77**	
5	5.2	1.5	15.2	1	4.95	A05.0150.15.52 GR	ANY8X800	**£24.09**	
5	5.2	1.5	25.4	1	4.95	A05.0150.25.52 GR	AAKFX800	**£33.68**	A05
5	5.2	1.57	10.2	1	4.95	A05.0157.10.52 GR	APCYX800	**£20.77**	
5	5.2	1.57	20.3	1	4.95	A05.0157.20.52 GR	AE6PX800	**£27.13**	
5	5.2	1.98	10.2	1	4.95	A05.0198.10.52 GR	AJ4GX800	**£23.17**	
5	5.2	1.98	20.3	1	4.95	A05.0198.20.52 GR	ACFGX800	**£27.13**	
5	5.2	1.98	25.4	1	4.95	A05.0198.25.52 GR	ABS3X800	**£33.58**	
5	5.2	2	10.2	1	4.95	A05.0200.10.52 GR	AEKPX800	**£20.77**	
5	5.2	2	15.2	1	4.95	A05.0200.15.52 GR	ACHWX800	**£24.09**	
5	5.2	2	20.3	1	4.95	A05.0200.20.52 GR	AHTZX800	**£27.13**	
5	5.2	2	30.5	1	4.95	A05.0200.30.52 GR	AF7JX800	**£33.58**	
6	6.2	0.79	20.3	1.8	5.95	A06.0078.20.62 GR	AFQZX800	**£31.04**	
6	6.2	0.79	30.5	1.8	5.95	A06.0078.30.62 GR	ACZDX800	**£37.66**	
6	6.2	1	10.2	1.8	5.95	A06.0100.10.62 GR	APGKX800	**£21.42**	
6	6.2	1	15.2	1.8	5.95	A06.0100.15.62 GR	ACW8X800	**£24.69**	
6	6.2	1	25.4	1.8	5.95	A06.0100.25.62 GR	AJXTX800	**£30.98**	
6	6.2	1	30.5	1.8	5.95	A06.0100.30.62 GR	AH78X800	**£33.76**	
6	6.2	1	40.6	1.8	5.95	A06.0100.40.62 GR	AKTDX800	**£40.80**	
6	6.2	1.17	10.2	1.8	5.95	A06.0117.10.62 GR	AG4PX800	**£21.42**	
6	6.2	1.17	30.5	1.8	5.95	A06.0117.30.62 GR	AFN5X800	**£33.76**	
6	6.2	1.5	10.2	1.8	5.95	A06.0150.10.62 GR	ACH4X800	**£21.42**	
6	6.2	1.5	15.2	1.8	5.95	A06.0150.15.62 GR	ADPJX800	**£24.69**	
6	6.2	1.5	25.4	1.8	5.95	A06.0150.25.62 GR	AFHVX800	**£30.98**	A06
6	6.2	1.5	35.6	1.8	5.95	A06.0150.35.62 GR	ACUCX800	**£37.36**	
6	6.2	1.57	10.2	1.8	5.95	A06.0157.10.62 GR	AES5X800	**£21.42**	
6	6.2	1.57	20.3	1.8	5.95	A06.0157.20.62 GR	ADABX800	**£27.81**	
6	6.2	1.57	30.5	1.8	5.95	A06.0157.30.62 GR	AK3JX800	**£38.15**	
6	6.2	1.98	10.2	1.8	5.95	A06.0198.10.62 GR	AH4XX800	**£23.91**	
6	6.2	1.98	20.3	1.8	5.95	A06.0198.20.62 GR	AXVNX800	**£28.63**	
6	6.2	1.98	30.5	1.8	5.95	A06.0198.30.62 GR	AJCJX800	**£38.15**	
6	6.2	2	10.2	1.8	5.95	A06.0200.10.62 GR	ABY8X800	**£21.42**	
6	6.2	2	15.2	1.8	5.95	A06.0200.15.62 GR	AFYPX800	**£24.69**	
6	6.2	2	25.4	1.8	5.95	A06.0200.25.62 GR	APT6X800	**£30.98**	
6	6.2	2	30.5	1.8	5.95	A06.0200.30.62 GR	AC74X800	**£34.18**	
7	7.2	0.79	10.2	2.5	6.95	A07.0078.10.72 GR	ANFUX800	**£22.31**	
7	7.2	0.79	20.3	2.5	6.95	A07.0078.20.72 GR	AG21X800	**£32.26**	
7	7.2	0.79	40.6	2.5	6.95	A07.0078.40.72 GR	ANWXX800	**£42.18**	
7	7.2	1	10.2	2.5	6.95	A07.0100.10.72 GR	AJW1X800	**£22.31**	
7	7.2	1	15.2	2.5	6.95	A07.0100.15.72 GR	AKT1X800	**£28.54**	
7	7.2	1	25.4	2.5	6.95	A07.0100.25.72 GR	APYKX800	**£32.24**	
7	7.2	1	35.6	2.5	6.95	A07.0100.35.72 GR	AKNFX800	**£38.90**	
7	7.2	1.5	10.2	2.5	6.95	A07.0150.10.72 GR	AAN7X800	**£24.90**	
7	7.2	1.5	15.2	2.5	6.95	A07.0150.15.72 GR	ACHZX800	**£25.58**	
7	7.2	1.5	25.4	2.5	6.95	A07.0150.25.72 GR	AJW7X800	**£32.24**	
7	7.2	1.5	40.6	2.5	6.95	A07.0150.40.72 GR	AMH7X800	**£42.18**	A07
7	7.2	1.57	10.2	2.5	6.95	A07.0157.10.72 GR	AP08X800	**£22.31**	
7	7.2	1.57	20.3	2.5	6.95	A07.0157.20.72 GR	AN5YX800	**£32.26**	
7	7.2	1.57	30.5	2.5	6.95	A07.0157.30.72 GR	ABPXX800	**£39.69**	
7	7.2	1.57	40.6	2.5	6.95	A07.0157.40.72 GR	AFZGX800	**£42.18**	
7	7.2	1.98	10.2	2.5	6.95	A07.0198.10.72 GR	AHMKX800	**£22.31**	
7	7.2	1.98	20.3	2.5	6.95	A07.0198.20.72 GR	AEZWX800	**£28.92**	
7	7.2	1.98	30.5	2.5	6.95	A07.0198.30.72 GR	AJQGX800	**£39.69**	
7	7.2	2	10.2	2.5	6.95	A07.0200.10.72 GR	AVF2X800	**£22.31**	
7	7.2	2	20.3	2.5	6.95	A07.0200.20.72 GR	AAVPX800	**£28.92**	
7	7.2	2	35.6	2.5	6.95	A07.0200.35.72 GR	AJNMX800	**£38.90**	

GROOVING INSERT, FULL RADIUS

Simturn AX Multifunctional System for Small Parts

- Full radius grooving, copying & profiling from Ø4.2mm bores



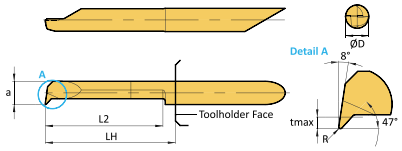


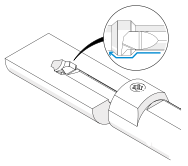
ØD	Min Bore	W	R	L2	t max	Designation	Order Code	Price	Series
4	4.2	1	0.5	15.2	0.8	A04.0100.15.42 VR	AC9GX800	**£25.75**	A04
4	4.2	1.17	0.585	15.2	0.8	A04.0117.15.42 VR	AG4MX800		
5	5.2	1	0.5	20.3	1	A05.0100.20.52 VR	AHPYX800	**£26.25**	A05
5	5.2	1.17	0.585	20.3	1	A05.0117.20.52 VR	AGGWX800		
5	5.2	1.5	0.75	20.3	1	A05.0150.20.52 VR	AA2SX800		
5	5.2	2	1	20.3	1	A05.0200.20.52 VR	AK1UX800		
6	6.2	1	0.5	25.4	1.8	A06.0100.25.62 VR	AKUZX800	**£30.58**	A06
6	6.2	1.17	0.585	25.4	1.8	A06.0117.25.62 VR	AKMZX800	**£26.58**	
6	6.2	1.5	0.75	25.4	1.8	A06.0150.25.62 VR	AD22X800	**£30.58**	
6	6.2	2	1	25.4	1.8	A06.0200.25.62 VR	AH3SX800	**£31.68**	
7	7.2	1	0.5	30.5	2.5	A07.0100.30.72 VR	AMUAX800	**£36.24**	A07
7	7.2	1.17	0.585	30.5	2.5	A07.0117.30.72 VR	ABU4X800		
7	7.2	1.5	0.75	30.5	2.5	A07.0150.30.72 VR	AJX4X800		
7	7.2	1.574	0.787	30.5	2.5	A07.0157.30.72 VR	AG9XX800		
7	7.2	2	1	30.5	2.5	A07.0200.30.72 VR	ACTTX800		

COPYING & PROFILING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision copying & profiling from Ø2.2mm bores



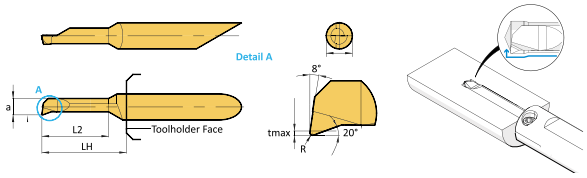


ØD	Min Bore	L2	t max	R	a	Designation	Order Code	Price	Series
4	2.2	10.2	0.4	0.1	1.95	A04.4710.10.22.10 YR	AEJJX800	**£22.37**	A04
4	2.7	15.2	0.5	0.1	2.45	A04.4712.15.27.10 YR	ANTXX800	**£23.88**	
4	3.2	15.2	0.6	0.1	2.95	A04.4715.15.32.10 YR	ADSBX800	**£23.93**	
4	4.2	20.3	0.8	0.15	3.95	A04.4720.20.42.15 YR	AMFJX800	**£22.31**	
5	5.2	15.2	1	0.15	4.95	A05.4725.15.52.15 YR	AYD3X800	**£23.48**	A05
5	5.2	25.4	1	0.15	4.95	A05.4725.25.52.15 YR	AEMFX800	**£26.25**	
6	6.2	20.3	1.8	0.15	5.95	A06.4730.20.62.15 YR	AACYX800	**£23.48**	A06
6	6.2	30.5	1.8	0.15	5.95	A06.4730.30.62.15 YR	AJ6FX800	**£29.86**	
7	7.2	40.6	2.5	0.2	6.95	A07.4735.40.72.20 YR	AQ9EX800	**£43.79**	A07

BORING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision boring from Ø0.3mm bores

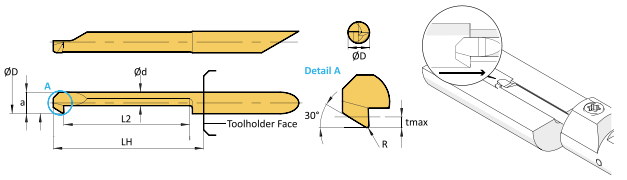


ØD	Min Bore	L2	t max	R	a	Designation	Order Code	Price	Series
4	0.3	1.2	-	-	0.25	A04.5C15.01.03.00 YR	AW9EX800	**£25.48**	
4	0.5	2.0	-	-	0.45	A04.5C25.02.05.00 YR	ABJWX800	**£24.29**	
4	0.6	2.5	-	-	0.55	A04.5C30.02.06.00 YR	APVNX800	**£25.48**	
4	0.7	3.6	-	-	0.65	A04.5C35.03.07.00 YR	AB9WX800	**£24.29**	
4	0.8	4.0	-	-	0.75	A04.5C40.04.08.00 YR	AJ4NX800	**£25.48**	
4	0.9	5.0	-	-	0.85	A04.5C45.05.09.00 YR	ADKPX800	**£25.48**	
4	1	4	0.1	0.05	0.95	A04.1C04.04.10.05 YR	AW9GX800	**£25.69**	
4	1	6	0.1	0.05	0.95	A04.1C04.06.10.05 YR	AW9HX800	**£26.31**	
4	1.2	5.1	0.1	0.1	1.1	A04.1C05.04.12.10 YR	AW3AX800	**£23.63**	
4	1.2	7.1	0.1	0.1	1.1	A04.1C05.07.12.10 YR	AW3CX800	**£24.24**	
4	1.2	9.1	0.1	0.1	1.1	A04.1C05.09.12.10 YR	AW3EX800	**£24.24**	
4	1.4	6	0.15	0.1	1.25	A04.1C06.06.14.10 YR	AW3GX800	**£21.92**	
4	1.4	10.2	0.15	0.1	1.25	A04.1C06.10.14.10 YR	AW3JX800	**£25.92**	
4	1.7	6	0.2	0.1	1.45	A04.1C07.06.17.10 YR	AF0JX800	**£20.88**	
4	1.7	9.1	0.2	0.1	1.45	A04.1C07.09.17.10 YR	ANYCX800	**£21.39**	
4	1.9	9.1	0.2	0.1	1.65	A04.1C08.09.19.10 YR	AW3MX800	**£21.54**	
4	1.9	12.2	0.2	0.1	1.65	A04.1C08.12.19.10 YR	AW3PX800	**£22.81**	
4	2.2	6	0.2	0.1	1.95	A04.1C10.06.22.10 YR	ABCMX800	**£20.88**	A04
4	2.2	9.1	0.2	0.1	1.95	A04.1C10.09.22.10 YR	ABD9X800	**£21.54**	
4	2.2	13.2	0.2	0.1	1.95	A04.1C10.13.22.10 YR	AGGHX800	**£22.81**	
4	2.7	10.2	0.2	0.15	2.45	A04.1C12.10.27.15 YR	AJ8JX800	**£21.39**	
4	2.7	15.2	0.2	0.15	2.45	A04.1C12.15.27.15 YR	AB8CX800	**£22.81**	
4	3	15.2	0.2	0.15	2.75	A04.1C14.15.30.15 YR	AW3SX800	**£25.84**	
4	3	25.4	0.2	0.05	2.75	A04.1C14.25.30.05 YR	AW9TX800	**£31.45**	
4	3.2	10.2	0.2	0.15	2.95	A04.1C15.10.32.15 YR	AG17X800	**£21.28**	
4	3.2	15.2	0.2	0.15	2.95	A04.1C15.15.32.15 YR	ABTGX800	**£22.86**	
4	3.2	20.3	0.2	0.15	2.95	A04.1C15.20.32.15 YR	AAVUX800	**£27.20**	
4	3.7	10.2	0.2	0.15	3.45	A04.1C17.10.37.15 YR	ANJFX800	**£21.54**	
4	3.7	15.2	0.2	0.15	3.45	A04.1C17.15.37.15 YR	AHBDX800	**£22.81**	
4	3.7	25.4	0.2	0.1	3.45	A04.1C17.25.37.10 YR	ANNSX800	**£29.05**	
4	4.2	10.2	0.3	0.15	3.95	A04.1820.10.42.15 YR	AEH9X800	**£20.52**	
4	4.2	15.2	0.3	0.15	3.95	A04.1820.15.42.15 YR	AHDXX800	**£21.77**	
4	4.2	20.3	0.3	0.05	3.95	A04.1820.20.42.05 YR	AB3AX800	**£26.88**	
4	4.2	25.4	0.3	0.05	3.95	A04.1820.25.42.05 YR	AMV0X800	**£28.30**	
4	4.2	30.5	0.3	0.05	3.95	A04.1820.30.42.05 YR	ASFYX800	**£29.63**	
5	5.2	10.2	0.5	0.2	4.95	A05.1825.10.52.20 YR	AFCWX800	**£18.19**	
5	5.2	15.2	0.5	0.2	4.95	A05.1825.15.52.20 YR	AF4YX800	**£19.26**	
5	5.2	20.3	0.5	0.2	4.95	A05.1825.20.52.20 YR	AM8MX800	**£22.86**	A05
5	5.2	30.5	0.5	0.2	4.95	A05.1825.30.52.20 YR	AFY1X800	**£28.94**	
5	5.2	40.6	0.5	0.2	4.95	A05.1825.40.52.20 YR	AMQKX800	**£36.51**	
6	6.2	15.2	0.5	0.2	5.95	A06.1830.15.62.20 YR	AG74X800	**£19.58**	
6	6.2	25.4	0.5	0.2	5.95	A06.1830.25.62.20 YR	AMJGX800	**£26.02**	A06
6	6.2	35.6	0.5	0.2	5.95	A06.1830.35.62.20 YR	ABT1X800	**£32.11**	
6	6.2	40.6	0.5	0.2	5.95	A06.1830.40.62.20 YR	AC3SX800	**£36.89**	
7	7.2	25.4	0.5	0.2	6.95	A07.1835.25.72.20 YR	APJJX800	**£27.88**	
7	7.2	35.6	0.5	0.2	6.95	A07.1835.35.72.20 YR	AMGJX800	**£34.22**	A07
7	7.2	45.7	0.5	0.2	6.95	A07.1835.45.72.20 YR	AMXAX800	**£40.66**	
7	7.2	50.8	0.5	0.2	6.95	A07.1835.50.72.20 YR	AKWEX800	**£43.86**	

BACK BORING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision back boring from Ø3.2mm bores

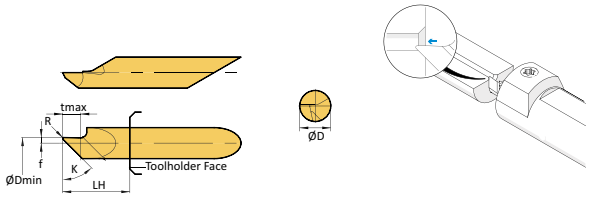


ØD	Min Bore	L2	t max	R	Designation	Order Code	Price	Series
4	3.2	13.2	0.5	0.1	A04.3015.15.32.10 YR R	AASAX800	**£20.95**	A04
4	3.2	18.3	0.5	0.1	A04.3015.20.32.10 YR R	AJHJX800	**£24.95**	
4	4.2	13.2	0.8	0.15	A04.3020.15.42.15 YR R	AC41X800	**£20.52**	
4	4.2	23.4	0.8	0.15	A04.3020.25.42.15 YR R	AABTX800	**£23.52**	
5	5.2	18.3	1	0.2	A05.3025.20.52.20 YR R	ACNQX800	**£21.45**	A05
5	5.2	28.5	1	0.2	A05.3025.30.52.20 YR R	AMAFX800	**£22.07**	
6	6.2	18.3	1.8	0.2	A06.3030.20.62.20 YR R	AH02X800	**£21.69**	A06
6	6.2	28.5	1.8	0.2	A06.3030.30.62.20 YR R	ABGKX800	**£27.00**	
7	7.2	17.3	2.5	0.2	A07.3035.20.72.20 YR R	AM7GX800	**£22.14**	A07
7	7.2	27.5	2.5	0.2	A07.3035.30.72.20 YR R	APVPX800	**£27.44**	

CHAMFERING INSERT

Simturn AX Multifunctional System for Small Parts

- 30°, 45° & 60° angle chamfer inserts

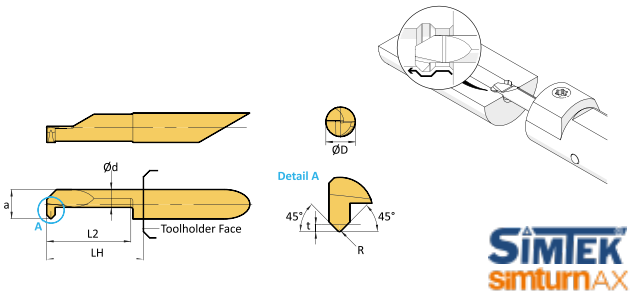


ØD	K	Min Bore	LH	f	R	Designation	Order Code	Price	Series
6	30°	1	13	1.7	0.2	A06.0030.17.20 AF R	A5STX800		
6	45°	1	13	1.1	0.2	A06.0045.11.20 AF R	AJ6QX800	**£36.04**	A06
6	60°	1	13	0.5	0.2	A06.0060.05.20 AF R	ABJYX800		

BORING & CHAMFERING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision boring & chamfering from Ø5.2mm bores

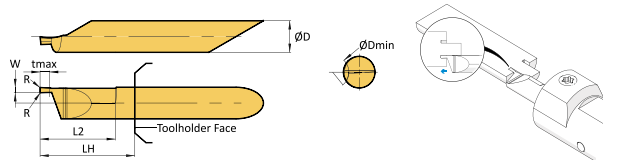


ØD	Min Bore	L2	t	R	Designation	Order Code	Price	Series
5	5.2	15.4	0.7	0.2	A05.4545.15.52 FR R	ANEEX800	**£20.25**	A05
5	5.2	20.3	0.7	0.2	A05.4545.20.52 FR R	AAYPX800	**£23.29**	
6	6.2	20.3	0.7	0.2	A06.4545.20.62 FR R	AG75X800	**£23.57**	A06
6	6.2	25.4	0.7	0.2	A06.4545.25.62 FR R	AJ5JX800	**£26.17**	
7	7.2	20.3	0.7	0.2	A07.4545.20.72 FR R	AJC3X800	**£25.42**	A07
7	7.2	40.6	0.7	0.2	A07.4545.40.72 FR R	AHP6X800	**£37.65**	

FACE GROOVING INSERT, EXTERNAL

Simturn AX Multifunctional System for Small Parts

- Minimum diameter of face groove: Ø6.2mm
- For external face grooves

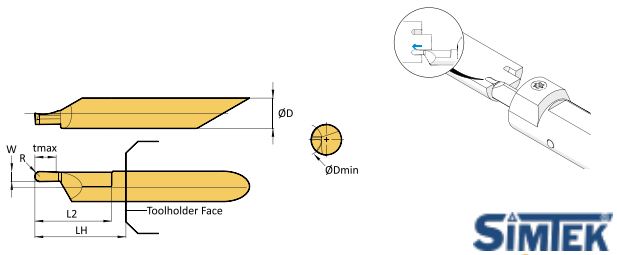


ØD	Min Bore	W	L2	t max	R	Designation	Order Code	Price	Series
6	6.2	1	15.2	2	0.15	A06.0100.15.02 AG R	ABQAX800	£32.30	A06
6	6.2	1.17	15.2	2.34	0.15	A06.0117.15.02 AG R	AAUYX800		
6	6.2	1.5	15.2	3	0.15	A06.0150.15.02 AG R	AN6WX800		
6	6.2	2	15.2	4	0.15	A06.0200.15.02 AG R	AA2DX800		
6	6.2	2.5	15.2	5	0.15	A06.0250.15.02 AG R	AG4WX800		
6	6.2	3	15.2	6	0.15	A06.0300.15.02 AG R	ABGJX800		

FACE GROOVING INSERT, EXTERNAL

Simturn AX Multifunctional System for Small Parts

- Full radius
- Minimum diameter of face groove: Ø6.2mm
- For external face grooves with a full radius

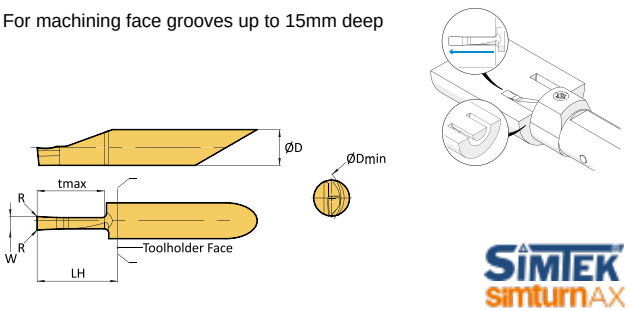


ØD	Min Bore	W	L2	t max	R	Designation	Order Code	Price	Series
6	6.2	1	15.2	0.5	2	A06.0100.15.02 AV R	AJSDX800	£32.91	A06
6	6.2	2	15.2	1	4	A06.0200.15.02 AV R	AM6HX800		
6	6.2	2.5	15.2	1.25	5	A06.0250.15.02 AV R	AHPWX800		
6	6.2	3	15.2	1.5	6	A06.0300.15.02 AV R	ABYFX800		

DEEP FACE GROOVING INSERT, <15MM T MAX

Simturn AX Multifunctional System for Small Parts

- For machining face grooves up to 15mm deep

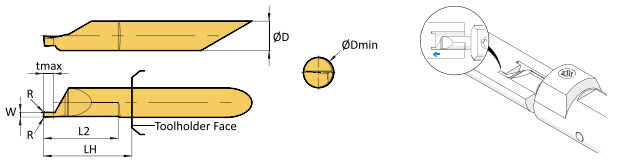


ØD	Min Bore	W	t max	R	Designation	Order Code	Price	Series
8	16	2	10	0.2	A08.0200.10.00 AG R	AV5VX800	£47.94	A08
8	16	2	15	0.2	A08.0200.15.00 AG R	AKK7X800	£49.28	
8	16	2.5	10	0.2	A08.0250.10.00 AG R	ABJNX800	£46.01	
8	16	3	10	0.2	A08.0300.10.00 AG R	ANH7X800	£44.72	
8	16	3	15	0.2	A08.0300.15.00 AG R	APG2X800	£46.01	
8	16	4	10	0.2	A08.0400.10.00 AG R	AFJ9X800	£46.01	
8	16	4	15	0.2	A08.0400.15.00 AG R	AMQ5X800	£47.32	

FACE GROOVING INSERT, MACHINING IN BORES

Simturn AX Multifunctional System for Small Parts

- Precision face grooving from Ø6.2mm bores
- For machining face grooves in bores

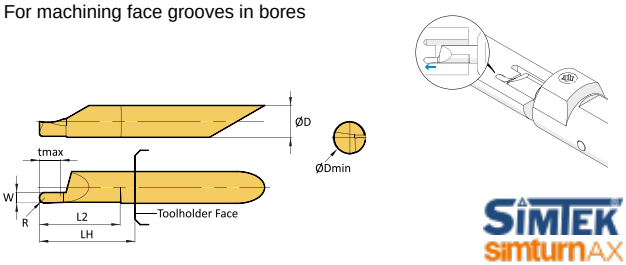


ØD	Min Bore	W	L2	t max	R	Designation	Order Code	Price	Series
6	6.2	0.79	15.2	1.8	0.05	A06.0078.15.01.05 AGR	AYU8X800	£32.87	A06
6	6.2	1	15.2	2	0.05	A06.0100.15.01.05 AGR	AYU7X800	£32.87	
6	6.2	1.5	15.2	3	0.05	A06.0150.15.01.05 AGR	AYVAX800	£32.87	
6	6.2	1	15.2	2	0.15	A06.0100.15.01 AG R	AB01X800	£32.30	
6	6.2	1.5	15.2	3	0.15	A06.0150.15.01 AG R	AMN7X800	£32.30	
6	6.2	2	15.2	4	0.15	A06.0200.15.01 AG R	AJ67X800	£32.30	
6	6.2	2.5	15.2	5	0.15	A06.0250.15.01 AG R	AHG4X800	£32.30	
6	6.2	3	15.2	6	0.15	A06.0300.15.01 AG R	ABX0X800	£32.30	

FACE GROOVING INSERT FOR MACHINING IN BORES, FULL RADIUS

Simturn AX Multifunctional System for Small Parts

- Precision face grooving from Ø6.2mm bores
- For machining face grooves in bores



ØD	Min Bore	W	L2	t max	R	Designation	Order Code	Price	Series
6	6.2	1	15.2	2	0.5	A06.0100.15.01 AV R	AE1CX800	£32.91	A06
6	6.2	1.6	15.2	3	0.8	A06.0160.15.01 AV R	AJPQX800		
6	6.2	2	15.2	4	1	A06.0200.15.01 AV R	AB30X800		
6	6.2	2.5	15.2	5	1.25	A06.0250.15.01 AV R	AAE4X800		
6	6.2	3	15.2	6	1.5	A06.0300.15.01 AV R	AF07X800		



simturn AX Custom Tools

Our team of experienced engineers work hand in hand with Simtek to provide custom solutions to suit your application. Special inserts can be provided for any Simtek turning system.

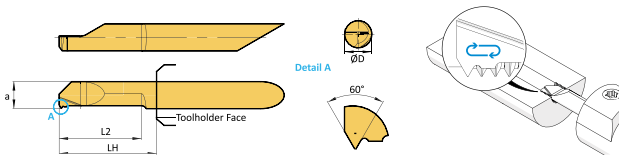
CONTACT US TODAY FOR A QUOTE

Email: **specials@cutwel.net** Phone: **01924 869665**

ISO METRIC THREADING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision threading from Ø3.2mm bores
- Full profile Metric ISO

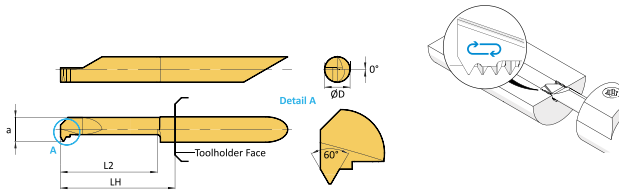


ØD	Min Bore	Pitch	L2	Designation	Order Code	Price	Series
4	3.2	0.7	15.2	A04.MT07.02.15.32 MR	AX2AX800	**£24.26**	A04
4	3.9	0.8	15.2	A04.MT08.02.15.39 MR	AW96X800	**£24.53**	
4	4.2	0.5	15.2	A04.MT05.02.15.42 MR	AM3SX800	**£24.20**	
4	4.2	0.7	15.2	A04.MT07.02.15.42 MR	AX5WX800	**£24.26**	
5	4.8	1	15.2	A05.MT10.02.15.48 MR	AANFX800	**£24.81**	A05
5	5.1	0.75	15.2	A05.MT75.02.15.51 MR	AAP5X800		
5	5.2	0.5	15.2	A05.MT05.02.15.52 MR	AGN4X800		
6	6.2	1	15.2	A06.MT10.02.15.62 MR	ANZGX800	**£25.14**	A06
6	6.2	1.25	15.2	A06.MT12.02.15.62 MR	ANSNX800		
6	6.2	1.5	15.2	A06.MT15.02.15.62 MR	ADMYX800		
6	6.2	1.75	15.2	A06.MT17.02.15.62 MR	APC1X800		
6	6.2	2	15.2	A06.MT20.02.15.62 MR	AK5NX800		

ISO METRIC THREADING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision threading from Ø1.57mm bores
- Partial profile Metric ISO

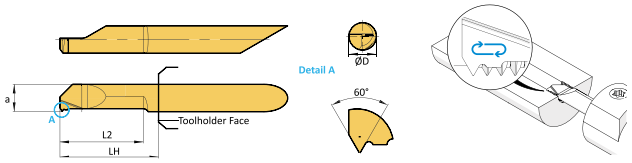


ØD	Min Bore	Pitch		L2	Designation	Order Code	Price	Series
		min	max					
4	1.57	0.4	0.4	5	A04.M040.01.05.15 MR	AB5TX800	**£34.44**	A04
4	2.46	0.5	0.5	7.6	A04.M050.01.07.24 MR	ADAUX800	**£34.44**	
4	3.24	0.7	0.7	10.2	A04.M070.01.10.32 MR	ABVGX800	**£34.44**	
4	3.9	0.8	1	15.2	A04.MT08.01.15.39 MR	AW95X800	**£26.44**	
4	4.2	0.5	0.7	15.2	A04.MT05.01.15.42 MR	AD6SX800	**£27.55**	
5	4.8	1	1.25	15.2	A05.MT10.01.15.48 MR	AJA0X800	**£27.00**	A05
5	4.8	1	1.25	25.4	A05.MT10.01.25.48 MR	AH4DX800	**£35.11**	
5	5.1	0.75	1	15.2	A05.MT07.01.15.51 MR	APGSX800	**£26.74**	
5	5.2	0.5	0.75	15.2	A05.MT05.01.15.52 MR	AE44X800	**£26.74**	
6	6.2	1	1.25	15.2	A06.MT10.01.15.62 MR	AAT9X800	**£27.13**	A06
6	6.2	1.25	1.5	20.3	A06.MT12.01.20.62 MR	ABDJX800	**£31.41**	
6	6.2	1.5	1.75	15.2	A06.MT15.01.15.62 MR	AHZWX800	**£27.65**	
6	6.2	1.5	1.75	25.4	A06.MT15.01.25.62 MR	AACAX800	**£35.48**	

UN THREADING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision threading from Ø4mm bores
- Full profile UN

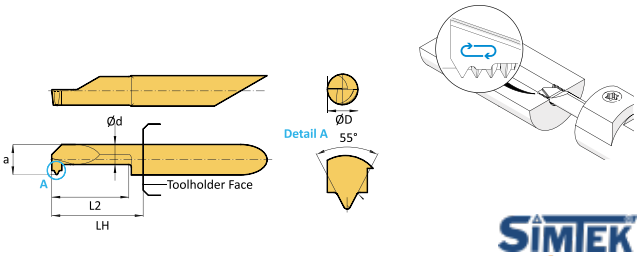


ØD	Min Bore	Pitch	L2	Designation	Order Code	Price	Series
4	4	28	15.2	A04.UN28.02.15.39 MR	AW98X800		A04
4	4	32	15.2	A04.UN32.02.15.39 MR	AW97X800	**£27.97**	
4	4.2	24	15.2	A04.UN24.02.15.42 MR	ACKFX800		
5	5.2	20	15.2	A05.UN20.02.15.52 MR	AJXHX800	**£27.64**	A05
6	6.2	14	15.2	A06.UN14.02.15.62 MR	AGVTX800		A06
6	6.2	16	15.2	A06.UN16.02.15.62 MR	AMTCX800	**£28.79**	
6	6.2	18	15.2	A06.UN18.02.15.62 MR	AK2JX800		

WHITWORTH THREADING INSERT

Simturn AX Multifunctional System for Small Parts

- Precision threading from Ø5.2mm bores
- Full profile Whitworth



ØD	Min Bore	TPI	L2	Designation	Order Code	Price	Series
5	5.2	24	15.2	A05.BS24.02.15.52 MR	AJKAX800	**£28.17**	A05
5	5.2	26	15.2	A05.BS26.02.15.52 MR	AF70X800	**£25.74**	
5	5.2	28	15.2	A05.BS28.02.15.52 MR	ABB4X800	**£25.74**	
6	6.2	19	15.2	A06.BS19.02.15.62 MR	AHFDX800	**£26.06**	A06
6	6.2	20	15.2	A06.BS20.02.15.62 MR	AHVFX800	**£26.06**	
6	6.2	22	15.2	A06.BS22.02.15.62 MR	AGESX800	**£28.49**	
6	6.2	24	15.2	A06.BS24.02.15.62 MR	AKC7X800	**£26.06**	
6	6.2	26	15.2	A06.BS26.02.15.62 MR	AMDAX800	**£26.06**	
6	6.2	28	15.2	A06.BS28.02.15.62 MR	AFKDX800	**£26.06**	

SIMTEK

simturnDX

Performance
★★★★★

The first choice for multifunctional high precision internal machining from Ø7mm bores.

Simturn DX combines high precision and versatility with the widest range of sizes, for internal machining without compromise. Tool holders are available from Ø7mm to Ø16mm minimum bores with steel or carbide shanks.

The range is completed with the new Simturn DX adjustable length holder with patented 'ME' clamping for machining short to long length applications with one holder.



Advantages:

- One tool holder for multiple applications.
- High precision ground inserts provide exceptional accuracy and surface finish.
- Excellent performance in short and deep bores.

PRECISE INTERNAL MACHINING FROM Ø7mm

MAIN APPLICATIONS



Boring
- From Ø7mm bores
- Standard & back boring



Grooving
- From Ø7mm bores
- Square or full radius, internal & face grooving



Thread Turning
- From 0.5 - 4mm pitch & 8 - 32 TPI
- Metric, UN, TR, ACME, NPT and BSW



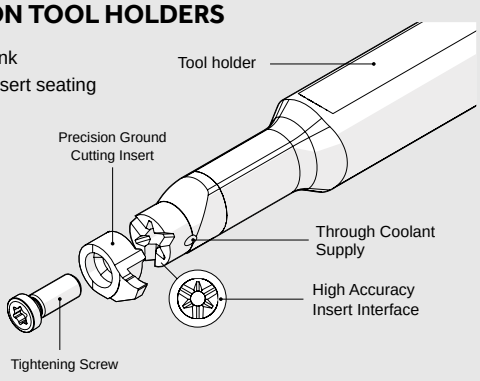
Copying & Profiling
- From Ø7mm bores
- With 47° or 30° relief angle



Custom Solutions
- Inserts made to your specification

HIGH PRECISION TOOL HOLDERS

- Steel or carbide shank
- Extremely precise insert seating
- Short to long reach



'ME' CONCENTRIC CLAMPING TOOL HOLDERS

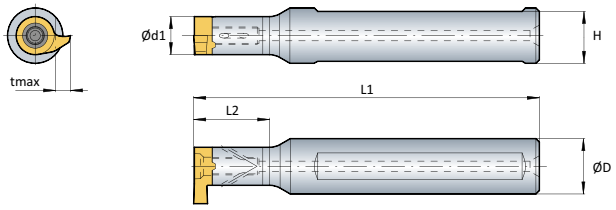
- Adjustable in length for short, medium or long reach with one holder
- Carbide shank with patented ME clamping system for highest stability and precision
- Usable lengths from 31-87.5mm (D10 series) & 42-124mm (D14 series)

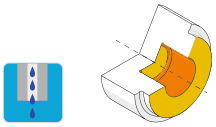


STEEL SHANK TOOL HOLDER

Simturn DX Internal & Face Grooving System

- Through coolant





Mainly designed to machine these surfaces

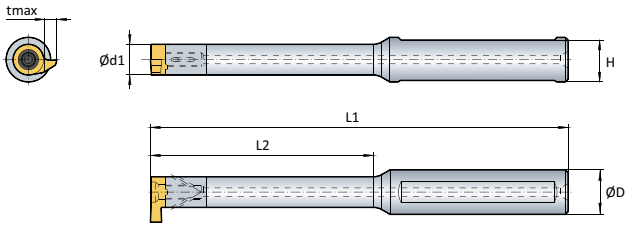
Can also be used to machine these surfaces

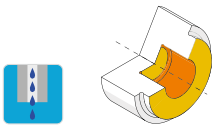
ØD g6	L2	Ød1	H	L1	t max	Designation	Order Code	Price	Series	Spares	
										Screw	Torx Key
12	21	4.8	11	80	1	D07.0012.21 ST	AU5Z	£88.39	D07	DM2 x 7.5T7F	T7F
16	12	4.8	15	80	1	D07.0016.12 ST	AU6A				
12	21	6	11	80	1	D08.0012.21 ST	AKHT	£88.39	D08	DM2.6 x 8T8F	T8F
16	12	6	15	80	1	D08.0016.12 ST	AH2A	£77.34			
16	14	4.8	15	95	3	D09.0016.14 ST	AWFE	£88.39	D09	DM2.6 x 8T8F	T8F
16	16	7.4	15	97	3.4	D10.0016.16 ST	ACCJ	£88.39	D10	DM3 x 9T9F	T9F
12	29	8	11	95	2.3	D11.0012.29 ST	AAV0	£77.34	D11	DM3.5 x 10T10F	T10F
16	16	8	15	97	2.3	D11.0016.16 ST	ANMK				
16	20	9.5	15	100	6.5	D14.0016.20 ST	ANP6	£88.39	D14	DM4 x 12T15F	T15F
16	22	11	15	100	4.3	D16.0016.22 ST	AEQC	£77.34	D16	DM5 x 12T20F	T20F

CARBIDE SHANK TOOL HOLDER

Simturn DX Internal & Face Grooving System

- Through coolant





Mainly designed to machine these surfaces

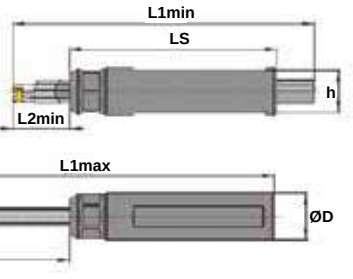
Can also be used to machine these surfaces

ØD h6	L2	Ød1	H	L1	t max	Designation	Order Code	Price	Series	Spares	
										Screw	Torx Key
12	21	4.8	11	80	2	D07.0012.21 HM	AU5Y	£145.97	D07	DM2 x 7.5T7F	T7F
12	30	4.8	11	90	2	D07.0012.30 HM	AU50	£158.72			
12	42	4.8	11	100	2	D07.0012.42 HM	AU51	£185.41			
12	21	6	11	80	1	D08.0012.21 HM	AF03	£139.01	D08	DM2 x 6T8F	T8F
12	30	6	11	90	1	D08.0012.30 HM	AB7V	£151.15			
12	50	6	11	115	1	D08.0012.50 HM	AA9E	£200.71			
12	22	6.6	11	90	3	D09.0012.22 HM	AWFD	£158.72	D09	DM2 x 6T8F	T8F
12	30	6.6	11	98	3	D09.0012.30 HM	AWFC	£185.41			
12	56	6.6	11	122	3	D09.0012.56 HM	AWFA	£237.38			
12	24	7.4	11	92	3.4	D10.0012.24 HM	AKMV	£158.72	D10	DM3 x 9T9F	T9F
12	32	7.4	11	100	3.4	D10.0012.32 HM	AJJ7	£185.41			
12	48	7.4	11	115	3.4	D10.0012.48 HM	AHP2	£210.76			
12	64	7.4	11	130	3.4	D10.0012.64 HM	ACB2	£237.38			
12	29	8	11	95	2.3	D11.0012.29 HM	AHJ1	£140.26	D11	DM3.5 x 10T10F	T10F
12	56	8	11	120	2.3	D11.0012.56 HM	AHEF	£177.72			
12	64	8	11	130	2.3	D11.0012.64 HM	ABD8	£201.96			
12	34	9.5	11	100	6.5	D14.0012.34 HM	AMQ7	£170.53	D14	DM4 x 12T15F	T15F
12	45	9.5	11	110	6.5	D14.0012.45 HM	AMYJ	£188.65			
12	64	9.5	11	130	6.5	D14.0012.64 HM	AEQA	£226.10			
16	34	9.5	15	100	6.5	D14.0016.34 HM	AFP8	£205.60			
16	45	9.5	15	110	6.5	D14.0016.45 HM	AA1H	£229.73			
16	75	9.5	15	145	6.5	D14.0016.75 HM	AFD1	£295.80			
12	40	11	11	130	4.3	D16.0012.40 HM	AESE	£178.95	D16	DM5 x 12T20F	T20F
12	56	11	11	130	4.3	D16.0012.56 HM	ABY7	£191.03			
16	40	11	15	130	4.3	D16.0016.40 HM	ACA6	£221.29			
16	56	11	15	130	4.3	D16.0016.56 HM	ABJH	£232.16			
16	80	11	15	150	4.3	D16.0016.80 HM	AEF9	£257.54			

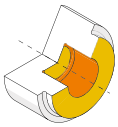
'ME' ADJUSTABLE LENGTH TOOL HOLDER

Simturn DX Internal & Face Grooving System

- Internal machining
- Round shank
- Through coolant
- Adjustable length
- 'ME' concentric clamping sleeve
- Carbide shank bar







Mainly designed to machine these surfaces

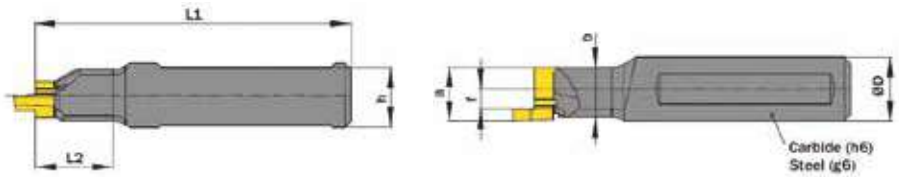
Can also be used to machine these surfaces

ØD	L2 min	L2 max	b	h	LS	L1 min	L1 max	Designation	Order Code	Price	Series
20	31	87.5	7.5	17	87.5	127.5	175	D10.0020.24.087 ME	A2ZA	**£648.52**	D10
20	42	124	9.5	17	87.5	164	211.5	D14.0020.25.124 ME	A2ZB	**£693.17**	D14

FACE GROOVING TOOL HOLDER

Simturn DX Internal & Face Grooving System

- Optimised design for face grooving
- Through coolant
- Round shank

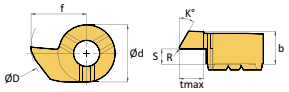


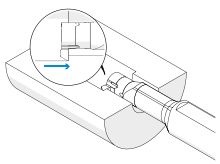
ØD	L2	b	h	L1	Designation	Order Code	Price	Series
Steel Shank								
16	5.3	12.7	15	70	D14.A.0016.05 ST R	AB51	**£99.83**	D14
16	20	12.7	15	80	D14.A.0016.20 ST R	AE7Z	**£106.48**	
Carbide Shank								
16	42	12.7	15	100	D14.A.0016.42 HM R	ABY3	**£250.79**	D14
16	62	12.7	15	120	D14.A.0016.62 HM R	AQDY	**£296.50**	

BACK BORING INSERT

Simturn DX Internal & Face Grooving System

- For use in bores from 7.8mm diameter



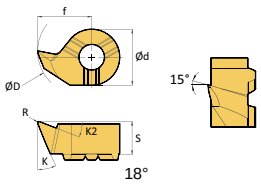


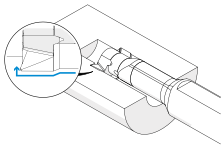
ØD	K	R	ØD	t max	Designation	Order Code	Price	Series
7.8	30°	0.2	6	1.3	D08.3046.02 YR	AB86X800	**£19.34**	D08
10	30°	0.2	7	2	D10.3058.02.10 YR	ACSJX800	**£18.95**	D10
11	30°	0.2	7	2.6	D10.3068.02.11 YR	AJPWX800		
11	30°	0.2	8	2.3	D11.3067.02 YR	AJ0SX800	**£18.95**	D11
13.8	30°	0.2	9	3.5	D14.3087.02 YR	AGJNX800	**£19.34**	D14

BORING INSERT

Simturn DX Internal & Face Grooving System

- For use in bores from 7mm diameter



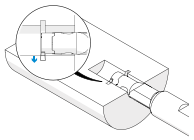


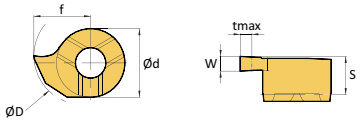
ØD	K	K2	R	Ød	Designation	Order Code	Price	Series
7	18°	8°	0.1	4.8	D07.1841.01 YR	ANWEX800	**£14.84**	D07
7	18°	8°	0.2	4.8	D07.1841.02 YR	AJZ7X800	**£14.84**	
7.8	18°	8°	0.05	6	D08.1846.005 YR	AS56X800	**£18.08**	D08
7.8	18°	8°	0.2	6	D08.1846.02 YR	AMM3X800	**£15.46**	
7.8	20°	20°	0.2	6	D08.2046.02 YR	AG7VX800	**£18.01**	
10	18°	8°	0.2	7	D10.1856.02.10 YR	AN4SX800	**£15.72**	D10
10	20°	20°	0.2	7	D10.2056.02.10 YR	AD7EX800	**£18.26**	
9.8	18°	8°	0.2	8	D11.1855.02 YR	AC65X800	**£16.10**	D11
11	18°	8°	0.2	8	D11.1867.02 YR	ABXGX800	**£15.72**	
11	20°	20°	0.2	8	D11.2067.02 YR	APSFX800	**£18.91**	
13.8	18°	8°	0.2	9	D14.1887.02 YR	AN1MX800	**£16.74**	D14
14	20°	20°	0.2	9	D14.2087.02 YR	AG2UX800	**£19.28**	
15.5	18°	8°	0.2	11	D16.1897.02 YR	AHEAX800	**£17.89**	D16

GROOVING INSERT

Simturn DX Internal & Face Grooving System

- For use in bores from 7mm diameter
- Ideal for circlip grooving





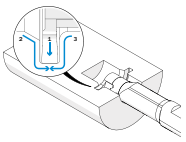
SIMTEK simturnDX

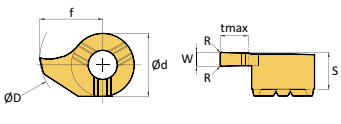
ØD	W +0.03	Ød	t max	Designation	Order Code	Price	Series
7	1.0	4.8	1	D07.0100.00.07 GR	AU52X800	£14.04	D07
7	1.5	4.8	1	D07.0150.00.07 GR	AU53X800		
8	0.73	6	1	D08.0070.00 ZR	AB9UX800		
8	0.83	6	1	D08.0080.00 ZR	AKJ6X800		
8	0.93	6	1	D08.0090.00 ZR	AN56X800		
8	1	6	1	D08.0100.00 GR	AKUAX800		
8	1.2	6	1	D08.0110.00 GR	ABPMX800	£14.04	D08
8	1.4	6	1	D08.0130.00 GR	AMN4X800		
8	1.5	6	1	D08.0150.00 GR	AK83X800		
8	1.7	6	1	D08.0160.00 GR	ACV2X800		
8	2	6	1	D08.0200.00 GR	AJB6X800		
9	0.73	6.2	1.2	D09.0070.00.09 GR	AWFXX800		
9	0.83	6.2	1.3	D09.0080.00.09 GR	AWFWX800		
9	0.93	6.2	1.5	D09.0090.00.09 GR	AWFVX800		
9	1	6.2	1.8	D09.0100.00.09 GR	AWFUX800		
9	1.2	6.2	1.8	D09.0110.00.09 GR	AWFTX800		
9	1.4	6.2	1.8	D09.0130.00.09 GR	AWFSX800	£14.66	D09
9	1.5	6.2	1.8	D09.0150.00.09 GR	AWFQX800		
9	1.7	6.2	1.8	D09.0160.00.09 GR	AWFPX800		
9	2	6.2	1.8	D09.0200.00.09 GR	AWFNX800		
9	2.5	6.2	1.8	D09.0250.00.09 GR	AWFMX800		
9	3	6.2	1.8	D09.0300.00.09 GR	AWFKX800		
10	0.73	7	1.2	D10.0070.00.10 GR	AFSUX800		
10	0.93	7	1.5	D10.0090.00.10 GR	AMHSX800		
10	1	7	1.8	D10.0100.00.10 GR	AH7VX800		
10	1.2	7	1.8	D10.0110.00.10 GR	AC8UX800		
10	1.4	7	1.8	D10.0130.00.10 GR	ANFZX800		
10	1.5	7	1.8	D10.0150.00.10 GR	AG47X800	£14.66	D10
10	1.7	7	1.8	D10.0160.00.10 GR	ANVJX800		
10	2	7	1.8	D10.0200.00.10 GR	AAGCX800		
10	2.5	7	1.8	D10.0250.00.10 GR	AKZ9X800		
10	3	7	1.8	D10.0300.00.10 GR	AJ38X800		
10	3.18	7	1.8	D10.0318.00.10 GR	AF7UX800		
11	0.73	8	1.2	D11.0070.00 ZR	AP1PX800		
11	0.83	8	1.3	D11.0080.00 ZR	AJWDX800		
11	0.93	8	1.5	D11.0090.00 ZR	AJX5X800		
11	1	8	2.3	D11.0100.00 GR	AF27X800		
11	1.2	8	2.3	D11.0110.00 GR	AC49X800		
11	1.4	8	2.3	D11.0130.00 GR	ABF3X800		
11	1.5	8	2.3	D11.0150.00 GR	ADEVX800	£15.30	D11
11	1.7	8	2.3	D11.0160.00 GR	AK4QX800		
11	2	8	2.3	D11.0200.00 GR	AKECX800		
11	2.38	8	2.3	D11.0238.00 GR	ANH9X800		
11	2.5	8	2.3	D11.0250.00 GR	AB6UX800		
11	3	8	2.3	D11.0300.00 GR	AP3NX800		
14	0.73	9	1.2	D14.0070.00 ZR	AB83X800		
14	0.83	9	1.3	D14.0080.00 ZR	AF8TX800		
14	0.93	9	1.5	D14.0090.00 ZR	AEAMX800		
14	1	9	4	D14.0100.00 ZR	APFCX800		
14	1.2	9	4	D14.0110.00 GR	AK84X800		
14	1.4	9	4	D14.0130.00 GR	ADGCX800		
14	1.5	9	4	D14.0150.00 GR	AK6QX800		
14	1.7	9	4	D14.0160.00 GR	AJTAX800	£16.72	D14
14	2.5	9	4	D14.0250.00 GR	AHSSX800		
14	3	9	4	D14.0300.00 GR	AFFUX800		
14	3.18	9	4	D14.0318.00 GR	AKKNX800		
16	1.5	9	5.5	D14.0150.00.16 GR	ANA2X800		
16	2	9	5.5	D14.0200.00.16 GR	AAV5X800		
16	2.5	9	5.5	D14.0250.00.16 GR	AN8CX800		
16	3	9	5.5	D14.0300.00.16 GR	ANWYX800		
16	0.73	11	1.2	D16.0070.00 ZR	AF7CX800		
16	0.83	11	1.3	D16.0080.00 ZR	AATCX800		
16	0.93	11	1.5	D16.0090.00 ZR	ADHVX800		
16	1.2	11	4.3	D16.0110.00 GR	AKCHX800		
16	1.4	11	4.3	D16.0130.00 GR	AEQ6X800		
16	1.5	11	4.3	D16.0150.00 GR	AEX2X800	£18.10	D16
16	1.7	11	4.3	D16.0160.00 GR	ANNCX800		
16	2	11	4.3	D16.0200.00 GR	ACXXX800		
16	2.5	11	4.3	D16.0250.00 GR	AAMNX800		
16	3	11	4.3	D16.0300.00 GR	AHSWX800		
16	3.5	11	4.3	D16.0350.00 GR	ADH9X800		
16	4	11	4.3	D16.0400.00 GR	ACJ0X800		

GROOVING & PROFILING INSERT

Simturn DX Internal & Face Grooving System

- For use in bores from 7.8mm diameter
- Corner radius for profiling





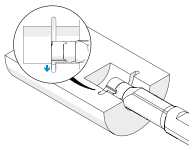
SIMTEK simturnDX

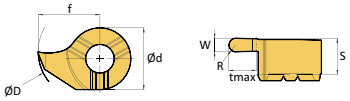
ØD	W +0.05	R	Ød	t max	Designation	Order Code	Price	Series
7.8	1.5	0.2	4.8	2	D07.0150.02.08 NR	AWYHX800	£17.38	D07
8	1.5	0.2	6	1	D08.0150.02 NR	AECNX800	£15.46	D08
8	2	0.2	6	1	D08.0200.02 NR	AMEPX800		
9	1.5	0.2	6.2	1.8	D09.0150.02.09 NR	AWF5X800	£17.38	D09
9	2	0.2	6.2	1.8	D09.0200.02.09 NR	AWF4X800	£15.46	
10	1.5	0.2	6.2	2.8	D09.0150.02.10 NR	AWF3X800	£15.46	
10	2	0.2	6.2	2.8	D09.0200.02.10 NR	AWF2X800	£15.46	
10	1.5	0.2	7	1.8	D10.0150.02.10 NR	ADUVX800	£17.38	D10
10	2	0.2	7	1.8	D10.0200.02.10 NR	AFBKX800	£15.46	
11	1.5	0.2	7	2.8	D10.0150.02.11 NR	AC7XX800	£15.46	
11	2	0.2	7	2.8	D10.0200.02.11 NR	AFDHX800	£15.46	
12	1.5	0.2	7	3.4	D11.0100.02 NR	AKQHX800	£17.38	
12	2	0.2	7	3.4	D11.0150.02 NR	AJCUX800	£17.38	
11	1	0.2	8	2.3	D11.0200.02 NR	AN5NX800	£15.46	D11
11	1.5	0.2	8	2.3	D10.0150.02.12 NR	AKG7X800	£16.74	
11	2	0.2	8	2.3	D10.0200.02.12 NR	ANQ8X800	£16.74	
14	1.5	0.2	9	4	D14.0150.02 NR	AAHDX800	£16.10	D14
14	1.57	0.2	9	4	D14.0157.02 NR	AMQ3X800	£16.10	
14	2	0.2	9	4	D14.0200.02 NR	AC2NX800	£16.10	
14	3.18	0.2	9	4	D14.0318.02 NR	AKAHX800	£16.10	
16	1.5	0.2	9	5.5	D14.0150.02.16 NR	AF0FX800	£21.93	
16	2	0.2	9	5.5	D14.0200.02.16 NR	AMEQX800	£21.93	
16	2.5	0.2	9	5.5	D14.0250.02.16 NR	APQFX800	£21.93	
16	3	0.2	9	5.5	D14.0300.02.16 NR	AD8XX800	£21.93	

GROOVING & COPYING INSERT

Simturn DX Internal & Face Grooving System

- For use in bores from 8.0mm diameter
- Full radius for copy turning





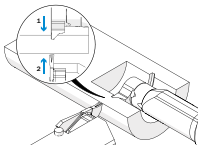
SIMTEK simturnDX

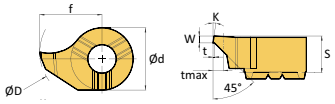
ØD	W +0.05	R	Ød	t max	Designation	Order Code	Price	Series
8	0.8	0.4	6	1	D08.0004.08 VR	AAP2X800	£16.72	D08
8	1.2	0.6	6	1	D08.0006.12 VR	AHUEX800		
8	1.8	0.9	6	1	D08.0009.18 VR	AMH0X800		
8	2	1	6	1	D08.0010.20 VR	ADYEX800		
9	0.8	0.4	6.2	1.6	D09.0004.08.09 VR	AWFFX800	£17.41	D09
9	1.2	0.6	6.2	1.6	D09.0006.12.09 VR	AWFGX800		
9	1.8	0.9	6.2	1.6	D09.0009.18.09 VR	AWFHX800		
9	2	1	6.2	1.6	D09.0010.20.09 VR	AWFJX800		
10	0.8	0.4	7	1.8	D10.0004.08.10 VR	AD9GX800	£18.10	D10
10	1.2	0.6	7	1.8	D10.0006.12.10 VR	ABMCX800		
10	1.8	0.9	7	1.8	D10.0009.18.10 VR	AC50X800		
10	2	1	7	1.8	D10.0010.20.10 VR	AAK8X800		
11	0.8	0.4	8	2.3	D11.0004.08 VR	AJS6X800	£18.10	D11
11	1.2	0.6	8	2.3	D11.0006.12 VR	AH9BX800		
11	1.6	0.8	8	2.3	D11.0008.16 VR	AMJPX800		
11	2	1	8	2.3	D11.0010.20 VR	AC6NX800		
11	2.4	1.2	8	2.3	D11.0012.24 VR	AF3YX800		
11	3	1.5	8	2.3	D11.0015.30 VR	AFGUX800		
14	0.8	0.4	9	4	D14.0004.08 VR	AFZDX800	£19.47	D14
14	1.2	0.6	9	4	D14.0006.12 VR	ADBNX800		
14	2	1	9	4	D14.0010.20 VR	AGHKX800		
14	2.2	1.1	9	4	D14.0011.22 VR	AKS8X800		
14	3	1.5	9	4	D14.0015.30 VR	AKKQX800		
16	1.6	0.8	11	4.3	D16.0008.16 VR	AFK1X800	£20.87	D16
16	1.8	0.9	11	4.3	D16.0009.18 VR	AMCUX800		
16	2	1	11	4.3	D16.0010.20 VR	AKNUX800		
16	3	1.5	11	4.3	D16.0015.30 VR	AJA7X800		
16	3.2	1.6	11	4.3	D16.0016.32 VR	AGCXX800		
16	4	2	11	4.3	D16.0020.40 VR	APN4X800		

PRE-PART OFF & CHAMFER INSERT

Simturn DX Internal & Face Grooving System

- For use in bores from 8mm diameter



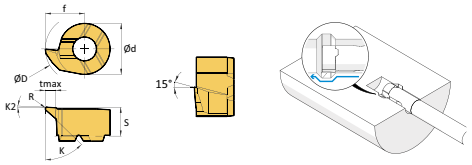


ØD	K	W	Ød	t max	Designation	Order Code	Price	Series
8	8°	1	6	1	D08.0810.00 PR	AJ7ZX800	£18.10	D08
10	8°	1	7	1.5	D10.0810.00.10 PR	AHZ3X800		D10
11	8°	1	8	1.5	D11.0810.00 PR	AFDKX800		D11
11	8°	1.5	8	1.5	D11.0815.00 PR	AK9ZX800		
14	8°	1	9	1.5	D14.0810.00 PR	AH2JX800		D14
14	8°	1.5	9	1.5	D14.0815.00 PR	AEQGX800		
16	8°	1	11	1.5	D16.0810.00 PR	AHPBX800		D16
16	8°	1.5	11	1.5	D16.0815.00 PR	AAHNX800		

COPYING & PROFILING INSERT

Simturn DX Internal & Face Grooving System

- For use in bores from 7mm diameter

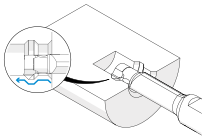


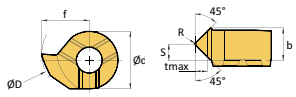
ØD	K	K2	R	Ød	t max	Designation	Order Code	Price	Series
7	47°	3°	0.2	4.8	1	D07.4746.02 YR	AVQUX800	£16.72	D07
7.8	30°	5°	0.2	6	1	D08.2555.02 YR	ADG0X800	£18.10	D08
7.8	47°	3°	0.2	6	1.2	D08.4746.02 YR	AKYFX800		
7.8	47°	3°	0.4	6	1.2	D08.4746.04 YR	AS6CX800		
10	47°	3°	0.2	7	1.8	D10.4758.02.10 YR	AD29X800	£18.80	D10
11	30°	5°	0.2	8	2.3	D11.2755.02 YR	AJ32X800	£18.80	D11
11	47°	3°	0.2	8	2.3	D11.4767.02 YR	AENCX800		
13.7	30°	5°	0.2	9	4	D14.3555.02 YR	ABCTX800	£19.47	D14
13.7	47°	3°	0.2	9	4	D14.4787.02 YR	AB9MX800	£19.47	
16	47°	3°	0.2	9	5	D14.4710.02 YR	ANK4X800	£20.18	
15.8	30°	5°	0.2	11	4.3	D16.4055.02 YR	AJWMX800	£20.18	D16
15.8	47°	3°	0.2	11	4.3	D16.4702.02 YR	AEPVX800		

BORING & CHAMFERING INSERT

Simturn DX Internal & Face Grooving System

- For use in bores from 7mm diameter
- 45° angle



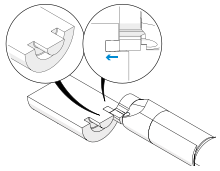


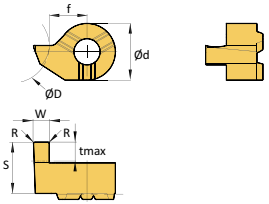
ØD	R	b	Ød	t max	Designation	Order Code	Price	Series
7	0.2	3.7	4.8	0.8	D07.4545.02.07 FR	AU56X800	£16.72	D07
8	0.2	3.5	6	1.4	D08.4545.02 FR	APXWX800	£16.72	D08
10	0.2	4	7	1.5	D10.4545.02.10 FR	ACF9X800	£17.40	D10
11	0.2	4.3	8	1.5	D11.4545.02 FR	AM16X800	£17.40	D11
14	0.2	5.4	9	1.5	D14.4545.02 FR	AKCKX800	£18.10	D14

GROOVING INSERT, FACE EXTERNAL

Simturn DX Internal & Face Grooving System

- Minimum diameter of groove 12mm



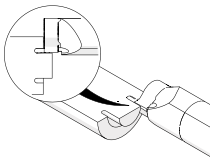


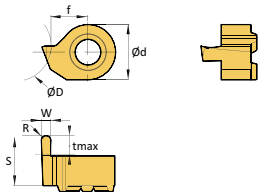
ØD	W +0.03	R	Ød	t max	Designation	Order Code	Price	Series
12	1	-	9	1.5	D14.1210.00 AR	ABWSX800	£20.77	D14
12	1.5	0.2	9	2.5	D14.1215.02 AR	APSEX800	£20.77	
12	2	0.2	9	3	D14.1220.02 AR	AC8DX800	£20.77	
12	2.5	0.2	9	3	D14.1225.02 AR	AGWWX800	£20.77	
12	3	0.2	9	3	D14.1230.02 AR	AE7MX800	£20.77	
12	2	0.2	9	5	D14.1220.52 AR	ADJNX800	£24.97	
12	2.5	0.2	9	5	D14.1225.52 AR	AF2HX800	£24.97	
12	3	0.2	9	5	D14.1230.52 AR	AKFFX800	£24.97	
12	3	0.2	9	6	D14.1230.62 AR	AAKHX800	£26.85	

GROOVING INSERT, FACE EXTERNAL

Simturn DX Internal & Face Grooving System

- Full radius
- Minimum diameter of groove 12mm



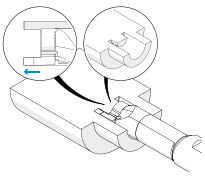


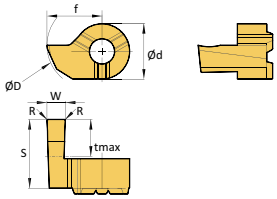
ØD	W +0.03	R	Ød	t max	Designation	Order Code	Price	Series
12	1	0.5	9	1.5	D14.1210.05 AR	AU6CX800	£19.47	D14
12	1.6	0.8	9	2.5	D14.1216.08 AR	AU6EX800	£31.25	
12	2	1	9	3	D14.1220.10 AR	AU6GX800	£19.47	
12	2.5	1.25	9	3	D14.1225.12 AR	AU6JX800	£19.47	
12	3	1.5	9	3	D14.1230.15 AR	AU6MX800	£19.47	

GROOVING INSERT, FACE GROOVING IN BORES

Simturn DX Internal & Face Grooving System

- For use in bores from 14mm diameter



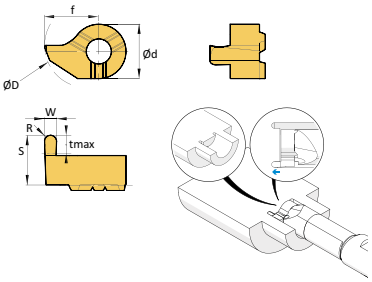


ØD	W +0.03	R	Ød	t max	Designation	Order Code	Price	Series
14	1	-	9	1.5	D14.1410.00 AR	AB03X800	£19.47	D14
14	1.5	0.2	9	2.5	D14.1415.02 AR	AET8X800		
14	2	0.2	9	3	D14.1420.02 AR	AKZSX800		
14	2.5	0.2	9	3	D14.1425.02 AR	AMKFX800		
14	3	0.2	9	3	D14.1430.02 AR	ABPPX800		
14	2	0.2	9	5	D14.1420.52 AR	AGV5X800		
14	2.5	0.2	9	5	D14.1425.52 AR	ACQNX800		
14	3	0.2	9	5	D14.1430.52 AR	AKV7X800		

GROOVING INSERT, FACE GROOVING IN BORES, FULL RADIUS

Simturn DX Internal & Face Grooving System

- Full radius
- For use in bores from 14mm diameter

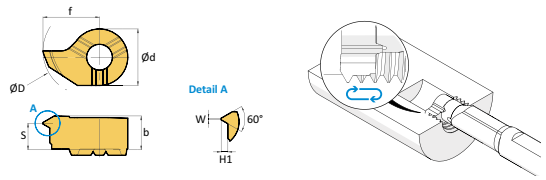


ØD	W +0.03	R	Ød	t max	Designation	Order Code	Price	Series
14	1	0.5	9	1.5	D14.1410.05 AR	AEG0X800	£19.47	D14
14	2	1	9	3	D14.1420.10 AR	APW0X800		
14	2.5	1.25	9	3	D14.1425.12 AR	ANJWX800		
14	3	1.5	9	3	D14.1430.15 AR	AP37X800		

ISO METRIC THREADING INSERT

Simturn DX Internal & Face Grooving System

- Full profile
- For use in bores from 9mm diameter

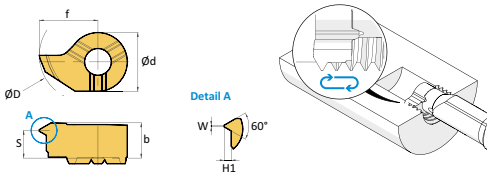


Pitch	H1	b	Ød	ØD	Designation	Order Code	Price	Series
0.5	0.27	3.65	6.2	9	D09.0205.02.09 MR	AWGTX800	£20.87	D09
1	0.54	3.65	6.2	9	D09.0510.02.09 MR	AWGSX800		
1.5	0.81	3.65	6.2	9	D09.0815.02.09 MR	AWGQX800		
1.75	0.95	3.6	6.2	9	D09.0917.02.09 MR	AWGPX800		
2	1.08	3.6	6.2	9	D09.1020.02.09 MR	AWGNX800		
2.5	1.35	3.58	6.2	9	D09.1325.02.09 MR	AWGMX800		
3	1.62	3.56	6.2	9	D09.1630.02.09 MR	AWGKX800		
0.5	0.27	4	7	10	D10.0205.02.10 MR	ANVAX800	£20.87	D10
1	0.54	4	7	10	D10.0510.02.10 MR	ANP1X800		
1.5	0.81	4	7	10	D10.0815.02.10 MR	AM2EX800		
1.75	0.95	4	7	10	D10.0917.02.10 MR	AD6ZX800		
2	1.08	4	7	10	D10.1020.02.10 MR	AADQX800		
2.5	1.35	4	7	10	D10.1325.02.10 MR	AAG5X800		
3	1.62	4	7	10	D10.1630.02.10 MR	AJXDX800		
1	0.54	4.3	8	11	D11.0510.02 MR	AJ3BX800	£20.87	D11
1.5	0.81	4.3	8	11	D11.0815.02 MR	AESUX800		
2	18	4.3	8	11	D11.1020.02 MR	AF4GX800		
2.5	1.35	4.3	8	11	D11.1325.02 MR	AN9MX800		
3	1.62	4.3	8	11	D11.1630.02 MR	AKVCX800		
0.5	0.27	5.4	9	14	D14.0205.02 MR	AG11X800	£20.87	D14
1	0.54	5.4	9	14	D14.0510.02 MR	AGVAX800		
1.5	0.81	5.4	9	14	D14.0815.02 MR	AAPDX800		
2	1.08	5.4	9	14	D14.1020.02 MR	ABSDX800		
2.5	1.35	5.4	9	14	D14.1325.02 MR	AFM0X800		
1	0.54	5.5	11	16	D16.0510.02 MR	AC07X800	£23.67	D16
1.5	0.81	5.5	11	16	D16.0815.02 MR	ADSQX800		
2	1.08	5.5	11	16	D16.1020.02 MR	AHC8X800		
2.5	1.35	5.5	11	16	D16.1325.02 MR	AMW1X800		
3	1.62	5.5	11	16	D16.1630.02 MR	AKHYX800		
3.5	1.89	5.5	11	16	D16.1835.02 MR	AANWX800		
4	2.16	5.5	11	16	D16.2140.02 MR	AD32X800		

UN THREADING INSERT

Simturn DX Internal & Face Grooving System

- Full profile
- For use in bores from 10mm diameter

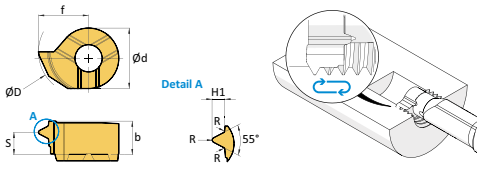


TPI	ØD	b	Ød	W	Designation	Order Code	Price	Series
8	10	3.9	7	0.39	D10.UN08.02.10 MR	A2H3X800	£27.70	D10
10	10	3.9	7	0.31	D10.UN10.02.10 MR	A2H5X800		
14	10	3.9	7	0.22	D10.UN14.02.10 MR	AMKNX800		
16	10	3.9	7	0.19	D10.UN16.02.10 MR	ADTYX800		
18	10	3.9	7	0.17	D10.UN18.02.10 MR	AC8WX800		
20	10	3.9	7	0.15	D10.UN20.02.10 MR	AJ7TX800		
24	10	3.9	7	0.13	D10.UN24.02.10 MR	AAB4X800		
28	10	3.9	7	0.11	D10.UN28.02.10 MR	AF3VX800		
32	10	3.9	7	0.1	D10.UN32.02.10 MR	AB0QX800		

WHITWORTH THREADING INSERT

Simturn DX Internal & Face Grooving System

- Full profile
- For use in bores from 10mm diameter

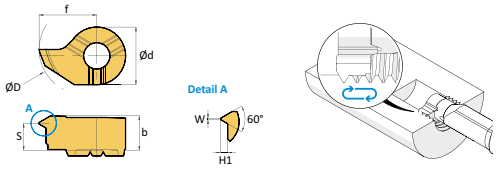


TPI	ØD	b	Ød	W	Designation	Order Code	Price	Series
19	10	3.8	7	0.18	D10.0813.19.10 MR/L	AF1VX800	£27.70	D10
14	10	3.8	7	0.24	D10.1118.14.10 MR/L	APMJX800		
11	10	3.8	7	0.31	D10.1423.11.10 MR/L	AFYXX800		
19	11	4.3	8	0.18	D11.0813.19 MR/L	AMMNX800	£27.70	D11
14	11	4.3	8	0.24	D11.1118.14 MR/L	AGJSX800		
19	14	5.35	9	0.18	D14.0813.19 MR/L	ANYFX800	£27.70	D14
14	14	5.35	9	0.24	D14.1118.14 MR/L	AGGUX800		
14	16	5.5	11	0.24	D16.1118.14 MR/L	AGFFX800	£29.22	D16
11	16	5.5	11	0.31	D16.1423.11 MR/L	AMQCX800		

NPT THREADING INSERT

Simturn DX Internal & Face Grooving System

- Full profile
- For use in bores from 10mm diameter



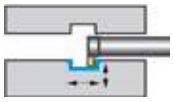
TPI	ØD	b	Ød	Designation	Order Code	Price	Series
14	10	3.9	7	D10.NP14.02.10 MR	AHTHX800	£36.20	D10
18	10	3.9	7	D10.NP18.02.10 MR	AMWTX800		
27	10	3.8	7	D10.NP27.02.10 MR	ABKWX800		

KORLOY

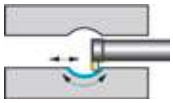
Fine Tool Small Part Internal Machining

Precision grooving, forming and threading with 1 holder.

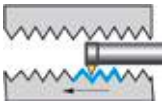
Performance
★★★



Grooving, Boring



Copy Machining



Threading

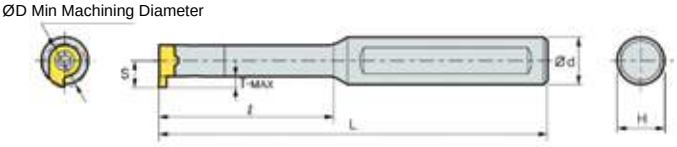


FINE TOOL INTERNAL GROOVING HOLDER

NFTIH Series

- Designed for precision grooving, copy grooving, boring and threading with 1 holder
- Steel & carbide shank available
- Economical system for small part machining
- Machine in bore sizes from just 8mm diameter
- Fine Tool inserts are fully ground for high precision applications





Part No Ending:
C - Carbide
S - Steel

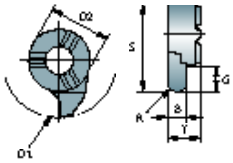
KORLOY TEKNIK Cutting Tools

ØD Min	Ød	ℓ	L	t max	H	S	Order Code	Price	Inserts
Korloy Holders									
8	6	-	65	1	4	4.8	NFTIH08206C	**£82.49**	
8	12	16	70	1	10	4.8	NFTIH08212C	**£88.72**	
8	12	24	80	1	10	4.8	NFTIH08312C	**£88.72**	NFT*08
8	12	24	80	1	10	4.8	NFTIH08312S	**£52.15**	
8	12	32	90	1	10	4.8	NFTIH08412C	**£91.48**	
8	12	40	100	1	10	4.8	NFTIH08512C	**£97.85**	
11	8	-	80	2.3	7	6.7	NFTIH11208C	**£87.13**	
11	12	22	75	2.3	11	6.7	NFTIH11212C	**£90.93**	
11	12	33	95	2.3	11	6.7	NFTIH11312C	**£94.71**	NFT*11
11	12	33	95	2.3	11	6.7	NFTIH11312S	**£57.42**	
11	12	44	110	2.3	11	6.7	NFTIH11412C	**£98.52**	
11	12	55	120	2.3	11	6.7	NFTIH11512C	**£101.26**	
14	12	20	75	4	11	9	NFTIH14012C	**£70.55**	
14	16	20	75	4	15	9	NFTIH14016C	**£72.57**	
14	12	34	100	4	11	9	NFTIH14112C	**£81.64**	
14	16	34	100	4	15	9	NFTIH14116C	**£84.67**	NFT*14
14	12	45	110	4	11	9	NFTIH14212C	**£88.70**	
14	16	45	110	4	15	9	NFTIH14216C	**£96.76**	
14	12	64	130	4	11	9	NFTIH14312C	**£100.79**	
14	16	64	130	4	15	9	NFTIH14316C	**£119.50**	
16	12	48	130	4.3	11	10.2	NFTIH16312C	**£115.77**	
16	12	48	130	4.3	11	10.2	NFTIH16312S	**£69.70**	
16	12	64	130	4.3	11	10.2	NFTIH16412C	**£135.48**	
16	12	80	150	4.3	11	10.2	NFTIH16512C	**£115.79**	NFT*16
16	16	48	130	4.3	15	10.2	NFTIH16316C	**£135.48**	
16	16	64	130	4.3	15	10.2	NFTIH16416C	**£121.28**	
16	16	80	150	4.3	15	10.2	NFTIH16516C	**£144.27**	
Teknik Holders									
8	12	24	80	1	-	-	K801	**£61.75**	NFT*08
11	12	33	95	2.3	-	-	K802	**£61.75**	NFT*11
14	12	45	110	4	-	-	K803	**£61.75**	NFT*14
16	12	48	130	4.3	-	-	K804	**£70.73**	NFT*16

FORMING INSERTS

NFTF Series





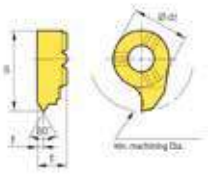
KORLOY

D1	B (Width)	G (Depth)	R	Order Code	Price
8	0.82	1.3	0.41	NFTF08082R-PC130	£13.44
	1.22	1.3	0.61	NFTF08122R-PC130	
	1.82	1.3	0.91	NFTF08182R-PC130	
11	0.82	2.6	0.41	NFTF11082R-PC130	£15.11
	1.22	2.6	0.61	NFTF11122R-PC130	£15.11
	1.82	2.6	0.91	NFTF11182R-PC130	£18.67
	2.02	2.6	1.01	NFTF11202R-PC130	£15.11
	3.02	2.6	1.51	NFTF11302R-PC130	£15.11
14	1.22	4.3	0.61	NFTF14122R-PC130	£15.11
	1.82	4.3	0.91	NFTF14182R-PC130	
	2.02	4.3	1.01	NFTF14202R-PC130	
	2.22	4.3	1.11	NFTF14222R-PC130	
	3.02	4.3	1.51	NFTF14302R-PC130	
16	1.82	4.6	0.91	NFTF16182R-PC130	£16.82
	2.22	4.6	1.11	NFTF16222R-PC130	£20.78
	3.02	4.6	1.51	NFTF16302R-PC130	£16.82
	4.02	4.6	2.01	NFTF16402R-PC130	£16.82

THREADING INSERTS

NFTT Series





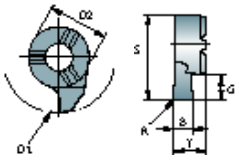
KORLOY

D1	Pitch	Order Code	Price
8	0.5	NFTT0805MR-PC130	£13.44
	1	NFTT0810MR-PC130	£13.44
	1.5	NFTT0815MR-PC130	£13.44
	1	NFTT1110MR-PC130	£15.11
11	1.5	NFTT1115MR-PC130	£15.11
	2	NFTT1120MR-PC130	£15.11
	2.5	NFTT1125MR-PC130	£18.67
	1	NFTT1410MR-PC130	£15.11
	1.5	NFTT1415MR-PC130	£15.11
14	2	NFTT1420MR-PC130	£15.11
	2.5	NFTT1425MR-PC130	£15.11
	1	NFTT1610MR-PC130	£16.82
	1.5	NFTT1615MR-PC130	£16.82
	2	NFTT1620MR-PC130	£16.82
16	2.5	NFTT1625MR-PC130	£16.82
	3	NFTT1630MR-PC130	£16.82
	3.5	NFTT1635MR-PC130	£20.78
	4	NFTT1640MR-PC130	£16.82

GROOVING INSERTS

NFTG Series





KORLOY

D1	B (Width)	G (Depth)	Order Code	Price
8	0.75	1.3	NFTG08075R-PC130	£13.44
	0.85	1.3	NFTG08085R-PC130	
	0.95	1.3	NFTG08095R-PC130	
	1.21	1.3	NFTG08121R-PC130	
	1.41	1.3	NFTG08141R-PC130	
	1.52	1.3	NFTG08152R-PC130	
	1.71	1.3	NFTG08171R-PC130	
	2.02	1.3	NFTG08202R-PC130	
11	0.75	1.8	NFTG11075R-PC130	£15.11
	0.85	1.8	NFTG11085R-PC130	
	0.95	1.8	NFTG11095R-PC130	
	1.21	2.6	NFTG11121R-PC130	
	1.41	2.6	NFTG11141R-PC130	
	1.52	2.6	NFTG11152 R-PC130	
	1.71	2.6	NFTG11171R-PC130	
	2.02	2.6	NFTG11202R-PC130	
	2.52	2.6	NFTG11252R-PC130	
	3.02	2.6	NFTG11302R-PC130	
14	0.75	1.8	NFTG14075R-PC130	£15.11
	0.85	1.8	NFTG14085R-PC130	£15.11
	0.95	1.8	NFTG14095R-PC130	£15.11
	1.21	4.3	NFTG14121R-PC130	£15.11
	1.52	4.3	NFTG14152R-PC130	£15.11
	1.71	4.3	NFTG14171R-PC130	£15.11
	2.02	4.3	NFTG14202R-PC130	£15.11
	2.52	4.3	NFTG14252R-PC130	£15.11
	3.02	4.3	NFTG14302R-PC130	£15.11
	0.75	1.8	NFTG16075R-PC130	£16.82
16	0.85	1.8	NFTG16085R-PC130	£16.82
	0.95	1.8	NFTG16095R-PC130	
	1.21	4.6	NFTG16121R-PC130	
	1.41	4.6	NFTG16141R-PC130	
	1.71	4.6	NFTG16171R-PC130	
	2.02	4.6	NFTG16202R-PC130	
	2.52	4.6	NFTG16252R-PC130	
	3.02	4.6	NFTG16302R-PC130	
	3.52	4.6	NFTG16352R-PC130	
	4.02	4.6	NFTG16402R-PC130	

RECOMMENDED CUTTING CONDITIONS

Workpiece	Ø8		Ø11		Ø14		Ø16	
	Speed (m/min)	Feed (mm/rev)	Speed (m/min)	Feed (mm/rev)	Speed (m/min)	Feed (mm/rev)	Speed (m/min)	Feed (mm/rev)
Carbon Steel	70-120	0.01-0.04	70-120	0.01-0.05	70-120	0.02-0.05	70-120	0.02-0.06
Alloy Steel	70-120	0.01-0.02	70-120	0.01-0.04	70-120	0.02-0.04	70-120	0.02-0.05
Cast Iron	60-100	0.01-0.05	60-100	0.01-0.05	60-100	0.02-0.05	60-100	0.02-0.05
Non-Ferrous	100-180	0.02-0.06	100-180	0.02-0.06	100-180	0.02-0.06	100-180	0.02-0.06

SIMTEK

simturn E3

Performance
★★★★★

Versatility in external and internal machining with high precision ground inserts and 3 cutting edges.

With external shank sizes from 12-32mm and internal shank diameters from 16-40mm, Simturn E3 is the perfect partner for small, medium or large lathes.

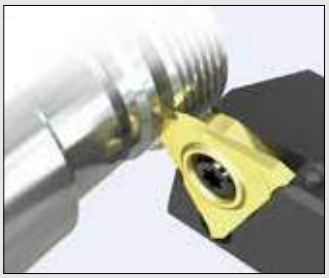
The key benefit of Simturn E3 is the ability of 1 tool holder to clamp over 70 different inserts for grooving, threading, parting, profiling and face grooving. The advantage is less inventory, more flexibility.

Advantages:

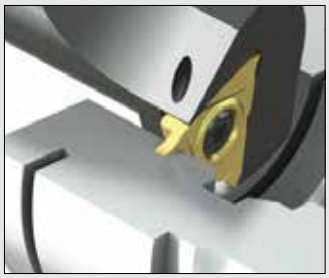
- One tool holder for multiple applications.
- Internal or external machining with the same inserts.
- High precision ground inserts provide exceptional accuracy and surface finish.

PRECISE, MULTIFUNCTIONAL AND COST EFFECTIVE

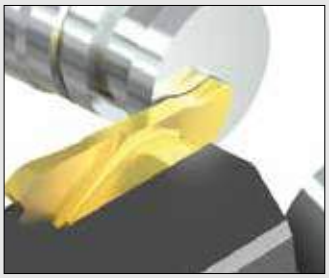
MAIN APPLICATIONS



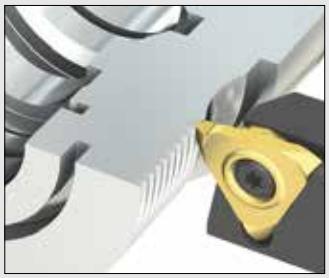
External Grooving
- 0.5mm-5.15mm wide insert in one holder



Internal Grooving
- 0.5mm-5.15mm wide insert in one holder
- Left hand inserts fit right hand holders (applies to 90° holders only)

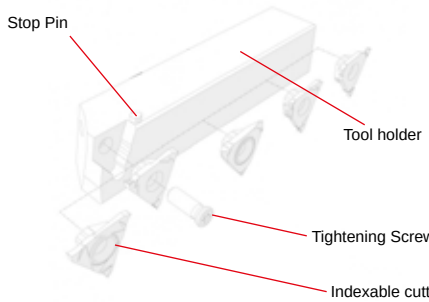


Parting Off
- 1mm-2mm wide inserts
- Up to 5mm max parting depth

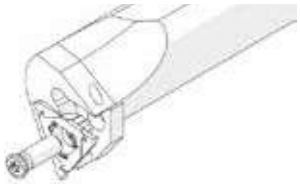


Thread Turning
- 0.5mm-6mm pitch with 1 holder
- Metric, UN, NPT, ACME, STUB ACME, BSW, Trapezoidal

SYSTEM DETAILS



1 tool holder for all applications



Available for internal and external applications

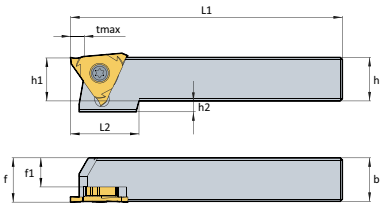
Internal: As of bore diameter 41,0 mm

External: Maximum cutting depth 5,0 mm

EXTERNAL TOOL HOLDER, STRAIGHT

Simturn E3 Internal & External Tool System

- Straight
- One holder can take all Simturn E3 inserts*



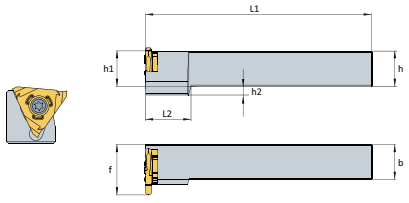
*PLEASE NOTE: Holder takes SAME handed inserts
(right hand insert in right hand holder)

h	b	h1	L1	L2	Designation	Order Code		Price
						R/H	L/H	
12	12	12	100	24	TE3.1212.00 R/L	ACKZ	AMPP	**£90.44**
16	16	16	100	22	TE3.1616.00 R/L	AB6B	ADGA	**£82.09**
20	20	20	100	21	TE3.2020.00 R/L	AKQ0	AGSG	**£82.09**
25	25	25	125	-	TE3.2525.00 R/L	AD35	ANXN	**£82.09**
32	25	32	170	-	TE3.3225.17 R/L	ABFD	AEDK	**£144.47**

EXTERNAL TOOL HOLDER, CRANKED

Simturn E3 Internal & External Tool System

- Cranked 90°
- One holder can take all Simturn E3 inserts*



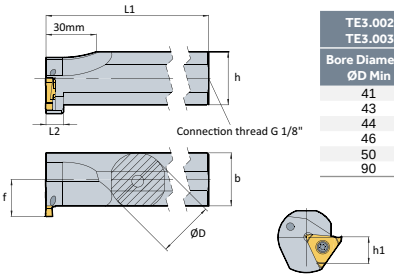
*PLEASE NOTE: Holder takes OPPOSITE handed inserts
(right hand insert in left hand holder)

h	b	h1	h2	L1	L2	Designation	Order Code		Price
							R/H	L/H	
16	16	16	4	125	20	TE3.1616.90 R/L	ASD7	ASD8	**£96.00**
20	20	20	-	1000	20	TE3.2020.90 R/L	APXG	AABH	**£90.44**
25	25	25	-	150	20	TE3.2525.90 R/L	AC7J	AGSY	**£104.36**

INTERNAL TOOL HOLDER

Simturn E3 Internal & External Tool System

- Cranked 90°
- One holder can take all Simturn E3 inserts*



TE3.0025.A.00 R/L TE3.0032.A.00 R/L		TE3.0040.A.00 R/L	
Bore Diameter ØD Min	t max	Bore Diameter ØD Min	t max
41	0.0	48	0.0
43	1.0	49	1.0
44	2.0	50	2.0
46	3.0	52	3.0
50	4.0	54	4.0
90	5.0	120	5.0

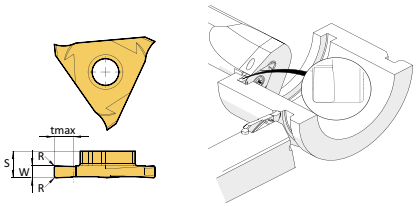
*PLEASE NOTE: Holder takes OPPOSITE handed inserts
(right hand insert in left hand holder)

ØD	b	h	h1	L1	L2	Designation	Order Code		Price
							R/H	L/H	
25	25	23	11.5	170	10	TE3.0025.A.00 R/L	ACA5	AH48	**£137.75**
32	30	30	15	200	10	TE3.0032.A.00 R/L	ANDC	AG06	**£146.09**
40	38	38	19	250	10	TE3.0040.A.00 R/L	AJSM	AJFN	**£173.92**

GROOVING & PROFILING INSERT

Simturn E3 Internal & External Tool System

- With corner radius
- Suitable for grooving and profiling operations

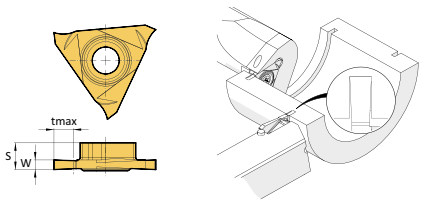


W -0.02	R	t max	Designation	Order Code		Price
				R/H	L/H	
1.0	0.2	5	TE3.0100.02 N R/L	AUKWX800	AUKXX800	**£16.59**
1.5	0.2	5	TE3.0150.02 N R/L	AGUCX800	AJC0X800	**£16.59**
2	0.2	5	TE3.0200.02 N R/L	AAFUX800	AMG1X800	**£18.80**
2.5	0.2	5	TE3.0250.02 N R/L	AQHVX800	AQHWX800	**£20.12**
3	0.2	5	TE3.0300.02 N R/L	AEY1X800	AJYYX800	**£20.12**
4	0.2	5	TE3.0400.02 N R/L	ABXCX800	AB96X800	**£21.55**
2	0.4	5	TE3.0200.04 N R/L	AQMVX800	AQMWX800	**£18.80**
2.5	0.4	5	TE3.0250.04 N R/L	AG8YX800	AGBHX800	**£20.12**
3	0.4	5	TE3.0300.04 N R/L	AQHYX800	AQHXX800	**£20.12**
4	0.4	5	TE3.0400.04 N R/L	ASE2X800	ASE1X800	**£21.55**
3	0.6	5	TE3.0300.06 N R/L	AT61X800	AT60X800	**£18.63**
3	0.8	5	TE3.0300.08 N R/L	AT7TX800	AT7SX800	**£18.63**

GROOVING INSERT (CIRCLIP RING GROOVES)

Simturn E3 Internal & External Tool System

- Without corner radius
- Suitable for nominal & circlip groove sizes (not suitable for profiling)



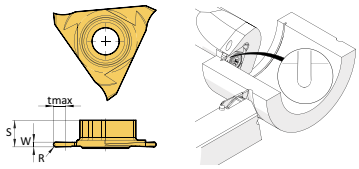
*N = Nominal width of groove.

W -0.05	N*	t max	Designation	Order Code		Price
				R/H	L/H	
0.53	0.5	1.43	TE3.0050.00 G R/L	AH0JX800	AF84X800	**£13.36**
0.63	0.6	1.68	TE3.0060.00 G R/L	ADA6X800	ADCKX800	**£13.36**
0.73	0.7	1.93	TE3.0070.00 G R/L	AJ4VX800	AAUTX800	**£13.36**
0.83	0.8	2.18	TE3.0080.00 G R/L	APHDX800	ADJMX800	**£12.96**
0.93	0.9	2.43	TE3.0090.00 G R/L	AGBWX800	ANNBX800	**£13.36**
1.03	1	2.68	TE3.0100.00 G R/L	AFBTX800	AKEKX800	**£13.36**
1.2	1.1	5	TE3.0110.00 G R/L	AP21X800	AJJBX800	**£13.36**
1.2	1.1	3.1	TE3.0110.31 G R/L	AQBUX800	AQBSX800	**£11.01**
1.4	1.3	5	TE3.0130.00 G R/L	AHV0X800	AD91X800	**£13.36**
1.7	1.6	5	TE3.0160.00 G R/L	AD0BX800	AH1ZX800	**£13.36**
1.95	1.85	5	TE3.0185.00 G R/L	APGFX800	AMV5X800	**£13.36**
2.25	2.15	5	TE3.0215.00 G R/L	AB92X800	AKUEX800	**£13.36**
2.75	2.65	5	TE3.0265.00 G R/L	AKW4X800	ABJZX800	**£14.06**
3.25	3.15	5	TE3.0315.00 G R/L	AJQNX800	AHE6X800	**£14.06**
4.25	4.15	5	TE3.0415.00 G R/L	AFAKX800	AE23X800	**£14.73**
5.25	5.15	5	TE3.0515.00 G R/L	AE14X800	AF57X800	**£15.45**

GROOVING INSERT (GROOVING & PROFILING FULL RAD)

Simturn E3 Internal & External Tool System

- Full radius
- For copying and profiling

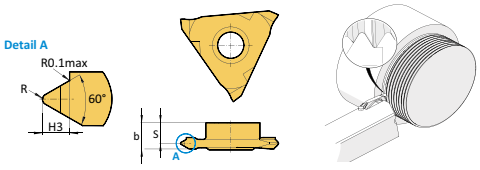


W -0.04	R	t max	Designation	Order Code		Price
				R/H	L/H	
1	0.5	2.5	TE3.0100.05 V R/L	AA7WX800	ANCXX800	**£20.01**
1.2	0.6	3	TE3.0120.06 V R/L	AHPNX800	AK8FX800	**£23.01**
1.5	0.75	5	TE3.0150.07 V R/L	AT74X800	AT73X800	**£20.01**
1.6	0.8	5	TE3.0160.08 V R/L	AB6NX800	AJACX800	**£23.01**
1.8	0.9	5	TE3.0180.09 V R/L	AFP3X800	AKC9X800	**£23.01**
2	1	5	TE3.0200.10 V R/L	APHHX800	ACYVX800	**£20.01**
2.2	1.1	5	TE3.0220.11 V R/L	AJ0QX800	ANTVX800	**£23.01**
2.5	1.25	5	TE3.0250.12 V R/L	AAFEX800	AMTKX800	**£21.42**
2.8	1.4	5	TE3.0280.14 V R/L	ANA5X800	AMFAX800	**£24.62**
3	1.5	5	TE3.0300.15 V R/L	AB7PX800	AD5JX800	**£21.42**
3.6	1.8	5	TE3.0360.18 V R/L	AT00X800	AT01X800	**£25.35**
4	2	5	TE3.0400.20 V R/L	ANK8X800	APDZX800	**£22.05**

METRIC THREADING INSERT, EXTERNAL

Simturn E3 Internal & External Tool System

- External
- ISO metric full profile

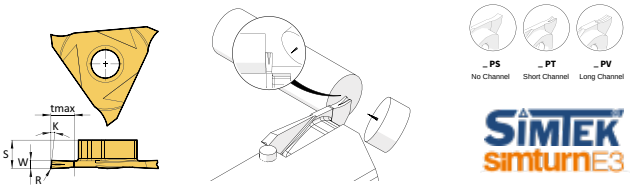


Pitch	b	h3	R	Designation	Order Code R/H	Price
0.5	5.6	0.31	0.07	TE3.MT05.02 EM R	AV91X800	**£21.58**
0.75	5.6	0.46	0.11	TE3.MT07.02 EM R	AQVTX800	**£21.58**
0.8	5.6	0.49	0.12	TE3.MT08.02 EM R	ASFSX800	**£21.58**
1	5.6	0.61	0.14	TE3.MT10.02 EM R	AFHKX800	**£24.76**
1.25	5.6	0.77	0.18	TE3.MT12.02 EM R	ABFQX800	**£21.08**
1.5	5.6	0.92	0.22	TE3.MT15.02 EM R	AKFXX800	**£21.08**
1.75	5.6	1.07	0.25	TE3.MT17.02 EM R	AHWMX800	**£21.08**
2	5.6	1.23	0.29	TE3.MT20.02 EM R	ABX6X800	**£21.08**
2.5	5.6	1.53	0.36	TE3.MT25.02 EM R	ADA1X800	**£21.08**
3	5.6	1.84	0.43	TE3.MT30.02 EM R	AMUNX800	**£21.08**
3.5	5.6	2.15	0.51	TE3.MT35.02 EM R	AP36X800	**£21.58**
4	5.6	2.45	0.58	TE3.MT40.02 EM R	AAAWX800	**£22.38**
5	5.95	3.07	0.72	TE3.MT50.02 EM R	AB6FX800	**£22.95**
6	6.6	3.68	0.87	TE3.MT60.02 EM R	AGXMX800	**£27.88**

PARTING OFF INSERT, RIGHT HAND

Simturn E3 Internal & External Tool System

- Precision parting off insert

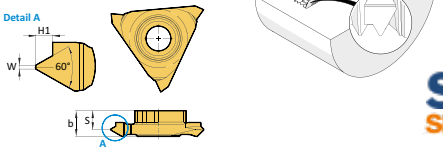


W -0.05	K	R	t max	Designation	Order Code	Price
1	6°	0.1	5	TE3.R100.06 PS R	AH0UX800	**£18.38**
1.6	6°	0.1	5	TE3.R160.06 PS R	AJ3YX800	**£18.38**
1.6	6°	0.1	5	TE3.R160.06 PT R	AMWZX800	**£19.54**
2	5°	0.1	5	TE3.R200.05 PS R	ANASX800	**£18.38**
2	5°	0.1	5	TE3.R200.05 PT R	AGZ7X800	**£18.38**
2	5°	0.1	5	TE3.R200.05 PV R	AU69X800	**£23.67**

METRIC THREADING INSERT, INTERNAL

Simturn E3 Internal & External Tool System

- Internal
- ISO metric full profile
- Use left hand holder only

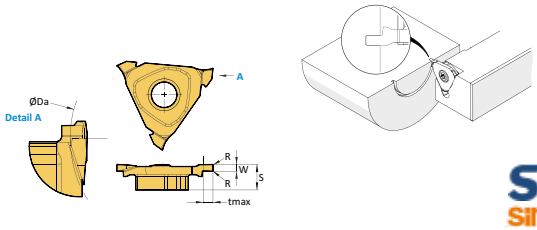


Pitch	b	H1	Designation	Order Code R/H	Price
1	5.6	0.54	TE3.MT10.02 IM R	ABMXX800	**£24.23**
1.5	5.6	0.81	TE3.MT15.02 IM R	AMJ3X800	**£20.00**
2	5.6	1.08	TE3.MT20.02 IM R	AKWMX800	**£24.23**
2.5	5.6	1.35	TE3.MT25.02 IM R	AH53X800	**£24.23**
3	5.6	1.62	TE3.MT30.02 IM R	ABUEX800	**£24.23**
3.5	5.6	1.89	TE3.MT35.02 IM R	AFW4X800	**£24.23**

FACE GROOVING INSERT

Simturn E3 Internal & External Tool System

- For face grooves in different widths

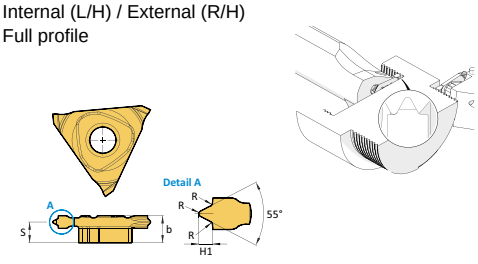


W -0.05	R	ØD a	t max	Designation	Order Code		Price
					R/H	L/H	
1.5	0.2	30	2	TE3.R150.020 AG R / L	AF5UX800	AE96X800	
2	0.2	30	3	TE3.R200.020 AG R / L	AFVUX800	ADYQX800	**£24.35**
3	0.2	30	3	TE3.R300.020 AG R / L	ANNMX800	APTHX800	

WHITWORTH THREADING INSERT

Simturn E3 Internal & External Tool System

- Internal (L/H) / External (R/H)
- Full profile

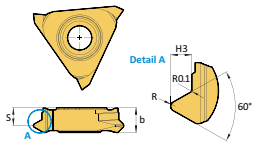


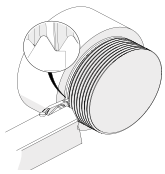
TPI	b	h1	R	Designation	Order Code		Price
					R/H	L/H	
11	5.6	1.48	0.32	TE3.BS11.02 MR/L	ANTFX800	ACAFX800	**£27.66**
14	5.6	1.16	0.25	TE3.BS14.02 MR/L	AJNXX800	AHB8X800	**£26.42**
16	5.6	1.01	0.21	TE3.BS16.02 MR/L	ACBAX800	AAEWX800	**£26.42**
19	5.6	0.86	0.18	TE3.BS19.02 MR/L	AJ52X800	AGYGX800	**£26.42**
20	5.6	0.81	0.17	TE3.BS20.02 MR/L	ASCNX800	ASCPX800	**£26.42**
28	5.6	0.58	0.12	TE3.BS28.02 MR/L	ABP6X800	AEMPX800	**£26.42**

UN THREADING INSERT, EXTERNAL

Simturn E3 Internal & External Tool System

- External
- ISO metric full profile
- Use right hand holder only



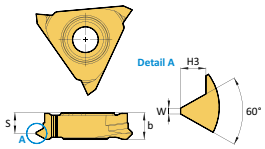


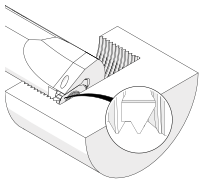
TPI	b	h3	R	Designation	Order Code R/H	Price
8	5.8	1.95	0.46	TE3.UN08.02 EM R	AS82X800	**£20.00**
9	5.8	1.73	0.41	TE3.UN09.02 EM R	ATWPX800	**£20.00**
10	5.8	1.56	0.37	TE3.UN10.02 EM R	AS84X800	**£21.21**
11	5.8	1.42	0.33	TE3.UN11.02 EM R	ATWSX800	**£20.00**
12	5.8	1.3	0.31	TE3.UN12.02 EM R	ATWUX800	**£20.00**
14	5.8	1.11	0.26	TE3.UN14.02 EM R	AS86X800	**£20.00**
16	5.8	0.97	0.23	TE3.UN16.02 EM R	AS88X800	**£20.00**
18	5.8	0.87	0.2	TE3.UN18.02 EM R	AS9AX800	**£20.00**
20	5.8	0.78	0.18	TE3.UN20.02 EM R	AS9CX800	**£20.00**
24	5.8	0.65	0.15	TE3.UN24.02 EM R	AS9EX800	**£20.00**
28	5.8	0.56	0.13	TE3.UN28.02 EM R	AS9GX800	**£20.00**
32	5.8	0.49	0.11	TE3.UN32.02 EM R	AS9JX800	**£20.00**

UN THREADING INSERT, INTERNAL

Simturn E3 Internal & External Tool System

- Internal
- UN full profile
- Use left hand holder only



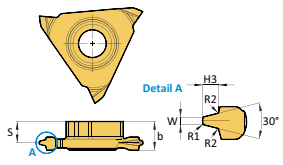


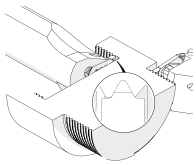
TPI	b	h3	W	Designation	Order Code R/H	Price
8	5.8	1.72	0.4	TE3.UN08.02 IM R	ATWWX800	
9	5.8	1.53	0.35	TE3.UN09.02 IM R	ATWYX800	
10	5.8	1.37	0.32	TE3.UN10.02 IM R	ATW0X800	**£20.00**
11	5.8	1.25	0.29	TE3.UN11.02 IM R	ATW2X800	
12	5.8	1.15	0.26	TE3.UN12.02 IM R	ATW4X800	

TRAPEZOIDAL THREADING INSERT

Simturn E3 Internal & External Tool System

- Full profile
- Suitable for internal and external threading



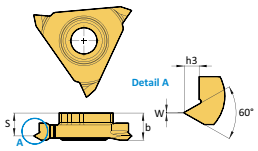


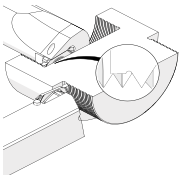
Pitch	Designation	Order Code		Price
		R/H	L/H	
1.5	TE3.TR15.02 M R/L	AHGVX800	AKXYX800	
2	TE3.TR20.02 M R/L	AGE5X800	AP3SX800	
3	TE3.TR30.02 M R/L	AJJAX800	AEXMX800	**£21.83**
4	TE3.TR40.02 M R/L	AG5KX800	ADDWX800	
5	TE3.TR50.02 M R/L	ABJQX800	ABCBX800	
6	TE3.TR60.02 M R/L	AE29X800	AD4UX800	

NPT THREADING INSERT

Simturn E3 Internal & External Tool System

- NPT full profile
- Suitable for internal and external threading



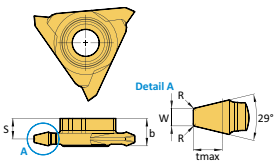


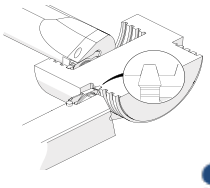
TPI	b	h3	W	Designation	Order Code R/H	Price
14	5.8	1.45	0.07	TE3.NP14.02 MR	AQA4X800	
18	5.8	1.13	0.05	TE3.NP18.02 MR	AQA6X800	**£21.83**
27	5.8	0.75	0.04	TE3.NP27.02 MR	AQA9X800	

ACME THREADING INSERT

Simturn E3 Internal & External Tool System

- ACME partial profile
- Suitable for internal and external threading



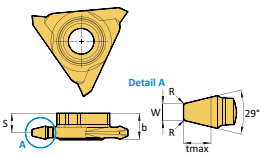


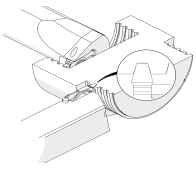
TPI	Designation	Order Code		Price
		R/H	L/H	
4	TE3.AC04.01 MR/L	ANK1X800	-	**£26.44**
5	TE3.AC05.01 MR/L	APD5X800	ANBBX800	**£21.83**
6	TE3.AC06.01 MR/L	AC7CX800	-	**£21.83**
10	TE3.AC10.01 MR/L	AFH3X800	-	**£21.83**
12	TE3.AC12.01 MR/L	AKBDX800	-	**£21.83**
16	TE3.AC16.01 MR/L	AACKX800	-	**£21.83**

STUB ACME THREADING INSERT

Simturn E3 Internal & External Tool System

- Stub ACME partial profile
- Suitable for internal and external threading





TPI	Designation	Order Code		Price
		R/H	L/H	
4	TE3.SA04.01	AVK4X800	AVK3X800	
5	TE3.SA05.01	AVK5X800	-	
6	TE3.SA06.01	AVF7X800	AVF5X800	**£21.83**
8	TE3.SA08.01	AVF9X800	AVF8X800	
10	TE3.SA10.01	AVGBX800	-	
14	TE3.SA14.01	AVK8X800	-	

SIMTEK

simturnGX

Performance
★★★★★

Strong, stable, versatile and precise are the 4 key advantages of Simturn GX.

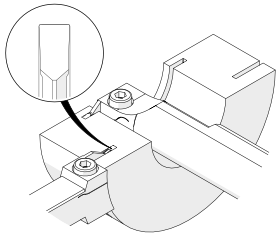
Advantages:

- The strong tool holders combined with precision insert pockets ensure the highest machining stability, even in deep grooving applications. Provides high accuracy and long tool life with minimal vibration.
- Inserts are available in 5 geometries for grooving, profiling, parting and external thread turning in ground or sintered type.
- All inserts are supplied in Simtek's ultra high performance X800 grade which excels in performance machining of steel, stainless steel, cast iron and exotics.
- Tool holders can clamp different width inserts. For example, holders with SERIES G29.03 can hold 3mm and 4mm grooving or parting inserts as well as 1.0-2.5mm pitch thread turning inserts.

STRONG, STABLE, VERSATILE & PRECISE

SUITABLE FOR INTERNAL & EXTERNAL MACHINING

GROOVING & PROFILING SQUARE

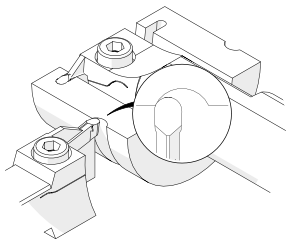


2-5mm wide inserts

Ground insert for high precision grooving

Sintered insert for best chip control in semi-roughing

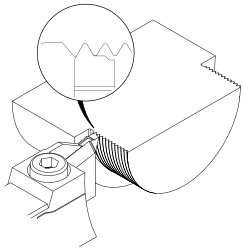
GROOVING & PROFILING FULL RADIUS



2-5mm wide inserts

Ground insert for high precision grooving

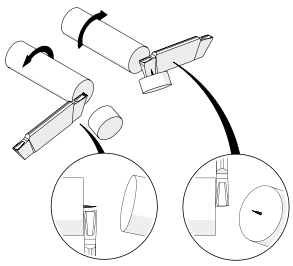
EXTERNAL THREADING ISO METRIC



1-2.5mm pitch inserts

Ground full profile inserts

PARTING OFF RIGHT HAND



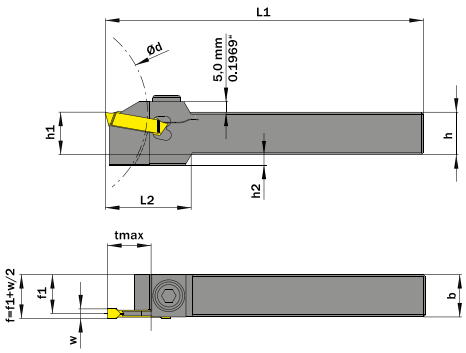
2-4mm wide inserts

5° right hand angle ensures best performance and lightest cutting

EXTERNAL TOOL HOLDER, STRAIGHT

Simturn GX Internal & External Multi Directional Turning System

- One holder can be used for multiple insert widths (e.g. Series G29.03 can hold 3-4mm wide inserts)
- Max cutting depth up to 26mm





Mainly designed to machine these surfaces

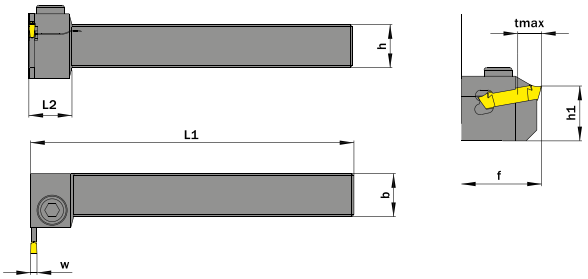
Can also be used to machine these surfaces

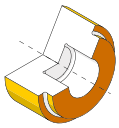
h	b	w min	w max	f1	h1	h2	L1	L2	t max	Designation	Order Code		Price	Series
											R/H	L/H		
16	16	2	2.9	15	16	9	125	35	11	G10.1616.02 R/L	AHUF	ADUC	**£122.83**	G29.02
16	16	2	2.9	15	16	9	125	44	26	G26.1616.02 R/L	AFNJ	AG77	**£141.84**	
20	20	2	2.9	19	20	5	125	35	11	G10.2020.02 R/L	AFA4	AKB7	**£122.83**	
20	20	2	2.9	19	20	7	125	44	26	G26.2020.02 R/L	APPM	AB6T	**£141.84**	
25	25	2	2.9	24	25	-	150	-	11	G10.2525.02 R/L	AF59	AMG5	**£129.01**	
25	25	2	2.9	24	25	-	150	-	26	G26.2525.02 R/L	AEN2	AA9J	**£148.53**	
16	16	3	4	14.5	16	9	125	35	11	G10.1616.03 R/L	ABYD	AA1Q	**£122.83**	G29.03
16	16	3	4	14.5	14.5	9	125	44	26	G26.1616.03 R/L	AMDX	AF5A	**£141.84**	
20	20	3	4	18.5	20	5	125	35	11	G10.2020.03 R/L	AKKG	AMZF	**£122.83**	
20	20	3	4	18.5	20	7	125	44	26	G26.2020.03 R/L	AMUV	AAFZ	**£141.84**	
25	25	3	4	23.5	25	-	150	-	11	G10.2525.03 R/L	AHY4	AMWS	**£129.01**	
25	25	3	4	23.5	25	-	150	-	26	G26.2525.03 R/L	AHT2	ANW0	**£148.53**	
32	25	3	4	23.5	32	-	170	-	20	G18.3225.03 R/L	AJTX	AB4U	**£145.95**	
32	25	3	4	23.5	32	-	170	-	26	G26.3225.03 R/L	AKGD	ABNG	**£173.03**	
16	16	4	5.1	14	16	9	125	35	11	G10.1616.04 R/L	AB68	AFUD	**£129.44**	G29.04
20	20	4	5.1	18	20	5	125	35	11	G10.2020.04 R/L	AG85	AE7N	**£122.83**	
20	20	4	5.1	18	20	7	125	44	26	G26.2020.04 R/L	AF22	AC73	**£141.84**	
25	25	4	5.1	23	25	-	150	-	11	G10.2525.04 R/L	AJHC	ANMQ	**£129.01**	
25	25	4	5.1	24	25	-	150	-	26	G26.2525.04 R/L	AHU2	AB1C	**£148.53**	
32	25	4	5.1	23	32	-	170	-	20	G18.3225.04 R/L	AH22	AKK5	**£145.95**	
32	25	4	5.1	23	32	-	170	-	26	G26.3225.04 R/L	AH65	AHKX	**£173.03**	

EXTERNAL TOOL HOLDER, CRANKED

Simturn GX Internal & External Multi Directional Turning System

- Designed for face grooving operations
- Max cutting depth 11mm





Mainly designed to machine these surfaces

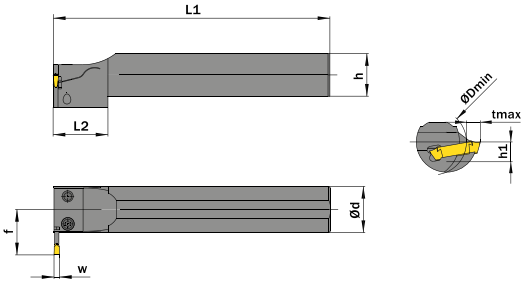
Can also be used to machine these surfaces

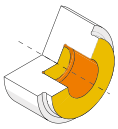
h	b	w min	w max	f	h1	L1	L2	t max	Designation	Order Code		Price	Series
										R/H	L/H		
20	20	3	4	37	25	125	20	11	G19.2020.03 R/L	AEYW	AP4K	**£138.50**	G29.03
25	25	3	4	37	25	150			G19.2525.03 R/L	APW8	ABXK		
20	20	4	5	37	25	125			G19.2020.04 R/L	AMSP	ADJP		G29.04
25	25	4	5	37	25	150			G19.2525.04 R/L	AD2P	AND1		

INTERNAL TOOL HOLDER

Simturn GX Internal & External Multi Directional Turning System

- One holder can be used for multiple insert widths (e.g. Series G29.03 can hold 3-4mm wide inserts)
- Max cutting depth up to 15mm





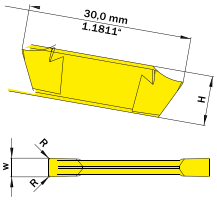
Mainly designed to machine these surfaces
Can also be used to machine these surfaces

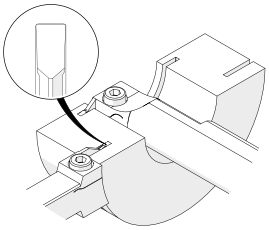
Ød	w min	w max	ØD Min Bore	f	h	h1	L1	L2	t max	Designation	Order Code R/H	Order Code L/H	Price	Series
32	2	2.9	40	28	30	15	200	70	11	G14.0032.02 R/L	AGAF	AAPV	**£182.49**	G29.02
25	3	4	38	24.5	23	11.5	150	30	11	G13.0025.03 R/L	AGA2	ABW9	**£149.47**	
32	3	4	38	28	30	15	150	30	11	G13.0032.03 R/L	ADMW	AKKY	**£149.47**	
32	3	4	40	28	30	15	200	70	11	G14.0032.03 R/L	AD7N	ANU3	**£182.49**	
40	3	4	50	32	38	19	180	30	11	G13.0040.03 R/L	AFKV	AAF7	**£164.93**	G29.03
40	3	4	50	32	38	19	250	80	11	G14.0040.03 R/L	ACQK	AP3M	**£182.49**	
50	3	4	60	40.5	47	23.5	200	30	15	G13.0050.03 R/L	ABWD	AKHD	**£192.31**	
50	3	4	60	40.5	47	23.5	250	100	15	G14.0050.03 R/L	AM2B	ADAK	**£211.82**	
25	4	5.1	38	24.5	23	11.5	150	30	11	G13.0025.04 R/L	ACB9	AM41	**£179.21**	
32	4	5.1	38	28	30	15	150	30	11	G13.0032.04 R/L	AN4Q	AH0C	**£149.47**	
32	4	5.1	40	28	30	15	200	70	11	G14.0032.04 R/L	AGAV	AC29	**£182.49**	
40	4	5.1	50	32	38	19	180	30	11	G13.0040.04 R/L	AMTN	APHN	**£164.93**	G29.04
40	4	5.1	50	32	38	19	250	80	11	G14.0040.04 R/L	AN0C	AEKS	**£182.49**	
50	4	5.1	60	40.5	47	23.5	200	30	15	G13.0050.04 R/L	ABWN	AC9W	**£192.31**	
50	4	5.1	60	40.5	47	23.5	250	100	15	G14.0050.04 R/L	ADET	ANCK	**£211.82**	

GROOVING & PROFILING INSERT

Simturn GX Internal & External Multi Directional Turning System

- Ground Designation for high precision applications



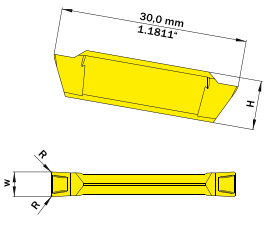


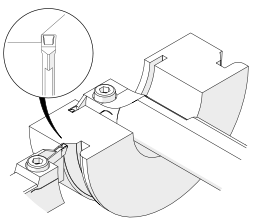
W +0.05	R	H	Designation	Order Code	Price	Series
2.0	0.2	7.9	G29.0200.10 S	AH87X800	**£18.51**	G29.02
2.5	0.2	7.9	G29.0250.10 S	AG6SX800	**£19.10**	
3.0	0.2	7.9	G29.0300.10 S	ACA7X800	**£17.51**	G29.03
4.0	0.2	7.9	G29.0400.10 S	AES9X800	**£17.86**	G29.03 / G29.04
5.0	0.2	7.9	G29.0500.10 S	AFY3X800	**£18.81**	G29.04

GROOVING & PROFILING INSERT

Simturn GX Internal & External Multi Directional Turning System

- Sintered Designation for increased chip control



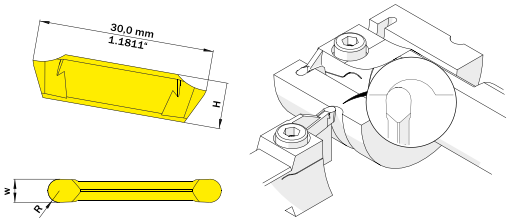


W +0.05	R	H	Designation	Order Code	Price	Series
2.0	0.2	7.9	G29.0200.32 S	ABNMX800	**£17.23**	G29.02
2.5	0.2	7.9	G29.0250.32 S	AHMBX800	**£17.23**	
3.0	0.4	7.9	G29.0300.34 S	AN8AX800	**£17.23**	G29.03
4.0	0.4	7.9	G29.0400.34 S	AAE0X800	**£17.59**	G29.03 / G29.04
5.0	0.4	7.9	G29.0500.34 S	AN6EX800	**£17.51**	G29.04

GROOVING & PROFILING INSERT, FULL RADIUS

Simturn GX Internal & External Multi Directional Turning System

- Ground Designation for high precision applications

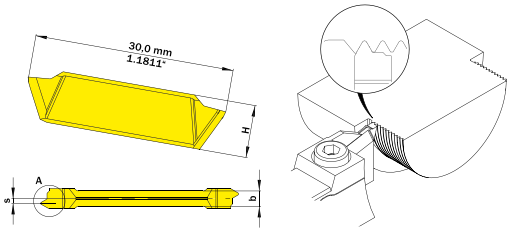


W +0.05	R	H	Designation	Order Code	Price	Series
2.0	1.0	7.9	G29.0020.10 S	ADWNX800	**£23.35**	G29.02
3.0	1.5	7.9	G29.0030.15 S	ANAZX800	**£23.35**	G29.03
4.0	2.0	7.9	G29.0040.20 S	AK7NX800	**£24.30**	G29.03 / G29.04
5.0	2.5	7.9	G29.0050.25 S	ANTEX800	**£24.58**	G29.04

EXTERNAL THREADING INSERT, METRIC

Simturn GX Internal & External Multi Directional Turning System

- Full profile

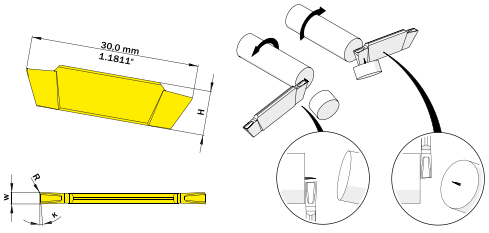


Pitch	b	H	S	Designation	Order Code	Price	Series
1.0	3.3	7.9	0.8	G29.0610.02 S R	AF43X800	**£30.54**	G29.03
1.25	3.3	7.9	0.8	G29.0712.02 S R	AD39X800	**£30.89**	
1.5	3.3	7.9	0.7	G29.0915.02 S R	AEHBX800	**£30.89**	
1.75	3.3	7.9	0.5	G29.1017.02 S R	AMK1X800	**£30.89**	
2.0	3.3	7.9	0.5	G29.1220.02 S R	AAGPX800	**£30.89**	
2.5	3.3	7.9	0.3	G29.1525.02 S R	AJVWX800	**£30.89**	

PARTING INSERT, RIGHT HAND

Simturn GX Internal & External Multi Directional Turning System

- Sintered Designation for increased chip control



W +0.05	K	R	H	Designation	Order Code	Price	Series
2	15°	0.2	7.9	G29.1520.32 S R	AMF7X800	**£21.24**	G29.02
2	5°	0.2	7.9	G29.5200.32 S R	AMW7X800	**£18.63**	
2	8°	0.2	7.9	G29.8200.32 S R	AAKBX800	**£20.11**	
3	15°	0.2	7.9	G29.1530.32 S R	ABW7X800	**£20.11**	G29.03
3	5°	0.2	7.9	G29.5300.32 S R	AH07X800	**£17.36**	
3	8°	0.2	7.9	G29.8300.32 S R	AA90X800	**£18.72**	
4	5°	0.2	7.9	G29.5400.32 S R	AB5FX800	**£17.36**	G29.03 / G29.04

KORLOY

Multi Turn

Turn, Face, Drill and Bore With 1 Tool

Performance
★★★★

Multifunctional tooling systemfor CNC lathes, allowing for multiple operations to be carried out with 1 tool, saving space in your turret and reducing tool change times

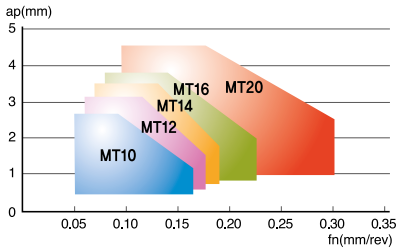
The system uses a positive QCMT or QCGT insert, providing excellent chip control and low cutting resistance. Holders are available from Korloy (best for high performance) or Teknik (best economy choice).



APPLICATION

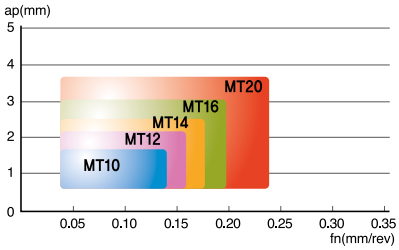
EXTERNAL/INTERNAL TURNING

Turning ranges by tool holder size



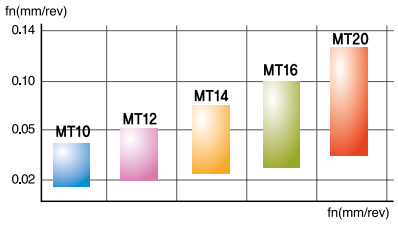
FACING

Facing ranges by tool holder size



DRILLING

Drilling ranges by tool holder size

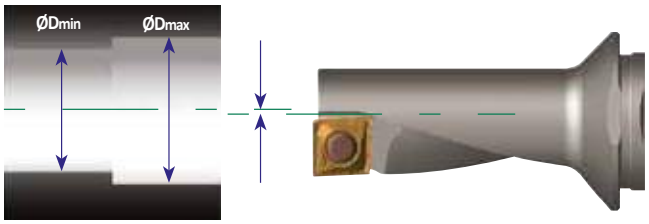








ADJUSTABLE DIAMETER (OFFSET COMPENSATION)



Diameter is adjustable using offset compensation

Tool Holder	Machined Diameter	ØD min mm	ØD max mm
MT10R-2.25D	10	9.85	10.35
MT12R-2.25D	12	11.85	12.35
MT14R-2.25D	14	13.85	14.35
MT16R-2.25D	16	15.85	16.35
MT20R-2.25D	20	19.85	20.35
MT25R-2.25D	25	24.85	25.35
MT32R-2.25D	32	31.85	32.35

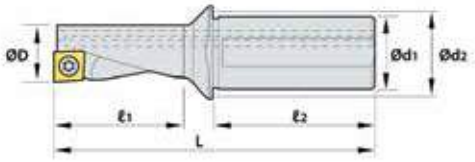
KORLOY TOOL HOLDERS

Multi Turn - For Turning, Facing, Drilling & Boring with 1 Tool

- Through coolant
- 2.25xD







KORLOY

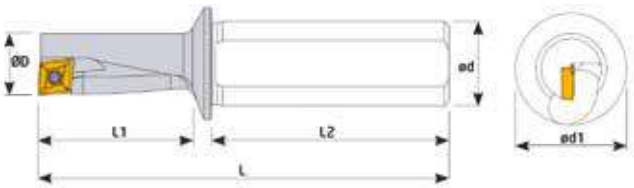
D1	D2	L1	L2	Order Code		Price	Inserts	Spares	
				Left Hand	Right Hand			Screw	Wrench
10	12	22.5	69.5	MT10R-2.25D	MT10L-2.25D	**£157.01**	QCMT050204	FTNA0204S	TW06P
12	16	27.0	48.0	MT12R-2.25D	MT12L-2.25D	**£161.86**	QCMT060204	FTNA02205S	
14	16	31.5	83.5	MT14R-2.25D	MT14L-2.25D	**£165.17**	QCMT070304	FTKA02555	TW07P
16	20	36.0	94.0	MT16R-2.25D	MT16L-2.25D	**£168.53**	QCMT080304	FTNA0306	TW09P
20	25	45.0	111.0	MT20R-2.25D	MT20L-2.25D	**£198.26**	QCMT10T304	FTNA03508	TW15P
25	32	56.5	130.0	MT25R-2.25D	MT25L-2.25D	**£247.77**	QCMT130408	FTNA0306	TW09P
32	40	72.0	160.0	MT32R-2.25D	MT32L-2.25D	**£284.92**	QCMT170508	FTNA03508	TW15P

TEKNIK TOOL HOLDERS

Multi Turn - For Turning, Facing, Drilling & Boring with 1 Tool

- 2.25xD



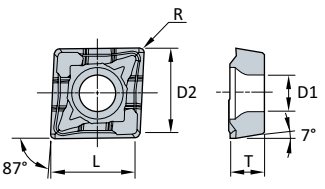


TEKNIK

D1	D2	L1	L2	Order Code	Price	Inserts	Spares	
							Screw	Wrench
10	12	22.5	69.5	U030	**£55.08**	QCMT050204	FTNA0204S	TW06P
12	16	27.0	48.0	U032	**£55.08**	QCMT060204	FTNA02205S	
14	16	31.5	83.5	U034	**£56.70**	QCMT070304	FTKA02555	TW07P
16	20	36.0	94.0	U036	**£56.70**	QCMT080304	FTNA0306	TW09P
20	25	45.0	111.0	U040	**£61.56**	QCMT10T304	FTNA03508	TW15P
25	32	56.5	130.0	U042	**£66.42**	QCMT130408	FTNA0306	TW09P

KORLOY MULTI TURN INSERTS

KORLOY

Insert	Designation	Dimensions					Grades			Order Code	Price
		l	d2	t	r	D1	NC3225	PC5300	H01		
QCMT (Steel, Stainless, Cast Iron)		5	5.4	2.1	0.4	2.3	●	●		QCMT 050204-CM	**£7.96**
		6	6.4	2.38	0.4	2.5	●	●		QCMT 060204-CM	**£7.96**
		7	7.4	3.18	0.4	2.8	●	●		QCMT 070304-CM	**£7.96**
		8	8.4	3.18	0.4	3.4	●	●		QCMT 080304-CM	**£9.33**
		10	10.4	3.97	0.4	4	●	●		QCMT 10T304-CM	**£10.49**
		12.7	13.5	4.76	0.8	5.5	●	●		QCMT 130408-CM	**£11.67**
		16.7	17.5	5.56	0.8	5.5	●	●		QCMT 170508-CM	**£11.67**
QCGT (Aluminium)		5	5.4	2.1	0.4	2.3			●	QCGT 050204-CA	**£7.96**
		6	6.4	2.38	0.4	2.5			●	QCGT 060204-CA	**£7.96**
		7	7.4	3.18	0.4	2.8			●	QCGT 070304-CA	**£7.96**
		8	8.4	3.18	0.4	3.4			●	QCGT 080304-CA	**£9.33**
		10	10.4	3.97	0.4	4			●	QCGT 10T304-CA	**£10.59**
		12.7	13.5	4.76	0.8	5.5			●	QCGT 130408-CA	**£11.67**
		16.7	17.5	5.56	0.8	5.5			●	QCGT 170508-CA	**£11.67**

KORLOY

Hexa Blade

Grooving & parting tool with 6 precision cutting edges.

Performance
★★★★

Unique “hexa” inserts with 6 cutting edges provide extreme cutting stability due to their equal 3 sided clamping capabilities.

The special bumped chip breaker ensures excellent chip control across various cutting conditions.



KORLOY HEXA BLADE HOLDER

- Economical grooving and parting tool with 6 cutting edges
- Increased stability due to 3 point clamping design
- Easy to change insert due to side clamping screw
- Universal PC5300 grade for steel, stainless steel, cast iron & HRSA’s



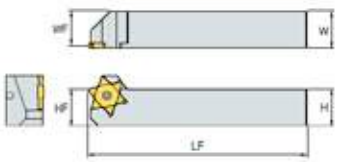


Fig. 1

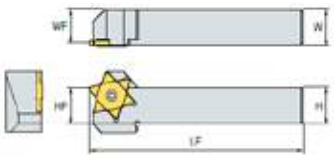


Fig. 2

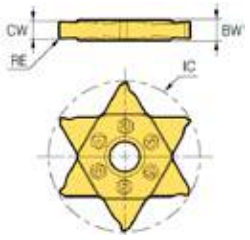
KORLOY

Insert Width	H	W	LF	HF	WF	Order Code	Fig	Price	Spares	
									Screw	Wrench
1.78 - 2.00	20	20	120	20	19.0	HBEHR2020-27-2	2	**£62.39**	PTMA0512D	TW15P
1.78 - 2.00	25	25	150	25	24.0	HBEHR2525-27-2	1	**£68.63**		
2.70 - 3.00	20	20	120	20	18.5	HBEHR2020-27-3	2	**£62.39**		
2.70 - 3.00	25	25	150	25	23.5	HBEHR2525-27-3	1	**£68.63**		
3.74 - 4.00	20	20	120	20	18.0	HBEHR2020-27-4	2	**£62.39**		
3.74 - 4.00	25	25	150	25	23.0	HBEHR2525-27-4	1	**£68.63**		

KORLOY HEXA BLADE INSERTS

- Economical grooving and parting tool with 6 cutting edges
- Increased tool life due to strengthened cutting edge
- Neutral insert with dot style chip breakers for improved chip flow





View Technical Data

KORLOY

CW	RE	BW	IC	Order Code	Price
1.78	0.18	2.7	27	HB27N200-020-M	**£21.21**
1.85	0.15	2.7		HB27N178-018-M	**£21.21**
1.96	0.15	2.7		HB27N185-015-M	**£21.21**
2.00	0.20	2.7		HB27N196-015-M	**£21.21**
2.00	0.40	2.7		HB27N200-040-M	**£21.21**
2.70	0.10	3.7		HB27N300-020-M	**£21.21**
2.87	0.20	3.7		HB27N270-010-M	**£21.21**
3.00	0.00	3.7		HB27N287-020-M	**£21.21**
3.00	0.20	3.7		HB27N300-000-M	**£21.21**
3.00	0.40	3.7		HB27N300-040-M	**£21.21**
3.74	0.20	4.7		HB27N400-040-M	**£26.51**
3.98	0.20	4.7		HB27N374-020-M	**£26.51**
4.00	0.40	4.7		HB27N398-020-M	**£26.51**

CANELA

SAGD Convex Radius Turning System

Performance
★★★★

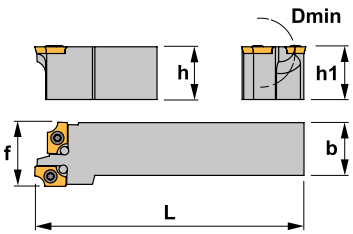
The Canela SAGD system is designed for turning of convex corner radii (corner rounding) on conventional lathes.

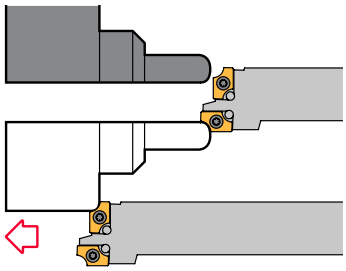
Inserts are available in 1-5mm radius in 0.5mm steps.



SAGD CORNER ROUNDING TURNING TOOL





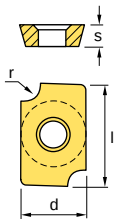


CANELA

h=h1	b	L	f	Dmin	Order Code	Price	Inserts	Spares	
								Screw	Torx Key
Individual Tool Holders									
16	16	100	30	20	SAGDR1616H15	**£75.36**	ADMT1503	1240	5515
20	20	125	30	20	SAGDR2020K15	**£75.36**			
25	25	150	30	20	SAGDR2525M15	**£83.19**			
Sets Contain Holder + 2x Each Insert: 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5 & 5mm Radius									
16	16	100	30	20	SETSAGDR1616H15				
20	20	125	30	20	SETSAGDR2020K15	**£172.13**	ADMT1503	1240	5515
25	25	150	30	20	SETSAGDR2525M15				

SAGD CORNER ROUNDING INSERTS





CANELA

r	s	d	Order Code	Price
1.0	3.18	9.52	ADMT1503R1.0TIN25	
1.5	3.18	9.52	ADMT1503R1.5TIN25	
2.0	3.18	9.52	ADMT1503R2.0TIN25	
2.5	3.18	9.52	ADMT1503R2.5TIN25	
3.0	3.18	9.52	ADMT1503R3.0TIN25	**£16.94**
3.5	3.18	9.52	ADMT1503R3.5TIN25	
4.0	3.18	9.52	ADMT1503R4.0TIN25	
4.5	3.18	9.52	ADMT1503R4.5TIN25	
5.0	3.18	9.52	ADMT1503R5.0TIN25	

vargus
NEUMO Ehrenberg Group

Microbroach

Dedicated broaching tools for Hexagon & Torx® Sockets

Performance
★★★★★

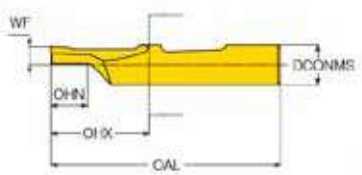


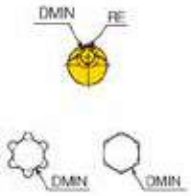
Watch Microbroach in Action

BROACHING INSERTS

- For Vargus microbroach system
- Suitable for 2.5-10mm hexagon sockets & TX15-30 Torx® sockets







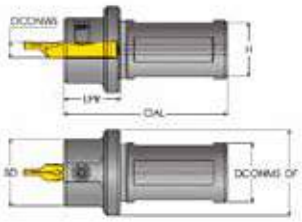
vargus

Application	Shape	App Range	Shank Ø	DMIN	TX/SW	WF	RE	OHN	OHX	OAL	Order Code	Price
Torx		TX15	6	2.4	15	2.9	0.34	4	15	35	B6.0TX15R0.34	£84.03
		TX20		2.85	20	2.9	0.4	4			B6.0TX20R0.40	
		TX25		3.25	25	2.9	0.45	5			B6.0TX25R0.45	
		TX30		4.05	30	2.9	0.56	5			B6.0TX30R0.56	
Hexagon Socket		2	6	2	2	2.9	0.05	4			B6.0HW2R0.05	
		2.5-2.9		2.5	2.5	2.9		4			B6.0HW2.5R0.05	
		2.9-3.5		3	3	2.9		4.5			B6.0HW3R0.05	
		3.5-4		3.5	3.5	2.9		5.5			B6.0HW3.5R0.05	
		4-4.5		4	4	2.9	0.1	6			B6.0HW4R0.1	
		4.5-5		4.5	4.5	2.9		7			B6.0HW4.5R0.1	
		5-8		5	5	2.9		9			B6.0HW5R0.1	
		8-10	10	8	8	4.9		12	20	45	B10.0HW8R0.1	

BROACHING HOLDERS CF4 TYPE

- For Vargus microbroach system
- To suit 6 & 10mm shank broaching inserts
- Shank size range Ø20, 22 & 25mm





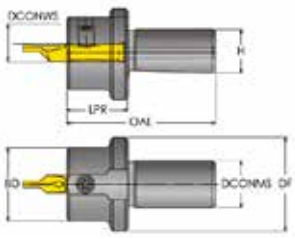
vargus

Internal Ø (DCONWS)	Shank Ø (DCONMS)	BD	DF	H	LPR	OAL	Order Code	Price
6	20	25	32	18	21	61	BH20-06-C4F	£236.34
10	20			18	26	66	BH20-10-C4F	
6	22			20	21	61	BH22-06-C4F	
10	22			20	26	66	BH22-10-C4F	
6	25			23	21	61	BH25-06-C4F	
10	25			23	26	66	BH25-10-C4F	

BROACHING HOLDERS BE TYPE

- For Vargus microbroach system
- BE holders are specially designed for EWS-Slot & BENZ LinA broaching devices
- To suit 6 & 10mm shank broaching inserts
- Available on Ø16mm shank





vargus

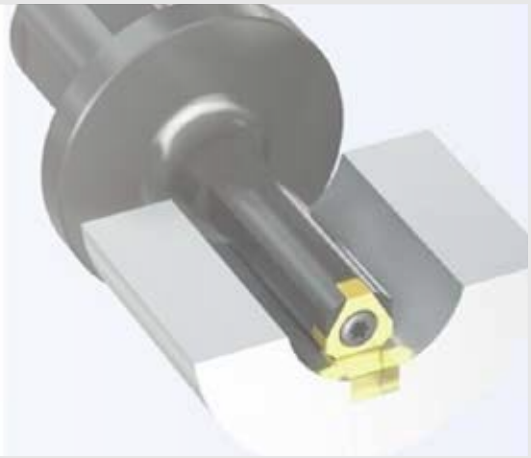
Internal Ø (DCONWS)	Shank Ø (DCONMS)	BD	DF	H	LPR	OAL	Order Code	Price
6	16	25	32	15	21	51	BH16-06-BE	£236.34
10	16	25	32	15	31	61	BH16-10-BE	

SIMTEK

CNC Broaching

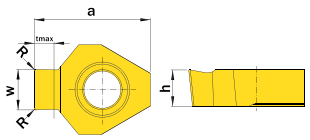
SIMCUT precision solid carbide BROACHING TOOLS for CNC keyway machining

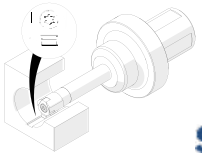
Performance
★★★★★



SIMCUT BF KEYWAY BROACHING INSERTS

- Precision broaching from Ø17mm
- X800 coated solid carbide



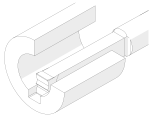


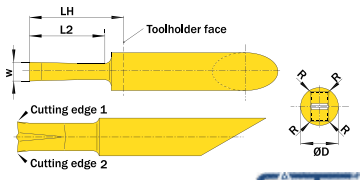
SIMTEK

w (Insert Width)	Tol.	Keyway Width	Min Bore	R Radius	a	h	t max	Holder Series	Order Code	Price
4.97	P9	5	17	0.2	14.5	4.4	2.8	BF10	AQ0TX800	**£26.76**
5	JS9				14.5				AQ0SX800	**£26.76**
5.02	H9				14.5				AQ0VX800	**£26.76**
5.97	P9	6			14.5				AQ0UX800	**£46.87**
6	JS9				14.5				AQ0QX800	**£26.49**
6.02	H9				14.5				AQ0WX800	**£26.49**
7.97	P9	8	22		14.5		4.1		AT82X800	**£44.18**
7.98	P9				20	5		BF12.08	AJ2QX800	**£28.92**
8	JS9				14.5	4.4		BF10	AT83X800	**£26.49**
8	JS9				20	5		BF12.08	ACKQX800	**£48.20**
8	JS9			0.5	20				APQ6X800	**£30.07**
8.02	H9			0.2	14.5	4.4		BF10	AT84X800	**£44.18**
8.02	H9			0.2	20	5		BF12.08	AEV2X800	**£49.75**
9.98	P9	10	30	0.3	21.5		4.2	BF12.10	AN3JX800	**£30.80**
10	JS9				21.5				AFVDX800	**£52.84**
10	JS9			0.5	21.5				AJUVX800	**£32.00**
10.02	H9				21.5				AEX3X800	**£30.52**
11.97	P9	12	38		21.5	5	5.7	BF12.12	ANEMX800	**£30.80**
12	JS9				21.5				AD7SX800	**£30.52**
12	JS9				21.5				AG8MX800	**£32.17**
12	JS9				21.5		8.5		ANBEX800	**£30.58**
12.02	H9			0.3	21.5		5.7		AJQ5X800	**£30.68**
13.97	P9	14	40		21.5		6.8		A18KX800	**£34.93**
14	JS9		40		21.5				A18JX800	**£53.03**
16	JS9	16	38		21.5		6.3		A2T1X800	**£59.23**

SIMCUT BA KEYWAY BROACHING INSERTS

- Precision broaching from Ø6mm
- 2 cutting edges per insert
- X800 coated solid carbide



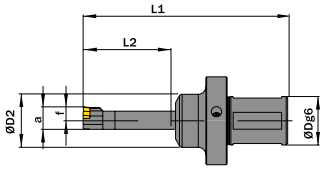


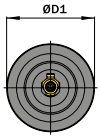
SIMTEK

w (Insert Width)	Tol.	Keyway Width	Min Bore	Shank Dia ØD	R Radius	L2 Reach	LH	t max	Holder Series	Order Code	Price
1.98	P9	2	6	6	0.1	12.2	15	1	BA06	AA4PX800	**£51.87**
2	JS9					12.2	15			AF66X800	**£51.31**
2.01	H9					12.2	15			AJDCX800	**£51.87**
2.98	P9	3	8	8		12.2	15	1.4		APPXX800	**£51.87**
3	JS9					12.2	15			ANGZX800	**£51.04**
3.01	H9					12.2	15			AAZXX800	**£50.94**
3.97	P9	4	10	10	0.2	15.2	18	1.8	BA07	AJ46X800	**£57.17**
	P9					25.4	28			ANYEX800	**£74.50**
	P9					40.6	43			AD8JX800	**£90.06**
4	JS9				0.1	15.2	18			AJYUX800	**£56.79**
	JS9				0.2	15.2	18			AE20X800	**£56.79**
	JS9					25.4	28			AGHJX800	**£74.17**
	JS9					40.6	43			ACH7X800	**£89.23**
4.02	H9				0.1	15.2	18			APSDX800	**£57.17**
	H9				0.2	25.4	28			ADHGX800	**£73.78**
	H9					40.6	43			AM3VX800	**£89.50**
4.97	P9	5	12	12		25.4	28	2.3	BA10	AA45X800	**£81.62**
	P9					40.6	43			AFPNX800	**£97.24**
5	JS9					25.4	28			AK2NX800	**£80.68**
	JS9					40.6	43			APD8X800	**£87.69**
5.02	H9					25.4	28			AGU3X800	**£81.06**
	H9					40.6	43			AKWTX800	**£96.79**
5.97	P9	6	17	17		40.6	43	2.85		AFX6X800	**£97.62**
6	JS9					40.6	43			AC72X800	**£96.68**
6.02	H9					40.6	43			AFU9X800	**£97.07**

SIMCUT BF BROACHING HOLDERS

- Precision broaching from Ø17mm bores
- For conventional CNC broaching



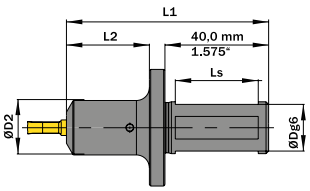


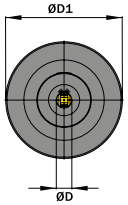
SIMTEK

ØDg6 Shank	L2 Reach	a	ØDmin (min. bore)	ØD1	ØD2	f	L1	Holder Series	Order Code	Price
25	40	14.8	17	50	-	7.65	100	BF10	AQH6	**£135.98**
	56	14.85		58	35	8.85	134.5		ASCV	**£246.98**
	80					8.85	154		ASCW	**£254.01**
32	40	14.8			-	7.65	100		AQH7	**£146.28**
	56	14.85			35	8.85	134.5		ASCX	**£252.43**
	80					8.85	154		ASCY	**£257.29**
25	50	20.3	22	50	-	75	115	BF12.08	AJ0D	**£130.73**
	75		22			100	140		AUGC	**£145.05**
32	50	28.5	30	58		75	115	BF12.10	AKJG	**£133.91**
	75					100	140		ANWV	**£149.37**
	100					125	185		A0ZQ	**£159.67**
	50	36	38			75	115	BF12.12	AHHB	**£140.39**
	75					100	140		AFT7	**£149.37**
	100					125	185		A0ZP	**£159.03**

SIMCUT BA BROACHING HOLDERS

- Precision broaching from Ø6mm bores
- For conventional CNC broaching (specific holders available for driving broaching units)
- Through coolant





SIMTEK

ØD Clamping Dia	ØDg6 Shank Dia	ØD1	ØD2	L1	L2	LS	Holder Series	Order Code	Price
6	16	38	21	78	32	32	BA06	AWY9	**£177.18**
	20	45					BA06	AA00	**£177.18**
	25	50					BA06	AGC0	**£176.05**
7	16	38	22				BA07	AWZA	**£177.18**
	20	45					BA07	AAEE	**£177.18**
	25	50					BA07	AKVH	**£174.73**
	32	58					BA07	AKJF	**£177.18**
10	25	50	25	86	40		BA10	AJ7X	**£176.44**
	32	58					BA10	AD2N	**£182.52**

QUICK

CUT & FORM KNURLING

High performance knurling solutions from the market leader QUICK.



CUT Knurling

By cutting the knurl (as opposed to forming it), the workpiece is protected and less machine power is required. Better knurl quality, faster machining & minimal surface compaction. The material is removed while being applied at an axial feed rate. This process can therefore also be used for thin-walled or soft materials, as well as hard-to-machine materials.

FORM Knurling

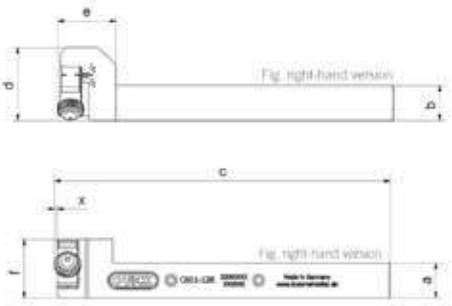
The knurl is created through pressure by 'cold forming' to shape the workpiece. Lower cost and possible to knurl up to a shoulder. Knurling is possible at any position on a workpiece. Its use is limited to materials that are suitable for cold forming.

CUT KNURLING TOOL - C601

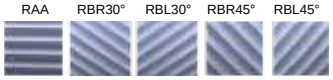
Single Wheel

- Single wheel type for straight & angled knurls
- Designed for small to large workpieces
- Knurl carrier is flush with outer edge of shank
- 10-16mm shank models for sliding head/swiss lathes
- 20-25mm shank models for turret/fixed head lathes
- Optimised tool positioning: upper edge of shank = centre height
- The knurling wheel is positioned at a 30° angle





KNURLING PROFILE WHEEL SELECTION



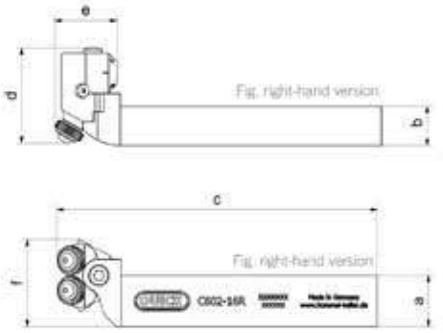
	RAA	RBR30°	RBL30°	RBR45°	RBL45°
R/H Tool L/H Tool	BR30° BL30°	AA	AA	BL15°	BR15°

Shank Height (a)	Shank Width (b)	Length (c)	e	f	Knurling Wheel ØxW	Workpiece Ø	Order Code		Price
							R/H	L/H	
10	10	115	20	18	8.9x2.5	1.5 - 12	32000319	32000318	£363.44
12	12		20	20			32000291	32000292	
16	12		20	24			32000293	32000294	
10	10	120	25	18	14.5x3	3 - 50	32000289	32000288	£393.03
12	12		25	20			32000028	32000243	
16	12		25	24			32000023	32000022	
20	20	125	36.8	30	21.5x5	5 - 250	32000032	32000093	£435.29
25	25		36.8	30			32000165	32000242	

CUT KNURLING TOOL - C602

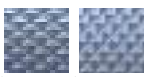
Twin Wheel

- Double wheel type for cross knurls
- Designed for small to large workpieces
- Knurl carrier is flush with outer edge of shank
- 10-16mm shank models for sliding head/swiss lathes
- 20-25mm shank models for turret/fixed head lathes
- Easy fine adjustment of the knurl carrier (20-25mm models only)
- Optimised tool positioning: upper edge of shank = centre height
- The knurling wheel is positioned at a 30° angle





KNURLING PROFILE WHEEL SELECTION



	RGE30°	RGE45°
R/H & L/H Tools	2xAA	1xBL15° & BR15°

Shank Height (a)	Shank Width (b)	Length (c)	d	e	f	Knurling Wheel ØxW	Workpiece Ø	Order Code		Price
								R/H	L/H	
10	10	100	30	20.2	22.7	8.9x2.5	1.5 – 12	32000363	32000364	£688.85
12	12		30	20.2	23.3			32000365	32000366	
16	12		30	20.2	27			32000244	32000245	
10	10	107	31.5	27	29.5	14.5x3	3 - 50	32000269	32000270	£714.21
12	12		31.5	27	29.5			32000024	32000025	
16	12		31.5	27	30.7			32000252	32000253	
20	20	143	69.4	56	50	21.5x5	5 - 250	32000021	32000086	£908.61
25	25		69.4	56	50			32000065	32000087	

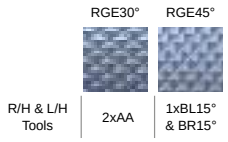
CUT KNURLING TOOL - C611

Single Wheel

- Adaptable, patented QUICK coolant nozzle
- Flexible shank variation
- Head and shank fully exchangeable due to compatible interface with twin wheel type
- Quick & easy adjustment of the working area with enclosed setting gauge
- The knurling wheels are positioned at a 30° angle



KNURLING PROFILE WHEEL SELECTION



Shank Height	Shank Width	Length	Knurling Wheel ØxW	Workpiece Ø	Order Code	Price
10	16	106	14.5 x 3 x 5	3-50	32000037	**£562.07**
12	16				32000038	
16	16				32000039	
20	25	149	21.5 x 5 x 8	5-250	32000043	**£655.04**
25	25				32000044	

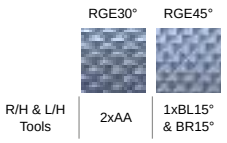
CUT KNURLING TOOL - C612

Twin Wheel

- Adaptable, patented QUICK coolant nozzle
- Flexible shank variation
- Synchronised knurl holder for adjusting the working range with single wheel type
- Quick & easy adjustment of the working area with enclosed setting gauge
- The knurling wheels are positioned at a 30° angle



KNURLING PROFILE WHEEL SELECTION



Shank Height	Shank Width	Length	Knurling Wheel ØxW	Workpiece Ø	Order Code	Price
10	16	115	14.5 x 3 x 5	3-50	32000034	**£921.29**
12	16				32000035	
16	16				32000036	
20	25	158	21.5 x 5 x 8	5-250	32000041	**£1,090.33**
25	25				32000042	

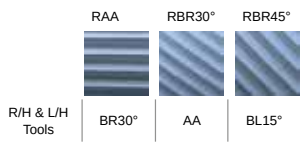
HEAVY DUTY CUT KNURLING TOOL - C621

Single Wheel

- Designed for the largest possible workpiece diameter
- Ideal for heavy-duty and roll turning lathe etc.
- Maximum stability due to solid construction
- The knurling wheels are positioned at a 30° angle



KNURLING PROFILE WHEEL SELECTION



Shank Height	Shank Width	Length	Knurling Wheel ØxW	Workpiece Ø	Order Code	Price
27	35	194	42 x 12 x 18	20-3000	32000018	**£1,310.09**

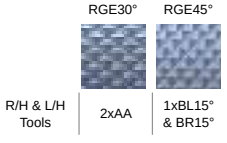
HEAVY DUTY CUT KNURLING TOOL - C622

Twin Wheel

- Designed for the largest possible workpiece diameter
- Ideal for heavy-duty and roll turning lathe etc.
- Maximum stability due to solid construction
- Synchronised knurl carrier for adjusting the working range
- The knurling wheels are positioned at a 30° angle



KNURLING PROFILE WHEEL SELECTION



Shank Height	Shank Width	Length	Knurling Wheel ØxW	Workpiece Ø	Order Code	Price
40	45	275.5	32 x 8 x 14	20-1000	32000015	**£3,376.64**
57	85	438.5	42 x 12 x 18	30-3000	32000016	**£4,982.56**

CUT KNURLING WHEELS

Powder Metal

- Powder metal substrate for highest performance and tool life across a wide range of materials
- Available in 0.3-2.0mm pitch

KNURLING WHEEL PROFILE

Profile AA
Straight 0°



Profile BL
Spiral 15° or 30°



Profile BR
Spiral 15° or 30°





QUICK

Profile	Spiral Angle	Wheel Ø	Width	Bore mm	Pitch	Order Code	Price
AA	0°	8.9	2.5	4	0.3	42000182	£18.09
					0.4	42000183	
					0.5	42000184	
					0.6	42000185	
					0.8	42000186	
					1.0	42000187	
		14.5	3	5	0.3	42000216	£21.66
					0.4	42000217	
					0.5	42000218	
					0.6	42000219	
					0.8	42000220	
					1.0	42000221	
					1.2	42000222	
		21.5	5	8	0.5	42000262	£26.66
					0.6	42000263	
					0.8	42000264	
					1.0	42000265	
					1.2	42000266	
					1.5	42000267	
					1.6	42000268	
					2.0	42000269	
		32	8	14	1.5	42000282	£84.45
					2.0	42000283	
					2.5	42010562	
					3.0	42000285	
		42	12	18	1.5	42000314	£97.20
					2.0	42000315	
					2.5	42000316	
					3.0	42000317	
BL	15°	8.9	2.5	4	0.4	42000159	£18.09
					0.5	42000160	
					0.6	42000161	
					0.8	42000162	
					1	42000163	
	30°				0.3	42000170	£18.09
					0.4	42000171	
					0.5	42000172	
					0.6	42000173	
					0.8	42000174	
					1	42000175	
	15°	14.5	3	5	0.5	42000190	£21.66
					0.6	42000191	
					0.8	42000192	
					1	42000193	
					1.2	42000194	
	30°				0.4	42000203	£21.66
					0.5	42000204	
					0.6	42000205	
					0.8	42000206	
					1	42000207	
					1.2	42000208	
	15°	21.5	5	8	0.5	42000224	£26.66
					0.6	42000225	
					0.8	42000226	
					1	42000227	
					1.2	42000228	
					1.5	42000229	
					1.6	42000230	
					2	42000231	
	30°				0.5	42000244	£26.66
					0.6	42000245	
					0.8	42000246	
					1	42000247	
					1.2	42000248	
					1.5	42000249	
					1.6	42000250	
					2	42000251	
	15°	32	8	14	1.5	42000272	£84.45
					2.0	42000273	
					2.5	42000274	
					3.0	42000275	

Profile	Spiral Angle	Wheel Ø	Width	Bore mm	Pitch	Order Code	Price
BL	15°	42	12	18	1.5	42000293	£97.20
					2.0	42000294	
					2.5	42000295	
					3.0	42000296	
	30°				1.5	42000805	£97.20
					2.0	42000806	
					3.0	42000304	
BR	15°	8.9	2.5	4	0.4	42000165	£18.09
					0.5	42000166	
					0.6	42000167	
					0.8	42000168	
					1	42000169	
	30°				0.3	42000176	£18.09
					0.4	42000177	
					0.5	42000178	
					0.6	42000179	
					0.8	42000180	
					1	42000181	
	15°	14.5	3	5	0.5	42000197	£21.66
					0.6	42000198	
					0.8	42000199	
					1	42000200	
					1.2	42000201	
	30°				0.4	42000210	£21.66
					0.5	42000211	
					0.6	42000212	
					0.8	42000213	
					1	42000214	
					1.2	42000215	
	15°	21.5	5	8	0.5	42000234	£26.66
					0.6	42000235	
					0.8	42000236	
					1	42000237	
					1.2	42000238	
					1.5	42000239	
					1.6	42000240	
					2	42000241	
	30°				0.5	42000253	£26.66
					0.6	42000254	
					0.8	42000255	
					1	42000256	
					1.2	42000257	
					1.5	42000258	
					1.6	42000259	
					2	42000260	
	15°	32	8	14	1.5	42000277	£84.45
					2.0	42000278	
					2.5	42000279	
					3.0	42000280	
		42	12	18	1.5	42000299	£97.20
					2.0	42000300	
					2.5	42000301	
					3.0	42000302	
	30°				1.5	42000307	
					2.0	42000308	
					3.0	42000310	

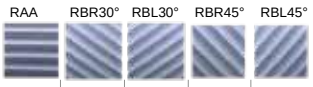
FORM KNURLING TOOL - F701

Single Wheel

- New entry-level model for easy handling
- Small, stable and compact for fast, single-wheel use
- Firmly defined centre height



KNURLING PROFILE WHEEL SELECTION



Shank Height	Shank Width	Length	Knurling Wheel ØxWxB	Workpiece Ø	Order Code	Price
10	10	101	10/15x4x4	2.5-10 / 30-50	32000398	
12	12				32000402	**£118.89**
16	16				32000403	
20	20	107.5	20/25x8x8	8-200	32000399	**£170.42**
25	25				32000404	

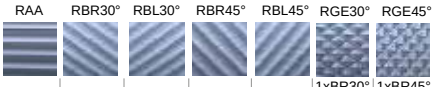
FORM KNURLING TOOL - F711

Twin Wheel

- All common knurl profiles can be produced
- Single plus double roller system for maximum flexibility
- Firmly defined centre height



KNURLING PROFILE WHEEL SELECTION



Shank Height	Shank Width	Length	Knurling Wheel ØxWxB	Workpiece Ø	Order Code	Price
10	10	101.5	10x4x4	2.5-24	32000226	
12	12				32000223	**£244.03**
16	16				32000367	
20	20	104.5	20x8x8	7-120	32000217	**£295.54**
25	20				32000218	

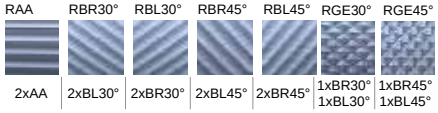
FORM KNURLING TOOL - F761

Twin Wheel

- Perfect for long and thin-walled workpieces
- All common knurl profiles can be produced
- High process stability & force neutralisation due to tangential machining
- Knurl carrier can be adjusted separately
- Quick and easy adjustment of the working area with the enclosed setting gauge



KNURLING PROFILE WHEEL SELECTION



Shank Height	Shank Width	Length	Knurling Wheel ØxWXB	Workpiece Ø	Order Code	Price
20	25	148.5	15x4x4	0-23	32000354	**£802.06**
		162	20x6x6	23-44	32000411	**£825.64**
25	25	148.5	15x4x4	0-23	32000413	**£802.06**
		162	20x6x6	23-44	32000412	**£825.64**

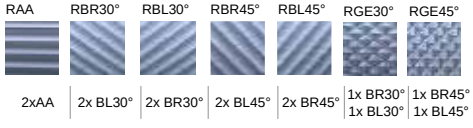
FORM KNURLING TOOL - F712

Twin Wheel

- Optimised for swiss type lathe applications (up to 12mm shank)
- All common knurl profiles can be produced
- Knurling up to a shoulder
- Firmly defined center height
- Adjustment of the axis parallelism possible
- Right hand holders (*for both left and right hand use)



KNURLING PROFILE WHEEL SELECTION



Shank Height	Shank Width	Length	Knurling Wheel ØxW	Workpiece Ø	Order Code	Price
12	12	115.7	9.8 x 3.5 x 6A7.5	3 - 45	32000420	**£261.30**
10	16	104.5	15 x 6 x 6A11	3.5-50	32000219	**£261.30**
12	16	104.5			32000220	**£261.30**
16	16	104.5			32000370	**£464.10**
20	20	104.5	20 x 8 x 6A13	7-120	32000209	**£464.10**
25	20	104.5			32000210	**£387.49**

FORM KNURLING WHEELS

Powder Metal

- Powder metal substrate for highest performance and tool life across a wide range of materials
- Available in 0.3-2.0mm pitch

KNURLING WHEEL PROFILE

Profile AA
Straight 0°

Profile BL
Spiral 45° or 30°

Profile BR
Spiral 45° or 30°



QUICK

Profile	Spiral Angle	Wheel Ø	Width	Bore mm	Pitch	Order Code	Price
AA	0°	10	4	4	0.3	42000838	
					0.4	42000839	
					0.5	42000840	
					0.6	42000841	**£27.51**
					0.7	42001175	
					0.8	42000842	
					1	42000843	
	0°	15			0.3	42000859	**£30.74**
					0.4	42000860	**£30.74**
					0.5	42000861	**£30.74**
					0.6	42000862	**£30.74**
					0.7	42001191	**£30.74**
					0.8	42000863	**£30.74**
					1	42000864	**£30.74**
					1.2	42000866	**£26.47**
	0°	20	6	6	0.3	42010551	
					0.4	42010552	
					0.5	42010553	
					0.7	42010555	
					0.8	42010556	**£33.55**
					1	42000708	
					1.2	42000870	
					1.5	42000871	
					2	42010561	
	0°		8		0.3	42001537	
					0.4	42001542	
					0.5	42000929	
					0.8	42000931	
					1	42000943	**£33.55**
					1.2	42000932	
					1.5	42000933	
					2	42000883	
	0°	25			0.5	42001161	
					0.6	42001157	
					0.8	42000832	
					1	42000833	**£41.47**
					1.2	42001158	
					1.5	42001159	
BL	30°	10	4	4	0.3	42002412	
					0.4	42002413	
					0.5	42002414	**£27.51**
					0.8	42001130	
					1	42000817	
	45°				0.5	42001164	
					0.6	42000846	
					0.8	42000847	**£27.51**
					1	42000848	
	30°	15			0.5	42001133	
					0.6	42001134	
					0.8	42001135	**£30.74**
					1	42001136	
	30°	20	6	6	0.5	42010563	
					0.8	42010565	
					1	42010566	**£33.55**
					1.2	42010567	
					1.5	42010568	
	45°				0.5	42010569	
					0.6	42010570	
					0.8	42010571	
					1	42010572	**£33.55**
					1.2	42010573	
					1.5	42010574	
					2	42010575	

Profile	Spiral Angle	Wheel Ø	Width	Bore mm	Pitch	Order Code	Price
BL	30°	20	8	6	0.5	42001147	
					0.6	42001148	
					0.8	42001149	
					1	42001150	**£33.55**
					1.2	42001151	
					1.5	42001514	
					1.6	42001515	
					2	42001517	
	45°				0.6	42000935	
					0.8	42000936	
					1	42000937	
					1.2	42000944	**£33.55**
					1.5	42000938	
					2	42000885	
BR	30°	10	4	4	0.3	42009921	
					0.4	42009922	
					0.5	42009923	**£27.51**
					0.8	42001132	
					1	42000818	
	45°				0.5	42001170	
					0.6	42001171	
					0.8	42000856	**£27.51**
					1	42000857	
	30°	15			0.5	42001138	
					0.6	42001139	
					0.8	42001140	**£30.74**
					1	42001141	
	30°	20	6	6	0.5	42010576	
					0.8	42010577	
					1	42010579	**£33.55**
					1.2	42010580	
					1.5	42010581	
	45°				0.5	42001588	
					0.6	42010582	
					0.8	42010583	
					1	42010584	**£33.55**
					1.2	42010585	
					1.5	42001406	
					2	42010586	
	30°		8		0.5	42001152	
					0.6	42001153	
					0.8	42001154	
					1	42001155	**£33.55**
					1.2	42001156	
					1.5	42001522	
					1.6	42001523	
					2	42001525	
	45°				0.6	42001533	
					0.8	42000940	
					1	42000941	**£33.55**
					1.2	42000945	
					1.5	42000942	
					2	42000887	

VARDEX

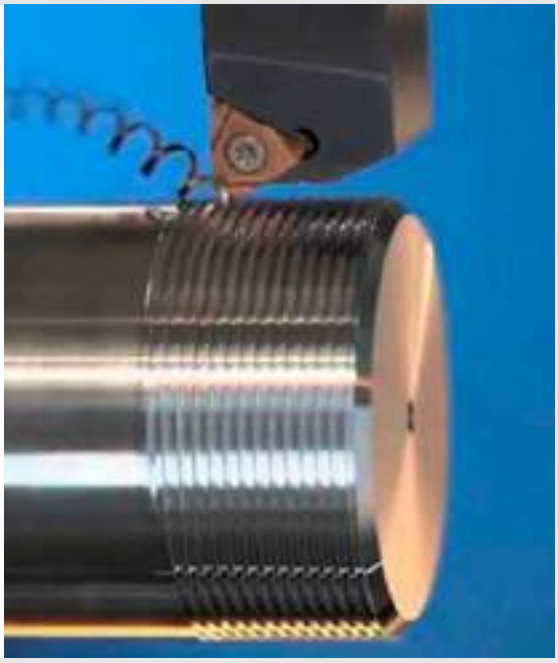
Single Point Thread Turning

Vardex Thread Turning from Vargus

Performance
★★★★★

World's leading range of thread turning tools, with threading inserts to machine almost any thread form and pitch.

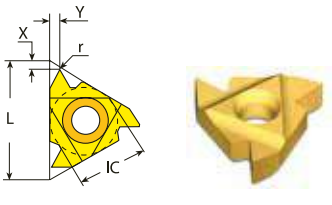
The Vardex range contains a choice of grades for multi purpose thread turning, high performance or material specific applications.



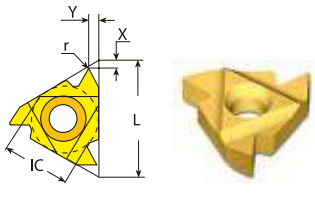
Grade	Materials	Application
VTX	**Multi Purpose**	First choice general purpose grade with TiAlN coating, ideal for multipurpose threading. Dark grey coloured.
VM7	**Stainless Steel & Exotics**	First choice for stainless steel & heat resistant super alloys. Multi-layered PVD coating.
VK2P	**Aluminium**	Highly-polished version of the VK2 uncoated grade for high quality surface finish in aluminum.
VT10	**Steel & Stainless Steel**	New innovative surface treatment with up to 30% longer tool life compared to VTX grade

55° & 60° PARTIAL PROFILE

- Suitable for thread turning a range of 55° & 60° thread sizes
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL



INTERNAL

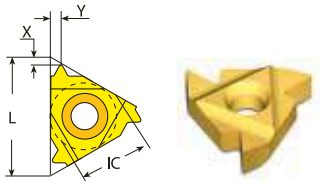
VARDEX

Insert Size		Pitch		EXTERNAL Inserts						INTERNAL Inserts					
IC	L mm	mm	TPI	r	X	Y	Order Code	Price From	Tool Holder	r	X	Y	Order Code	Price From	Tool Holder
55° Partial Profile															
4mm	6	0.5-1.25	48-20	-	-	-	-	-	-	0.05	-	0.6	4.0KIRA55	**£17.12**	SNVR.5-4.0K MINIPRO
5mm	8	0.5-1.5	48-16	-	-	-	-	-	-	0.05	-	0.9	5.0KIRA55	**£23.45**	SNVRC7-5.0K MINIPRO
6mm	10	0.5-1.5	48-16	-	-	-	-	-	-	0.05	-	0.7	6.0KIRA55	**£21.08**	SNVRC1..-6.0K MINIPRO
1/4"	11	0.5-1.5	48-16	0.05	0.8	0.9	2ERA55	**£10.46**	NL..-2	0.05	0.8	0.9	2IRA55	**£10.46**	NVR..-2
3/8"	16	0.5-1.5	48-16	0.05	0.8	0.9	3ERA55	**£9.31**	AL..-3	0.05	0.8	0.9	3IRA55	**£9.31**	AVR..-3
		1.75-3.0	14-8	0.21	1.2	1.7	3ERG55	**£9.31**		0.21	1.2	1.7	3IRG55	**£9.31**	
		0.5-3.0	48-8	0.07	1.2	1.7	3ERAG55	**£9.31**		0.05	1.2	1.7	3IRAG55	**£9.31**	
60° Partial Profile															
4mm	6	0.5-1.25	48-20	-	-	-	-	-	-	0.05	-	0.6	4.0KIRA60	**£17.12**	SNVR.5-4.0K MINIPRO
5mm	8	0.5-1.5	48-16	-	-	-	-	-	-	0.05	-	0.9	5.0KIRA60	**£23.45**	SNVRC7-5.0K MINIPRO
6mm	10	0.5-1.5	48-16	-	-	-	-	-	-	0.05	-	0.7	6.0KIRA60	**£21.08**	SNVRC1..-6.0K MINIPRO
1/4"	11	0.5-1.5	48-16	0.05	0.8	0.9	2ERA60	**£10.46**	NL..-2	0.05	0.8	0.9	2IRA60	**£10.46**	NVR..-2
3/8"	16	0.5-1.5	48-16	0.05	0.8	0.9	3ERA60	**£9.31**	AL..-3	0.05	0.8	0.9	3IRA60	**£9.31**	AVR..-3
		1.75-3.0	14-8	0.27	1.2	1.7	3ERG60	**£9.31**		0.16	1.2	1.7	3IRG60	**£9.31**	
		0.5-3.0	48-8	0.08	1.2	1.7	3ERAG60	**£9.31**		0.05	1.2	1.7	3IRAG60	**£9.31**	

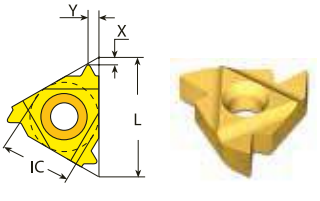
ISO METRIC, 60°

Single Point Threading Inserts

- Suitable for thread turning full profile metric threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL



INTERNAL

*Min bore dimesion applies only to MINIPRO style inserts which require dedicated holders.

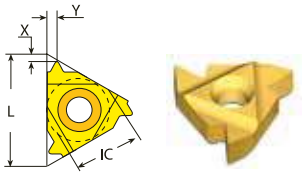
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts					
IC	L mm	mm	X	Y	Order Code	Price From	Tool Holder	X	Y	Min Bore*	Order Code	Price From	Tool Holder
4mm	6	0.25	-	-	-	-	-	-	0.25	5.95	4.0KIR0.25ISO	£17.12	CNVR.5-4.0K SNVR.5-4.0K MINIPRO
		0.5	-	-	-			-	0.5	6.05	4.0KIR0.5ISO		
		0.75	-	-	-			-	0.5	6.15	4.0KIR0.75ISO		
		1	-	-	-			-	0.7	6.25	4.0KIR1.0ISO		
		1.25	-	-	-			-	0.6	6.35	4.0KIR1.25ISO		
5mm	8	0.5	-	-	-	-	-	-	0.29	7.8	5.0KIR0.5ISO	£23.45	CNVRC7-5.0K SNVRC7-5.0K MINIPRO
		0.75	-	-	-			-	0.43	7.8	5.0KIR0.75ISO		
		1	-	-	-			-	0.58	7.8	5.0KIR1.0ISO		
		1.25	-	-	-			-	0.72	7.8	5.0KIR1.25ISO		
		1.5	-	-	-			-	0.87	7.8	5.0KIR1.5ISO		
		1.75	-	-	-			-	1.01	7.8	5.0KIR1.75ISO		
1/4"	11 (11ER/11NR)	0.35	0.8	0.4	2ER0.35ISO	£10.46	AL..-2 NL..-2	0.8	0.3	-	2IR0.35ISO	£10.46	NVR..-2
		0.4	0.7	0.4	2ER0.4ISO			0.8	0.4	-	2IR0.4ISO		
		0.45	0.7	0.4	2ER0.45ISO			0.8	0.4	-	2IR0.45ISO		
		0.5	0.6	0.4	2ER0.5ISO			0.6	0.4	-	2IR0.5ISO		
		0.6	0.6	0.6	2ER0.6ISO			0.6	0.6	-	2IR0.6ISO		
		0.7	0.6	0.6	2ER0.7ISO			0.6	0.6	-	2IR0.7ISO		
		0.75	0.6	0.6	2ER0.75ISO			0.6	0.6	-	2IR0.75ISO		
		0.8	0.6	0.6	2ER0.8ISO			0.6	0.6	-	2IR0.8ISO		
		1	0.7	0.7	2ER1.0ISO			0.6	0.7	-	2IR1.0ISO		
		1.25	0.8	0.9	2ER1.25ISO			0.8	0.9	-	2IR1.25ISO		
		1.5	0.8	1	2ER1.5ISO			0.8	1	-	2IR1.5ISO		
		1.75	0.8	1.1	2ER1.75ISO			0.9	1.1	-	2IR1.75ISO		
		2	-	-	-			0.9	1.1	-	2IR2.0ISO		
		2.5	-	-	-			0.8	1.1	-	2IR2.5ISO		
3/8"	16 (16ER/16NR)	0.25	0.4	0.2	3ER0.25ISO	£9.31	AL..-3 NL..-3	-	-	-	-	£9.31	AVR..-3 NVR..-3
		0.3	0.73	0.29	3ER0.3ISO			-	-	-	-		
		0.35	0.8	0.4	3ER0.35ISO			0.8	0.3	-	3IR0.35ISO		
		0.4	0.7	0.4	3ER0.4ISO			0.8	0.4	-	3IR0.4ISO		
		0.45	0.7	0.4	3ER0.45ISO			0.8	0.4	-	3IR0.45ISO		
		0.5	0.6	0.4	3ER0.5ISO			0.6	0.4	-	3IR0.5ISO		
		0.6	0.6	0.6	3ER0.6ISO			0.6	0.6	-	3IR0.6ISO		
		0.7	0.6	0.6	3ER0.7ISO			0.6	0.6	-	3IR0.7ISO		
		0.75	0.6	0.6	3ER0.75ISO			0.6	0.6	-	3IR0.75ISO		
		0.8	0.6	0.6	3ER0.8ISO			0.6	0.6	-	3IR0.8ISO		
		1	0.7	0.7	3ER1.0ISO			0.6	0.7	-	3IR1.0ISO		
		1.25	0.8	0.9	3ER1.25ISO			0.8	0.9	-	3IR1.25ISO		
		1.5	0.8	1	3ER1.5ISO			0.8	1	-	3IR1.5ISO		
		1.75	0.9	1.2	3ER1.75ISO			0.9	1.2	-	3IR1.75ISO		
		2	1	1.3	3ER2.0ISO			1	1.3	-	3IR2.0ISO		
		2.5	1.1	1.5	3ER2.5ISO			1.1	1.5	-	3IR2.5ISO		
		3	1.2	1.6	3ER3.0ISO			1.1	1.5	-	3IR3.0ISO		
		3.5	1.6	1.9	3ER3.5ISO			1.2	1.5	-	3IR3.5ISO		
1/2"	22 (22ER/22NR)	3.5	1.6	2.3	4ER3.5ISO	£14.99	AL..-4	1.6	2.3	-	4IR3.5ISO	£14.99	AVR..-4 NVR..-4
		4	1.6	2.3	4ER4.0ISO			1.6	2.3	-	4IR4.0ISO		
		4.5	1.7	2.4	4ER4.5ISO			1.6	2.4	-	4IR4.5ISO		
		5	1.7	2.5	4ER5.0ISO			1.6	2.3	-	4IR5.0ISO		
		5.5	1.9	2.7	4ER5.5ISO			1.6	2.3	-	4IR5.5ISO		
		6	1.8	2.7	4ER6.0ISO			1.8	2.5	-	4IR6.0ISO		
5/8"	27 (27ER/27NR)	4.5	-	-	-	£29.55	AL..-5	1.6	2.4	-	5IR4.5ISO	£29.55	AVR..-5
		5	-	-	-			1.6	2.3	-	5IR5.0ISO		
		5.5	1.9	2.7	5ER5.5ISO			1.6	2.3	-	5IR5.5ISO		
		6	2	2.9	5ER6.0ISO			1.8	2.5	-	5IR6.0ISO		

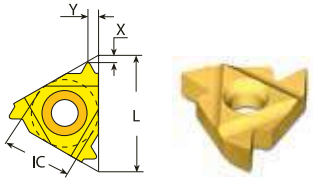
UNIFIED 60° (UN/UNF/UNEF) - FULL PROFILE

Single Point Threading Inserts

- Suitable for thread turning full profile unified threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL



INTERNAL

*Min bore dimesion applies only to MINIPRO style inserts which require dedicated holders.

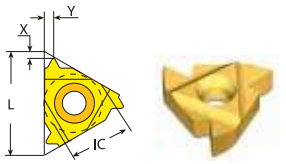
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts					
IC	L mm	TPI	X	Y	Order Code	Price From	Tool Holder	X	Y	Min Bore*	Order Code	Price From	Tool Holder
4mm	6	32	-	-	-	-	-	-	0.5	6.15	4.0KIR32UN	£17.12	CNVR.5-4.0K SNVR.5-4.0K MINIPRO
		28	-	-	-			-	0.6	6.15	4.0KIR28UN		
		24	-	-	-			-	0.6	6.25	4.0KIR24UN		
		20	-	-	-			-	0.6	6.35	4.0KIR20UN		
		18	-	-	-			-	0.7	6.35	4.0KIR18UN		
5mm	8	32	-	-	-	-	-	-	0.5	7.80	5.0KIR32UN	£23.45	CNVRC7-5.0K SNVRC7-5.0K MINIPRO
		28	-	-	-			-	0.6	7.80	5.0KIR28UN		
		24	-	-	-			-	0.6	7.80	5.0KIR24UN		
		20	-	-	-			-	0.7	7.80	5.0KIR20UN		
		18	-	-	-			-	0.7	7.80	5.0KIR18UN		
		16	-	-	-			-	0.7	7.80	5.0KIR16UN		
		14	-	-	-			-	0	7.80	5.0KIR14UN		
1/4"	11 (11ER/11NR)	72	0.8	0.4	2ER72UN	£10.46	AL..-2 NL..-2	0.8	0.3	-	2IR72UN	£10.46	NVR..-2
		64	0.8	0.4	2ER64UN			0.8	0.4	-	2IR64UN		
		56	0.7	0.4	2ER56UN			0.7	0.4	-	2IR56UN		
		48	0.6	0.6	2ER48UN			0.6	0.6	-	2IR48UN		
		44	0.6	0.6	2ER44UN			0.6	0.6	-	2IR44UN		
		40	0.6	0.6	2ER40UN			0.6	0.6	-	2IR40UN		
		36	0.6	0.6	2ER36UN			0.6	0.6	-	2IR36UN		
		32	0.6	0.6	2ER32UN			0.6	0.6	-	2IR32UN		
		28	0.6	0.7	2ER28UN			0.6	0.7	-	2IR28UN		
		27	0.7	0.8	2ER27UN			0.7	0.8	-	2IR27UN		
		24	0.7	0.8	2ER24UN			0.7	0.8	-	2IR24UN		
		20	0.8	0.9	2ER20UN			0.8	0.9	-	2IR20UN		
		18	0.8	1	2ER18UN			0.8	1	-	2IR18UN		
		16	0.9	1.1	2ER16UN			0.9	1.1	-	2IR16UN		
		14	0.9	1.1	2ER14UN			0.9	1.1	-	2IR14UN		
3/8"	16 (16ER/16NR)	80	0.8	0.3	3ER80UN	£9.31	AL..-3 NL..-3	0.8	1.1	-	3IR80UN	£9.31	AVR..-3 NVR..-3
		72	0.8	0.4	3ER72UN			0.8	1.1	-	3IR72UN		
		64	0.8	0.4	3ER64UN			0.8	0.3	-	3IR64UN		
		56	0.7	0.4	3ER56UN			0.8	0.4	-	3IR56UN		
		48	0.6	0.6	3ER48UN			0.7	0.4	-	3IR48UN		
		44	0.6	0.6	3ER44UN			0.6	0.6	-	3IR44UN		
		40	0.6	0.6	3ER40UN			0.6	0.6	-	3IR40UN		
		36	0.6	0.6	3ER36UN			0.6	0.6	-	3IR36UN		
		32	0.6	0.6	3ER32UN			0.6	0.6	-	3IR32UN		
		28	0.6	0.7	3ER28UN			0.6	0.6	-	3IR28UN		
		27	0.7	0.8	3ER27UN			0.6	0.7	-	3IR27UN		
		24	0.7	0.8	3ER24UN			0.7	0.8	-	3IR24UN		
		20	0.8	0.9	3ER20UN			0.7	0.8	-	3IR20UN		
		18	0.8	1	3ER18UN			0.8	0.9	-	3IR18UN		
		16	0.9	1.1	3ER16UN			0.8	1	-	3IR16UN		
		14	1	1.2	3ER14UN			0.9	1.1	-	3IR14UN		
		13	1	1.3	3ER13UN			0.9	1.2	-	3IR13UN		
		12	1.1	1.4	3ER12UN			1	1.3	-	3IR12UN		
		11.5	1.1	1.5	3ER11.5UN			1.1	1.4	-	3IR11.5UN		
		11	1.1	1.5	3ER11UN			1.1	1.5	-	3IR11UN		
		10	1.1	1.5	3ER10UN			1.1	1.5	-	3IR10UN		
		9	1.2	1.7	3ER9UN			1.1	1.5	-	3IR9UN		
		8	1.2	1.6	3ER8UN			1.2	1.7	-	3IR8UN		
1/2"	22	7	1.6	2.3	4ER7UN	£14.99	AL..-4	1.6	2.3	-	4IR7UN	£14.99	AVR..-4
		6	1.6	2.3	4ER6UN			1.6	2.3	-	4IR6UN		
		5	1.7	2.5	4ER5UN			1.7	2.5	-	4IR5UN		
5/8"	27	4.5	1.9	2.7	5ER4.5UN	£29.55	AL..-5	1.9	2.7	-	5IR4.5UN	£29.55	AVR..-5
		4	2.1	3.0	5ER4UN			2.1	3.0	-	5IR4UN		

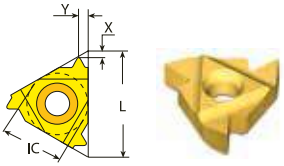
WHITWORTH 55° (BSW/BSF/BSP) - FULL PROFILE

Single Point Threading Inserts

- Suitable for thread turning full profile whitworth threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL



INTERNAL

*Min bore dimesion applies only to MINIPRO style inserts which require dedicated holders.

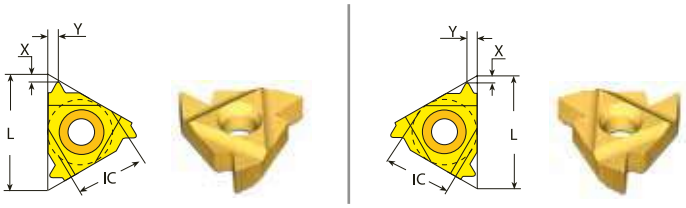
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts					
IC	L mm	TPI	X	Y	Order Code	Price From	Tool Holder	X	Y	Min Bore*	Order Code	Price From	Tool Holder
4mm	6	26	-	-	-	-	-	-	0.6	6.35	4.0KIR26W...	£17.12	CNVR.5-4.0K SNVR.5-4.0K MINIPRO
		22	-	-	-			-	0.6	6.35	4.0KIR22W...		
		20	-	-	-			-	0.7	6.35	4.0KIR20W...		
		19	-	-	-			-	0.7	6.35	4.0KIR19W...		
		18	-	-	-			-	0.7	6.35	4.0KIR18W...		
5mm	8	28	-	-	-	-	-	-	0.6	7.80	5.0KIR28W...	£23.45	CNVRC7-5.0K SNVRC7-5.0K MINIPRO
		24	-	-	-			-	0.6	7.80	5.0KIR24W...		
		20	-	-	-			-	0.7	7.80	5.0KIR20W...		
		19	-	-	-			-	0.7	7.80	5.0KIR19W...		
		18	-	-	-			-	0.7	7.80	5.0KIR18W...		
		16	-	-	-			-	0.7	7.80	5.0KIR16W...		
1/4"	11 (11ER/11NR)	72	0.7	0.4	2ER72W	£10.46	AL..-2 NL..-2	0.7	0.4	-	2IR72W	£10.46	NVR..-2
		60	0.7	0.4	2ER60W			0.7	0.4	-	2IR60W		
		56	0.7	0.4	2ER56W			0.7	0.4	-	2IR56W		
		48	0.6	0.6	2ER48W			0.6	0.6	-	2IR48W		
		40	0.6	0.6	2ER40W			0.6	0.6	-	2IR40W		
		36	0.6	0.6	2ER36W			0.6	0.6	-	2IR36W		
		32	0.6	0.6	2ER32W			0.6	0.6	-	2IR32W		
		28	0.6	0.7	2ER28W			0.6	0.7	-	2IR28W		
		26	0.7	0.8	2ER26W			0.7	0.8	-	2IR26W		
		24	0.7	0.8	2ER24W			0.7	0.8	-	2IR24W		
		22	0.8	0.9	2ER22W			0.8	0.9	-	2IR22W		
		20	0.8	0.9	2ER20W			0.8	0.9	-	2IR20W		
		19	0.8	1	2ER19W			0.8	1	-	2IR19W		
		18	0.8	1	2ER18W			0.8	1	-	2IR18W		
		16	0.9	1.1	2ER16W			0.9	1.1	-	2IR16W		
		14	1	1.2	2ER14W			0.9	1.1	-	2IR14W		
3/8"	16 (16ER/16NR)	72	0.7	0.4	3ER72W	£9.31	AL..-3 NL..-3	0.7	0.4	-	3IR72W	£9.31	AVR..-3 NVR..-3
		60	0.7	0.4	3ER60W			0.7	0.4	-	3IR60W		
		56	0.7	0.4	3ER56W			0.7	0.4	-	3IR56W		
		48	0.6	0.6	3ER48W			0.6	0.6	-	3IR48W		
		40	0.6	0.6	3ER40W			0.6	0.6	-	3IR40W		
		36	0.6	0.6	3ER36W			0.6	0.6	-	3IR36W		
		32	0.6	0.6	3ER32W			0.6	0.6	-	3IR32W		
		30	0.6	0.7	3ER30W			0.6	0.7	-	3IR30W		
		28	0.6	0.7	3ER28W			0.6	0.7	-	3IR28W		
		26	0.7	0.8	3ER26W			0.7	0.8	-	3IR26W		
		24	0.7	0.8	3ER24W			0.7	0.8	-	3IR24W		
		22	0.8	0.9	3ER22W			0.8	0.9	-	3IR22W		
		20	0.8	0.9	3ER20W			0.8	0.9	-	3IR20W		
		19	0.8	1	3ER19W			0.8	1	-	3IR19W		
		18	0.8	1	3ER18W			0.8	1	-	3IR18W		
		16	0.9	1.1	3ER16W			0.9	1.1	-	3IR16W		
		14	1	1.2	3ER14W			1	1.2	-	3IR14W		
		12	1.1	1.4	3ER12W			1.1	1.4	-	3IR12W		
		11	1.1	1.5	3ER11W			1.1	1.5	-	3IR11W		
		10	1.1	1.5	3ER10W			1.1	1.5	-	3IR10W		
		9	1.2	1.7	3ER9W			1.2	1.7	-	3IR9W		
		8	1.2	1.5	3ER8W			1.2	1.5	-	3IR8W		
1/2"	22	7	1.6	2.3	4ER7W	£14.99	AL..-4	1.6	2.3	-	4IR7W	£14.99	AVR..-4 NVR..-4
		6	1.6	2.3	4ER6W			1.6	2.3	-	4IR6W		
		5	1.7	2.4	4ER5W			1.7	2.4	-	4IR5W		
5/8"	27	4.5	1.8	2.6	5ER4.5W	£29.55	AL..-5	1.8	2.6	-	5IR4.5W	£29.55	AVR..-5
		4	2	2.9	5ER4W			2	2.9	-	5IR4W		

BSPT 55° - FULL PROFILE

Single Point Threading Inserts

- Suitable for thread turning full profile BSPT threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL **INTERNAL**

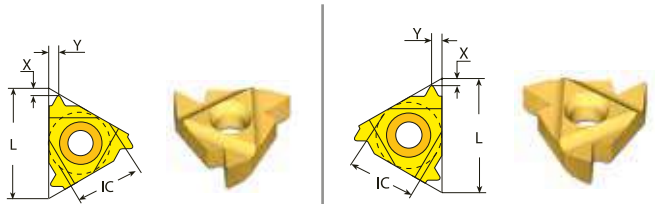
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L mm	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11 (11ER/ 11NR)	28	0.6	0.6	2ER28BSPT	£10.46	NL-2	0.6	0.6	2IR28BSPT	£10.46	NVR-2
		19	0.8	0.9	2ER19BSPT			0.8	0.9	2IR19BSPT		
		14	0.9	1	2ER14BSPT			0.9	1	2IR14BSPT		
3/8"	16 (16ER/ 16NR)	28	0.6	0.6	3ER28BSPT	£9.31	AL-3	0.6	0.6	3IR28BSPT	£9.31	AVR-3
		19	0.8	0.9	3ER19BSPT			0.8	0.9	3IR19BSPT		
		14	1	1.2	3ER14BSPT			1	1.2	3IR14BSPT		
		11	1.1	1.5	3ER11BSPT			1.1	1.5	3IR11BSPT		

NPT 60° - FULL PROFILE

Single Point Threading Inserts

- Suitable for thread turning full profile NPT threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL **INTERNAL**

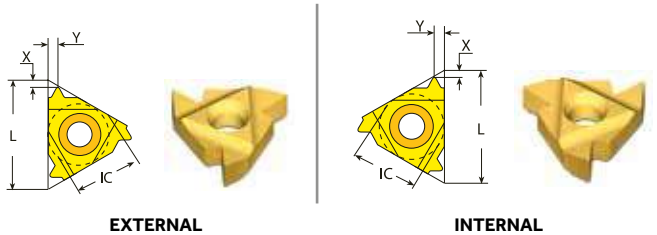
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L mm	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11 (11ER/ 11NR)	27	0.7	0.8	2ER27NPT	£10.46	NL-2	0.7	0.8	2IR27NPT	£10.46	NVR-2
		18	0.8	1.0	2ER18NPT			0.8	1	2IR18NPT		
		14	0.8	1.0	2ER14NPT			0.8	1	2IR14NPT		
3/8"	16 (16ER/ 16NR)	27	0.7	0.8	3ER27NPT	£9.31	AL-3	0.7	0.8	3IR27NPT	£9.31	AVR-3
		18	0.8	1	3ER18NPT			0.8	1	3IR18NPT		
		14	0.9	1.2	3ER14NPT			0.9	1.2	3IR14NPT		
		11.5	1.1	1.5	3ER11.5NPT			1.1	1.5	3IR11.5NPT		
		8	1.3	1.8	3ER8NPT			1.3	1.8	3IR8NPT		

NPTF 60° - FULL PROFILE

Single Point Threading Inserts

- Suitable for thread turning full profile NPTF threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL **INTERNAL**

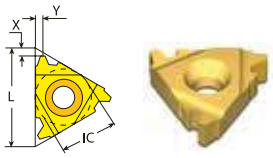
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L mm	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11 (11ER/ 11NR)	27	0.7	0.8	2ER27NPTF	£10.46	NL-2	0.7	0.8	2IR27NPTF	£10.46	NVR-2
		18	0.8	1.0	2ER18NPTF			0.8	1	2IR18NPTF		
		14	0.8	1.0	2ER14NPTF			0.8	1	2IR14NPTF		
3/8"	16 (16ER/ 16NR)	27	0.7	0.8	3ER27NPTF	£9.31	AL-3	0.7	0.8	3IR27NPTF	£9.31	AVR-3
		18	0.8	1	3ER18NPTF			0.8	1	3IR18NPTF		
		14	0.9	1.2	3ER14NPTF			0.9	1.2	3IR14NPTF		
		11.5	1.1	1.5	3ER11.5NPTF			1.1	1.5	3IR11.5NPTF		
		8	1.3	1.8	3ER8NPTF			1.3	1.8	3IR8NPTF		

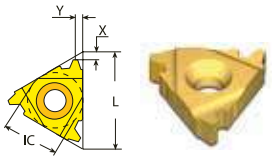
ACME 29°

Single Point Threading Inserts

- Suitable for thread turning American ACME threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL



INTERNAL

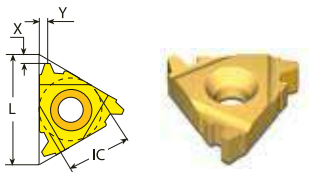
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L mm	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11	16	1	1.1	2ER16ACME	**£10.46**	NL-2	0.9	0.9	2IR16ACME	**£10.46**	NL-2
3/8"	16 (16ER/16NR)	16	1	1.1	3ER16ACME	**£9.31**	AL..-3	1	1.1	3IR16ACME	**£9.31**	AVR..-3
		14	1	1.2	3ER14ACME			1.1	1.2	3IR14ACME		
		12	1.1	1.2	3ER12ACME			1.2	1.3	3IR12ACME		
		10	1.3	1.4	3ER10ACME			1.2	1.3	3IR10ACME		
		8	1.4	1.5	3ER8ACME			1.4	1.5	3IR8ACME		
		7	1.9	2.2	3ER7ACME			1.7	1.9	3IR7ACME		
1/2"	22	6	1.8	2.1	4ER6ACME	**£14.99**	AL..-4	1.8	2.1	4IR6ACME	**£14.99**	AVR..-4
		5	2.0	2.3	4ER5ACME			2.0	2.3	4IR5ACME		
5/8"	27	5	2.4	2.7	5ER5ACME	**£29.55**	AL..-5	2.3	2.6	5IR5ACME	**£29.55**	AVR..-5

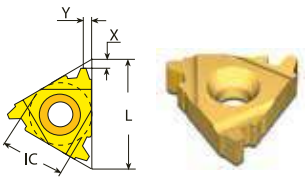
STUB ACME 29°

Single Point Threading Inserts

- Suitable for thread turning American Stub ACME threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL



INTERNAL

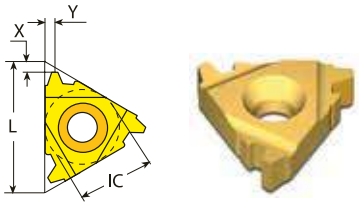
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L mm	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11	16	1	1	2ER16STACME	**£10.46**	NL-2	1	1	2IR16STACME	**£10.46**	NL-2
3/8"	16 (16ER/ 16NR)	16	1	1	3ER16STACME	**£9.31**	AL..-3	1	1	3IR16STACME	**£9.31**	AVR..-3
		14	1.1	1.1	3ER14STACME			1.1	1.1	3IR14STACME		
		12	1.2	1.2	3ER12STACME			1.1	1.2	3IR12STACME		
		10	1.2	1.3	3ER10STACME			1.2	1.3	3IR10STACME		
		8	1.4	1.5	3ER8STACME			1.4	1.5	3IR8STACME		
		6	1.7	1.8	3ER6STACME			1.7	1.8	3IR6STACME		
1/2"	22	5	2.1	2.3	4ER5STACME	**£14.99**	AL..-4	2.1	2.3	4IR5STACME	**£14.99**	AVR..-4
		4	2.3	2.3	4ER4STACME			2.3	2.3	4IR4STACME		
5/8"	27	4	2.3	2.4	5ER4STACME	**£29.55**	AL..-5	2.3	2.4	5IR4STACME	**£29.55**	AVR..-5
		3	2.9	2.9	5ER3STACME			2.9	2.9	5IR3STACME		

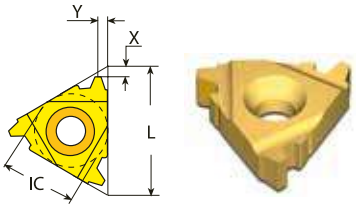
TRAPEZOIDAL 30°

Single Point Threading Inserts

- Suitable for thread turning metric Trapezoidal threads
- Right hand (left hand on request)



EXTERNAL



INTERNAL

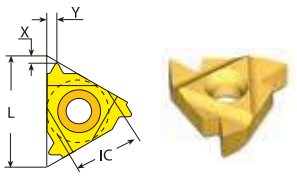
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L mm	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11	1.5	0.8	0.9	2ER1.5TR	**£10.46**	NL-2	0.8	0.9	2IR1.5TR	**£10.46**	NL-2
3/8"	16 (16ER/ 16NR)	1.5	1.0	1.1	3ER1.5TR	**£9.31**	AL..-3	1.0	1.1	3IR1.5TR	**£9.31**	AVR..-3
		2	1.1	1.3	3ER2.0TR			1.1	1.3	3IR2.0TR		
		2.5	1.2	1.4	3ER2.5TR			1.2	1.4	3IR2.5TR		
		3	1.3	1.5	3ER3.0TR			1.3	1.5	3IR3.0TR		
1/2"	22 (22ER/ 22NR)	4	1.7	1.9	4ER4.0TR	**£14.99**	AL..-4	1.7	1.9	4IR4.0TR	**£14.99**	AVR..-4
		5	2.1	2.5	4ER5.0TR			2.1	2.5	4IR5.0TR		
		6	2.3	2.7	4ER6.0TR			2.3	2.7	4IR6.0TR		

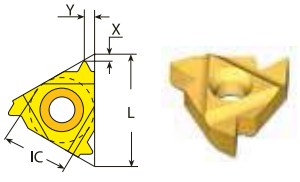
UNJ 60° - FULL PROFILE

Single Point Threading Inserts

- Suitable for thread turning full profile UNJ aerospace threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL



INTERNAL

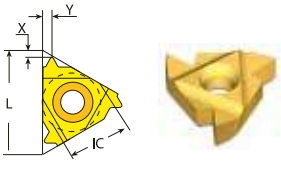
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L (mm)	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11 (11ER/ 11NR)	48	0.6	0.5	2ER48UNJ	£10.46	NL..-2	0.6	0.5	2IR48UNJ	£10.46	NVR..-2
		44	0.6	0.6	2ER44UNJ			0.6	0.6	2IR44UNJ		
		40	0.6	0.6	2ER40UNJ			0.6	0.6	2IR40UNJ		
		36	0.6	0.6	2ER36UNJ			0.6	0.6	2IR36UNJ		
		32	0.6	0.7	2ER32UNJ			0.6	0.7	2IR32UNJ		
		28	0.7	0.7	2ER28UNJ			0.7	0.7	2IR28UNJ		
		24	0.7	0.8	2ER24UNJ			0.7	0.8	2IR24UNJ		
		20	0.8	0.9	2ER20UNJ			0.8	0.9	2IR20UNJ		
		18	0.8	1	2ER18UNJ			0.8	1	2IR18UNJ		
		16	0.9	1.1	2ER16UNJ			0.9	1.1	2IR16UNJ		
		14	1	1.2	2ER14UNJ			1	1.2	2IR14UNJ		
3/8"	16 (16ER/ 16NR)	48	0.6	0.5	3ER48UNJ	£9.31	AL..-3	0.6	0.5	3IR48UNJ	£9.31	AVR..-3
		44	0.6	0.6	3ER44UNJ			0.6	0.6	3IR44UNJ		
		40	0.6	0.6	3ER40UNJ			0.6	0.6	3IR40UNJ		
		36	0.6	0.6	3ER36UNJ			0.6	0.6	3IR36UNJ		
		32	0.6	0.7	3ER32UNJ			0.6	0.7	3IR32UNJ		
		28	0.7	0.7	3ER28UNJ			0.7	0.7	3IR28UNJ		
		24	0.7	0.8	3ER24UNJ			0.7	0.8	3IR24UNJ		
		20	0.8	0.9	3ER20UNJ			0.8	0.9	3IR20UNJ		
		18	0.8	1	3ER18UNJ			0.8	1	3IR18UNJ		
		16	0.9	1.1	3ER16UNJ			0.9	1.1	3IR16UNJ		
		14	1	1.2	3ER14UNJ			1	1.2	3IR14UNJ		
		13	1	1.3	3ER13UNJ			1	1.3	3IR13UNJ		
		12	1.1	1.3	3ER12UNJ			1.1	1.3	3IR12UNJ		
		11	1.2	1.5	3ER11UNJ			1.2	1.5	3IR11UNJ		
		10	1.2	1.5	3ER10UNJ			1.2	1.5	3IR10UNJ		
		9	1.3	1.7	3ER9UNJ			1.3	1.7	3IR9UNJ		
		8	1.2	1.6	3ER8UNJ			1.2	1.6	3IR8UNJ		
1/2"	22	7	1.7	2.3	4ER7UNJ	£14.99	AL..-4	1.7	2.3	4IR7UNJ	£14.99	AVR..-4
		6	1.7	2.3	4ER6UNJ			1.7	2.3	4IR6UNJ		
		5	1.8	2	4ER5UNJ			1.8	2.5	4IR5UNJ		
5/8"	27	4.5	2.0	2.7	5ER4.5UNJ	£29.55	AL..-5	2.0	2.7	5IR4.5UNJ	£29.55	AVR..-5
		4	2.2	2.4	5ER4UNJ			2.2	2.4	5IR4UNJ		

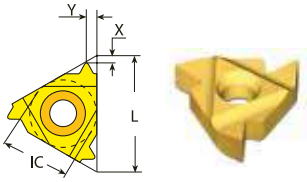
MJ 60° - FULL PROFILE

Single Point Threading Inserts

- Suitable for thread turning full profile MJ aerospace threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)



EXTERNAL



INTERNAL

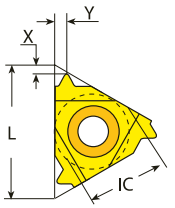
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L (mm)	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11 (11ER/ 11NR)	1	0.7	0.7	2ER1.0MJ	£10.46	NL..-2	0.6	0.7	2IR1.0MJ	£10.46	NVR..-2
		1.25	0.8	0.9	2ER1.25MJ			0.8	0.9	2IR1.25MJ		
		1.5	0.8	1	2ER1.5MJ			0.8	1	2IR1.5MJ		
3/8"	16 (16ER/ 16NR)	0.7	0.6	0.6	3ER0.7MJ	£9.31	AL..-3	0.6	0.6	3IR0.75MJ	£9.31	AVR..-3
		1	0.7	0.7	3ER1.0MJ			0.6	0.7	3IR1.0MJ		
		1.25	0.8	0.9	3ER1.25MJ			0.8	0.9	3IR1.25MJ		
		1.5	0.8	1	3ER1.5MJ			0.8	1	3IR1.5MJ		
		2	1	1.3	3ER2.0MJ			0.8	1.3	3IR2.0MJ		
		2.5	1.1	1.5	3ER2.5MJ			1.1	1.5	3IR2.5MJ		
		3	1.2	1.6	3ER3.0MJ			1.2	1.6	3IR3.0MJ		

BRITISH BUTTRESS

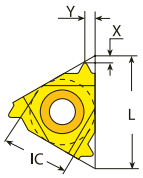
Single Point Threading Inserts

- Suitable for thread turning full profile British Buttress threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)





EXTERNAL





INTERNAL

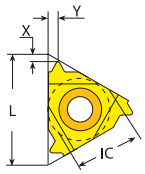
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L (mm)	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
3/8"	16 (16ER/ 16NR)	16	1.1	1.6	3ER16BBUT	£9.31	AL..-3	1.1	1.6	3IR16BBUT	£9.31	AVR..-3
		12	1.4	2.1	3ER12BBUT			1.4	2.1	3IR12BBUT		
		10	1.4	2.2	3ER10BBUT			1.4	2.2	3IR10BBUT		
		8	1.6	2.5	3ER8BBUT			1.6	2.5	3IR8BBUT		

AMERICAN BUTTRESS

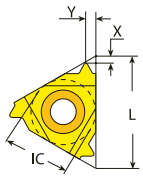
Single Point Threading Inserts

- Suitable for thread turning full profile American Buttress threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)





EXTERNAL





INTERNAL

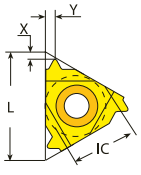
VARDEX

Insert Size		Pitch	EXTERNAL Inserts					INTERNAL Inserts				
IC	L (mm)	TPI	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11 (11ER/ 11NR)	20	1	1.4	2ER20ABUT	£10.46	NL..-2	1	1.4	2IR20ABUT	£10.46	NVR..-2
		16	1.3	1.9	2ER16ABUT			1.3	1.9	2IR16ABUT		
3/8"	16 (16ER/ 16NR)	20	1	1.4	3ER20ABUT	£9.31	AL..-3	1	1.4	3IR20ABUT	£9.31	AVR..-3
		16	1.3	1.9	3ER16ABUT			1.3	1.9	3IR16ABUT		
		12	1.4	2	3ER12ABUT			1.4	2	3IR12ABUT		
		10	1.5	2.3	3ER10ABUT			1.5	2.3	3IR10ABUT		
1/2"	22 (22ER/ 22NR)	8	2	3.2	4ER8ABUT	£14.99	AL..-4	2	3.2	4IR8ABUT	£14.99	AVR..-4
		6	2.2	3.5	4ER6ABUT			2.2	3.5	4IR6ABUT		

Pg

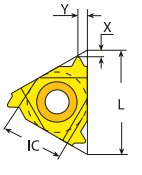
Single Point Threading Inserts

- Suitable for thread turning full profile Pg Conduit threads
- Right hand (left hand on request)
- For left hand inserts replace code with EL (External) or IL (Internal)





EXTERNAL





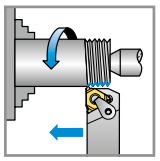
INTERNAL

VARDEX

Insert Size		Pitch	Thread	EXTERNAL Inserts					INTERNAL Inserts				
IC	L (mm)	TPI	Pg	X	Y	Order Code	Price	Tool Holder	X	Y	Order Code	Price	Tool Holder
1/4"	11 (11ER/ 11NR)	20	Pg7	0.8	0.9	2ER20PG	£10.46	NL..-2	0.8	0.9	2IR20PG	£10.46	NVR..-2
		18	Pg9/11/13.5/16	0.8	1	2ER18PG			0.8	1	2IR18PG		
		16	Pg21/29/36/42/48	0.9	1.1	2ER16PG			0.9	1.1	2IR16PG		
3/8"	16 (16ER/ 16NR)	20	Pg7	0.8	0.9	3ER20PG	£9.31	AL..-3	0.8	0.9	3IR20PG	£9.31	AVR..-3
		18	Pg9/11/13.5/16	0.8	1	3ER18PG			0.8	1	3IR18PG		
		16	Pg21/29/36/42/48	0.9	1.1	3ER16PG			0.8	1.1	3IR16PG		

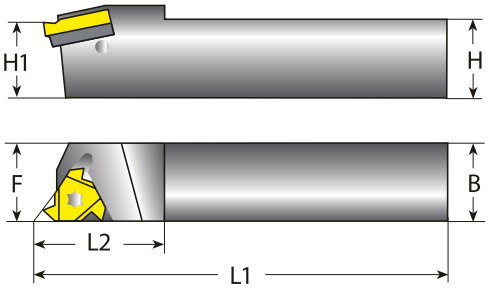
EXTERNAL THREADING TOOL HOLDER

Screw Clamping - Single Point Threading



- Suitable for Vardex & other manufacturer's threading inserts (11/16/22/27 ER/EL style)



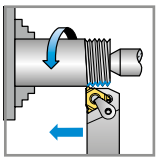


VARDEX

Dimensions				Insert Size IC	Order Code		Price	Inserts	Spares				
Shank H=H1=B	F	L1	L2		Right	Left			Insert Screw	Shim Screw	Shim RH	Shim LH	Wrench
8	11	136.4	17.5	1/4"	NL8-2	NL8-2LH	**£68.53**	2ER/EL 11ER/EL	SN2T	-	-	-	K2T
10	11	125	17.5		NL10-2	NL10-2LH	**£48.91**						
12	12	125	17.5		NL12-2	NL12-2LH	**£48.91**						
12	16	83.2	22	3/8"	NL12-3	NL12-3LH	**£78.29**	3ER/EL 16ER/EL	SA3T	-	-	-	K3T
12	16	83.2	22		AL12-3	AL12-3LH	**£52.20**		SA3T	SY3T	YE3	YI3	K3T
16	16	100	20.5		AL16-3	AL16-3LH	**£61.04**						
20	20	128.6	30		AL20-3	AL20-3LH	**£66.22**						
25	25	153.6	30		AL25-3	AL25-3LH	**£72.71**						
32	32	173.6	30		AL32-3	AL32-3LH	**£90.86**						
25	25	155.7	36	1/2"	AL25-4	AL25-4LH	**£79.18**	4ER/EL 22ER/EL	SA4T	SY4T	YE4	YI4	K4T
32	32	175.7	36		AL32-4	AL32-4LH	**£97.41**						
40	40	205.7	36		AL40-4	AL40-4LH	**£145.45**						
25	32	151.6	35	5/8"	AL25-5	AL25-5LH	**£90.93**	5ER/EL 27ER/EL	SA5Y	SY5T	YE5	YI5	K5T
32	32	176.6	40		AL32-5	AL32-5LH	**£119.20**						
40	40	206.6	40		AL40-5	AL40-5LH	**£154.27**						
50	50	256.6	40		AL50-5	AL50-5LH	**£180.35**						

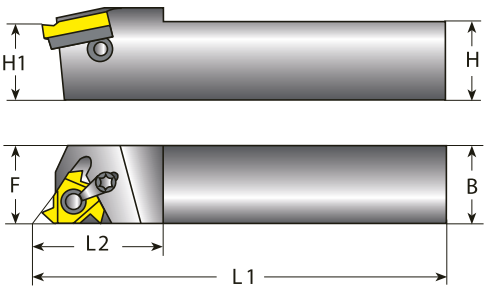
EXTERNAL THREADING TOOL HOLDER

Dual Clamping (Top Clamp & Screw) - Single Point Threading



- Suitable for Vardex & other manufacturers threading inserts (11/16/22/27 ER/EL style)



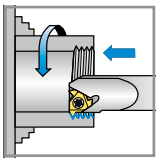


VARDEX

Dimensions				Insert Size IC	Order Code		Price	Inserts	Spares					
Shank H=H1=B	F	L1	L2		Right	Left			Insert Screw	Shim Screw	Clamp	Shim RH	Shim LH	Wrench
16	16	100	20.5	3/8"	AL16-3C	AL16-3CLH	**£80.05**	3ER/EL 16ER/EL	SA3T	SY3T	C3	YE3	YI3	K3CT
20	20	128.6	30		AL20-3C	AL20-3CLH	**£86.86**							
25	25	153.6	30		AL25-3C	AL25-3CLH	**£95.36**							
32	32	173.6	30		AL32-3C	AL32-3CLH	**£119.18**							
25	25	155.7	36	1/2"	AL25-4C	AL25-4CLH	**£103.86**	4ER/EL 22ER/EL	SA4T	SY4T	C4	YE4	YI4	K4T
32	32	175.7	36		AL32-4C	AL32-4CLH	**£127.74**							
40	40	205.7	36		AL40-4C	AL40-4CLH	**£163.52**							
25	32	151.6	35	5/8"	AL25-5C	AL25-5CLH	**£128.80**	5ER/EL 27ER/EL	SA5Y	SY5T	C5	YE5	YI5	K5T
32	32	176.6	40		AL32-5C	AL32-5CLH	**£144.77**							
40	40	206.6	40		AL40-5C	AL40-5CLH	**£187.34**							
50	50	256.6	40		AL50-5C	AL50-5CLH	**£218.96**							

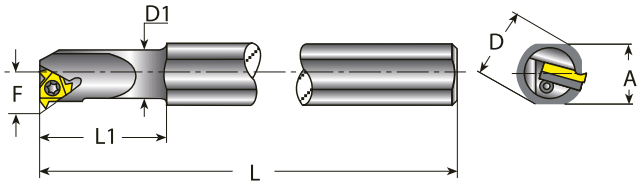
INTERNAL THREADING TOOL HOLDER

Screw Clamping - Single Point Threading



- Suitable for Vardex & other manufacturers threading inserts (11/16/22/27 ER/EL style)
- Available in solid or through coolant



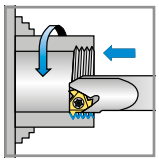


VARDEX

Dimensions						Min Bore mm	Insert Size IC	Without Through Coolant			Through Coolant			Inserts	Spares				
D	D1	A	L	L1	F			Order Code		Price	Order Code		Price		Insert Screw	Shim Screw	Shim RH	Shim LH	Torx Key
								Right	Left		Right	Left							
10	10	9.5	100	40	7.3	13		NVR10D-2	NVR10D-2LH		NVRC10D-2	NVRC10D-2LH	**£81.18**						
20	10	18	180	25	7.3	13	1/4"	NVR10-2	NVR10-2LH	**£54.11**	NVRC10-2	NVRC10-2LH	**£81.18**	2IR/IL 11IR/IL	SN2T	-	-	-	K2T
20	13	18	180	32	8.9	16		NVR13-2	NVR13-2LH		NVRC13-2	NVRC13-2LH	**£81.18**						
20	12.7	18	180	32	10.3	17		NVR13-3	NVR13-3LH	**£60.09**	NVRC13-3	NVRC13-3LH	**£90.19**						
20	16	18	180	40	11.5	20		NVR16-3	NVR16-3LH	**£84.74**	NVRC16-3	NVRC16-3LH	**£84.74**		SN3T	-	-	-	K3T
16	16	15.2	150	64	11.3	20		NVR16D-3	NVR16D-3LH	**£56.51**	NVRC16D-3	NVRC16D-3LH	**£84.74**						
20	20	18	180	80	13.4	24	3/8"	AVR20-3	AVR20-3LH	**£61.32**	AVRC20-3	AVRC20-3LH	**£91.98**	3IR/IL 16IR/IL					
32	25	29	250	60	16.3	29		AVR25-3	AVR25-3LH	**£78.55**	AVRC25-3	AVRC25-3LH	**£100.98**						
25	24.6	22.6	200	100	16.1	29		AVR25D-3	AVR25D-3LH	**£78.55**	AVRC25D-3	AVRC25D-3LH	**£100.98**		SN3T	SY3T	YI3	YE3	K3T
32	32	29	250	128	19.6	36		AVR32-3	AVR32-3LH	**£90.19**	AVRC32-3	AVRC32-3LH	**£135.26**						
40	40	36	300	160	23.8	44		AVR40-3	AVR40-3LH	**£133.21**	AVRC40-3	AVRC40-3LH	**£171.28**						
20	20	18	180	80	15.6	27		NVR20-4	NVR20-4LH	**£66.92**	NVRC20-4	NVRC20-4LH	**£99.16**		SN4T	-	-	-	K4T
25	24.6	22.6	200	100	17.2	32		AVR25D-4	AVR25D-4LH	**£96.03**	AVRC25D-4	AVRC25D-4LH	**£128.03**						
32	25	29	250	60	17.4	32	1/2"	AVR25-4	AVR25-4LH	**£85.36**	AVRC25-4	AVRC25-4LH	**£128.03**	4IR/IL					
32	32	29	250	128	21.5	39		AVR32-4	AVR32-4LH	**£98.59**	AVRC32-4	AVRC32-4LH	**£147.90**	22IR/IL	SA5T	SY5T	YI5	YE5	K5T
40	40	36	300	160	25.8	47		AVR40-4	AVR40-4LH	**£126.21**	AVRC40-4	AVRC40-4LH	**£184.72**						
50	50	45	350	200	30.8	57		AVR50-4	AVR50-4LH	**£186.35**	AVRC50-4	AVRC50-4LH	**£279.51**						
32	32	29	250	128	22.4	40		AVR32-5	AVR32-5LH	**£115.77**	AVRC32-5	AVRC32-5LH	**£173.65**		SN5T	SY5T	YI5	YE5	K5T
40	40	36	300	160	26.4	48	5/8"	AVR40-5	AVR40-5LH	**£161.30**	AVRC40-5	AVRC40-5LH	**£207.39**	5IR/IL					
50	50	45	350	200	31.4	58		AVR50-5	AVR50-5LH	**£189.74**	AVRC50-5	AVRC50-5LH	**£284.62**	27IR/IL	SA5T	SY5T	YI5	YE5	K5T
60	60	54	400	240	36.4	69		AVR60-5	AVR60-5LH	**£204.33**	AVRC60-5	AVRC60-5LH	**£306.50**						

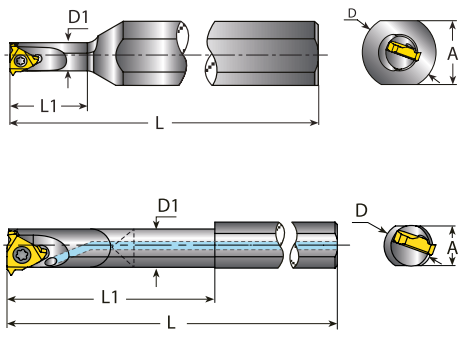
INTERNAL THREADING TOOL HOLDER

Mini Pro - Single Point Threading



- Suitable for Vardex 4mm & 5mm edge length MINI PRO threading inserts
- Designed for producing small diameter internal threads
- Carbide shank (through coolant) or steel shank (not through coolant)





VARDEX

Dimensions					Shank Type	Insert Size IC	Order Code		Price	Inserts	Spares	
D	D1	A	L	L1			Right	Left			Insert Screw	Wrench
12	5.1	11.0	100	12	Steel	4.0mm	SNVR5-4.0K	SNVR5-4.0KLH	**£82.75**	4.0KIR	SN4MT	K6MT
6	5.1	5.2	100	21	Carbide		CNVRC5-4.0K	CNVRC5-4.0KLH	**£123.08**			
16	6.6	15.0	125	18	Steel	5.0mm	NVRC7-5.0K	NVRC7-5.0KLH	**£144.06**	5.0KIR	SN5MT	K6MT

THREAD CUTTING DATA

VARDEX

Workpiece Material			Hardness HB	Surface Speed Coated m/min	Surface Speed Uncoated m/min
P Steel	Carbon Steel	Low Carbon (C=0.1-0.25 %)	125	115-190	-
		Medium Carbon (C=0.25-0.55 %)	150	100-175	-
		High Carbon (C=0.55-0.85 %)	170	90-165	-
	Low Alloy Steel (Alloying Elements ≤ 5%)	Non Hardened	180	100-180	-
		Hardened	275	75-140	-
		Hardened	350	70-135	-
	High Alloy Steel (Alloying Elements > 5%)	Annealed	200	80-120	-
		Hardened	325	50-100	-
	Cast Steel	Low Alloy (Alloying Elements <5%)	200	70-130	-
		High Alloy (Alloying Elements >5%)	225	60-120	-
M Stainless Steel	Stainless Steel Ferritic	Non Hardened	200	70-130	-
		Hardened	330	60-117	-
	Stainless Steel Austenitic	Austenitic	180	90-140	-
		Super Austenitic	200	40-110	-
	Stainless Steel Cast Ferritic	Non Hardened	200	90-120	-
		Hardened	330	65-110	-
	Stainless Steel Cast Austenitic	Austenitic	200	85-110	-
		Hardened	330	60-100	-
K Cast Iron	Malleable Cast Iron	Ferritic (Short Chips)	130	60-70	-
		Pearlitic (Long Chips)	230	60-145	-
	Gray Cast Iron	Low Tensile Strength	180	70-130	-
		High Tensile Strength	260	60-115	-
	Nodular Sg Iron	Ferritic	160	126-160	-
		Pearlitic	260	90-120	-
N Non-Ferrous	Aluminum Alloy Wrought	Non Aging	60	100-365	100-250
		Aged	100	80-220	80-160
	Aluminium Alloy	Cast	75	200-400	80-120
		Cast & Aged	90	200-280	70-100
		Cast Si 13-22%	130	60-180	50-120
	Copper & Copper Alloy	Brass	90	80-225	70-170
		Bronze & Non Leaded Copper	100	80-255	70-170
S HRSA	High Temperature Alloy	Annealed (Iron Based)	200	45-60	30-50
		Aged (Iron Based)	280	30-50	25-40
		Annealed (Nickel Or Cobalt Based)	250	20-30	20-30
		Aged (Nickel Or Cobalt Based)	350	15-25	15-25
	Titanium Alloy	Pure 99.5 Ti	400Rm	140-170	60-100
		A+B Alloys	1050Rm	50-70	40-60
H Hard Materials	Hardened Steel	Hardened & Tempered Steel	45-50HRC	45-60	-
			51-55HRC	40-50	-

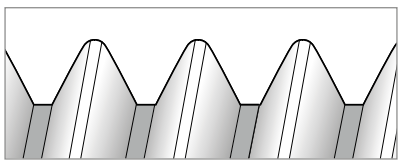
CALCULATING RPM

- **RPM**

$$n = \frac{vc \times 1000}{\pi \times Dia}$$

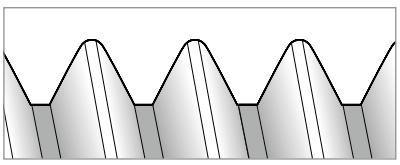
THREAD HAND

LEFT-HAND THREAD



A thread which when viewed axially, winds in an anti-clockwise and receding direction (LH).

RIGHT-HAND THREAD



A thread which when viewed axially, winds in a clockwise and receding dIrection (RH).

VARDEX THREAD TURNING METHOD

EXTERNAL RH THREAD

DIAGRAM 1

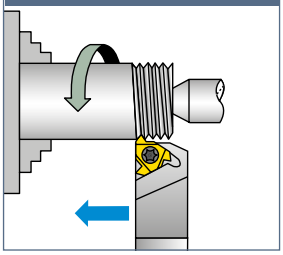
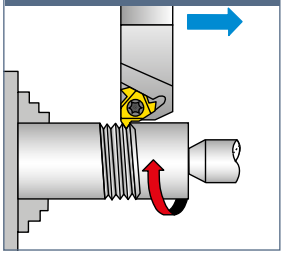


DIAGRAM 2



EXTERNAL LH THREAD

DIAGRAM 5

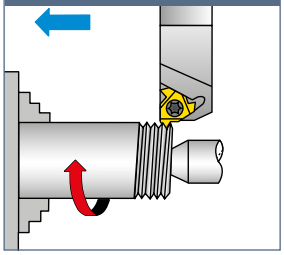
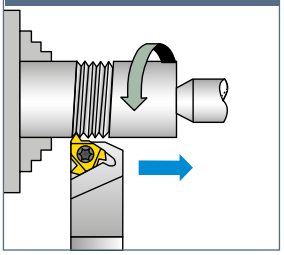


DIAGRAM 6



INTERNAL RH THREAD

DIAGRAM 3

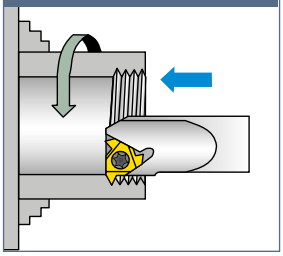
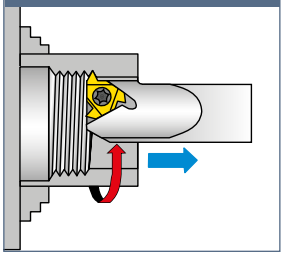


DIAGRAM 4



INTERNAL LH THREAD

DIAGRAM 7

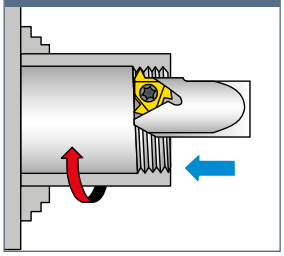


DIAGRAM 8

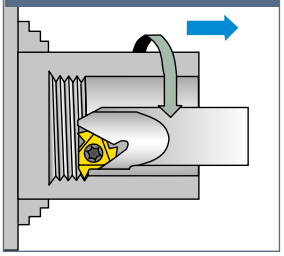
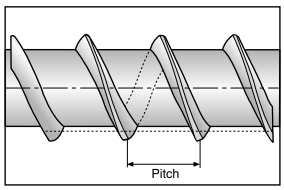


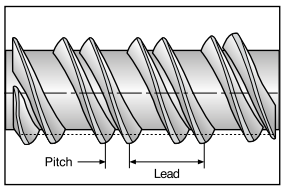
Diagram	Thread	Inserts & Tool Holder	Rotation	Feed Direction	Helix Method
1	RH External	EX RH	Anti-clockwise	Towards chuck	Regular
2		EX LH	Clockwise	From chuck	Reversed
3	RH Internal	IN RH	Anti-clockwise	Towards chuck	Regular
4		IN LH	Clockwise	From chuck	Reversed
5	LH External	EX LH	Clockwise	Towards chuck	Regular
6		EX RH	Anti-clockwise	From chuck	Reversed
7	LH Internal	IN LH	Clockwise	Towards chuck	Regular
8		IN RH	Anti-clockwise	From chuck	Reversed

VARDEX MACHINING A MULTI-START THREAD

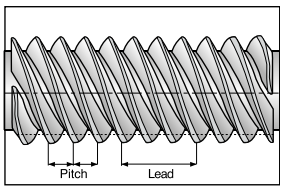
FIRST START MACHINED



SECOND START MACHINED



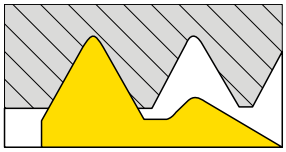
THIRD START MACHINED



Multiple start threads combine the close fit of a fine thread with the quick axial motion of a coarse thread.
Any time a design engineer needs a fine fit combined with fast motion, it is likely that he or she will use a multiple start thread.

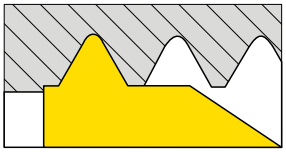
VARDEX INSERT PROFILE STYLE

PARTIAL PROFILE



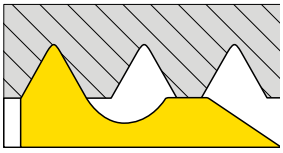
The V profile insert cuts without topping the outer diameter of the thread. The same insert can be used for a range of pitches which have a common thread angle.

FULL PROFILE



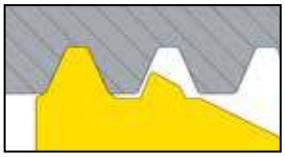
The full profile insert will form a complete thread profile including the crest. A separate insert is required for every pitch.

FULL PROFILE

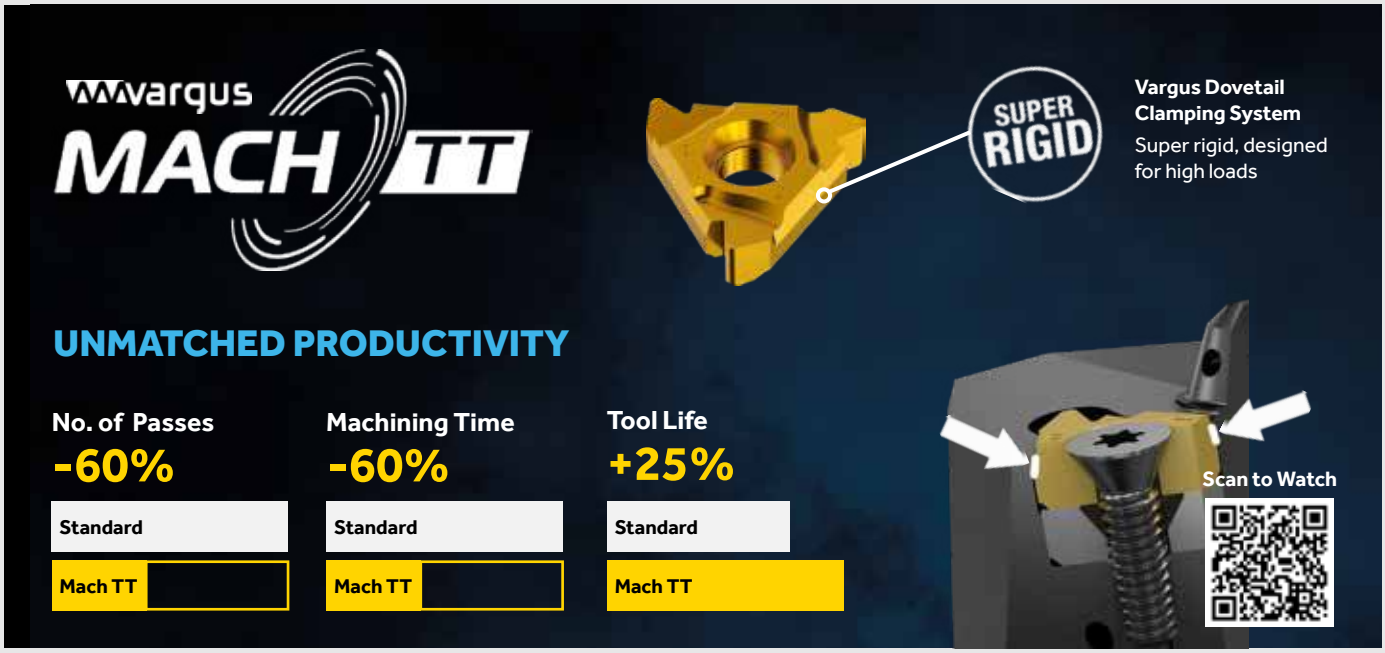


The full profile for fine pitches will form a complete thread. The topping of the outer diameter is generated by a second tooth.

SEMI FULL



The semi profile insert will form a complete thread including crest radius but without topping the outer diameter. Mainly used for trapezoidal threads.



MACH TT EXTERNAL TOOL HOLDER THROUGH COOLANT

- Right hand
- Suitable for use with 3DTER inserts
- Special Vargus super-rigid dovetail clamping system is designed for high load machining
- Significantly reduce number of passes and machining time with the Mach TT system
- Extend tool life by up to 25%
- Excellent surface finish is achieved
- Coolant hose accessories sold separately G1/8" connection



vargus

Insert Size IC	Shank	Length	Order Code	Price
3/8"	16	100	ALCN16-3DT	**£138.03**
	20	125	ALCN20-3DT	**£138.03**
	25	150	ALCN25-3DT	**£157.50**
	32	170	ALCN32-3DT	**£172.55**

MACH TT EXTERNAL TOOL HOLDER SOLID

- Right hand
- Suitable for use with 3DTER inserts
- Special Vargus super-rigid dovetail clamping system is designed for high load machining
- Significantly reduce number of passes and machining time with the Mach TT system
- Extend tool life by up to 25%
- Excellent surface finish is achieved



vargus

Insert Size IC	Shank	Length	Order Code	Price
3/8"	12	84.5	AL12-3DT	**£79.68**
	16	100	AL16-3DT	**£82.15**
	20	127	AL20-3DT	**£82.15**
	25	150	AL25-3DT	**£93.74**
	32	170	AL32-3DT	**£102.70**

HIGH PRESSURE COOLANT ACCESSORIES

Accessory		Order Code
Tube Connector 25-6P		013-00941
Angled Fitting G1 8x6P		013-00947
Straight Fitting G1 8x6P		013-00942

ISO METRIC THREADING INSERTS



vargus

Insert Size		Pitch mm	Order Code	Price
IC	L mm			
3/8”	16	0.7	3DTER0.7ISOVK8	£21.64
		0.75	3DTER0.75ISOVK8	
		0.8	3DTER0.8ISOVK8	
		1.0	3DTER1.0ISOVK8	
		1.25	3DTER1.25ISOVK8	
		1.5	3DTER1.5ISOVK8	
		1.75	3DTER1.75ISOVK8	
		2.0	3DTER2.0ISOVK8	
		2.5	3DTER2.5ISOVK8	
		3.0	3DTER3.0ISOVK8	
		3.5	3DTER3.5ISOVK8	

UN THREADING INSERTS



vargus

Insert Size		TPI	Order Code	Price
IC	L mm			
3/8”	16	32	3DTER32UNVK8	£21.64
		28	3DTER28UNVK8	
		27	3DTER27UNVK8	
		24	3DTER24UNVK8	
		20	3DTER20UNVK8	
		18	3DTER18UNVK8	
		16	3DTER16UNVK8	
		14	3DTER14UNVK8	
		13	3DTER13UNVK8	
		12	3DTER12UNVK8	
		11.5	3DTER11.5UNVK8	
		11	3DTER11UNVK8	
		10	3DTER10UNVK8	
		9	3DTER9UNVK8	
		8	3DTER8UNVK8	

WHITWORTH THREADING INSERTS



vargus

Insert Size		TPI	Order Code	Price
IC	L mm			
3/8”	16	28	3DTER28WVK8	£21.64
		26	3DTER26WVK8	
		20	3DTER20WVK8	
		19	3DTER19WVK8	
		18	3DTER18WVK8	
		16	3DTER16WVK8	
		14	3DTER14WVK8	
		12	3DTER12WVK8	
		11	3DTER11WVK8	
		10	3DTER10WVK8	
		9	3DTER9WVK8	
		8	3DTER8WVK8	

PARTIAL PROFILE THREADING INSERTS



vargus

Insert Size		Pitch mm	TPI	Order Code	Price
IC	L mm				
Partial Profile 60°					
3/8”	16	0.5-1.5	48-16	3DTERA60VK8	£21.64
		1.75-3	14-8	3DTERAG60VK8	
		0.5-3	48-8	3DICTERAG60VK8	
Partial Profile 55°					
3/8”	16	0.5-1.5	48-16	3DTERA55VK8	£21.64
		0.5-3	14-8	3DTERAG55VK8	
		1.75-3	48-8	3DTERG55 VK8	

BSPT THREADING INSERTS



vargus

Insert Size		TPI	Order Code	Price
IC	L mm			
3/8”	16	28	3DTER28BSPTVK8	£21.64
		26	3DTER19BSPTVK8	
		20	3DTER14BSPTVK8	
		19	3DTER11BSPTVK8	

NPT THREADING INSERTS



vargus

Insert Size		TPI	Order Code	Price
IC	L mm			
3/8”	16	27	3DTER27NPTVK8	£21.64
		18	3DTER18NPTVK8	
		14	3DTER14NPTVK8	
		11.5	3DTER11.5NPTVK8	
		8	3DTER8NPTVK8	

NPTF THREADING INSERTS

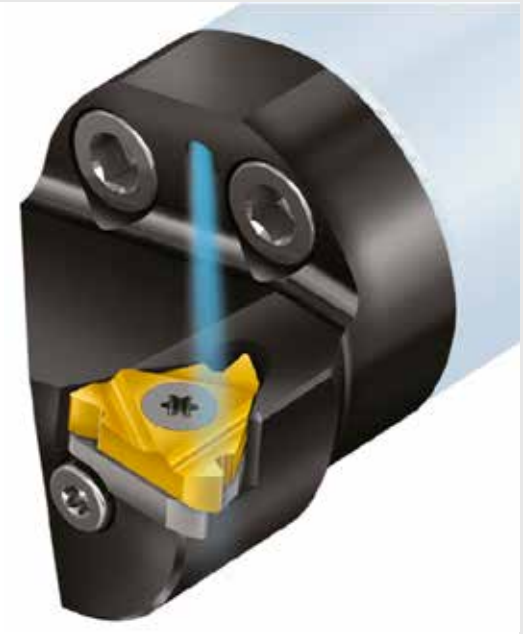


vargus

Insert Size		TPI	Order Code	Price
IC	L mm			
3/8”	16	27	3DTER27NPTFVK8	£21.64
		18	3DTER18NPTFVK8	
		14	3DTER14NPTFVK8	
		11.5	3DTER11.5NPTFVK8	
		8	3DTER8NPTFVK8	

VARDEX

Smooth Cut Anti-Vibration Modular Threading Heads



Performance
★★★★★

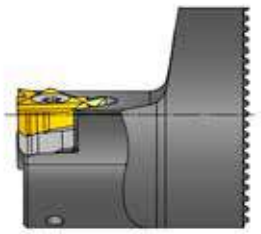
- Same head can be used with wide range of shanks of different lengths
- Maximum overhang 5xDa (Da - shank diameter)
- Compatible with the most common anti-vibration shanks in the market
- Available for standard insert sizes: IC3/8” (16), 1/2” (22), 5/8” (27)
- High pressure coolant up to 70 bar for better chip evacuation and increased tool life

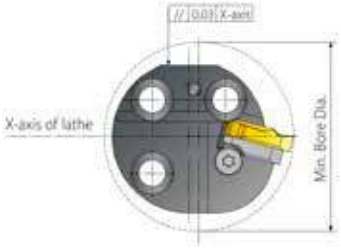
SMOOTH CUT ANTI-VIBRATION MODULAR THREADING HEAD

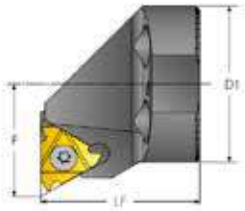
Modular Tool Holder Heads for Anti-Vibration Shanks

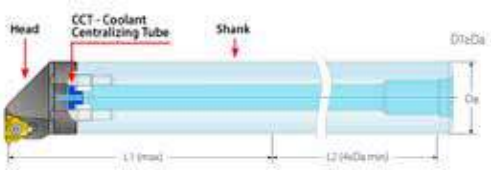
- Flat surface to adjust the orientation of the shank
- Shank and coolant centralizing tube not included











vargus

Insert Size IC	D1	Da	F	L1 max	LF	Min. Bore Dia	Order Code	Price
3/8”	25.3	25	17	125	25	32	VAS25-IR2517-3	**£327.40**
	32.3	32	22	160	32	40	VAS32-IR3222-3 3	**£380.18**
	40	40	27	200	32	50	VAS40-IR3227-3	**£397.71**
1/2”	32.3	32	22.7	160	32	40	VAS32-IR3222-4	**£377.11**
	40	40	27	200	32	50	VAS40-IR3227-4	**£407.18**
5/8”	40	40	27.3	200	36	50	VAS40-IR3627-5	**£470.46**

VARDEX

V-CAP Internal & External Tool Holders for IC 1/2" (22)

Performance
★★★★★



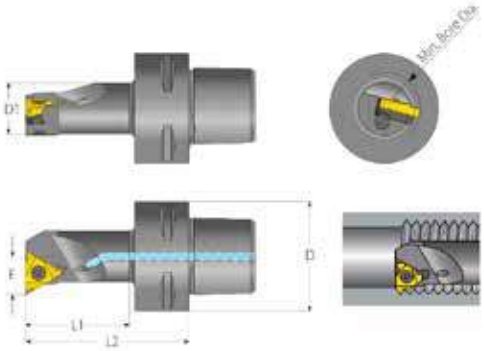
- Suitable for IC 1/2" (22) sized inserts
- Polygon shaped shank, complies with standard ISO 26623
- Works with wide range of machine types
- For all industrial sectors
- High pressure coolant up to 70 bar for better chip evacuation and increased tool life

V-CAP PSC INTERNAL THREAD TURNING HOLDER

Internal Threading Holder with PSC (Polygon) Shank

- For use with 1/2" (22mm) internal threading inserts
- Through coolant (up to 70BAR)





vargus

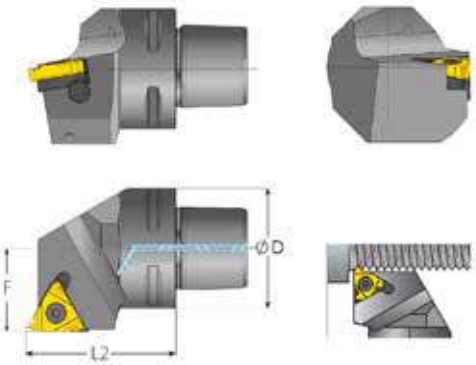
Insert Size IC	D	F	L2	Order Code	Price
1/2"	40	27	80	VCAP40-SIR27080-4	£479.83
	50	27	105	VCAP50-SIR27105-4	£479.10
	63	27	105	VCAP63-SIR27105-4	£515.98

V-CAP PSC EXTERNAL THREAD TURNING HOLDER

External Threading Holder with PSC (Polygon) Shank

- For use with 1/2" (22mm) external threading inserts
- Through coolant (up to 70BAR)





vargus

Insert Size IC	D	F	L2	Order Code	Price
1/2"	40	27	50	VCAP40-SER27050-4	£642.60
	50	35	60	VCAP50-SER35060-4	£742.84
	63	45	65	VCAP63-SER45065-4	£933.41
	80	55	81.7	VCAP80-SER55080-4	£1,026.89

Hole Making



YG KORLOY Starrett TEKNIK Karnasch DINE Rotabroach PRESTO BECK

The UK's Most Comprehensive Range of Hole Making Tools

Our comprehensive hole making range includes HSS drills, carbide drills, indexable drills, reamers, boring systems, spot drills, centre drills, countersinks & more from market leading brands.



HSS Drills 622
HSS & powder metal drills for general or performance drilling in a wide range of materials



Carbide Drills 666
High performance & general purpose carbide drills for all materials up to HRC70



Reamers 700
HSS & carbide reamers. Available from Ø0.95mm & available in 10 micron increments



King Drill 722
The ultimate high performance indexable drilling system from Ø12mm-Ø100mm available in 2xD-5xD



SPMX U-Drill 736
Low cost general purpose indexable drill from Ø12.5mm- Ø60mm available in 2xD-4xD



TPDC Drill 742
Ultra-high performance replaceable carbide head drill for production drilling of steel, stainless steel & cast iron



i-One Drill 748
Next generation high performance replaceable carbide head drill for production drilling of steel & cast iron



i-Dream Drill 756
High performance replaceable carbide head drill for production drilling of steel, stainless steel & cast iron



Spade Drill 762
The most versatile drilling system in the world - drill from 9.5mm to 114mm diameter using 9 different sized holders



Modular Boring Systems 776
Modular boring systems for rough & finish boring a wide range of diameters



Spot & Centre Drills 798
Wide range of HSS & Carbide NC spot drills & centre drills



Countersinks 804
HSS, powder metal & carbide countersinks & sets, available coated or uncoated



Sheet Metal & Step Drills 813
A wide assortment of individual step drills, tube & sheet drills & sets



Counterbores 816
Solid & indexable counterbores & sets

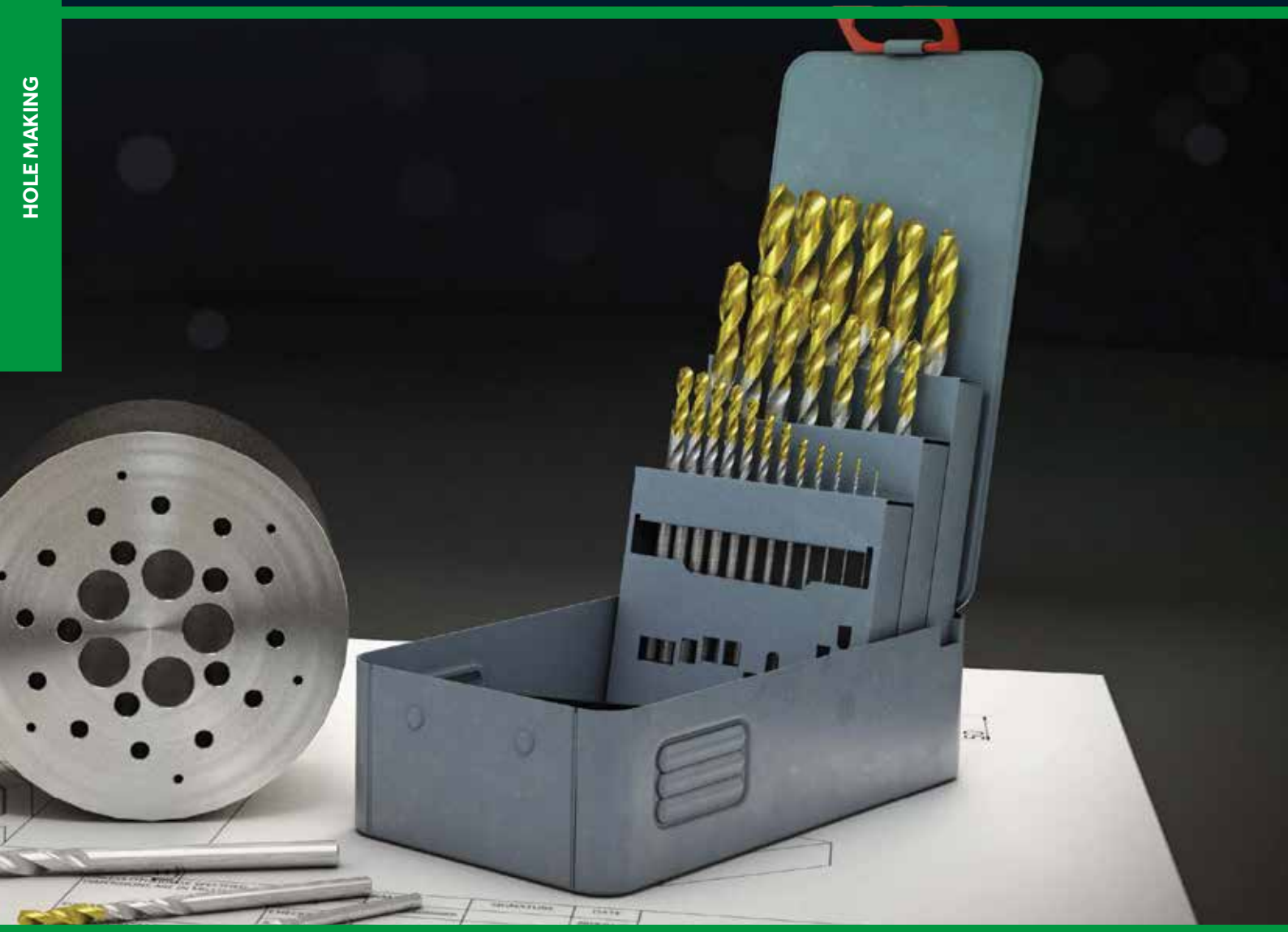


Hole Saws 820
Market leading hole saws from Starrett supplied individually or in sets - Arbors & accessories also available



Annular Cutters & Mag Drills 822
HSS & TCT Annular cutters & mag drills from market leading supplier Rotabroach

HSS Drills



For economy, general & performance applications

Drills for economy, general & performance machining of steels, stainless steel, HRSA's, cast iron & non ferrous material. HSS & powder metal drills are ideal for general drilling, especially in steel and stainless steel machining and in unstable machining conditions.

Advantages

- Different substrates give best tool life on specific materials.
- Substrates and geometries to suit good and bad cutting conditions.
- Roll tapping sizes and imperial conversions available.

Features

- HSS, HSS 5% cobalt, HSS 8% cobalt & powder metal drills in a wide range of geometries, lengths & coatings.
- Drills available with parallel shank and morse taper shank.
- Generally available in 0.1mm increments but some ranges include in-between sizes e.g. 2.05mm.

Tool Selection

Description		Series	Length	Sizes ØD	Page
HPD DRILL PREMIUM HSS PLAIN SHANK • STUB & JOBBER LENGTH		D4541 D4542	3xD 5xD	1-13 2-20	**626** **632**
HPD SUS DRILL HSS-VANADIUM COBALT PLAIN SHANK • STUB & JOBBER LENGTH		DJ543 DJ544	3xD 5xD	1-13 2-20	**626** **632**
MULTI-1 DRILL PREMIUM HSS-PM PLAIN SHANK • STUB & JOBBER LENGTH		CDRA03 CDRA04	3xD 5xD	1-13 2-20	**626** **632**
TWIST DRILL HSS 8% COBALT PLAIN SHANK • STUB, JOBBER & LONG LENGTH		D2107 D2105 D2104	3xD 5xD 10xD	1-20 1-20 2-12	**628** **634** **638**
TiN COATED HSS 8% COBALT PLAIN SHANK • STUB & JOBBER LENGTH		D4107 D4105	3xD 5xD	1-16 2-16	**628** **634**
WORM PATTERN HSS 5% COBALT PLAIN SHANK • STUB, JOBBER & LONG LENGTH		DL510 DL508 DL509	3xD 5xD 10xD	2-20 2-16 2-12	**628** **634** **639**
GOLD-P DRILLS HSS 5% COBALT PLAIN SHANK • JOBBER LENGTH		DLGP195	5xD	2-13	**630**
GOLD-P WORM PATTERN HSS 5% COBALT PLAIN SHANK • JOBBER LENGTH		DLGP506	5xD	2-13	**630**
GOLD-P ECONOMY HSS PLAIN SHANK • JOBBER LENGTH		D1GP165	5xD	2-13	**630**
SUPER-GP DRILL SUPER HSS PLAIN SHANK • JOBBER LENGTH		DSH105	5xD	2-13	**636**
BASIC TWIST DRILL HSS PLAIN SHANK • JOBBER & EXTRA LONG LENGTH		D1105 D1121	5xD 15xD	1-20 2-13	**636** **638**
TWIST DRILL HSS FOR ALUMINIUM PLAIN SHANK • JOBBER LENGTH		D1106	5xD	1.5-13	**636**
TWIST DRILL HSS FOR BRASS/BRONZE PLAIN SHANK • JOBBER LENGTH		D1100	5xD	1.5-13	**636**
WORM PATTERN HSS 5% COBALT 130° PLAIN SHANK • EXTRA LONG LENGTH		DT600 DT692 DT693	15xD 20xD 25xD	2-10.5 3-10.2 4-10	**640** **640** **640**
WORM PATTERN HSS 5% COBALT 118° PLAIN SHANK • EXTRA LONG LENGTH		DL507	<25xD	2-13	**641**
MORSE TAPER HSS 5% JOBBER, LONG & EXTRA LONG LENGTH		D1205 D1209 D1210	5xD 8xD 10xD	5-60 13-50 13-50	**642** **644** **645**
MORSE TAPER HSS 5% LONG LENGTH		DL608	8xD	13-30	**646**
MORSE TAPER HSS 5% COBALT JOBBER LENGTH • HEAVY DUTY		DL205	5xD	13-30	**647**
MISCELLANEOUS HSS DRILLS NUMBER, LETTER & BLACKSMITH		-	-	-	**651**
HSS DRILL SETS		-	-	-	**654**
SCREW & TAP EXTRACTOR DRILLS		-	-	-	**656**

Performance HSS Drills

High speed steel drills with next level performance and tool life compared to standard HSS and HSS with 5-8% cobalt content.

HPD Drills

P K

High performance self centering premium HSS drill. Ideal for low-medium hardness steels and cast iron. First choice where improved tool life is required over general HSS drills.

- Self centering
- Premium HSS with superior TiN coating
- High performance
- Re-enforced web design increases rigidity & strength
- Available in 0.05mm increments (online only)
- Lengths: 3xD & 5xD



STUB	JOBBER	
626	632	★★★★ Performance

HPD-SUS Drills

P M

High performance vanadium cobalt drill designed for stainless steel, soft sticky steels and long chipping materials. Special design prevents chip build up in the flutes and work hardening on stainless steel.

- Special vanadium cobalt substrate – excellent for stainless steel
- High performance
- Deep flute pockets, 4 facet drill point and web thinning prevents work hardening
- Lengths: 3xD & 5xD
- Not self centering, spot drill required



STUB	JOBBER	
626	632	★★★★ Performance

Multi-1 Drills

P M S K

First choice for demanding materials such as titanium, inconel, stainless steels and alloys steels where solid carbide is not suitable due to rigidity or lack of through coolant.

- Self centering
- Coated powder metal
- High performance
- High accuracy
- 135° drill point & h7 tolerance for high precision drilling
- Lengths: 3xD & 5xD



STUB	JOBBER	
626	632	★★★★ Performance

GOLD-P HSS Drills

YG-1's best selling all-round HSS jobber drills with 5% cobalt content suitable for a wide range of applications.

Gold-P Drills

P M S K N

The BEST-SELLING drill! HSS 5% Cobalt split point drill for general purpose drilling of steel, stainless steel, titanium, Inconel and aluminium. The most economic coated drill: TIN coating on the end of the drill.

- Split point
- HSS 5% Cobalt with TiN coating
- General purpose economic drill
- Length: 5xD



JOBBER	
630	★★ Performance

Gold-P Worm Pattern Drills

P K

The BEST-SELLING drill's problem solving sister tool! HSS 5% cobalt split point drill with worm pattern design (deep flute pockets) ideal for soft, sticky or long chipping materials or for improved chip evacuation in deeper holes.

- Split point
- HSS 5% Cobalt with TiN coating
- Worm pattern design with parabolic flute
- Length: 5xD



JOBBER	
630	★★ Performance

Gold-P Economy Drills

P M S K N

Great value for economical general drilling applications. These TiN coated drills reduce cost and increase tool life compared to standard uncoated HSS drills. Ideal for general purpose drilling of steel, stainless steel, titanium and aluminium.

- Split point
- HSS 5% Cobalt with TiN coating
- The most economic coated drill in our range
- Length: 5xD



JOBBER	
630	★★ Performance

General Purpose HSS Drills

General purpose drills with 8% cobalt content available coated or uncoated for a wide range of applications.

Uncoated HSS 8% Cobalt Drills

P M S K N

High quality HSS 8% Cobalt split point drills for general drilling of steels, stainless steels, cast iron and aluminium. The 8% Cobalt substrate ensures far greater tool life over HSS or HSS 5% Cobalt drills, especially in harder wearing materials.

- HSS 8% cobalt
- Suitable for steel, stainless steel, Titanium cast iron and aluminium
- Lengths: 3xD, 5xD & 10xD



STUB	JOBBER	
628	634	★★★ Performance

TiN Coated HSS 8% Cobalt Drills

P M S K

High quality HSS 8% Cobalt split point drills for general drilling of steels, stainless steels, cast iron and aluminium. The 8% Cobalt substrate ensures far greater tool life over HSS or HSS 5% Cobalt drills, especially in harder wearing materials.

- HSS 8% cobalt
- Suitable for steel, stainless steel, Titanium and cast iron
- Lengths: 3xD, 5xD



STUB	JOBBER	
628	634	★★★ Performance

Worm Pattern Drills

P K

Special design HSS 5% Cobalt drill with a 42° helix, deep flute pockets and bright finish. Worm pattern drills are ideal for soft, long chipping & sticky materials or for deep hole drilling.

- HSS 5% cobalt
- Ideal for low hardness steels and cast iron
- 42° helix and deep flute pockets with bright finish
- Great chip clearance in deep hole drilling
- Lengths: 3xD, 5xD, 10xD, 15xD, 20xD and 25xD



★★ Performance

STUB	JOBBER	LONG	EXTRA LONG
628	634	639	641

Economy HSS Drills

Low cost HSS drills for basic drilling applications.

Super-GP Drills

P K N

Next generation budget HSS drill with special hardening process of the cutting edge to increase tool life over standard HSS. Similar tool life to cobalt drills with HSS price.

- Superhard HSS with black oxide finish
- Low cost
- Excellent for use on new or old machine tools
- Length: 5xD



JOBBER 636 | ★★ Performance

HSS Drill Brass/Bronze Drills

N

Special design HSS drill with 15-20° helix for drilling short chipping copper alloys including brass, bronze & phosphor bronze.

- 15-20° quick helix design for fast chip clearance
- Length: 5xD



JOBBER 636 | ★★ Performance

HSS Non-Ferrous Drills

N

Special design HSS drills for aluminium and plastic drilling. Bright finish with deep flute pockets prevents chip build up.

- HSS with bright finish
- 38° helix design with deep flute pockets
- Length: 5xD



JOBBER 636 | ★★ Performance

Long Length HSS Drills

HSS drills avaialble up to 25xD.

HSS Drills Long Length - 10xD

P M K N

Uncoated style long length drill made from HSS 8% Cobalt for increased tool life compared to standard HSS drills. Ideal for low hardness steels, cast iron and aluminium.

- Bright finish for aluminium drilling
- Suitable for machining steel <HRC30, stainless steel, inconel, titanium, cast iron & aluminium
- Bright finish for aluminium drilling
- Length: 10xD



PAGE 638 | ★★★★ Performance

HSS Drills Extra Long Length - 15xD

P M K

Uncoated extra long length HSS drill with a steam tempered block oxide finish. Ideal for general purpose deep hole drilling in steel, non-alloyed cast steel, grey & malleable cast iron and graphite.

- Steam tempered (Black oxide finish)
- Extra long for deep hole drilling
- Suitable for drilling of steel, alloyed/non-alloyed cast steel, aluminium, grey/malleable cast iron & graphite



JOBBER 638 | ★★★★ Performance

Worm Pattern Long Length Drills - <25xD

P K

Special design HSS 5% Cobalt drill with a 42° helix, deep flute pockets and bright finish. Worm pattern drills are ideal for soft, long chipping & sticky materials or for deep hole drilling.

- HSS 5% cobalt
- Ideal for low hardness steel and aluminium
- 42° helix and deep flute pockets with bright finish
- Great chip clearance in deep hole drilling
- Lengths: 15xD, 20xD and 25xD



EXTRA LONG 640 | ★★★★ Performance

Morse Taper Shank HSS Drills

HSS drills with morse taper shanks.

Taper Shank Drills

P M K N

HSS & HSS 5% Cobalt drills with morse taper shanks. For drilling larger diameter holes from 5mm to 60mm diameter.

- HSS or HSS 5% cobalt
- Suitable for general drilling of steel, stainless steel, cast iron or aluminium
- Lengths: 5xD



JOBBER 647 | ★★ Performance

Long Length Taper Shank Drills

P M K N

HSS Cobalt drills with morse taper shanks. For drilling larger diameter holes from 13mm to 50mm diameter.

- HSS cobalt
- Suitable for general drilling of steel, stainless steel, cast iron or aluminium
- Lengths: 8XD and 10xD



LONG 644 | EXTRA LONG 645 | ★★ Performance

Worm Pattern Taper Shank Drills

P K

HSS 5% Cobalt drills with morse taper shanks. For drilling larger diameter holes from 13mm to 30mm diameter.

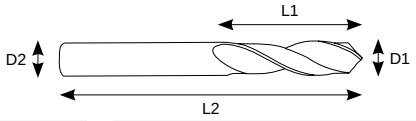
- HSS 5% cobalt
- For steel and cast iron
- Lengths: 8xD



JOBBER 646 | ★★ Performance

YG-1 STUB LENGTH PERFORMANCE HSS DRILLS, 3xD

Higher Performance & Longer Tool Life



Incremental sizes available

*Different shank sizes please refer to website for dimensions

	HPD Premium Drills	HPD-SUS Drills	Multi-1 HSS Powder Metal Drills
Series	D4541	DJ543	CDRA03
Performance	★★★★	★★★★	
Substrate	Premium HSS	HSS Vanadium Cobalt	Premium Powder Metal
Finish / Coating	TiN	TiN	TiAlN
Self Centering	✓	✗	✓
Tolerance	h8	h8	h7
Cutting Data	Page 659	Page 660	Page 658
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel		●	●
S HRSA's			●
K Cast Iron	○		
N Non-Ferrous	○		







D1/D2	L1	L2	Order Code	Price	Order Code	Price	Order Code*	Price
1	6	38	-	-	-	-	CDRA03010	£11.22
1.1	7	39	-	-	-	-	CDRA03011	
1.2	8	40	-	-	-	-	CDRA03012	£11.22
1.3			-	-	-	-	CDRA03013	
1.4	9	41	-	-	-	-	CDRA03014	£11.22
1.5			-	-	-	-	CDRA03015	
1.6	10	42	-	-	-	-	CDRA03016	£11.22
1.7			-	-	-	-	CDRA03017	
1.8	11	43	-	-	-	-	CDRA03018	£11.22
1.9			-	-	-	-	CDRA03019	
2	12	44	D4541020	£5.22	DJ543020	£4.99	CDRA03020	£10.62
2.1			D4541021	£6.09	DJ543021	£5.76	CDRA03021	
2.2	13	45	D4541022	£6.09	DJ543022	£5.76	CDRA03022	£10.62
2.3			D4541023		DJ543023		CDRA03023	
2.4	14	46	D4541024	£6.09	DJ543024	£5.76	CDRA03024	£10.62
2.5			D4541025	£5.22	DJ543025	£4.99	CDRA03025	
2.6			D4541026	£5.85	DJ543026	£5.54	CDRA03026	
2.7	16	48	D4541027	£5.85	DJ543027	£5.54	CDRA03027	£10.62
2.8			D4541028		DJ543028		CDRA03028	
2.9			D4541029		DJ543029		CDRA03029	
3			D4541030	£4.82	DJ543030	£4.61	CDRA03030	
3.1	18	50	D4541031	£6.09	DJ543031	£5.76	CDRA03031	£12.65
3.2			D4541032		DJ543032		CDRA03032	
3.3			D4541033		DJ543033		CDRA03033	
3.4	20	52	D4541034	£6.09	DJ543034	£5.76	CDRA03034	£12.65
3.5			D4541035		DJ543035		CDRA03035	
3.6			D4541036	£7.30	DJ543036	£6.95	CDRA03036	£14.08
3.7			D4541037		DJ543037		CDRA03037	
3.8	22	54	D4541038	£6.58	DJ543038	£6.27	CDRA03038	£14.08
3.9			D4541039	£7.30	DJ543039	£6.95	CDRA03039	
4			D4541040	£6.58	DJ543040	£6.27	CDRA03040	
4.1		66	D4541041	£8.69	DJ543041	£8.30	CDRA03041	£15.66
4.2			D4541042	£7.91	DJ543042	£7.52	CDRA03042	
4.3	24	68	D4541043	£8.69	DJ543043	£8.30	CDRA03043	£15.66
4.4			D4541044		DJ543044		CDRA03044	
4.5			D4541045	£10.29	DJ543045	£9.82	CDRA03045	
4.6			D4541046	£10.23	DJ543046	£9.74	CDRA03046	£17.89
4.7			D4541047		DJ543047		CDRA03047	
4.8	26	70	D4541048	£10.23	DJ543048	£9.74	CDRA03048	£17.89
4.9			D4541049		DJ543049		CDRA03049	
5			D4541050	£9.15	DJ543050	£8.74	CDRA03050	
5.1			D4541051		DJ543051		CDRA03051	£21.21
5.2			D4541052	£10.62	DJ543052	£10.14	CDRA03052	
5.3			D4541053	£11.83	DJ543053	£11.29	CDRA03053	
5.4	28	72	D4541054	£11.83	DJ543054	£11.29	CDRA03054	£21.21
5.5			D4541055	£10.62	DJ543055	£10.14	CDRA03055	
5.6			D4541056	£13.64	DJ543056	£12.91	CDRA03056	£22.59
5.7			D4541057		DJ543057		CDRA03057	
5.8			D4541058		DJ543058		CDRA03058	
5.9			-		DJ543059		CDRA03059	
6			D4541060	£12.17	DJ543060	£11.55	CDRA03060	
6.1	31	75	D4541061	£13.69	DJ543061	£12.98	CDRA03061	£23.98
6.2			D4541062		DJ543062		CDRA03062	
6.3			D4541063		DJ543063		CDRA03063	
6.4			D4541064		DJ543064		CDRA03064	
6.5			D4541065	£12.27	DJ543065	£11.65	CDRA03065	
6.6			D4541066	£13.79	DJ543066	£13.13	CDRA03066	£24.94
6.7			D4541067		DJ543067		CDRA03067	
6.8	34	78	D4541068	£13.79	DJ543068	£13.13	CDRA03068	£24.94
6.9			D4541069		DJ543069		CDRA03069	
7			D4541070	£12.98	DJ543070	£12.46	CDRA03070	
7.1			D4541071	£14.10	DJ543071	£13.44	CDRA03071	£25.92
7.2			D4541072		DJ543072		CDRA03072	
7.3			D4541073		DJ543073		CDRA03073	

YG-1 STUB LENGTH PERFORMANCE HSS DRILLS, 3xD

Higher Performance & Longer Tool Life

3xD h8 h7

Material Applications

● Excellent ○ Good

Incremental sizes available

*Different shank sizes please refer to website for dimensions

	HPD Premium Drills	HPD-SUS Drills	Multi-1 HSS Powder Metal Drills
Series	D4541	DJ543	CDRA03
Performance	★★★★	★★★★	
Substrate	Premium HSS	HSS Vanadium Cobalt	Premium Powder Metal
Finish / Coating	TiN	TiN	TiAlN
Self Centering	✓	✗	✓
Tolerance	h8	h8	h7
Cutting Data	Page 659	Page 660	Page 658
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel		●	●
S HRSA's			●
K Cast Iron	○		
N Non-Ferrous	○		





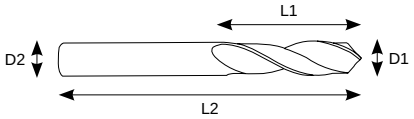


D1/D2	L1	L2	Order Code	Price	Order Code	Price	Order Code*	Price
7.4	34	78	D4541074	£14.10	DJ543074	£13.44	CDRA03074	£25.92
7.5			D4541075		DJ543075		CDRA03075	
7.6	37	81	D4541076	£15.74	DJ543076	£15.04	CDRA03076	£27.27
7.7			D4541077		DJ543077		CDRA03077	
7.8			D4541078		DJ543078		CDRA03078	
7.9			D4541079		DJ543079		CDRA03079	
8			D4541080	£14.91	DJ543080	£14.17	CDRA03080	
8.1	37	87	D4541081	£16.18	DJ543081	£15.43	CDRA03081	£29.60
8.2			D4541082		DJ543082		CDRA03082	
8.3			D4541083		DJ543083		CDRA03083	
8.4			D4541084		DJ543084		CDRA03084	
8.5			D4541085	£14.57	DJ543085	£13.90	CDRA03085	
8.6	40	90	D4541086	£14.57	DJ543086	£13.90	CDRA03086	£31.48
8.7			D4541087	£18.10	DJ543087	£17.23	CDRA03087	
8.8			D4541088		DJ543088		CDRA03088	
8.9			D4541089		DJ543089		CDRA03089	
9			D4541090	£15.16	DJ543090	£14.44	CDRA03090	
9.1			D4541091	£20.17	DJ543091	£19.20	CDRA03091	£33.90
9.2			D4541092		DJ543092		CDRA03092	
9.3			D4541093		DJ543093		CDRA03093	
9.4			D4541094		DJ543094		CDRA03094	
9.5			D4541095	£18.51	DJ543095	£17.67	CDRA03095	
9.6	43	93	D4541096	£22.75	DJ543096	£21.71	CDRA03096	£35.37
9.7			D4541097		DJ543097		CDRA03097	
9.8			D4541098		DJ543098		CDRA03098	
9.9			D4541099		DJ543099		CDRA03099	
10			D4541100	£19.24	DJ543100	£18.34	CDRA03100	
10.1	43	100	D4541101	£23.51	DJ543101	£22.38	CDRA03101	£38.62
10.2			D4541102		DJ543102		CDRA03102	
10.3			D4541103		DJ543103		CDRA03103	
10.4			D4541104		DJ543104		CDRA03104	
10.5			D4541105	£21.47	DJ543105	£20.45	CDRA03105	
10.6			D4541106	£25.76	DJ543106	£24.53	CDRA03106	£41.88
10.7	47	104	D4541107	£25.76	DJ543107	£24.53	CDRA03107	£41.88
10.8			D4541108		DJ543108		CDRA03108	
10.9			D4541109		DJ543109		CDRA03109	
11			D4541110	£22.31	DJ543110	£21.18	CDRA03110	
11.1			D4541111	£28.75	DJ543111	£27.40	CDRA03111	£47.54
11.2			D4541112		DJ543112		CDRA03112	
11.3			D4541113		DJ543113		CDRA03113	
11.4			D4541114		DJ543114		CDRA03114	
11.5			D4541115	£26.35	DJ543115	£25.10	CDRA03115	
11.6			D4541116	£31.17	DJ543116	£29.73	CDRA03116	£51.73
11.7			D4541117		DJ543117		CDRA03117	
11.8			D4541118		DJ543118		CDRA03118	
11.9	51	108	D4541119	£31.17	DJ543119	£29.73	CDRA03119	£51.73
12			D4541120	£26.73	DJ543120	£25.44	CDRA03120	
12.1			D4541121	£33.89	DJ543121	£32.30	CDRA03121	£55.59
12.2			D4541122		DJ543122		CDRA03122	
12.3			D4541123		DJ543123		CDRA03123	
12.4			D4541124		DJ543124		CDRA03124	
12.5			D4541125	£31.32	DJ543125	£29.82	CDRA03125	
12.6			D4541126	£35.96	DJ543126	£34.23	CDRA03126	£58.87
12.7			D4541127		DJ543127		CDRA03127	
12.8			D4541128		DJ543128		CDRA03128	
12.9			D4541129		DJ543129		CDRA03129	
13			D4541130	£32.10	DJ543130	£30.55	CDRA03130	

YG-1 STUB LENGTH GENERAL PURPOSE HSS DRILLS, 3xD

General Purpose HSS Drills for Drilling a Wide Range of Materials

Incremental sizes available



	Uncoated HSS 8% Drills	TiN Coated HSS 8% Drills	Worm Pattern HSS 5% Drills
Series	D2107	D4107	DL510
Performance	★★★	★★★	★★
Substrate	HSS with 8% Cobalt	HSS with 8% Cobalt	HSS with 5% Cobalt
Finish / Coating	Uncoated	TiN	Uncoated
Self Centering	✕	✕	✕
Tolerance	h8	h8	h8
Cutting Data	Page 659	Page 659	Page 663
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel	○	○	
S HRSA's	○	○	
K Cast Iron	○	○	○
N Non-Ferrous	○	○	







D1/D2	L1	L2	Order Code	Price Per Drill		Order Code	Price Per Drill		Order Code	Price Per Drill	
				Split Pack	Full Pack		Split Pack	Full Pack		Split Pack	Full Pack
1	6	26	D2107010	£2.19	£1.48	D4107010	£3.72	£2.51	-	-	-
1.1	7	28	D2107011			D4107011			-	-	-
1.2	8	30	D2107012	£2.19	£1.48	D4107012	£3.72	£2.51	-	-	-
1.3			D2107013			D4107013			-	-	-
1.4	9	32	D2107014	£2.19	£1.48	D4107014	£3.72	£2.51	-	-	-
1.5			D2107015			D4107015			-	-	-
1.6	10	34	D2107016	£2.02	£1.36	D4107016	£3.61	£2.44	-	-	-
1.7			D2107017			D4107017			-	-	-
1.8	11		D2107018	£2.02	£1.36	D4107018	£3.61	£2.44	-	-	-
1.9			D2107019			D4107019			-	-	-
2	12	38	D2107020	£1.49	£1.01	D4107020	£3.61	£2.44	DL510020	£1.84	£1.24
2.1			D2107021	£1.88	£1.27	D4107021	£3.54	£2.39	DL510021	£2.05	£1.39
2.2	13	40	D2107022	£1.88	£1.27	D4107022	£3.54	£2.39	DL510022	£2.05	£1.39
2.3			D2107023			D4107023			DL510023		
2.4	14	43	D2107024	£1.88	£1.27	D4107024	£3.54	£2.39	DL510024	£2.05	£1.39
2.5			D2107025			D4107025			DL510025		
2.6			D2107026	£2.19	£1.48	D4107026	£3.72	£2.51	DL510026	£2.33	£1.57
2.7	16	46	D2107027	£2.19	£1.48	D4107027	£3.72	£2.51	DL510027	£2.33	£1.57
2.8			D2107028			D4107028			DL510028		
2.9			D2107029			D4107029			DL510029		
3			D2107030			D4107030			DL510030		
3.1	18	49	D2107031	£2.40	£1.62	D4107031	£3.96	£2.68	DL510031	£2.71	£1.83
3.2			D2107032			D4107032			DL510032		
3.3			D2107033			D4107033			DL510033		
3.4	20	52	D2107034	£2.40	£1.62	D4107034	£3.96	£2.68	DL510034	£2.71	£1.83
3.5			D2107035			D4107035			DL510035		
3.6			D2107036	£2.57	£1.74	D4107036	£4.10	£2.77	DL510036	£3.13	£2.11
3.7			D2107037			D4107037			DL510037		
3.8	22	55	D2107038	£2.57	£1.74	D4107038	£4.10	£2.77	DL510038	£3.13	£2.11
3.9			D2107039			D4107039			DL510039		
4			D2107040			D4107040			DL510040		
4.1			D2107041	£2.95	£2.00	D4107041	£4.66	£3.15	DL510041	£3.65	£2.47
4.2			D2107042			D4107042			DL510042		
4.3	24	58	D2107043	£2.95	£2.00	D4107043	£4.90	£3.31	DL510043	£3.65	£2.47
4.4			D2107044			D4107044			DL510044		
4.5			D2107045			D4107045			DL510045		
4.6			D2107046	£2.99	£2.02	D4107046			DL510046		
4.7			D2107047			D4107047			DL510047		
4.8	26	62	D2107048	£2.99	£2.02	D4107048	£4.93	£3.33	DL510048	£3.65	£2.47
4.9			D2107049			D4107049			DL510049		
5			D2107050			D4107050			DL510050		
5.1			D2107051	£3.54	£2.39	D4107051	£5.46	£3.69	DL510051	£4.62	£3.12
5.2			D2107052			D4107052			DL510052		
5.3			D2107053			D4107053			DL510053		
5.4	28	66	D2107054	£3.54	£2.39	D4107054	£5.46	£3.69	DL510054	£4.62	£3.12
5.5			D2107055			D4107055			DL510055		
5.6			D2107056	£3.96	£2.68	D4107056	£5.84	£3.94	DL510056	£4.83	£3.26
5.7			D2107057			D4107057			DL510057		
5.8			D2107058			D4107058			DL510058		
5.9			D2107059			D4107059			DL510059		
6			D2107060			D4107060			DL510060		
6.1	31	70	D2107061	£4.24	£2.86	D4107061	£6.39	£4.32	DL510061	£5.46	£3.69
6.2			D2107062			D4107062			DL510062		
6.3			D2107063			D4107063			DL510063		
6.4			D2107064			D4107064			DL510064		
6.5			D2107065			D4107065			DL510065		
6.6			D2107066	£4.38	£2.96	D4107066	£6.57	£4.44	DL510066	£6.01	£4.06
6.7			D2107067			D4107067			DL510067		
6.8	34	74	D2107068	£4.38	£2.96	D4107068	£6.67	£4.51	DL510068	£6.01	£4.06
6.9			D2107069			D4107069			DL510069		
7			D2107070			D4107070			DL510070		
7.1			D2107071	£5.56	£3.76	D4107071	£8.06	£5.45	DL510071	£7.19	£4.86
7.2			D2107072			D4107072			DL510072		
7.3			D2107073			D4107073			DL510073		

YG-1 STUB LENGTH GENERAL PURPOSE HSS DRILLS, 3xD

General Purpose HSS Drills for Drilling a Wide Range of Materials

Incremental sizes available

3xD h8

Material Applications

● Excellent ○ Good

	Uncoated HSS 8% Drills	TiN Coated HSS 8% Drills	Worm Pattern HSS 5% Drills
Series	D2107	D4107	DL510
Performance	★★★	★★★	★★
Substrate	HSS with 8% Cobalt	HSS with 8% Cobalt	HSS with 5% Cobalt
Finish / Coating	Uncoated	TiN	Uncoated
Self Centering	✕	✕	✕
Tolerance	h8	h8	h8
Cutting Data	Page 659	Page 659	Page 663
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel	○	○	
S HRSA's	○	○	
K Cast Iron	○	○	○
N Non-Ferrous	○	○	



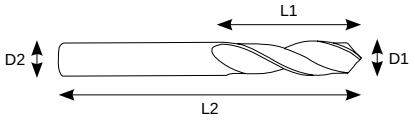




D1/D2	L1	L2	Order Code	Price Per Drill		Order Code	Price Per Drill		Order Code	Price Per Drill	
				Split Pack	Full Pack		Split Pack	Full Pack		Split Pack	Full Pack
7.4	34	74	D2107074	£5.56	£3.76	D4107074	£8.06	£5.45	DL510074	£7.19	£4.86
7.5			D2107075			D4107075			DL510075		
7.6	37	79	D2107076	£5.84	£3.94	D4107076	£8.30	£5.61	DL510076	£7.96	£5.38
7.7			D2107077			D4107077			DL510077		
7.8			D2107078			D4107078			DL510078		
7.9			D2107079			D4107079			DL510079		
8			D2107080			D4107080			DL510080		
8.1			D2107081	£6.50	£4.39	D4107081	£9.45	£6.39	DL510081	£8.79	£5.94
8.2			D2107082			D4107082			DL510082		
8.3			D2107083			D4107083			DL510083		
8.4			D2107084			D4107084			DL510084		
8.5			D2107085			D4107085			DL510085		
8.6	40	84	D2107086	£7.47	£5.05	D4107086	£10.39	£7.02	DL510086	£9.90	£6.69
8.7			D2107087			D4107087			DL510087		
8.8			D2107088			D4107088			DL510088		
8.9			D2107089			D4107089			DL510089		
9			D2107090			D4107090			DL510090		
9.1			D2107091	£10.25	£6.93	D4107091	£13.17	£8.90	DL510091	£12.79	£8.64
9.2			D2107092			D4107092			DL510092		
9.3			D2107093			D4107093			DL510093		
9.4			D2107094			D4107094			DL510094		
9.5			D2107095			D4107095			DL510095		
9.6	43	89	D2107096	£9.28	£6.27	D4107096	£12.47	£8.43	DL510096	£12.79	£8.64
9.7			D2107097			D4107097			DL510097		
9.8			D2107098			D4107098			DL510098		
9.9			D2107099			D4107099			DL510099		
10			D2107100			D4107100			DL510100		
10.1			-	-	-	-	-	-	-	-	-
10.2			D2107102	£13.07	£8.83	D4107102	£16.64	£11.25	DL510102	£14.70	£9.93
10.3			-	-	-	-	-	-	-	-	-
10.4			-	-	-	-	-	-	-	-	-
10.5			D2107105	£13.07	£8.83	D4107105	£16.64	£11.25	DL510105	£14.70	£9.93
10.6			-	-	-	-	-	-	-	-	-
10.7	47	89	-	-	-	-	-	-	-	-	-
10.8			-	-	-	-	-	-	DL510108	£15.05	£10.17
10.9			-	-	-	-	-	-	-	-	-
11			D2107110	£14.46	£9.77	D4107110	£18.07	£12.21	DL510110	£15.05	£10.17
11.1			-	-	-	-	-	-	-	-	-
11.2			-	-	-	-	-	-	DL510112	£18.24	£12.33
11.3			-	-	-	-	-	-	-	-	-
11.4			-	-	-	-	-	-	-	-	-
11.5			D2107115	£15.91	£10.75	D4107115	£19.91	£13.45	DL510115	£18.24	£12.33
11.6			-	-	-	-	-	-	-	-	-
11.7			-	-	-	-	-	-	-	-	-
11.8			D2107118	£16.57	£11.20	-	-	-	DL510118	£18.24	£12.33
11.9	51	102	-	-	-	-	-	-	-	-	-
12			D2107120	£16.57	£11.20	D4107120	£20.81	£14.06	DL510120	£18.24	£12.33
12.1			-	-	-	-	-	-	-	-	-
12.2			-	-	-	-	-	-	-	-	-
12.3			-	-	-	-	-	-	-	-	-
12.4			-	-	-	-	-	-	-	-	-
12.5			D2107125	£19.74	£13.34	D4107125	£24.50	£16.55	DL510125	£20.43	£13.81
12.6			-	-	-	-	-	-	-	-	-
12.7			-	-	-	-	-	-	-	-	-
12.8			-	-	-	-	-	-	-	-	-
12.9			-	-	-	-	-	-	-	-	-
13			D2107130	£25.16	£17.00	D4107130	£29.78	£20.12	DL510130	£20.61	£13.92
13.5	54	107	D2107135	£18.99	-	D4107135	£30.49	-	DL510135	£17.07	-
13.8			D2107138	£19.10	-	D4107138	£30.49	-	-	-	-
14			D2107140	£19.86	-	D4107140	£31.24	-	DL510140	£17.07	-
14.5	56	111	D2107145	£20.04	-	D4107145	£32.81	-	DL510145	£20.54	-
15			D2107150	£20.19	-	D4107150	£33.03	-	DL510150	£20.54	-
15.5	58	115	D2107155	£20.43	-	D4107155	£35.74	-	DL510155	£24.63	-
16			D2107160	£20.95	-	D4107160	£36.24	-	DL510160	£24.63	-

YG-1 JOBBER LENGTH GOLD-P HSS DRILLS, 5xD

BEST SELLING Range of General Purpose HSS Drills from Market Leading Brand YG-1



Incremental sizes available *not sold in split packs

	Gold-P HSS 5% Cobalt Drills	Gold-P Worm Pattern 5% Cobalt Drills	Gold-P HSS Economy Drills
Series	DLGP195	DLGP506	D1GP165
Performance	★★	★★	★★
Substrate	HSS with 5% Cobalt	HSS with 5% Cobalt	HSS
Finish / Coating	TiN	TiN	TiN
Self Centering	×	×	×
Tolerance	h8	h8	h8
Cutting Data	Page 660	Page 661	Page 665
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel	○		○
S HRSA's	○		○
K Cast Iron	○	○	○
N Non-Ferrous	○		○







D1/D2	L1	L2	Order Code	Price Per Drill		Order Code	Price Per Drill		Order Code	Price*
				Split Pack	Full Pack		Split Pack	Full Pack		
1	12	34	DLGP195010	£2.42	£1.25	-	-	-	-	-
1.1	14	36	DLGP195011			-	-	-	-	-
1.2	16	38	DLGP195012	£2.42	£1.25	-	-	-	-	-
1.3			DLGP195013			-	-	-	-	-
1.4	18	40	DLGP195014	£2.42	£1.25	-	-	-	-	-
1.5			DLGP195015			-	-	-	-	-
1.6	20	43	DLGP195016	£2.50	£1.30	-	-	-	-	-
1.7			DLGP195017			-	-	-	-	-
1.8	22	46	DLGP195018	£2.50	£1.30	-	-	-	-	-
1.9			DLGP195019			-	-	-	-	-
2	24	49	DLGP195020	£2.50	£1.30	DLGP506020	£2.93	£1.72	D1GP165020	£1.08
2.1			DLGP195021	£2.57	£1.35	DLGP506021	£3.08	£1.80	D1GP165021	£1.18
2.2	27	53	DLGP195022	£2.57	£1.35	DLGP506022	£3.08	£1.80	D1GP165022	£1.18
2.3			DLGP195023			DLGP506023			D1GP165023	
2.4	30	57	DLGP195024	£2.57	£1.35	DLGP506024	£3.08	£1.80	D1GP165024	£1.18
2.5			DLGP195025			DLGP506025			D1GP165025	
2.6			DLGP195026	£2.79	£1.46	DLGP506026	£3.31	£1.93	D1GP165026	£1.15
2.7	33	61	DLGP195027	£2.79	£1.46	DLGP506027	£3.31	£1.93	D1GP165027	£1.15
2.8			DLGP195028			DLGP506028			D1GP165028	
2.9			DLGP195029			DLGP506029			D1GP165029	
3			DLGP195030			DLGP506030			D1GP165030	£1.18
3.1	36	65	DLGP195031	£3.12	£1.63	DLGP506031	£3.96	£2.31	D1GP165031	£1.22
3.2			DLGP195032			DLGP506032			D1GP165032	
3.3			DLGP195033			DLGP506033			D1GP165033	
3.4	39	70	DLGP195034	£3.12	£1.63	DLGP506034	£3.96	£2.31	D1GP165034	£1.22
3.5			DLGP195035			DLGP506035			D1GP165035	£1.60
3.6			DLGP195036	£3.86	£2.02	DLGP506036	£4.70	£2.74	D1GP165036	
3.7			DLGP195037			DLGP506037			D1GP165037	
3.8	43	75	DLGP195038	£3.86	£2.02	DLGP506038	£4.70	£2.74	D1GP165038	£1.60
3.9			DLGP195039			DLGP506039			D1GP165039	
4			DLGP195040			DLGP506040			D1GP165040	£1.63
4.1			DLGP195041	£4.50	£2.37	DLGP506041	£5.40	£3.16	D1GP165041	£1.74
4.2			DLGP195042			DLGP506042			D1GP165042	
4.3	47	80	DLGP195043	£4.50	£2.37	DLGP506043	£5.40	£3.16	D1GP165043	£1.74
4.4			DLGP195044			DLGP506044			D1GP165044	
4.5			DLGP195045			DLGP506045			D1GP165045	£1.84
4.6			DLGP195046			DLGP506046			D1GP165046	
4.7			DLGP195047			DLGP506047			D1GP165047	
4.8	52	86	DLGP195048	£4.50	£2.37	DLGP506048	£5.40	£3.16	D1GP165048	£1.84
4.9			DLGP195049			DLGP506049			D1GP165049	
5			DLGP195050			DLGP506050			D1GP165050	£2.05
5.1			DLGP195051	£5.55	£2.93	DLGP506051	£6.87	£3.98	D1GP165051	£2.47
5.2			DLGP195052			DLGP506052			D1GP165052	
5.3			DLGP195053			DLGP506053			D1GP165053	
5.4	57	93	DLGP195054	£5.55	£2.93	DLGP506054	£6.87	£3.98	D1GP165054	£2.47
5.5			DLGP195055			DLGP506055			D1GP165055	£2.61
5.6			DLGP195056	£5.94	£3.12	DLGP506056	£7.25	£4.22	D1GP165056	
5.7			DLGP195057			DLGP506057			D1GP165057	
5.8			DLGP195058			DLGP506058			D1GP165058	
5.9			DLGP195059			DLGP506059			D1GP165059	
6			DLGP195060			DLGP506060			D1GP165060	£2.68
6.1	63	101	DLGP195061	£6.83	£3.56	DLGP506061	£8.28	£4.84	D1GP165061	£2.81
6.2			DLGP195062			DLGP506062			D1GP165062	
6.3			DLGP195063			DLGP506063			D1GP165063	
6.4			DLGP195064			DLGP506064			D1GP165064	
6.5			DLGP195065			DLGP506065			D1GP165065	£2.99
6.6			DLGP195066	£7.31	£3.84	DLGP506066	£9.06	£5.27	D1GP165066	£3.44
6.7			DLGP195067			DLGP506067			D1GP165067	
6.8	69	109	DLGP195068	£7.31	£3.84	DLGP506068	£9.06	£5.27	D1GP165068	£3.44
6.9			DLGP195069			DLGP506069			D1GP165069	
7			DLGP195070			DLGP506070			D1GP165070	£3.79
7.1			DLGP195071	£8.94	£4.68	DLGP506071	£11.01	£6.42	D1GP165071	£3.89
7.2			DLGP195072			DLGP506072			D1GP165072	
7.3			DLGP195073			DLGP506073			D1GP165073	
7.4			DLGP195074			DLGP506074			D1GP165074	
7.5			DLGP195075			DLGP506075			D1GP165075	£4.48

YG-1 JOBBER LENGTH GOLD-P HSS DRILLS, 5xD

BEST SELLING Range of General Purpose HSS Drills from Market Leading Brand YG-1

5xD h8

Material Applications

● Excellent ○ Good

Incremental sizes available *not sold in split packs

	Gold-P HSS 5% Cobalt Drills	Gold-P Worm Pattern 5% Cobalt Drills	Gold-P HSS Economy Drills
Series	DLGP195	DLGP506	D1GP165
Performance	★★	★★	★★
Substrate	HSS with 5% Cobalt	HSS with 5% Cobalt	HSS
Finish / Coating	TiN	TiN	TiN
Self Centering	✕	✕	✕
Tolerance	h8	h8	h8
Cutting Data	Page 660	Page 661	Page 665
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel	○		○
S HRSA's	○		○
K Cast Iron	○	○	○
N Non-Ferrous	○		○



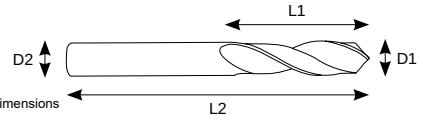




D1/D2	L1	L2	Order Code	Price Per Drill		Order Code	Price Per Drill		Order Code	Price*
				Split Pack	Full Pack		Split Pack	Full Pack		
7.6	75	117	DLGP195076	£9.28	£4.87	DLGP506076	£11.78	£6.84	D1GP165076	£4.48
7.7			DLGP195077			DLGP506077			D1GP165077	
7.8			DLGP195078			DLGP506078			D1GP165078	
7.9			DLGP195079			DLGP506079			D1GP165079	
8			DLGP195080			DLGP506080			D1GP165080	£5.04
8.1			DLGP195081	£10.17	£5.34	DLGP506081	£13.26	£7.71	D1GP165081	£5.49
8.2			DLGP195082			DLGP506082			D1GP165082	
8.3			DLGP195083			DLGP506083			D1GP165083	
8.4			DLGP195084			DLGP506084			D1GP165084	
8.5			DLGP195085			DLGP506085			D1GP165085	£5.91
8.6	81	125	DLGP195086	£11.40	£5.98	DLGP506086	£14.86	£8.67	D1GP165086	£5.91
8.7			DLGP195087			DLGP506087			D1GP165087	
8.8			DLGP195088			DLGP506088			D1GP165088	
8.9			DLGP195089			DLGP506089			D1GP165089	
9			DLGP195090			DLGP506090			D1GP165090	£6.67
9.1			DLGP195091	£14.26	£7.46	DLGP506091	£18.83	£10.96	D1GP165091	£6.88
9.2			DLGP195092			DLGP506092			D1GP165092	
9.3			DLGP195093			DLGP506093			D1GP165093	£7.02
9.4			DLGP195094			DLGP506094			D1GP165094	
9.5			DLGP195095			DLGP506095			D1GP165095	£7.23
9.6	87	133	DLGP195096	£14.26	£7.46	DLGP506096	£18.83	£10.96	D1GP165096	£7.51
9.7			DLGP195097			DLGP506097			D1GP165097	
9.8			DLGP195098			DLGP506098			D1GP165098	£7.61
9.9			DLGP195099			DLGP506099			D1GP165099	
10			DLGP195100			DLGP506100			D1GP165100	£7.64
10.1			DLGP195101	£16.52	£8.64	DLGP506101	£21.77	£12.68	D1GP165101	£8.37
10.2			DLGP195102			DLGP506102			D1GP165102	
10.3			DLGP195103			DLGP506103			D1GP165103	
10.4			DLGP195104			DLGP506104			D1GP165104	
10.5			DLGP195105			DLGP506105			D1GP165105	
10.6			DLGP195106	£17.02	£8.92	DLGP506106	£21.92	£12.76	D1GP165106	£9.66
10.7	94	142	DLGP195107	£17.02	£8.92	DLGP506107	£21.92	£12.76	D1GP165107	£9.66
10.8			DLGP195108			DLGP506108			D1GP165108	
10.9			DLGP195109			DLGP506109			D1GP165109	
11			DLGP195110			DLGP506110			D1GP165110	£10.18
11.1			DLGP195111	£20.52	£10.75	DLGP506111	£27.12	£17.29	D1GP165111	£10.35
11.2			DLGP195112			DLGP506112			D1GP165112	
11.3			DLGP195113			DLGP506113			D1GP165113	
11.4			DLGP195114			DLGP506114			D1GP165114	
11.5			DLGP195115			DLGP506115			D1GP165115	
11.6			DLGP195116			DLGP506116			D1GP165116	£11.88
11.7			DLGP195117			DLGP506117			D1GP165117	
11.8			DLGP195118			DLGP506118			D1GP165118	
11.9	101	151	DLGP195119	£20.52	£10.75	DLGP506119	£27.12	£17.29	D1GP165119	£11.88
12			DLGP195120			DLGP506120			D1GP165120	£12.06
12.1			DLGP195121	£22.79	£11.92	DLGP506121	£30.17	£19.24	D1GP165121	£12.58
12.2			DLGP195122			DLGP506122			D1GP165122	
12.3			DLGP195123			DLGP506123			D1GP165123	
12.4			DLGP195124			DLGP506124			D1GP165124	
12.5			DLGP195125	£23.53	£12.33	DLGP506125	£30.73	£19.60	D1GP165125	£14.21
12.6			DLGP195126			DLGP506126			D1GP165126	
12.7			DLGP195127			DLGP506127			D1GP165127	
12.8			DLGP195128			DLGP506128			D1GP165128	
12.9			DLGP195129			DLGP506129			D1GP165129	
13			DLGP195130	£24.12	£12.64	DLGP506130			D1GP165130	£14.59

YG-1 JOBBER LENGTH PERFORMANCE HSS DRILLS, 5xD

Higher Performance & Longer Tool Life



Incremental sizes available ● Flute length LONGER, please refer to website for dimensions *Different shank sizes please refer to website for dimensions

	HPD Premium Drills	HPD-SUS Drills	Multi-1 HSS Powder Metal Drills
Series	D4542	DJ544	CDRA04
Performance	★★★★	★★★★	★★★★
Substrate	Premium HSS	HSS Vanadium Cobalt	Premium Powder Metal
Finish / Coating	TiN	TiN	TiAlN
Self Centering	✓	✗	✓
Tolerance	h8	h8	h7
Cutting Data	Page 659	Page 660	Page 658
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel		●	●
S HRSA's			●
K Cast Iron	○		○
N Non-Ferrous	○	○	○







D1/D2	L1	L2	Order Code	Price	Order Code	Price	Order Code*	Price
2	24	56	D4542020	£5.92	DJ544020	£5.65	CDRA04020	£11.49
2.1			D4542021	£6.91	DJ544021	£6.58	CDRA04021	
2.2	27	59	D4542022	£6.91	DJ544022	£6.58	CDRA04022	£11.49
2.3			D4542023		DJ544023		CDRA04023	
2.4	30	62	D4542024	£6.91	DJ544024	£6.58	CDRA04024	£11.49
2.5			D4542025	£5.92	DJ544025	£5.65	CDRA04025	
2.6			D4542026	£6.61	DJ544026	£6.29	CDRA04026	
2.7	33	65	D4542027	£6.61	DJ544027	£6.29	CDRA04027	£11.49
2.8			D4542028		DJ544028		CDRA04028	
2.9			D4542029		DJ544029		CDRA04029	
3			D4542030	£5.49	DJ544030	£5.22	CDRA04030	
3.1	36	68	D4542031	£6.91	DJ544031	£6.58	CDRA04031	£14.08
3.2			D4542032		DJ544032		CDRA04032	
3.3			D4542033		DJ544033		CDRA04033	
3.4	39	71	D4542034	£6.91	DJ544034	£6.58	CDRA04034	£14.08
3.5			D4542035		DJ544035		CDRA04035	
3.6			D4542036	£8.25	DJ544036	£7.89	CDRA04036	£15.37
3.7			D4542037		DJ544037		CDRA04037	
3.8	43	75	D4542038	£7.42	DJ544038	£7.07	CDRA04038	£15.37
3.9			D4542039	£8.25	DJ544039	£7.89	CDRA04039	
4			D4542040	£7.42	DJ544040	£7.07	CDRA04040	
4.1	43	87	D4542041	£9.87	DJ544041	£9.45	CDRA04041	£16.97
4.2			D4542042	£8.94	DJ544042	£8.54	CDRA04042	
4.3	47	91	D4542043	£9.87	DJ544043	£9.45	CDRA04043	£16.97
4.4			D4542044		DJ544044		CDRA04044	
4.5			D4542045	£8.94	DJ544045	£8.54	CDRA04045	
4.6			D4542046	£11.51	DJ544046	£11.02	CDRA04046	£19.30
4.7			D4542047		DJ544047		CDRA04047	
4.8	52	96	D4542048	£11.51	DJ544048	£11.02	CDRA04048	£19.30
4.9			D4542049		DJ544049		CDRA04049	
5			D4542050	£10.45	DJ544050	£10.02	CDRA04050	
5.1			D4542051		DJ544051		CDRA04051	
5.2			D4542052	£11.99	DJ544052	£11.39	CDRA04052	£23.10
5.3			D4542053	£13.42	DJ544053	£12.75	CDRA04053	
5.4	57	101	D4542054	£13.42	DJ544054	£12.75	CDRA04054	£23.10
5.5			D4542055	£11.99	DJ544055	£11.39	CDRA04055	
5.6			D4542056	£15.32	DJ544056	£14.57	CDRA04056	£24.94
5.7			D4542057		DJ544057		CDRA04057	
5.8			D4542058		DJ544058		CDRA04058	
5.9			D4542059		DJ544059		CDRA04059	
6			D4542060	£13.76	DJ544060	£13.08	CDRA04060	
6.1	63	107	D4542061	£15.38	DJ544061	£14.64	CDRA04061	£27.27
6.2			D4542062		DJ544062		CDRA04062	
6.3			D4542063		DJ544063		CDRA04063	
6.4			D4542064		DJ544064		CDRA04064	
6.5			D4542065	£13.79	DJ544065	£13.13	CDRA04065	
6.6			D4542066	£15.48	DJ544066	£14.79	CDRA04066	£28.25
6.7			D4542067		DJ544067		CDRA04067	
6.8	69	113	D4542068	£15.48	DJ544068	£14.79	CDRA04068	£28.25
6.9			D4542069		DJ544069		CDRA04069	
7			D4542070	£14.64	DJ544070	£13.91	CDRA04070	
7.1			D4542071	£16.06	DJ544071	£15.26	CDRA04071	£29.60
7.2			D4542072		DJ544072		CDRA04072	
7.3			D4542073		DJ544073		CDRA04073	
7.4			D4542074		DJ544074		CDRA04074	
7.5			D4542075		DJ544075		CDRA04075	
7.6	75	119	D4542076	£17.97	DJ544076	£17.11	CDRA04076	£31.11
7.7			D4542077		DJ544077		CDRA04077	
7.8			D4542078		DJ544078		CDRA04078	
7.9			D4542079		DJ544079		CDRA04079	
8			D4542080	£16.90	DJ544080	£16.11	CDRA04080	

YG-1 JOBBER LENGTH PERFORMANCE HSS DRILLS, 5xD

Higher Performance & Longer Tool Life

5xD h8 h7

Material Applications

● Excellent ○ Good

Incremental sizes available ● Flute length LONGER, please refer to website for dimensions *Different shank sizes please refer to website for dimensions

	HPD Premium Drills	HPD-SUS Drills	Multi-1 HSS Powder Metal Drills
Series	D4542	DJ544	CDRA04
Performance	★★★★	★★★★	★★★★
Substrate	Premium HSS	HSS Vanadium Cobalt	Premium Powder Metal
Finish / Coating	TiN	TiN	TiAlN
Self Centering	✓	✗	✓
No. Flutes	h8	h8	h7
Cutting Data	Page 659	Page 660	Page 658
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel		●	●
S HRSA's			●
K Cast Iron	○		○
N Non-Ferrous	○	○	○



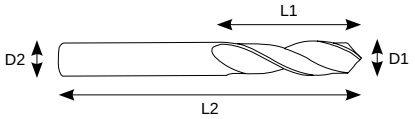




D1/D2	L1	L2	Order Code	Price	Order Code	Price	Order Code*	Price
8.1	75	125	D4542081	£18.36	DJ544081	£17.46	CDRA04081	£33.90
8.2			D4542082		DJ544082		CDRA04082	
8.3			D4542083		DJ544083		CDRA04083	
8.4			D4542084		DJ544084		CDRA04084	
8.5			D4542085	£16.63	DJ544085	£15.84	CDRA04085	
8.6	81	131	D4542086	£16.63	DJ544086	£15.84	CDRA04086	£36.76
8.7			D4542087	£20.50	DJ544087	£19.59	CDRA04087	
8.8			D4542088		DJ544088		CDRA04088	
8.9			D4542089		DJ544089		CDRA04089	
9			D4542090	£17.14	DJ544090	£16.36	CDRA04090	
9.1			-	£22.91	DJ544091	£21.81	CDRA04091	£38.62
9.2			D4542092		DJ544092		CDRA04092	
9.3			D4542093		DJ544093		CDRA04093	
9.4			D4542094		DJ544094		CDRA04094	
9.5			D4542095	£21.03	DJ544095	£19.98	CDRA04095	
9.6	87	137	-	£25.78	DJ544096	£24.61	CDRA04096	£41.80
9.7			D4542097		DJ544097		CDRA04097	
9.8			D4542098		DJ544098		CDRA04098	
9.9			D4542099		DJ544099		CDRA04099	
10			D4542100	£21.81	DJ544100	£20.84	CDRA04100	
10.1	87	144	D4542101	£26.52	DJ544101	£25.26	CDRA04101	£45.65
10.2			D4542102		DJ544102		CDRA04102	
10.3			D4542103		DJ544103		CDRA04103	
10.4			D4542104		DJ544104		CDRA04104	
10.5			D4542105	£24.39	DJ544105	£23.21	CDRA04105	
10.6			-	-	DJ544106	£27.79	CDRA04106	£50.82
10.7	94	151	D4542107	£29.21	DJ544107	£27.79	CDRA04107	£50.82
10.8			D4542108		DJ544108		CDRA04108	
10.9			D4542109		DJ544109		CDRA04109	
11			D4542110	£25.22	DJ544110	£24.04	CDRA04110	
11.1			D4542111	£32.61	DJ544111	£31.12	CDRA04111	£56.95
11.2			D4542112		DJ544112		CDRA04112	
11.3			D4542113		DJ544113		CDRA04113	
11.4			D4542114		DJ544114		CDRA04114	
11.5			D4542115	£29.94	DJ544115	£28.45	CDRA04115	
11.6			D4542116	£35.28	DJ544116	£33.61	CDRA04116	£62.15
11.7			D4542117		DJ544117		CDRA04117	
11.8			D4542118		DJ544118		CDRA04118	
11.9	101	158	D4542119	£35.28	DJ544119	£33.61	CDRA04119	£62.15
12			D4542120	£30.21	DJ544120	£28.77	CDRA04120	
12.1			D4542121	£38.41	DJ544121	£36.56	CDRA04121	£67.27
12.2			D4542122		DJ544122		CDRA04122	
12.3			D4542123		DJ544123		CDRA04123	
12.4			D4542124		DJ544124		CDRA04124	
12.5			D4542125	£35.38	DJ544125	£33.71	CDRA04125	
12.6			D4542126	£40.72	DJ544126	£38.78	CDRA04126	£71.01
12.7			D4542127		DJ544127		CDRA04127	
12.8			D4542128		DJ544128		CDRA04128	
12.9			D4542129		DJ544129		CDRA04129	
13			D4542130	£36.23	DJ544130	£34.52	CDRA04130	
13.5	90	150	D4542135	£42.40	DJ544135 ●	£40.35	-	-
14			D4542140		DJ544140 ●		-	-
14.1	95	155	D4542141	£56.19	DJ544141 ●	£53.59	-	-
14.5		155	D4542145	£51.10	DJ544145 ●	£48.65	-	-
15		161	D4542150		DJ544150 ●		-	-
15.5	100	166	D4542155	£61.28	DJ544155 ●	£58.39	-	-
15.6			D4542156	£67.50	DJ544156 ●	£64.24	-	-
16			D4542160	£61.28	DJ544160 ●	£58.39	-	-
16.5	106	172	D4542165	£71.17	DJ544165 ●	£67.80	-	-
17			D4542170		DJ544170 ●		-	-
17.5	112	178	D4542175	£87.34	DJ544175 ●	£83.22	-	-
17.6			D4542176	£96.03	DJ544176 ●	£91.49	-	-
18			D4542180	£87.34	DJ544180 ●	£83.22	-	-
18.5	118	184	D4542185	£90.29	DJ544185 ●	£86.01	-	-
19		194	D4542190		DJ544190 ●		-	-
19.5	125	201	D4542195	£100.11	DJ544195	£95.32	-	-
19.6			D4542196	£122.54	DJ544196	£116.67	-	-
20			D4542200	£111.45	DJ544200	£106.14	-	-

YG-1 JOBBER LENGTH GENERAL PURPOSE HSS DRILLS, 5xD

General Purpose HSS Drills for Drilling a Wide Range of Materials



Incremental sizes available

● Flute length LONGER, please refer to website for dimensions

	Uncoated HSS 8% Drills	TiN Coated HSS 8% Drills	Worm Pattern HSS 5% Drills
Series	D2105	D4105	DL508
Performance	★★★	★★★	★★
Substrate	HSS with 8% Cobalt	HSS with 8% Cobalt	HSS with 5% Cobalt
Finish / Coating	Uncoated	TiN	Uncoated
Self Centering	✕	✕	✕
Tolerance	h8	h8	h8
Cutting Data	Page 659	Page 659	Page 663
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel	○	○	
S HRSA's	○	○	
K Cast Iron	○	○	○
N Non-Ferrous	○	○	







D1/D2	L1	L2	Order Code	Price Per Drill		Order Code	Price Per Drill		Order Code	Price Per Drill	
				Split Pack	Full Pack		Split Pack	Full Pack		Split Pack	Full Pack
1	12	34	D2105010	£2.50	£1.69	D4105010	£4.07	£2.75	-	-	-
1.1	14	36	D2105011			D4105011			-	-	-
1.2	16	38	D2105012	£2.50	£1.69	D4105012	£4.07	£2.75	-	-	-
1.3			D2105013			D4105013			-	-	-
1.4	18	40	D2105014	£2.50	£1.69	D4105014	£4.07	£2.75	-	-	-
1.5			D2105015			D4105015			-	-	-
1.6	20	43	D2105016	£2.50	£1.69	-	£4.07	£2.75	-	-	
1.7			D2105017			D4105017			-	-	-
1.8	22	46	D2105018	£2.50	£1.69	D4105018	£4.07	£2.75	-	-	-
1.9			D2105019			D4105019			-	-	-
2	24	49	D2105020	£2.50	£1.69	D4105020	£4.07	£2.75	DL508020	£2.26	£1.53
2.1			D2105021			D4105021			DL508021		
2.2	27	53	D2105022	£2.43	£1.64	D4105022	£4.00	£2.70	DL508022	£2.26	£1.53
2.3			D2105023			D4105023			DL508023		
2.4	30	57	D2105024	£2.43	£1.64	D4105024	£4.10	£2.77	DL508024	£2.26	£1.53
2.5			D2105025			D4105025			DL508025		
2.6			D2105026	£2.50	£1.69	D4105026	£4.24	£2.86	DL508026	£2.40	£1.62
2.7	33	61	D2105027	£2.50	£1.69	-	£4.24	£2.86	DL508027	£2.40	£1.62
2.8			D2105028			D4105028			DL508028		
2.9			D2105029			D4105029			DL508029		
3			D2105030	£2.43	£1.64	D4105030	£4.10	£2.77	DL508030	£2.40	£1.62
3.1	36	65	D2105031	£2.61	£1.76	D4105031	£4.34	£2.93	DL508031	£2.78	£1.88
3.2			D2105032			D4105032			DL508032		
3.3			D2105033			D4105033			DL508033		
3.4	39	70	D2105034	£2.61	£1.76	D4105034	£4.34	£2.93	DL508034	£2.78	£1.88
3.5			D2105035			D4105035			DL508035		
3.6			D2105036	£2.99	£2.02	D4105036	£4.93	£3.33	DL508036	£3.34	£2.25
3.7			D2105037			D4105037			DL508037		
3.8	43	75	D2105038	£2.99	£2.02	D4105038	£4.93	£3.33	DL508038	£3.34	£2.25
3.9			D2105039			D4105039			DL508039		
4			D2105040			D4105040			DL508040		
4.1			D2105041	£3.41	£2.30	D4105041	£5.25	£3.55	DL508041	£3.79	£2.56
4.2			D2105042			D4105042			DL508042		
4.3	47	80	D2105043	£3.41	£2.30	D4105043	£5.25	£3.55	DL508043	£3.79	£2.56
4.4			D2105044			D4105044			DL508044		
4.5			D2105045			D4105045			DL508045		
4.6			D2105046	£3.54	£2.39	D4105046	£5.46	£3.69	DL508046	£3.79	£2.56
4.7			D2105047			D4105047			DL508047		
4.8	52	86	D2105048	£3.54	£2.39	-	£5.94	£4.01	DL508048	£3.79	£2.56
4.9			D2105049			D4105049			DL508049		
5			D2105050			D4105050			DL508050		
5.1			D2105051	£4.10	£2.77	D4105051	£6.50	£4.39	DL508051	£4.76	£3.22
5.2			D2105052			D4105052			DL508052		
5.3			D2105053			D4105053			DL508053		
5.4	57	93	D2105054	£4.10	£2.77	D4105054	£6.64	£4.48	DL508054	£4.76	£3.22
5.5			D2105055			D4105055			DL508055		
5.6			D2105056	£4.66	£3.15	D4105056	£7.16	£4.84	DL508056	£5.18	£3.50
5.7			D2105057			D4105057			DL508057		
5.8			D2105058			D4105058			DL508058		
5.9			D2105059			D4105059			DL508059		
6			D2105060			D4105060			DL508060		
6.1	63	101	D2105061	£5.11	£3.45	D4105061	£7.99	£5.40	DL508061	£5.80	£3.92
6.2			D2105062			D4105062			DL508062		
6.3			D2105063			D4105063			DL508063		
6.4			D2105064			D4105064			DL508064		
6.5			D2105065			D4105065			DL508065		
6.6			D2105066	£5.28	£3.57	D4105066	£8.17	£5.52	DL508066	£6.25	£4.23
6.7			D2105067			D4105067			DL508067		

YG-1 JOBBER LENGTH GENERAL PURPOSE HSS DRILLS, 5xD

General Purpose HSS Drills for Drilling a Wide Range of Materials

5xD h8

Material Applications

● Excellent ○ Good

Incremental sizes available

● Flute length LONGER, please refer to website for dimensions

	Uncoated HSS 8% Drills	TiN Coated HSS 8% Drills	Worm Pattern HSS 5% Drills
Series	D2105	D4105	DL508
Performance	★★★	★★★	★★
Substrate	HSS with 8% Cobalt	HSS with 8% Cobalt	HSS with 5% Cobalt
Finish / Coating	Uncoated	TiN	Uncoated
Self Centering	×	×	×
Tolerance	h8	h8	h8
Cutting Data	Page 659	Page 659	Page 663
P Steel	●	●	●
H Hardened Steel			
M Stainless Steel	○	○	
S HRSA's	○	○	
K Cast Iron	○	○	○
N Non-Ferrous	○	○	



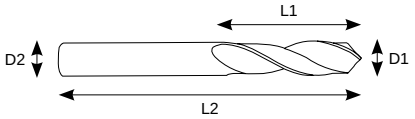




D1/D2	L1	L2	Order Code	Price Per Drill		Order Code	Price Per Drill		Order Code	Price Per Drill	
				Split Pack	Full Pack		Split Pack	Full Pack		Split Pack	Full Pack
6.8	69	109	D2105068	£5.28	£3.57	D4105068	£8.30	£5.61	DL508068	£6.25	£4.23
6.9			D2105069			D4105069			DL508069		
7			D2105070			D4105070			DL508070		
7.1			D2105071	£6.39	£4.32	D4105071	£9.80	£6.62	DL508071	£7.64	£5.17
7.2			D2105072			D4105072			DL508072		
7.3			D2105073			D4105073			DL508073		
7.4			D2105074			D4105074			DL508074		
7.5			D2105075			D4105075			DL508075		
7.6	75	117	D2105076	£6.78	£4.58	D4105076	£10.56	£7.14	DL508076	£8.34	£5.63
7.7			D2105077			D4105077			DL508077		
7.8			D2105078			D4105078			DL508078		
7.9			D2105079			D4105079			DL508079		
8			D2105080			D4105080			DL508080		
8.1			D2105081	£7.61	£5.14	D4105081	£11.68	£7.89	DL508081	£9.28	£6.27
8.2			D2105082			D4105082			DL508082		
8.3			D2105083			D4105083			DL508083		
8.4			D2105084			D4105084			DL508084		
8.5			D2105085			D4105085			DL508085		
8.6	81	125	D2105086	£8.86	£5.99	D4105086	£13.03	£8.80	DL508086	£10.56	£7.14
8.7			D2105087			D4105087			DL508087		
8.8			D2105088			D4105088			DL508088		
8.9			D2105089			D4105089			DL508089		
9			D2105090			D4105090			DL508090		
9.1			D2105091	£11.95	£8.08	D4105091	£16.47	£11.13	DL508091	£13.62	£9.20
9.2			D2105092			D4105092			DL508092		
9.3			D2105093			D4105093			DL508093		
9.4			D2105094			-			DL508094		
9.5			D2105095			D4105095			DL508095		
9.6	87	133	D2105096	£10.98	£7.42	D4105096	£15.81	£10.68	DL508096	£13.62	£9.20
9.7			D2105097			D4105097			DL508097		
9.8			D2105098			-			DL508098		
9.9			D2105099			D4105099			DL508099		
10			D2105100			D4105100			DL508100		
10.2			D2105102	£15.15	£10.24	D4105102	£20.36	£13.76	DL508102	£15.46	£10.45
10.5			D2105105			D4105105			DL508105		
11	94	142	D2105110	£16.85	£11.39	D4105110	£22.52	£15.21	DL508110	£15.60	£10.54
11.5			D2105115	£18.87	£12.75	D4105115	£24.50	£16.55	DL508115	£19.25	£13.01
12	101	151	D2105120	£19.42	£13.12	D4105120	£25.64	£17.33	DL508120	£19.25	£13.01
12.5			D2105125	£23.14	£15.64	D4105125	£29.81	£20.14	DL508125	£21.37	£14.44
13			D2105130	£29.50	£19.93	D4105130	£36.07	£24.37	DL508130	£14.53	-
13.5	90	160	D2105135	£21.60	-	D4105135 ●	£23.86	-	DL508135	£17.98	-
14			D2105140	£22.52	-	D4105140 ●		-	DL508140		-
14.5	95	169	D2105145	£22.70	-	D4105145 ●	£25.37	-	DL508145	£21.62	-
15			D2105150	£22.97	-	D4105150 ●		-	DL508150		-
15.5	100	178	D2105155	£23.13	-	D4105155 ●	£26.47	-	DL508155	£25.92	-
16			D2105160	£23.81	-	D4105160 ●	£27.58	-	DL508160	£25.92	-
16.5	106	184	D2105165	£26.18	-	-	-	-	-	-	-
17			D2105170		-	-	-	-	-	-	-
17.5	112	191	D2105175	£29.60	-	-	-	-	-	-	-
18			D2105180		-	-	-	-	-	-	-
18.5	118	198	D2105185	£34.38	-	-	-	-	-	-	-
19			D2105190		-	-	-	-	-	-	-
19.5	125	206	D2105195	£37.39	-	-	-	-	-	-	-
20			D2105200	£40.68	-	-	-	-	-	-	-

YG-1 JOBBER LENGTH ECONOMY HSS DRILLS, 5xD

Low Cost HSS Drills for Economy Drilling Steel, Cast Iron & Non-Ferrous Materials



Incremental sizes available

● Flute length LONGER, please refer to website for dimensions

*Not sold in split packs

	Super GP HSS Drills	Basic HSS Drills	Alu Geometry HSS Drills	Brass/Bronze HSS Drills
Series	DSH105	D1105	D1106	D1100
Performance	★★	★	★★	★★
Substrate	HSS	HSS	HSS	HSS
Finish / Coating	Steam Tempered	Uncoated	Uncoated	Uncoated
Self Centering	✕	✕	✕	✕
Tolerance	h8	h8	h8	h8
Cutting Data	Page 661	Page 662	Page 663	Page 662
P Steel	●	●		
H Hardened Steel				
M Stainless Steel				
S HRSA's				
K Cast Iron	○	○		
N Non-Ferrous	○	○	●	●









D1/D2	L1	L2	Super GP HSS Drills Order Code	Super GP HSS Drills Price*	Basic HSS Drills Order Code	Basic HSS Drills Price*	Alu Geometry HSS Drills Order Code	Alu Geometry HSS Drills Price Per Drill Split Pack	Alu Geometry HSS Drills Price Per Drill Full Pack	Brass/Bronze HSS Drills Order Code	Brass/Bronze HSS Drills Price Per Drill Split Pack	Brass/Bronze HSS Drills Price Per Drill Full Pack
1	12	34	-	-	D1105010	£0.70	-	-	-	-	-	-
1.1	14	36	-	-	D1105011	£0.61	-	-	-	-	-	-
1.2	16	38	-	-	D1105012	£0.61	-	-	-	-	-	-
1.3			-	-	D1105013		-	-	-	-	-	-
1.4	18	40	-	-	D1105014	£0.61	-	-	-	-	-	-
1.5			-	-	D1105015		D1106015	£2.74	£1.56	D1100015	£1.84	£1.28
1.6	20	43	-	-	D1105016	£0.61	D1106016	£2.74	£1.56	D1100016	£1.84	£1.28
1.7			-	-	D1105017		D1106017			D1100017		
1.8	22	46	-	-	D1105018	£0.61	D1106018	£2.74	£1.56	D1100018	£1.84	£1.28
1.9			-	-	D1105019		D1106019			D1100019		
2	24	49	DSH105020	£0.96	D1105020	£0.61	D1106020	£2.74	£1.56	D1100020	£1.84	£1.28
2.1			DSH105021		D1105021		D1106021	£3.04	£1.73	D1100021	£2.22	£1.55
2.2	27	53	DSH105022	£0.96	D1105022	£0.61	D1106022	£3.04	£1.73	D1100022	£2.22	£1.55
2.3			DSH105023		D1105023		D1106023			D1100023		
2.4	30	57	DSH105024	£0.96	D1105024	£0.61	D1106024	£3.04	£1.73	D1100024	£2.22	£1.55
2.5			DSH105025		D1105025		D1106025			D1100025		
2.6			DSH105026	£0.99	D1105026	£0.63	D1106026	£3.35	£1.90	D1100026	£2.30	£1.61
2.7	33	61	DSH105027	£0.99	D1105027	£0.63	D1106027	£3.35	£1.90	D1100027	£2.30	£1.61
2.8			DSH105028		D1105028		D1106028			D1100028		
2.9			DSH105029		D1105029		D1106029			D1100029		
3			DSH105030	£1.07	D1105030	£0.70	D1106030			D1100030		
3.1	36	65	DSH105031	£1.07	D1105031	£0.70	D1106031	£4.07	£2.31	D1100031	£2.96	£2.06
3.2			DSH105032		D1105032		D1106032			D1100032		
3.3			DSH105033		D1105033		D1106033			D1100033		
3.4	39	70	DSH105034	£1.07	D1105034	£0.70	D1106034	£4.07	£2.31	D1100034	£2.96	£2.06
3.5			DSH105035	£1.18	D1105035	£0.75	D1106035			D1100035		
3.6	43	75	DSH105036	£1.41	D1105036	£0.89	D1106036	£4.34	£2.46	D1100036	£3.06	£2.13
3.7			DSH105037		D1105037		D1106037			D1100037		
3.8			DSH105038	£1.41	D1105038	£0.89	D1106038	£4.34	£2.46	D1100038	£3.06	£2.13
3.9			DSH105039		D1105039		D1106039			D1100039		
4			DSH105040	£1.21	D1105040	£0.80	D1106040			D1100040		
4.1			DSH105041	£1.41	D1105041	£0.89	D1106041	£4.75	£2.70	D1100041	£3.49	£2.42
4.2			DSH105042		D1105042	£0.89	D1106042			D1100042		
4.3	47	80	DSH105043	£1.49	D1105043	£0.99	D1106043	£4.75	£2.70	D1100043	£3.49	£2.42
4.4			DSH105044		D1105044		D1106044			D1100044		
4.5			DSH105045	£1.52	D1105045	£1.01	D1106045			D1100045		
4.6			DSH105046	£1.66	D1105046	£1.13	D1106046	£6.09	£3.46	D1100046	£4.22	£2.95
4.7			DSH105047		D1105047		D1106047			D1100047		
4.8	52	86	DSH105048	£1.66	D1105048	£1.13	D1106048	£6.09	£3.46	D1100048	£4.22	£2.95
4.9			DSH105049		D1105049		D1106049			D1100049		
5			DSH105050	£1.49	D1105050	£0.99	D1106050			D1100050		
5.1			DSH105051	£1.72	D1105051	£1.17	D1106051	£6.28	£3.56	D1100051	£4.61	£3.21
5.2			DSH105052		D1105052		D1106052			D1100052		
5.3			DSH105053		D1105053		D1106053			D1100053		
5.4	57	93	DSH105054	£1.72	D1105054	£1.17	D1106054	£6.28	£3.56	D1100054	£4.61	£3.21
5.5			DSH105055	£2.23	D1105055	£1.48	D1106055			D1100055		
5.6			DSH105056	£2.39	D1105056	£1.62	D1106056	£7.84	£4.45	D1100056	£5.64	£3.94
5.7			DSH105057		D1105057		D1106057			D1100057		
5.8			DSH105058		D1105058		D1106058			D1100058		
5.9			DSH105059		D1105059		D1106059			D1100059		
6			DSH105060	£2.23	D1105060	£1.48	D1106060			D1100060		
6.1	63	101	DSH105061	£2.39	D1105061	£1.62	D1106061	£8.75	£4.97	D1100061	£6.31	£4.41
6.2			DSH105062		D1105062		D1106062			D1100062		
6.3			DSH105063		D1105063		D1106063			D1100063		
6.4			DSH105064		D1105064		D1106064			D1100064		
6.5			DSH105065	£2.62	D1105065	£1.76	D1106065			D1100065		
6.6			DSH105066	£2.68	D1105066	£1.81	D1106066	£9.74	£5.53	D1100066	£6.85	£4.79
6.7			DSH105067		D1105067		D1106067			D1100067		
6.8	69	109	DSH105068	£2.68	D1105068	£1.81	D1106068	£9.74	£5.53	D1100068	£6.85	£4.79
6.9			DSH105069		D1105069		D1106069			D1100069		
7			DSH105070	£3.13	D1105070	£2.07	D1106070			D1100070		
7.1			DSH105071	£3.32	D1105071	£2.23	D1106071	£9.93	£5.64	D1100071	£7.09	£4.95
7.2			DSH105072		D1105072		D1106072			D1100072		
7.3			DSH105073		D1105073		D1106073			D1100073		
7.4			DSH105074	£3.44	D1105074	£2.30	D1106074			D1100074		
7.5			DSH105075	£3.32	D1105075	£2.23	D1106075			D1100075		
7.6	75	117	DSH105076	£3.55	D1105076	£2.37	D1106076	£11.45	£6.50	D1100076	£8.21	£5.73
7.7			DSH105077	£3.66	D1105077	£2.44	D1106077			D1100077		
7.8			DSH105078		D1105078		D1106078			D1100078		
7.9			DSH105079		D1105079		D1106079			D1100079		
8			DSH105080	£3.32	D1105080	£2.23	D1106080			D1100080		

YG-1 JOBBER LENGTH ECONOMY HSS DRILLS, 5xD

Low Cost HSS Drills for Economy Drilling Steel, Cast Iron & Non-Ferrous Materials

5xD h8

Material Applications: ● Excellent ○ Good

Incremental sizes available

● Flute length LONGER, please refer to website for dimensions

*Not sold in split packs

Series	Super GP HSS Drills DSH105	Basic HSS Drills D1105	Alu Geometry HSS Drills D1106	Brass/Bronze HSS Drills D1100
Performance	★★	★	★★	★★
Substrate	HSS	HSS	HSS	HSS
Finish / Coating	Steam Tempered	Uncoated	Uncoated	Uncoated
Self Centering	×	×	×	×
Tolerance	h8	h8	h8	h8
Cutting Data	Page 661	Page 662	Page 663	Page 662
P Steel	●	●		
H Hardened Steel				
M Stainless Steel				
S HRSA's				
K Cast Iron	○	○		
N Non-Ferrous	○	○	●	●









D1/D2	L1	L2	Order Code	Price*	Order Code	Price*	Order Code	Price Per Drill Split Pack	Price Per Drill Full Pack	Order Code	Price Per Drill Split Pack	Price Per Drill Full Pack
8.1	75	117	DSH105081	£4.79	D1105081	£3.15	D1106081	£12.25	£6.96	D1100081	£8.68	£6.07
8.2			DSH105082		D1105082		D1106082			D1100082		
8.3			DSH105083	£5.04	D1105083	£3.38	D1106083			D1100083		
8.4			DSH105084		D1105084		D1106084			D1100084		
8.5			DSH105085	£4.42	D1105085	£2.89	D1106085			D1100085		
8.6	81	125	DSH105086	£5.49	D1105086	£3.73	D1106086	£13.81	£7.84	D1100086	£9.96	£6.95
8.7			DSH105087		D1105087		D1106087			D1100087		
8.8			DSH105088		D1105088		D1106088			D1100088		
8.9			DSH105089		D1105089		D1106089			D1100089		
9			DSH105090	£4.90	D1105090	£3.31	D1106090			D1100090		
9.1			DSH105091	£6.00	D1105091	£4.01	D1106091	£15.33	£8.70	D1100091	£11.10	£7.76
9.2			DSH105092		D1105092		D1106092			D1100092		
9.3			DSH105093	£6.48	D1105093	£4.30	D1106093			D1100093		
9.4			DSH105094		D1105094		D1106094			D1100094		
9.5			DSH105095	£5.61	D1105095	£3.76	D1106095			D1100095		
9.6	87	133	DSH105096	£6.62	D1105096	£4.39	D1106096	£17.53	£9.96	D1100096	£12.55	£8.77
9.7			DSH105097		D1105097		D1106097			D1100097		
9.8			DSH105098	£6.82	D1105098	£4.48	D1106098	£17.53	£9.96	D1100098	£12.55	£8.77
9.9			DSH105099		D1105099		D1106099			D1100099		
10			DSH105100	£5.78	D1105100	£3.87	D1106100			D1100100		
10.1			DSH105101	£6.90	D1105101	£4.55	-	-	-	-	-	-
10.2			DSH105102	£7.27	D1105102	£4.81	-	-	-	-	-	-
10.3			DSH105103	£7.30	D1105103	£4.84	-	-	-	-	-	-
10.4			DSH105104		D1105104		-	-	-	-	-	-
10.5			DSH105105		D1105105		D1106105	£23.70	£13.46	D1100105	£17.02	£11.89
10.6			DSH105106	£7.44	D1105106	£4.93	-	-	-	-	-	-
10.7	94	142	DSH105107	£7.44	D1105107	£4.93	-	-	-	-	-	-
10.8			DSH105108		D1105108		-	-	-	-	-	-
10.9			DSH105109		D1105109		-	-	-	-	-	-
11			DSH105110		D1105110		D1106110	£23.70	£13.46	D1100110	£17.02	£11.89
11.1			DSH105111	£9.21	D1105111	£6.13	-	-	-	-	-	-
11.2			DSH105112		D1105112		-	-	-	-	-	-
11.3			DSH105113		D1105113		-	-	-	-	-	-
11.4			DSH105114		D1105114		-	-	-	-	-	-
11.5			DSH105115		D1105115		D1106115	£26.66	£15.14	D1100115	£19.02	£13.28
11.6			DSH105116		D1105116		-	-	-	-	-	-
11.7			DSH105117		D1105117		-	-	-	-	-	-
11.8			DSH105118		D1105118		-	-	-	-	-	-
11.9	101	151	DSH105119	£9.21	D1105119	£6.13	-	-	-	-	-	-
12			DSH105120		D1105120		D1106120	£26.66	£15.14	D1100120	£19.02	£13.28
12.1			DSH105121	£9.52	D1105121	£6.32	-	-	-	-	-	-
12.2			DSH105122		D1105122		-	-	-	-	-	-
12.3			DSH105123		D1105123		-	-	-	-	-	-
12.4			DSH105124	£10.82	D1105124	£7.18	-	-	-	-	-	-
12.5			DSH105125		D1105125		D1106125	£31.64	£17.97	D1100125	£17.31	£16.93
12.6			DSH105126		D1105126		-	-	-	-	-	-
12.7			DSH105127		D1105127		-	-	-	-	-	-
12.8			DSH105128		D1105128		-	-	-	-	-	-
12.9			DSH105129		D1105129		-	-	-	-	-	-
13			DSH105130		D1105130		D1106130	£31.64	£17.97	D1100130	£17.31	£16.93
13.5	108	160	-	-	D1105135	£8.87	-	-	-	-	-	-
14			-	-	D1105140		-	-	-	-	-	-
14.5	114	169	-	-	D1105145	£10.64	-	-	-	-	-	-
15			-	-	D1105150		-	-	-	-	-	-
15.5	120	178	-	-	D1105155	£12.77	-	-	-	-	-	-
16			-	-	D1105160		-	-	-	-	-	-
16.5	125	184	-	-	D1105165	£14.77	-	-	-	-	-	-
17			-	-	D1105170		-	-	-	-	-	-
17.5	130	191	-	-	D1105175	£18.22	-	-	-	-	-	-
18			-	-	D1105180		-	-	-	-	-	-
18.5	135	198	-	-	D1105185	£20.75	-	-	-	-	-	-
19			-	-	D1105190	£20.12	-	-	-	-	-	-
19.5	140	205	-	-	D1105195	£22.94	-	-	-	-	-	-
20			-	-	D1105200	£25.50	-	-	-	-	-	-

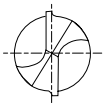
TWIST DRILLS HSS 8% COBALT, LONG LENGTH

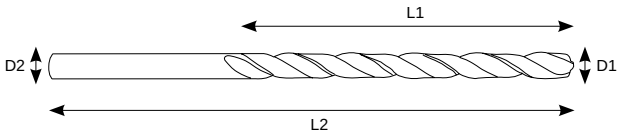
For General Purpose Drilling of Steel, Stainless Steel, Titanium, Cast Iron & Aluminium

- Great tool life and performance compared to HSS drills due to 8% cobalt content
- Ideal for low hardness steel, cast iron & aluminium
- Also suitable for stainless steel and titanium

Series	Cutting Data
D2104 YG-1	P659







10xD

HSS Co8 | DIN 340 | 33° | h8 | 135°

D1	Pack Size
2 ~ 6	10 Drills
6.1 ~ 12	5 Drills

D1/D2	L1	L2	★★★ Performance Order Code	Price Per Drill Split Pack	Full Pack
2	56	85	D2104020	£5.22	£2.63
2.1			D2104021	£5.22	£2.63
2.2	59	90	D2104022	£5.22	£2.63
2.3			D2104023	£5.22	£2.63
2.4	62	95	D2104024	£5.22	£2.63
2.5			D2104025	£5.22	£2.63
2.6			D2104026	£6.14	£3.07
2.7	66	100	D2104027	£6.14	£3.07
2.8			D2104028	£6.14	£3.07
2.9			D2104029	£6.14	£3.07
3			D2104030	£6.14	£3.07
3.1	69	106	D2104031	£6.14	£3.07
3.2			D2104032	£6.14	£3.07
3.3			D2104033	£6.14	£3.07
3.4	73	112	D2104034	£6.14	£3.07
3.5			D2104035	£6.14	£3.07
3.6			D2104036	£6.96	£3.47
3.7			D2104037	£6.96	£3.47
3.8	78	119	D2104038	£6.96	£3.47
3.9			D2104039	£6.96	£3.47
4			D2104040	£6.96	£3.47
4.1			D2104041	£8.19	£4.12
4.2			D2104042	£8.19	£4.12
4.3	82	126	D2104043	£8.19	£4.12
4.4			D2104044	£8.19	£4.12
4.5			D2104045	£8.19	£4.12
4.6			D2104046	£8.19	£4.12
4.7			D2104047	£8.19	£4.12
4.8	87	132	D2104048	£8.19	£4.12
4.9			D2104049	£8.19	£4.12
5	87	132	D2104050	£8.19	£4.12
5.1			D2104051	£9.79	£4.88
5.2			D2104052	£9.79	£4.88
5.3			D2104053	£9.79	£4.88
5.4	91	139	D2104054	£9.79	£4.88
5.5			D2104055	£9.79	£4.88
5.6			D2104056	£10.88	£5.45
5.7			D2104057	£10.88	£5.45
5.8			D2104058	£10.88	£5.45
5.9			D2104059	£10.88	£5.45
6			D2104060	£10.88	£5.45
6.1	97	148	D2104061	£12.31	£6.16
6.2			D2104062	£12.31	£6.16
6.3			D2104063	£12.31	£6.16
6.4			D2104064	£12.31	£6.16
6.5			D2104065	£12.31	£6.16
6.6			D2104066	£12.31	£6.16
6.7			D2104067	£12.31	£6.16
6.8	102	156	D2104068	£12.31	£6.16
6.9			D2104069	£12.31	£6.16
7			D2104070	£12.31	£6.16
7.1			D2104071	£16.04	£8.02
7.2			D2104072	£16.04	£8.02
7.3			D2104073	£16.04	£8.02
7.4			D2104074	£16.04	£8.02
7.5			D2104075	£16.04	£8.02
7.6	109	165	D2104076	£16.04	£8.02
7.7			D2104077	£16.04	£8.02
7.8			D2104078	£16.04	£8.02
7.9			D2104079	£16.04	£8.02
8	109	165	D2104080	£18.01	£9.00
8.1			D2104081	£18.01	£9.00
8.2			D2104082	£18.01	£9.00
8.3			D2104083	£18.01	£9.00
8.4			D2104084	£20.36	£10.17
8.5			D2104085	£20.36	£10.17
8.6	115	175	D2104086	£20.36	£10.17
8.7			D2104087	£20.36	£10.17
8.8			D2104088	£20.36	£10.17
8.9			D2104089	£27.91	£13.95
9			D2104090	£27.91	£13.95
9.1			D2104091	£27.91	£13.95
9.2			D2104092	£27.91	£13.95
9.3			D2104093	£27.91	£13.95
9.4			D2104094	£27.91	£13.95
9.5			D2104095	£27.91	£13.95
9.6	121	184	D2104096	£27.91	£13.95
9.7			D2104097	£27.91	£13.95
9.8			D2104098	£27.91	£13.95
9.9			D2104099	£27.91	£13.95
10			D2104100	£31.29	£15.66
10.2			D2104102	£31.29	£15.66
10.5			D2104105	£31.29	£15.66
10.8	128	195	D2104108	£35.00	£17.51
11			D2104110	£35.00	£17.51
11.2			D2104112	£39.05	£19.52
11.5			D2104115	£39.05	£19.52
11.8			D2104118	£45.86	£22.93
12	134	205	D2104120	£45.86	£22.93

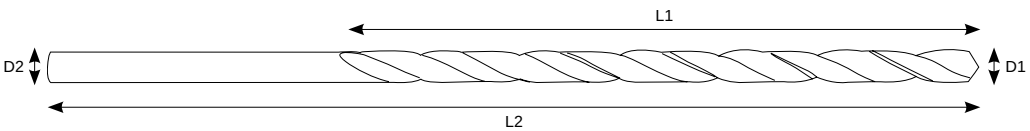
BASIC TWIST DRILLS HSS, EXTRA LONG LENGTH

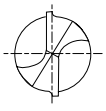
For Drilling Steel, Alloyed/Non-Alloyed Cast Steel, Aluminium, Grey/Malleable Cast Iron & Graphite

- Steam tempered (Black oxide finish)
- Extra long for deep hole drilling

Series	Cutting Data
D1121 YG-1	P662







HSS | DIN 1869/1 | N 20~30° | h8 | 118°

D1	Pack Size
2 ~ 13	5 Drills

15xD

£ VALUE TOOL

D1/D2	L1	L2	★ Performance Order Code	Price
2	85	125	D1121020	£6.39
2.5	95	140	D1121025	£6.39
3	100	150	D1121030	£6.39
3.5	115	165	D1121035	£7.12
4	120	175	D1121040	£7.12
4.5	125	185	D1121045	£8.35
5	135	195	D1121050	£8.35
5.5	140	205	D1121055	£11.89
6			D1121060	£11.89
6.5	150	215	D1121065	£12.84
7	155	225	D1121070	£14.10
7.5			D1121075	£18.29
8	165	240	D1121080	£18.29
8.5			D1121085	£19.16
9	175	250	D1121090	£19.16
9.5			D1121095	£19.16
10	185	265	D1121100	£19.16
10.5			D1121105	£20.12
11	195	280	D1121110	£24.39
11.5			D1121115	£26.13
12	205	295	D1121120	£32.25
12.5			D1121125	£37.26
13			D1121130	£38.78

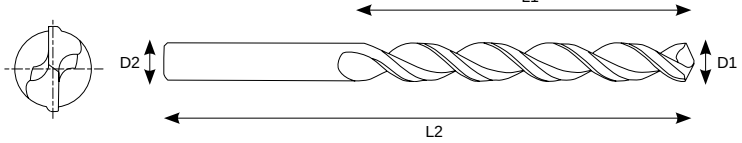
WORM PATTERN HSS 5% COBALT, LONG LENGTH

For Non-Alloy Steel, Alloy Steel, Grey/Malleable Cast Iron

- Worm pattern drills feature a parabolic u-shaped flute for efficient chip evacuation
- Bright finish prevents built up edge and deep flute pockets prevent chip clogging
- Excellent for soft or long chipping materials

Series	Cutting Data
DL509 YG-1	P663





10xD

HSS Co5 | DIN 340 | 42° | h8 | 130°

D1	Pack Size
2.0 ~ 6.0	10 Drills
6.1 ~ 12.0	5 Drills

PARABOLIC FLUTE

YG

D1/D2	L1	L2	★★ Performance Order Code	Price Per Drill Split Pack	Full Pack
2	56	85	DL509020	£2.71	£1.83
2.1			DL509021	£2.88	£1.95
2.2	59	90	DL509022	£2.88	£1.95
2.3			DL509023	£2.88	£1.95
2.4	62	95	DL509024	£2.88	£1.95
2.5			DL509025	£2.88	£1.95
2.6			DL509026	£3.34	£2.25
2.7	66	100	DL509027	£3.34	£2.25
2.8			DL509028	£3.34	£2.25
2.9			DL509029	£3.34	£2.25
3			DL509030	£3.34	£2.25
3.1	69	106	DL509031	£3.79	£2.56
3.2			DL509032	£3.79	£2.56
3.3			DL509033	£3.79	£2.56
3.4	73	112	DL509034	£3.79	£2.56
3.5			DL509035	£3.79	£2.56
3.6			DL509036	£4.69	£3.17
3.7			DL509037	£4.69	£3.17
3.8	78	119	DL509038	£4.69	£3.17
3.9			DL509039	£4.69	£3.17
4			DL509040	£4.69	£3.17
4.1			DL509041	£5.39	£3.64
4.2			DL509042	£5.39	£3.64
4.3	82	126	DL509043	£5.39	£3.64
4.4			DL509044	£5.39	£3.64
4.5			DL509045	£5.39	£3.64
4.6			DL509046	£5.39	£3.64
4.7			DL509047	£5.39	£3.64

D1/D2	L1	L2	★★ Performance Order Code	Price Per Drill Split Pack	Full Pack
4.8	87	132	DL509048	£5.39	£3.64
4.9			DL509049	£5.39	£3.64
5			DL509050	£5.39	£3.64
5.1			DL509051	£6.64	£4.48
5.2			DL509052	£6.64	£4.48
5.3			DL509053	£6.64	£4.48
5.4	91	139	DL509054	£6.64	£4.48
5.5			DL509055	£6.64	£4.48
5.6			DL509056	£7.02	£4.74
5.7			DL509057	£7.02	£4.74
5.8			DL509058	£7.02	£4.74
5.9			DL509059	£7.02	£4.74
6			DL509060	£7.02	£4.74
6.1	97	148	DL509061	£8.17	£5.52
6.2			DL509062	£8.17	£5.52
6.3			DL509063	£8.17	£5.52
6.4			DL509064	£8.17	£5.52
6.5			DL509065	£8.17	£5.52
6.6			DL509066	£8.90	£6.01
6.7			DL509067	£8.90	£6.01
6.8	102	156	DL509068	£8.90	£6.01
6.9			DL509069	£8.90	£6.01
7			DL509070	£8.90	£6.01
7.1			DL509071	£10.77	£7.28
7.2			DL509072	£10.77	£7.28
7.3			DL509073	£10.77	£7.28
7.4			DL509074	£10.77	£7.28
7.5			DL509075	£10.77	£7.28

D1/D2	L1	L2	★★ Performance Order Code	Price Per Drill Split Pack	Full Pack
7.6	109	165	DL509076	£11.61	£7.84
7.7			DL509077	£11.61	£7.84
7.8			DL509078	£11.61	£7.84
7.9			DL509079	£11.61	£7.84
8			DL509080	£11.61	£7.84
8.1			DL509081	£12.93	£8.73
8.2			DL509082	£12.93	£8.73
8.3			DL509083	£12.93	£8.73
8.4			DL509084	£12.93	£8.73
8.5			DL509085	£12.93	£8.73
8.6	115	175	DL509086	£14.70	£9.93
8.7			DL509087	£14.70	£9.93
8.8			DL509088	£14.70	£9.93
8.9			DL509089	£14.70	£9.93
9			DL509090	£14.70	£9.93
9.1			DL509091	£19.04	£12.87
9.2			DL509092	£19.04	£12.87
9.3			DL509093	£19.04	£12.87
9.4			DL509094	£19.04	£12.87
9.5			DL509095	£19.04	£12.87
9.6	121	184	DL509096	£19.04	£12.87
9.7			DL509097	£19.04	£12.87
9.8			DL509098	£19.04	£12.87
9.9			DL509099	£19.04	£12.87
10			DL509100	£19.04	£12.87
10.2			DL509102	£21.61	£14.60
10.5			DL509105	£21.61	£14.60
11	128	195	DL509110	£22.13	£14.96
11.5			DL509115	£27.00	£18.24
12			DL509120	£27.00	£18.24

Material Applications

● Excellent ○ Good

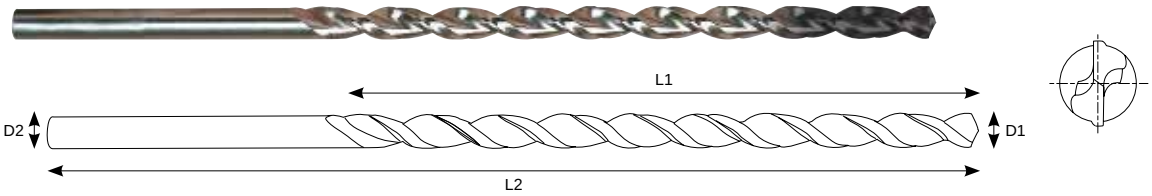
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●							○					

WORM PATTERN HSS 5% COBALT, EXTRA LONG FOR DEEP HOLES

For Non-Alloy Steel, Alloy Steel, Grey/Malleable Cast Iron

- Worm pattern drills feature a parabolic u-shaped flute for efficient chip evacuation
- Bright finish prevents built up edge and deep flute pockets prevent chip clogging
- Excellent for soft or long chipping materials
- Sold in single pack sizes

Series	Cutting Data
DT600 & DT69 YG-1	View Online





DT600 DT692 DT693



PARABOLIC FLUTE

D1/D2	L1	L2	★★ Performance Order Code	Price
15xD				
2	85	125	DT600020	£6.29
2.5	95	140	DT600025	£7.07
3	100	150	DT600030	£7.74
3.5	115	165	DT600035	£8.52
4	120	175	DT600040	£9.12
4.5	125	185	DT600045	£11.30
5	135	195	DT600050	£12.33
5.5	140	205	DT600055	£14.52
6			DT600060	£14.94
6.5	150	215	DT600065	£17.59
7	155	225	DT600070	£20.04
7.5			DT600075	£22.08
8	165	240	DT600080	£23.70
8.5			DT600085	£24.22
9	175	250	DT600090	£25.60
9.5			DT600095	£25.75
10	185	265	DT600100	£27.02
10.5			DT600105	£31.25
20xD				
3	130	190	DT692030	£11.36
3.5	145	210	DT692035	£13.14
4	150	220	DT692040	£16.26
4.5	160	235	DT692045	£17.56
5	170	245	DT692050	£18.13
5.5	180	260	DT692055	£21.78
6			DT692060	£22.81
6.5	190	275	DT692065	£25.05
7	200	290	DT692070	£26.22
7.5			DT692075	£29.53
8	210	305	DT692080	£43.22
8.5			DT692085	£45.46
9	220	320	DT692090	£47.50
9.5			DT692095	£47.74
10	235	340	DT692100	£48.06
10.2			DT692102	£51.74
25xD				
4	190	280	DT693040	£22.18
5	210	315	DT693050	£37.69
6	225	330	DT693060	£43.78
8	265	390	DT693080	£54.17
10	295	430	DT693100	£58.37

Material Applications

● Excellent ○ Good

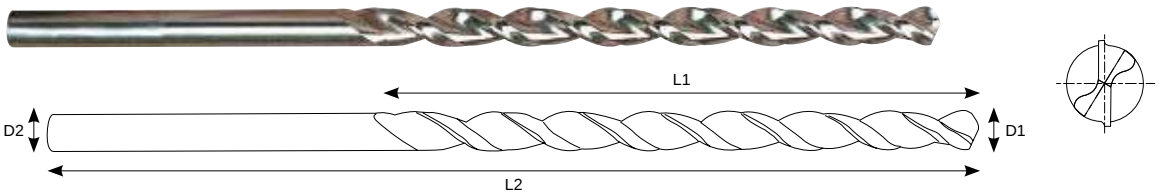
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●							○					

WORM PATTERN HSS 5% COBALT, EXTRA LONG FOR ALUMINIUM

For Non-Alloy Steel, Alloy Steel, Grey/Malleable Cast Iron, Special Aluminium or Magnesium Alloy

- Special design for deep hole aluminium drilling
- Worm pattern drills feature a parabolic u-shaped flute for efficient chip evacuation
- Bright finish prevents built up edge and deep flute pockets prevent chip clogging
- Sold in single pack sizes

Series	Cutting Data
DL507 YG-1	P663





PARABOLIC FLUTE

D1/D2	L1	L2	★★ Performance Order Code	Price
2	40	75	DL507120	£2.73
	50	100	DL507220	£3.11
	75	150	DL507320	£5.11
2.1	40	75	DL507121	£2.96
	50	100	DL507221	£3.31
	75	150	DL507321	£5.71
2.5	50	100	DL507225	£3.31
	75	150	DL507325	£5.71
2.7	50	100	DL507227	£3.91
	75	150	DL507327	£6.07
3	50	100	DL507230	£3.91
	75	150	DL507330	£6.07
	100	200	DL507430	£6.96
3.3	50	100	DL507233	£4.49
	75	150	DL507333	£6.30
	100	200	DL507433	£7.27
3.5	50	100	DL507235	£4.49
	75	150	DL507335	£6.30
	100	200	DL507435	£7.27
4	75	150	DL507340	£6.51
	100	200	DL507440	£7.46
	150	250	DL507540	£8.69
4.2	75	150	DL507342	£7.70
	100	200	DL507442	£8.95
	150	250	DL507542	£10.50
4.5	75	150	DL507345	£7.70
	100	200	DL507445	£8.95
	150	250	DL507545	£10.50
5	75	150	DL507350	£8.04
	100	200	DL507450	£9.14
	150	250	DL507550	£10.86
	180	300	DL507650	£12.50
5.3	75	150	DL507353	£9.66
	100	200	DL507453	£11.35
	150	250	DL507553	£13.55
	180	300	DL507653	£15.69
5.5	75	150	DL507355	£9.66
	100	200	DL507455	£11.35
	150	250	DL507555	£13.55
	180	300	DL507655	£15.69
6	75	150	DL507360	£9.89
	100	200	DL507460	£11.80
	150	250	DL507560	£14.03
	180	300	DL507660	£16.39
6.5	100	200	DL507465	£14.03
	150	250	DL507565	£17.10
	180	300	DL507665	£20.99
6.8	100	200	DL507468	£16.10
	150	250	DL507568	£19.72
	180	300	DL507668	£24.28
7	100	200	DL507470	£16.10
	150	250	DL507570	£19.72
	180	300	DL507670	£24.28
7.5	100	200	DL507475	£19.70
	150	250	DL507575	£24.03
	180	300	DL507675	£29.55
8	100	200	DL507480	£20.74
	150	250	DL507580	£25.18
	180	300	DL507680	£29.75
8.5	100	200	DL507485	£21.64
	150	250	DL507585	£26.33
	180	300	DL507685	£31.28
8.8	100	200	DL507488	£21.84
	150	250	DL507588	£26.84
	180	300	DL507688	£31.58
9	100	200	DL507490	£21.84
	150	250	DL507590	£26.84
	180	300	DL507690	£31.58
9.5	100	200	DL507495	£22.80
	150	250	DL507595	£28.09
	180	300	DL507695	£32.53
10	100	200	DL507700	£23.74
	150	250	DL507800	£29.48
	180	300	DL507900	£33.73
10.3	150	250	DL507803	£30.14
	180	300	DL507903	£36.13
10.5	150	250	DL507805	£30.14
	180	300	DL507905	£32.12
11	150	250	DL507810	£28.61
	180	300	DL507910	£34.73
11.5	150	250	DL507815	£34.25
	180	300	DL507915	£41.53
12	150	250	DL507820	£38.65
	180	300	DL507920	£47.30
12.5	150	250	DL507825	£41.53
	180	300	DL507925	£50.68
13	150	250	DL507830	£52.56
	180	300	DL507930	£64.23

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	○									●			

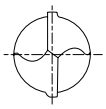
MORSE TAPER HSS, JOBBER LENGTH

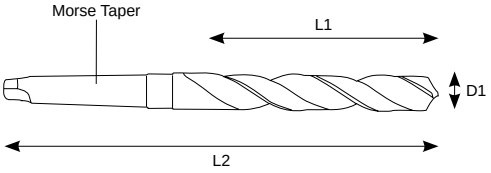
For Steel, Cast Steel, Alloyed Steel, Stainless Steel, Grey/Malleable Cast Iron, Aluminium & Graphite

- Steam tempered (Black Oxide Finish)
- Plain HSS economy type

Series	Cutting Data
D1205 YG-1	P664







5xD

HSS | DIN 345 | 1~5 | N ≈30° | h8 | 118°

£ VALUE TOOL

D1	L1	L2	Morse Taper Number	★ Performance Order Code	Price
5	52	133	1	D1205050	£22.66
5.5	57	138	1	D1205055	£22.27
6				D1205060	£22.27
6.5	63	144	1	D1205065	£21.82
7	69	150	1	D1205070	£21.82
7.5				D1205075	£21.82
8	75	156	1	D1205080	£20.81
8.5				D1205085	£20.81
9	81	162	1	D1205090	£20.25
9.5				D1205095	£20.25
10	87	168	1	D1205100	£18.63
10.5				D1205105	£18.63
11	94	175	1	D1205110	£19.49
11.5				D1205115	£19.49
12	101	182	1	D1205120	£17.34
12.5				D1205125	£17.34
13				D1205130	£17.34
13.2				D1205132	£17.99
13.25	108	189	1	D120513A	£17.99
13.5				D1205135	£17.99
13.75				D120513B	£17.99
13.8				D1205138	£17.99
14				D1205140	£17.99
14.25	114	212	2	D120514A	£18.22
14.5				D1205145	£18.22
14.75				D120514B	£19.52
15				D1205150	£19.52
15.25	120	218	2	D120515A	£21.59
15.5				D1205155	£21.59
15.75				D120515B	£21.59
16				D1205160	£21.59
16.25	125	223	2	D120516A	£23.41
16.5				D1205165	£23.41
16.75				D120516B	£24.53
17				D1205170	£24.53

D1	L1	L2	Morse Taper Number	★ Performance Order Code	Price
17.25	130	228	2	D120517A	£24.77
17.5				D1205175	£24.77
17.75				D120517B	£26.11
18				D1205180	£26.11
18.25	135	233	2	D120518A	£27.44
18.5				D1205185	£27.44
18.75				D120518B	£27.44
19				D1205190	£27.44
19.25	140	238	2	D120519A	£29.23
19.5				D1205195	£29.23
19.75				D120519B	£31.26
20				D1205200	£31.26
20.25	145	243	2	D120520A	£31.81
20.5				D1205205	£31.81
20.75				D120520B	£32.46
21				D1205210	£32.46
21.25	150	248	2	D120521A	£34.08
21.5				D1205215	£34.08
21.75				D120521B	£33.21
22				D1205220	£33.21
22.25				D120522A	£37.79
22.5	155	253	2	D1205225	£37.79
22.75				D120522B	£40.13
23				D1205230	£40.13
23.25	155	276	3	D120523A	£42.24
23.5				D1205235	£42.24
23.75	160	281	3	D120523B	£44.14
24				D1205240	£44.14
24.25				D120524A	£46.30
24.5				D1205245	£46.30
24.75				D120524B	£49.18
25				D1205250	£49.18
25.25	165	286	3	D120525A	£50.59
25.5				D1205255	£50.59
25.75				D120525B	£51.10

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○	○		○		○	○		

MORSE TAPER HSS, JOBBER LENGTH (CONTINUED)

For Steel, Cast Steel, Alloyed Steel, Stainless Steel, Grey/Malleable Cast Iron, Aluminium & Graphite



Series	Cutting Data
D1205 YG-1	P664

D1	L1	L2	Morse Taper Number	★ Performance Order Code	Price
26	165	286	3	D1205260	£51.10
26.25				D120526A	£53.08
26.5				D1205265	£53.08
26.75	170	291	3	D120526B	£54.96
27				D1205270	£54.96
27.25				D120527A	£57.72
27.5				D1205275	£57.72
27.75				D120527B	£59.15
28				D1205280	£59.15
28.25	175	296	3	D120528A	£61.65
28.5				D1205285	£61.65
28.75				D120528B	£61.65
29				D1205290	£61.65
29.25				D120529A	£71.28
29.5				D1205295	£71.28
29.75				D120529B	£69.52
30				D1205300	£69.52
30.25	180	301	3	D120530A	£75.96
30.5				D1205305	£75.96
30.75				D120530B	£75.96
31				D1205310	£75.96
31.25				D120531A	£77.82
31.5				D1205315	£77.82
31.75	185	306	3	D120531B	£77.82
32		334	4	D1205320	£77.82
32.5				D1205325	£91.06
33				D1205330	£91.06
33.5				D1205335	£96.32
34	190	339	4	D1205340	£96.32
34.5				D1205345	£99.08
35				D1205350	£99.08
35.5				D1205355	£110.86
36	195	344	4	D1205360	£110.86
36.5				D1205365	£116.84
37				D1205370	£116.84
37.5				D1205375	£124.73

D1	L1	L2	Morse Taper Number	★ Performance Order Code	Price
38	200	349	4	D1205380	£124.73
38.5				D1205385	£142.00
39				D1205390	£142.00
39.5				D1205395	£151.47
40				D1205400	£151.47
40.5	205	354	4	D1205405	£165.41
41				D1205410	£165.41
41.5				D1205415	£171.71
42				D1205420	£171.71
42.5				D1205425	£194.94
43	210	359	4	D1205430	£194.94
43.5				D1205435	£202.42
44				D1205440	£202.42
44.5				D1205445	£207.09
45				D1205450	£207.09
45.5	215	364	4	D1205455	£217.32
46				D1205460	£217.32
46.5				D1205465	£228.88
47				D1205470	£228.88
47.5				D1205475	£245.42
48	220	369	4	D1205480	£245.42
48.5				D1205485	£254.52
49				D1205490	£254.52
49.5				D1205495	£263.57
50				D1205500	£263.57
50.5	225	374	4	D1205505	£292.08
51				D1205510	£292.08
52		412	5	D1205520	£308.80
53				D1205530	£349.50
54	230	417	5	D1205540	£361.29
55				D1205550	£372.68
56				D1205560	£386.31
57	235	422	5	D1205570	£399.93
58				D1205580	£417.00
59				D1205590	£449.92
60				D1205600	£463.61

Material Applications

● Excellent ○ Good

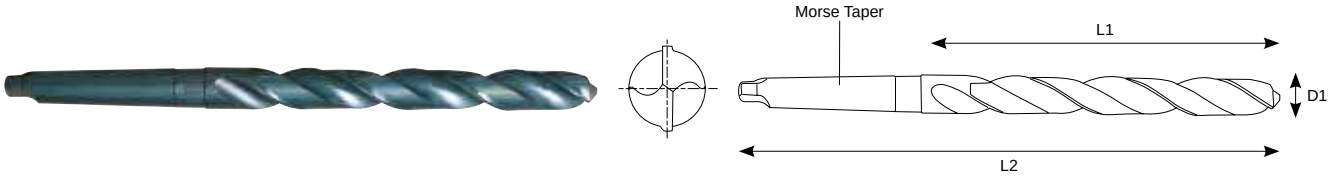
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○	○		○		○	○		

MORSE TAPER HSS, LONG LENGTH

For Drilling Steel, Alloyed & Non-Alloyed Cast Steel, Grey/Malleable Cast Iron & Graphite

- Steam tempered (Black oxide finish)
- Plain HSS economy type

Series	Cutting Data
D1209 YG-1	P664



8xD

HSS | DIN 1870/1 | 1~4 | N ≈30° | h8 | 118°

LONG LENGTH

D1	L1	L2	Morse Taper Number	★ Performance Order Code	Price
13	205	310	1	D1209130	£43.64
13.5	220	325	1	D1209135	£44.64
14				D1209140	£46.84
14.5	220	340	2	D1209145	£54.57
15				D1209150	£56.15
15.5	230	355	2	D1209155	£58.83
16				D1209160	£61.32
16.5				D1209165	£65.98
17				D1209170	£69.69
17.5	245	370	2	D1209175	£72.83
18				D1209180	£77.07
18.5				D1209185	£79.04
19				D1209190	£83.38
19.5	260	385	2	D1209195	£87.92
20				D1209200	£91.07
20.5				D1209205	£93.61
21				D1209210	£95.19
21.5	270	405	2	D1209215	£97.11
22				D1209220	£100.46
22.5				D1209225	£105.03
23				D1209230	£108.40
23.5		425	3	D1209235	£117.07
24	290	440	3	D1209240	£138.99
24.5				D1209245	£145.41
25				D1209250	£149.04
25.5				D1209255	£151.37
26				D1209260	£153.40
26.5				D1209265	£173.67

D1	L1	L2	Morse Taper Number	★ Performance Order Code	Price
27	305	460	3	D1209270	£157.88
27.5				D1209275	£163.23
28				D1209280	£162.28
28.5				D1209285	£181.44
29				D1209290	£183.84
29.5				D1209295	£190.11
30				D1209300	£196.39
30.5	320	480	3	D1209305	£205.89
31				D1209310	£215.37
32	320	505	4	D1209320	£235.25
33				D1209330	£274.03
34	340	530	4	D1209340	£290.08
35				D1209350	£292.93
36				D1209360	£308.32
37				D1209370	£324.71
38	360	555	4	D1209380	£341.18
39				D1209390	£349.46
40				D1209400	£372.62
41				D1209410	£394.71
42				D1209420	£409.82
43	385	585	4	D1209430	£465.28
44				D1209440	£483.22
45				D1209450	£509.52
46				D1209460	£534.87
47				D1209470	£563.33
48	405	605	4	D1209480	£618.82
49				D1209490	£649.65
50				D1209500	£679.37

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●				○	○		○		○	○		

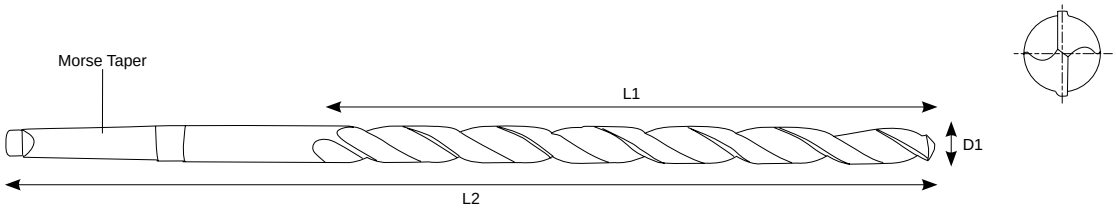
MORSE TAPER HSS, EXTRA LONG LENGTH

For Drilling Steel, Cast Steel, Alloyed Steel, Stainless Steel, Grey/Malleable Cast Iron, Aluminium & Graphite

- Steam tempered (Black oxide finish)
- Plain HSS economy type

Series	Cutting Data
D1210 YG-1	P664





10xD

HSS | DIN 1870/2 | 1~4 | N ≈30° | h8 | 118°

EXTRA-LONG LENGTH

D1	L1	L2	Morse Taper Number	★ Performance Order Code	Price
13	260	395	1	D1210130	£62.52
13.5	275	410	1	D1210135	£63.97
14				D1210140	£67.09
14.5	275	425	2	D1210145	£78.24
15				D1210150	£80.46
15.5	295	445	2	D1210155	£84.24
16				D1210160	£87.95
16.5				D1210165	£94.69
17				D1210170	£99.86
17.5	310	465	2	D1210175	£104.36
18				D1210180	£110.44
18.5				D1210185	£113.27
19				D1210190	£119.38
19.5	325	490	2	D1210195	£157.49
20				D1210200	£163.09
20.5				D1210205	£163.02
21				D1210210	£165.78
21.5	345	515	2	D1210215	£163.09
22				D1210220	£168.76
22.5				D1210225	£166.46
23				D1210230	£171.99
23.5		535	3	D1210235	£185.65
24	365	555	3	D1210240	£190.22
24.5				D1210245	£198.89
25				D1210250	£206.04
25.5				D1210255	£210.37
26				D1210260	£210.37
26.5				D1210265	£238.19

D1	L1	L2	Morse Taper Number	★ Performance Order Code	Price
27	385	580	3	D1210270	£246.40
27.5				D1210275	£254.77
28				D1210280	£247.10
28.5				D1210285	£276.30
29				D1210290	£291.40
29.5				D1210295	£301.35
30				D1210300	£311.30
31	410	610	3	D1210310	£317.53
32		635	4	D1210320	£346.80
33				D1210330	£381.45
34	430	665	4	D1210340	£381.45
35				D1210350	£381.45
36				D1210360	£390.26
37				D1210370	£399.24
38	460	695	4	D1210380	£407.18
39				D1210390	£446.85
40				D1210400	£476.49
41				D1210410	£504.74
42				D1210420	£524.12
43	490	735	4	D1210430	£594.96
44				D1210440	£617.86
45				D1210450	£651.52
46				D1210460	£683.93
47				D1210470	£720.32
48	510	765	4	D1210480	£791.26
49				D1210490	£830.73
50				D1210500	£868.72

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○	○		○		○	○		

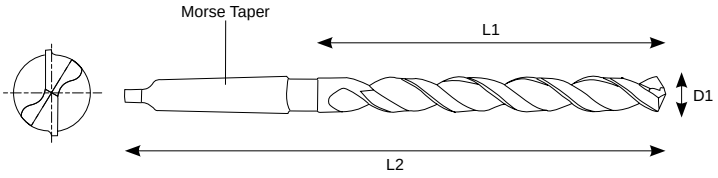
WORM PATTERN HSS 5% COBALT, LONG LENGTH FOR DEEP HOLES

For Non-Alloy Steel, Alloy Steel, Grey/Malleable Cast Iron

- Deep flute pockets for improved chip evacuation on soft materials
- Worm pattern drills feature a parabolic u-shaped flute for efficient chip evacuation

Series	Cutting Data
DL608 YG-1	P663





8xD

HSS Co5 | DIN 341 | 1 ~ 3 | 38° | h8 | 130°

PARABOLIC FLUTE

YG

D1	L1	L2	Morse Taper Number	★★ Performance Order Code	Price
13	134	215	1	DL608130	£52.98
13.5	142	223	1	DL608135	£60.66
14				DL608140	£63.70
14.5	147	245	2	DL608145	£74.23
15				DL608150	£76.33
15.5	153	251	2	DL608155	£79.94
16				DL608160	£83.47
16.5	159	257	2	DL608165	£89.78
17				DL608170	£94.81
17.5	165	263	2	DL608175	£99.05
18				DL608180	£104.85
18.5	171	269	2	DL608185	£107.53
19				DL608190	£113.30
19.5	177	275	2	DL608195	£119.44
20				DL608200	£123.85
21	184	282	2	DL608210	£129.51
22	191	289		DL608220	£136.66
23	198	296		DL608230	£147.51
24	206	327	3	DL608240	£163.18
25				DL608250	£176.80
26	214	335	3	DL608260	£180.48
27	222	343	3	DL608270	£209.22
28				DL608280	£211.97
29	230	351	3	DL608290	£250.03
30				DL608300	£267.12

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●							○					

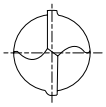
MORSE TAPER HSS 5% COBALT, JOBBER LENGTH HEAVY DUTY

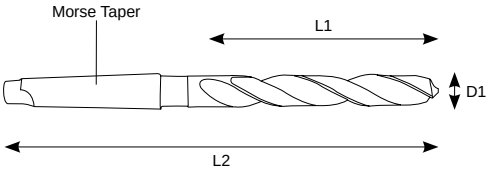
For Drilling Steel, Alloyed & Non-Alloyed Cast Steel, Grey/Malleable Cast Iron & Graphite

- HSS 5% cobalt for extra tool life
- Heavy duty

Series	Cutting Data
DL205 YG-1	P664







5xD

HSS Co5 | DIN 345 | 1~3 | N ≈30° | h8 | 118°

HEAVY DUTY

D1	L1	L2	Morse Taper Number	★★ Performance Order Code	Price
13	101	182	1	DL205130	£41.56
13.5	108	189	1	DL205135	£43.15
14				DL205140	£43.22
14.5	114	212	2	DL205145	£43.66
15				DL205150	£46.75
15.5	120	218	2	DL205155	£51.91
16				DL205160	£51.85
16.5	125	223	2	DL205165	£56.19
17				DL205170	£58.87
17.5	130	228	2	DL205175	£59.47
18				DL205180	£62.79
18.5	135	233	2	DL205185	£65.70
19				DL205190	£66.00
19.5	140	238	2	DL205195	£70.09
20				DL205200	£75.05
20.5	145	243	2	DL205205	£87.83
21				DL205210	£89.61
21.5	150	248	2	DL205215	£94.12
22				DL205220	£91.91
22.5	155	253	2	DL205225	£113.36
23				DL205230	£120.41
23.5		276	3	DL205235	£126.71
24	160	281	3	DL205240	£132.42
24.5				DL205245	£138.84
25				DL205250	£147.62
25.5	165	286	3	DL205255	£151.83
26				DL205260	£153.26
26.5				DL205265	£159.20
27	170	291	3	DL205270	£164.89
27.5				DL205275	£173.22
28				DL205280	£177.42
28.5	175	296	3	DL205285	£184.98
29				DL205290	£184.98
29.5				DL205295	£213.94
30				DL205300	£208.48

Material Applications

● Excellent ○ Good

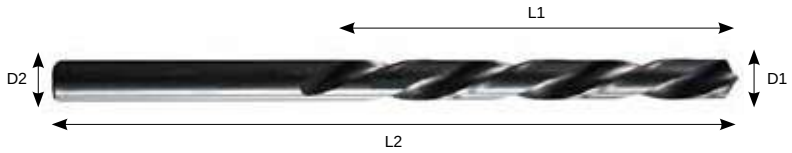
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●				○	○		○		○	○		

STRAIGHT SHANK HSS JOBBER DRILL

01000 Series

Series	Cutting Data
01000 Presto	View Online

- HSS DIN338 straight shank jobber drill
- H8 Tolerance
- General purpose drill for steel with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite



HSS h8 118° DIN 338

PRESTO

D1/D2 mm	D1/D2 inch	L1	L2	Order Code	Price
0.3		3	19	010000.3	£2.29
0.35		4	19	010000.35	£2.04
0.396	1/64"	5	20	01000-164	£1.98
0.4		5	20	010000.4	£1.92
0.45		5	20	010000.45	£1.83
0.5		6	22	010000.5	£1.37
0.55		7	24	010000.55	£1.89
0.6		7	24	010000.6	£1.62
0.65		8	26	010000.65	£1.60
0.7		9	28	010000.7	£2.23
0.75		9	28	010000.75	£1.60
0.792	1/32"	10	30	01000-132	£1.20
0.8		10	30	010000.8	£1.16
0.85		10	30	010000.85	£1.33
0.9		11	32	010000.9	£1.29
0.95		11	32	010000.95	£1.25
1.0		12	34	010001	£0.95
1.05		12	34	010001.05	£1.67
1.1		14	36	010001.1	£1.07
1.15		14	36	010001.15	£1.55
1.189	3/64"	16	38	01000-364	£1.09
1.2		16	38	010001.2	£1.01
1.25		16	38	010001.25	£1.50
1.3		16	38	010001.3	£1.05
1.35		18	40	010001.35	£1.55
1.4		18	40	010001.4	£1.02
1.45		18	40	010001.45	£1.33
1.5		18	40	010001.5	£0.72
1.55		20	43	010001.55	£1.29
1.588	1/16"	20	43	01000-116	£0.71
1.6		20	43	010001.6	£0.72
1.65		20	43	010001.65	£1.31
1.7		20	43	010001.7	£0.85
1.75		22	46	010001.75	£1.24
1.8		22	46	010001.8	£0.81
1.85		22	46	010001.85	£1.25
1.9		22	46	010001.9	£0.81
1.95		24	49	010001.95	£1.18
1.984	5/64"	24	49	01000-564	£0.86
2.0		24	49	010002	£0.59
2.05		24	49	010002.05	£0.88
2.1		24	49	010002.1	£0.70
2.15		27	53	010002.15	£1.10
2.2		27	53	010002.2	£0.72
2.25		27	53	010002.25	£1.09
2.3		27	53	010002.3	£0.72
2.35		27	53	010002.35	£1.09
2.381	3/32"	30	57	01000-332	£0.64
2.4		30	57	010002.4	£0.72
2.45		30	57	010002.45	£1.09
2.5		30	57	010002.5	£0.58
2.55		30	57	010002.55	£1.09
2.6		30	57	010002.6	£0.72
2.65		30	57	010002.65	£1.09
2.7		33	61	010002.7	£0.72
2.75		33	61	010002.75	£1.09
2.776	7/64"	33	61	01000-764	£0.70
2.8		33	61	010002.8	£0.68
2.85		33	61	010002.85	£1.12
2.9		33	61	010002.9	£0.61
2.95		33	61	010002.95	£1.14
3.0		33	61	010003	£0.61
3.05		36	65	010003.05	£1.17
3.1		36	65	010003.1	£0.78
3.15		36	65	010003.15	£1.17
3.175	1/8"	36	65	01000-18	£0.66

D1/D2 mm	D1/D2 inch	L1	L2	Order Code	Price
3.2		36	65	010003.2	£0.84
3.25		36	65	010003.25	£1.20
3.3		36	65	010003.3	£0.64
3.35		36	65	010003.35	£0.84
3.4		39	70	010003.4	£0.81
3.45		39	70	010003.45	£1.07
3.5		39	70	010003.5	£0.64
3.55		39	70	010003.55	£1.07
3.571	9/64"	39	70	01000-964	£0.82
3.6		39	70	010003.6	£0.84
3.65		39	70	010003.65	£1.07
3.7		39	70	010003.7	£0.72
3.75		39	70	010003.75	£1.29
3.8		43	75	010003.8	£0.87
3.85		43	75	010003.85	£1.29
3.9		43	75	010003.9	£0.89
3.95		43	75	010003.95	£1.29
3.967	5/32"	43	75	01000-532	£0.75
4.0		43	75	010004	£0.81
4.05		43	75	010004.05	£1.29
4.1		43	75	010004.1	£0.76
4.15		43	75	010004.15	£1.29
4.2		43	75	010004.2	£0.79
4.25		43	75	010004.25	£1.46
4.3		47	80	010004.3	£0.95
4.35		47	80	010004.35	£1.48
4.364	11/64"	47	80	01000-1164	£1.06
4.4		47	80	010004.4	£1.10
4.45		47	80	010004.45	£1.48
4.5		47	80	010004.5	£0.81
4.55		47	80	010004.55	£1.48
4.6		47	80	010004.6	£1.05
4.65		47	80	010004.65	£1.48
4.7		47	80	010004.7	£1.07
4.75		47	80	010004.75	£1.67
4.763	3/16"	52	86	01000-316	£0.95
4.8		52	86	010004.8	£1.09
4.85		52	86	010004.85	£1.67
4.9		52	86	010004.9	£1.09
4.95		52	86	010004.95	£1.67
5.0		52	86	010005	£0.93
5.1		52	86	010005.1	£1.17
5.159	13/64"	52	86	01000-1364	£1.30
5.2		52	86	010005.2	£1.20
5.25		52	86	010005.25	£1.90
5.3		52	86	010005.3	£1.25
5.4		57	93	010005.4	£1.28
5.5		57	93	010005.5	£1.28
5.555	7/32"	57	93	01000-732	£1.12
5.6		57	93	010005.6	£1.34
5.7		57	93	010005.7	£1.38
5.75		57	93	010005.75	£2.23
5.8		57	93	010005.8	£1.44
5.9		57	93	010005.9	£1.48
5.951	15/64"	57	93	01000-1564	£1.67
6.0		57	93	010006	£1.23
6.1		63	101	010006.1	£1.55
6.2		63	101	010006.2	£1.59
6.25		63	101	010006.25	£2.51
6.3		63	101	010006.3	£1.62
6.351	1/4"	63	101	01000-14	£1.38
6.4		63	101	010006.4	£1.69
6.5		63	101	010006.5	£1.38
6.6		63	101	010006.6	£1.75
6.7		63	101	010006.7	£1.83
6.746	17/64"	69	109	01000-1764	£1.82

STRAIGHT SHANK HSS JOBBER DRILL (CONTINUED)

01000 Series



Series	Cutting Data
01000 Presto	View Online

PRESTO

D1/D2 mm	D1/D2 inch	L1	L2	Order Code	Price
6.75		69	109	010006.75	£2.80
6.8		69	109	010006.8	£1.50
6.9		69	109	010006.9	£1.92
7.0		69	109	010007	£1.59
7.1		69	109	010007.1	£2.00
7.142	9/32"	69	109	01000-932	£1.72
7.2		69	109	010007.2	£2.06
7.25		69	109	010007.25	£3.29
7.3		69	109	010007.3	£2.11
7.4		69	109	010007.4	£2.17
7.5		69	109	010007.5	£1.81
7.539	19/64"	75	117	01000-1964	£2.24
7.6		75	117	010007.6	£2.28
7.7		75	117	010007.7	£2.34
7.75		75	117	010007.75	£3.72
7.8		75	117	010007.8	£2.39
7.9		75	117	010007.9	£2.47
7.938	5/16"	75	117	01000-516	£2.04
8.0		75	117	010008	£2.05
8.1		75	117	010008.1	£2.58
8.2		75	117	010008.2	£2.63
8.25		75	117	010008.25	£4.16
8.3		75	117	010008.3	£2.71
8.334	21/64"	75	117	01000-2164	£2.87
8.4		75	117	010008.4	£2.78
8.5		75	117	010008.5	£2.32
8.6		81	125	010008.6	£2.92
8.7		81	125	010008.7	£2.98
8.731	11/32"	81	125	01000-1132	£2.75
8.75		81	125	010008.75	£4.71
8.8		81	125	010008.8	£3.05
8.9		81	125	010008.9	£3.11
9.0		81	125	010009	£2.65
9.1		81	125	010009.1	£3.29
9.126	23/64"	81	125	01000-2364	£3.52
9.2		81	125	010009.2	£3.33
9.25		81	125	010009.25	£5.24
9.3		81	125	010009.3	£3.42
9.4		81	125	010009.4	£3.51
9.5		81	125	010009.5	£2.92
9.525	3/8"	87	133	01000-38	£3.00
9.6		87	133	010009.6	£3.70
9.7		87	133	010009.7	£3.75
9.75		87	133	010009.75	£5.91
9.8		87	133	010009.8	£3.82
9.9		87	133	010009.9	£3.96
9.921	25/64"	87	133	01000-2564	£4.24
10.0		87	133	0100010	£3.28
10.1		87	133	0100010.1	£4.85
10.2		87	133	0100010.2	£4.95
10.25		87	133	0100010.25	£6.55
10.3		87	133	0100010.3	£5.16
10.317	13/32"	87	133	01000-1332	£3.63
10.4		87	133	0100010.4	£5.38
10.5		87	133	0100010.5	£3.64
10.6		87	133	0100010.6	£5.52
10.7		94	142	0100010.7	£5.69
10.714	27/64"	94	142	01000-2764	£5.21
10.75		94	142	0100010.75	£7.47
10.8		94	142	0100010.8	£5.75
10.9		94	142	0100010.9	£5.91
11.0		94	142	0100011	£4.05
11.1		94	142	0100011.1	£6.20
11.113	7/16"	94	142	01000-716	£4.69

D1/D2 mm	D1/D2 inch	L1	L2	Order Code	Price
11.2		94	142	0100011.2	£6.27
11.25		94	142	0100011.25	£8.28
11.3		94	142	0100011.3	£6.42
11.4		94	142	0100011.4	£6.57
11.5		94	142	0100011.5	£4.46
11.509	29/64"	94	142	01000-2964	£5.93
11.6		94	142	0100011.6	£6.80
11.7		94	142	0100011.7	£6.86
11.75		94	142	0100011.75	£8.88
11.8		94	142	0100011.8	£6.95
11.9		101	151	0100011.9	£7.17
11.905	15/32"	101	151	01000-1532	£4.98
12.0		101	151	0100012	£5.00
12.1		101	151	0100012.1	£9.41
12.2		101	151	0100012.2	£9.07
12.25		101	151	0100012.25	£10.14
12.3		101	151	0100012.3	£9.54
12.301	31/64"	101	151	01000-3164	£6.88
12.4		101	151	0100012.4	£9.77
12.5		101	151	0100012.5	£5.52
12.6		101	151	0100012.6	£10.37
12.7	1/2"	101	151	01000-12	£5.87
12.7		101	151	0100012.7	£5.75
12.75		101	151	0100012.75	£10.85
12.8		101	151	0100012.8	£10.74
12.9		101	151	0100012.9	£10.97
13.0		101	151	0100013	£6.11
13.1		101	151	0100013.1	£13.53
13.2		101	151	0100013.2	£13.15
13.25		108	160	0100013.25	£12.82
13.3		108	160	0100013.3	£12.98
13.4		108	160	0100013.4	£13.37
13.492	17/32"	108	160	01000-1732	£10.92
13.5		108	160	0100013.5	£10.24
13.6		108	160	0100013.6	£13.70
13.7		108	160	0100013.7	£13.93
13.75		108	160	0100013.75	£13.92
13.8		108	160	0100013.8	£13.98
13.9		108	160	0100013.9	£14.54
14.0		108	160	0100014	£10.52
14.25		114	169	0100014.25	£15.06
14.288	9/16"	114	169	01000-916	£11.89
14.5		114	169	0100014.5	£15.06
14.75		114	169	0100014.75	£16.60
15.0		114	169	0100015	£13.51
15.081	19/32"	120	178	01000-1932	£14.67
15.25		120	178	0100015.25	£18.55
15.5		120	178	0100015.5	£17.59
15.75		120	178	0100015.75	£20.57
15.875	5/8"	120	178	01000-58	£16.04
16.0		120	178	0100016	£16.03
16.5		125	184	0100016.5	£20.87
17.0		125	184	0100017	£18.71
17.463	11/16"	130	191	01000-1116	£20.77
17.5		130	191	0100017.5	£24.69
18.0		130	191	0100018	£22.05
18.255	23/32"	135	198	01000-2332	£22.70
18.5		135	198	0100018.5	£29.02
19.0		135	198	0100019	£26.04
19.05	3/4"	140	205	01000-34	£29.85
19.5		140	205	0100019.5	£34.18
20.0		140	205	0100020	£29.24

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●						○	○					

STRAIGHT SHANK HSS STUB DRILL

02000 Series

- General purpose drill for steel with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite

Series	Cutting Data
02000 Presto	View Online



HSS h8 118° DIN 338

PRESTO

D1/D2	L1	L2	Order Code	Price
1.0	6	26	020001	£1.28
1.1	7	28	020001.1	£1.85
1.2	8	30	020001.2	£1.82
1.3	8	30	020001.3	£1.72
1.4	9	32	020001.4	£1.64
1.5	10	32	020001.5	£1.10
1.6	10	34	020001.6	£1.54
1.7	10	34	020001.7	£1.48
1.8	11	36	020001.8	£1.53
1.9	11	36	020001.9	£1.44
2.0	12	38	020002	£0.91
2.1	12	38	020002.1	£1.40
2.2	13	40	020002.2	£1.32
2.3	13	40	020002.3	£1.39
2.4	14	43	020002.4	£1.32
2.45	14	43	020002.45	£1.32
2.5	14	43	020002.5	£0.89
2.55	14	43	020002.55	£1.33
2.6	14	43	020002.6	£1.27
2.7	16	46	020002.7	£1.33
2.8	16	46	020002.8	£1.36
2.9	16	46	020002.9	£1.52
3.0	16	46	020003	£0.91
3.1	18	49	020003.1	£1.39
3.2	18	49	020003.2	£1.40
3.25	18	49	020003.25	£1.53
3.3	18	49	020003.3	£0.98
3.4	20	52	020003.4	£1.62
3.5	20	52	020003.5	£1.00
3.6	20	52	020003.6	£1.62
3.7	20	52	020003.7	£1.64
3.8	22	55	020003.8	£1.67
3.9	22	55	020003.9	£1.73
4.0	22	55	020004	£1.12
4.1	22	55	020004.1	£1.15
4.2	22	55	020004.2	£1.19
4.25	22	55	020004.25	£1.97
4.3	24	58	020004.3	£1.97
4.4	24	58	020004.4	£2.01
4.5	24	58	020004.5	£1.28
4.6	24	58	020004.6	£2.03
4.7	24	58	020004.7	£2.12
4.8	26	62	020004.8	£2.17
4.9	26	62	020004.9	£1.39
5.0	26	62	020005	£1.41
5.1	26	62	020005.1	£2.40
5.2	26	62	020005.2	£2.26
5.3	26	62	020005.3	£2.29
5.4	28	66	020005.4	£2.60
5.5	28	66	020005.5	£1.66
5.6	28	66	020005.6	£2.63
5.7	28	66	020005.7	£2.73
5.8	28	66	020005.8	£1.79
5.9	28	66	020005.9	£2.98
6.0	28	66	020006	£1.88
6.1	31	70	020006.1	£3.16
6.2	31	70	020006.2	£3.22
6.3	31	70	020006.3	£3.32
6.4	31	70	020006.4	£3.08
6.5	31	70	020006.5	£2.17
6.6	31	70	020006.6	£3.47
6.7	31	70	020006.7	£3.57
6.8	34	74	020006.8	£3.45
6.9	34	74	020006.9	£3.88
7.0	34	74	020007	£2.42
7.1	34	74	020007.1	£4.08
7.2	34	74	020007.2	£4.18
7.3	34	74	020007.3	£4.28
7.4	34	74	020007.4	£4.45
7.5	34	74	020007.5	£2.80
7.6	37	79	020007.6	£4.65
7.7	37	79	020007.7	£4.77
7.8	37	79	020007.8	£4.75
7.9	37	79	020007.9	£5.00

D1/D2	L1	L2	Order Code	Price
8.0	37	79	020008	£3.10
8.1	37	79	020008.1	£5.16
8.2	37	79	020008.2	£5.33
8.3	37	79	020008.3	£5.58
8.4	37	79	020008.4	£5.66
8.5	37	79	020008.5	£3.58
8.6	40	84	020008.6	£5.89
8.7	40	84	020008.7	£5.87
8.8	40	84	020008.8	£6.02
8.9	40	84	020008.9	£6.40
9.0	40	84	020009	£3.94
9.1	40	84	020009.1	£6.81
9.2	40	84	020009.2	£6.88
9.3	40	84	020009.3	£7.06
9.4	40	84	020009.4	£7.14
9.5	40	84	020009.5	£4.54
9.6	43	89	020009.6	£7.28
9.7	43	89	020009.7	£7.36
9.8	43	89	020009.8	£7.71
9.9	43	89	020009.9	£7.87
10.0	43	89	0200010	£4.92
10.1	43	89	0200010.1	£7.99
10.2	43	89	0200010.2	£7.71
10.3	43	89	0200010.3	£8.68
10.4	43	89	0200010.4	£8.86
10.5	43	89	0200010.5	£7.92
10.6	43	89	0200010.6	£9.25
10.7	47	95	0200010.7	£9.64
10.8	47	95	0200010.8	£9.81
10.9	47	95	0200010.9	£9.86
11.0	47	95	0200011	£6.23
11.1	47	95	0200011.1	£10.15
11.2	47	95	0200011.2	£10.60
11.3	47	95	0200011.3	£10.90
11.4	47	95	0200011.4	£11.05
11.5	47	95	0200011.5	£9.64
11.6	47	95	0200011.6	£11.48
11.7	47	95	0200011.7	£11.39
11.8	47	95	0200011.8	£11.63
11.9	51	102	0200011.9	£11.86
12.0	51	102	0200012	£7.39
12.1	51	102	0200012.1	£12.58
12.2	51	102	0200012.2	£12.53
12.3	51	102	0200012.3	£12.79
12.4	51	102	0200012.4	£13.07
12.5	51	102	0200012.5	£11.63
12.6	51	102	0200012.6	£13.59
12.8	51	102	0200012.8	£14.06
12.9	51	102	0200012.9	£14.30
13.0	51	102	0200013	£8.89
13.5	54	107	0200013.5	£15.20
14.0	54	107	0200014	£14.80
14.5	56	111	0200014.5	£17.72
15.0	56	111	0200015	£19.14
15.5	58	115	0200015.5	£20.57
16.0	58	115	0200016	£22.13
16.5	60	119	0200016.5	£23.82
17.0	60	119	0200017	£25.22
17.5	62	123	0200017.5	£24.54
18.0	62	123	0200018	£28.79
18.5	64	127	0200018.5	£30.62
19.0	64	127	0200019	£32.42
19.5	66	131	0200019.5	£34.32
20.0	66	131	0200020	£36.22
21.0	68	136	0200021	£40.72
22.0	70	141	0200022	£45.07
23.0	72	146	0200023	£49.42
24.0	75	151	0200024	£54.16
25.0	75	151	0200025	£59.69
26.0	78	156	0200026	£103.77
27.0	81	162	0200027	£115.34
28.0	81	162	0200028	£115.34
29.0	84	168	0200029	£125.72
30.0	84	168	0200030	£125.72

HSS STRAIGHT SHANK DIN338 LETTER DRILL

01040 Series

- General purpose drill for steel with tensile strength up to 1000N/mm², cast steel, grey cast iron, malleable cast iron, nickel brass and graphite

Series	Cutting Data
01040 Presto	View Online



HSS h8 118° DIN 338

PRESTO

Letter Diameter	L1	L2	Order Code	Price
Let A	57	93	01040A	£3.43
Let B	63	101	01040B	£3.52
Let C	63	101	01040C	£3.63
Let D	63	101	01040D	£3.75
Let E	63	101	01040E	£3.82
Let F	63	101	01040F	£4.02
Let G	63	101	01040G	£4.13
Let H	69	109	01040H	£4.25
Let I	69	109	01040I	£4.00
Let J	69	109	01040J	£4.59
Let K	69	109	01040K	£4.23
Let L	69	109	01040L	£4.98
Let M	69	109	01040M	£5.16
Let N	75	117	01040N	£5.34
Let O	75	117	01040O	£5.89
Let P	75	117	01040P	£5.55
Let Q	75	117	01040Q	£6.64
Let R	81	125	01040R	£6.92
Let S	81	125	01040S	£7.17
Let T	81	125	01040T	£7.64
Let U	81	125	01040U	£8.10
Let V	87	133	01040V	£8.49
Let W	87	133	01040W	£8.90
Let X	87	133	01040X	£9.46
Let Y	87	133	01040Y	£8.95
Let Z	87	133	01040Z	£10.45

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●						○	○					

HSS STRAIGHT SHANK DIN338 NUMBER DRILL

01020 Series

- Wire gauge number sizes

Series	Cutting Data
01020 Presto	View Online



HSS h8 118° DIN 338

PRESTO

Number Diameter	L1	L2	Order Code	Price
No. 60	12	34	0102060N	£1.83
No. 59	12	34	0102059N	£1.79
No. 58	14	36	0102058N	£1.76
No. 57	14	36	0102057N	£1.72
No. 56	16	38	0102056N	£1.64
No. 55	18	40	0102055N	£1.54
No. 54	18	40	0102054N	£1.40
No. 53	20	43	0102053N	£1.41
No. 52	20	43	0102052N	£1.38
No. 51	22	46	0102051N	£1.34
No. 49	22	46	0102049N	£1.30
No. 48	24	49	0102048N	£1.30
No. 47	24	49	0102047N	£1.26
No. 46	24	49	0102046N	£1.25
No. 45	24	49	0102045N	£1.18
No. 44	27	53	0102044N	£1.22
No. 43	27	53	0102043N	£1.22
No. 42	30	57	0102042N	£1.24
No. 41	30	57	0102041N	£1.22
No. 40	30	57	0102040N	£1.24
No. 39	30	57	0102039N	£1.22
No. 38	30	57	0102038N	£1.24
No. 37	30	57	0102037N	£1.25
No. 36	33	61	0102036N	£1.25
No. 35	33	61	0102035N	£1.25
No. 34	33	61	0102034N	£1.26
No. 33	33	61	0102033N	£1.30
No. 32	33	61	0102032N	£1.30
No. 31	36	65	0102031N	£1.31
No. 30	36	65	0102030N	£1.22
No. 29	39	70	0102029N	£1.41
No. 28	39	70	0102028N	£1.42
No. 27	39	70	0102027N	£1.47
No. 26	39	70	0102026N	£1.49
No. 25	43	75	0102025N	£1.51
No. 24	43	75	0102024N	£1.54
No. 23	43	75	0102023N	£1.54
No. 22	43	75	0102022N	£1.56
No. 21	43	75	0102021N	£1.59
No. 20	43	75	0102020N	£1.62
No. 19	43	75	0102019N	£1.64
No. 18	47	80	0102018N	£1.67
No. 17	47	80	0102017N	£1.72
No. 15	47	80	0102015N	£1.79
No. 14	47	80	0102014N	£1.84
No. 13	47	80	0102013N	£1.88
No. 12	52	85	0102012N	£1.92
No. 11	52	85	0102011N	£1.84
No. 10	52	85	0102010N	£1.79
No. 9	52	85	010209N	£2.02
No. 8	52	85	010208N	£2.04
No. 7	52	85	010207N	£2.08
No. 6	52	85	010206N	£2.10
No. 5	52	85	010205N	£2.12
No. 4	57	93	010204N	£2.22
No. 3	57	93	010203N	£2.27
No. 2	57	93	010202N	£2.24
No. 1	57	93	010201N	£2.37

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●							○					

HSS STRAIGHT 1/2" REDUCED SHANK BLACKSMITH'S DRILL

General Purpose Drill to Drill Steel with Tensile Strength up to 1000N/mm2

Series	Cutting Data
08610 Presto	View Online

- h8 tolerance
- Suitable for drilling cast steel, grey cast iron, malleable cast iron, nickel brass and graphite
- Reduced parallel 1/2" shank generally for use in hand drills
- Presto tools are a household name in the cutting tool industry



HSS h8 118°

PRESTO

Diameter	Shank	Diameter inch	Flute Length	Overall Length	Order Code	Price
13	12.7		79	151	0861013.0-12	£15.60
13.492		17/32"			08610-1732-12	£15.60
13.5					0861013.5-12	£23.85
14					0861014.0-12	£14.64
14.288		9/16"			08610-916-12	£14.41
14.5					0861014.5-12	£26.46
15					0861015.0-12	£17.87
15.081		19/32"			08610-1932-12	£20.25
15.5					0861015.5-12	£29.22
15.875		5/8"			08610-58-12	£16.85
16	12.7		79	151	0861016.0-12	£17.84
16.50					0861016.5-12	£29.79
16.667		21/32"			08610-2132-12	£23.77
17					0861017.0-12	£21.63
17.463		11/16"			08610-1116-12	£21.78
17.50					0861017.5-12	£35.53
18					0861018.0-12	£21.63
18.255		23/32"			08610-2332-12	£25.00
18.50					0861018.5-12	£38.60
19					0861019.0-12	£27.50
19.050		3/4"			08610-34-12	£22.80
19.50					0861019.5-12	£42.56
19.842		25/32"			08610-2532-12	£42.56
20					0861020.0-12	£26.00
20.638		13/16"			08610-1316-12	£31.51
21	12.7		79	151	0861021.0-12	£32.49
21.431		27/32"			08610-2732-12	£32.49
22					0861022.0-12	£35.72
22.225		7/8"			08610-78-12	£33.15
23					0861023.0-12	£38.30
23.017		29/32"			08610-2932-12	£38.30
23.813		15/16"			08610-1516-12	£44.60
24					0861024.0-12	£41.65
24.605		31/32"			08610-3132-12	£41.65
25					0861025.0-12	£45.32
25.400		1"			086101-12	£42.93
26					0861026.0-12	£52.66
26.988		1.1/16"			086101-116-12	£55.29
27	12.7		79	151	0861027.0-12	£54.33
28					0861028.0-12	£56.33
28.575		1.1/8"			086101-18-12	£61.72
29					0861029.0-12	£58.89
30					0861030.0-12	£60.04
31.750		1.1/4"			086101-14-12	£77.78
32					0861032.0-12	£77.20
34.925		1.3/8"			086101-38-12	£114.98
38.100		1.1/2"			086101-12-12	£121.13

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●							○					

GOLD-P HSS 5% COBALT DLGP195 JOBBER DRILL SET

TiN Coated



- GOLD-P TiN coated 5% cobalt HSS drill set
- 5xD jobber length dills
- TiN coating on working area with 5% cobalt content reduces cost and increases tool life compared to standard HSS drills
- Normal point up to 1.6mm, split point over 1.6mm for higher accuracy drilling
- Ideal for general drilling on all materials
- Great performance across all machining conditions

- **DLGP195SET1**
  1-10mm in 0.5mm increments (19 pcs - 1mm, 1.5mm, 2mm, 2.5mm, 3mm....., 10mm)

- **DLGP195SET2**
  1-13mm in 0.5mm increments (25 pcs - 1mm, 1.5mm, 2mm, 2.5mm, 3mm....., 13mm)

- **DLGP195SET3**
  1-10.5mm in 0.5mm increments (24 pcs - 1mm, 1.5mm, 2mm, 2.5mm, 3mm....., 10.5mm - includes 3.3mm, 4.2mm, 6.8mm & 10.2mm)

- **DLGPSET982**
  1-10mm in 0.1mm increments (91 pcs - 1.1mm, 1.1mm, 1.2mm, 1.3mm, 1.4mm, 1.5mm....., 10mm)

Drill Range mm	No of Pcs	Order Code	Price
1-10	19	DLGP195SET1	**£60.62**
1-13	25	DLGP195SET2	**£117.84**
1-10.5	24	DLGP195SET3	**£83.44**
1-10	91	DLGPSET982	**£199.00**

81 PC HSS 5% COBALT DRILL SET

TiAlN Coated



- TiAlN coated HSS drill set
- Available in 3xD or 5xD length drills
- TiAlN coating and 5% Cobalt substrate ensures increased wear resistance and tool life
- Ideal for general drilling on all materials
- Good performance in good or bad machining conditions

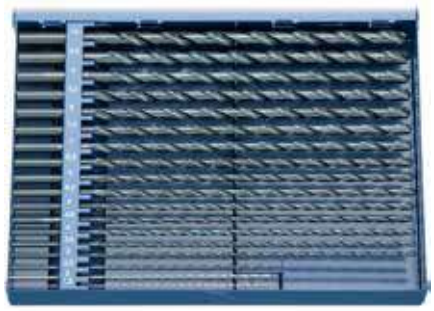
- **DTSET978**
  2-10mm jobber length drills in 0.1mm steps (81 pcs - 2mm, 2.1mm, 2.2mm, 2.3mm, 2.4mm....., 10mm).

- **DTSET979**
  2-10mm stub length drills in 0.1mm steps (81 pcs - 2mm, 2.1mm, 2.2mm, 2.3mm, 2.4mm....., 10mm)

Drill Range mm	Drill Length	Order Code	Price
2-10	Jobber	DTSET978	**£399.00**
	Stub	DTSET979	**£385.00**

HSS EXTRA LONG LENGTH DRILL SETS

For deep hole drilling



- HSS steam tempered extra long general purpose drill set

- **1.5-2.5mm Drills**
  Flute length: 100mm / Overall length: 160mm

- **3-10mm Drills**
  Flute length: 200mm / Overall length: 250mm

Drill Range mm	pcs	Increments	Order Code	Price
1-10	9	0.1	11063910	**£214.85**
1-5-10	19	0.5	11063900	**£361.98**

HSS METRIC JOBBER DRILL SET

Available in Various Size Range Options

- HSS DIN338 jobber drill set
- h8 tolerance
- Metric sets are available in various size range options
- Straight shank
- Jobber drills
- Packed in a drill set box
- Presto tools are a household name in the cutting tool industry
- 118° drill point



*Supplied in a plastic tube

PRESTO

Drill Range mm	pcs	Increments	Order Code	Price
1-10	19	0.5	09500M19	**£32.64**
1-13	25	0.5	09500M25	**£59.27**
6-10	41	0.1	09500M41	**£101.41**
1-5.9	50	0.1	09500M50	**£33.03**
1-10	19	0.5	09510M19*	**£27.74**
1-10	70	0.5	09500M170	**£251.63**
1-13 + 3.3, 4.2	40	0.5	09500M240	**£569.84**

HSS IMPERIAL JOBBER DRILL SET

Available in Various Size Range Options

- HSS DIN338
- h8 tolerance
- Imperial sets are available in various size range options
- Straight shank
- Jobber drills
- Packed in a drill set box
- Presto tools are a household name in the cutting tool industry
- 118° drill point



PRESTO

Drill Range inch	pcs	Increments	Order Code	Price
1/16"-1/4"	13	1/64"	0950013	**£17.50**
1/16"-1/2"	15	1/32"	0950015	**£44.58**
1/16"-3/8"	21	1/64"	0950021	**£40.45**
1/16"-1/2"	29	1/64"	0950029	**£75.17**
No.1-No.60	60	#1	0950060	**£25.69**

HSS BLACKSMITH DRILL SET

Available in Various Size Range Options

- HSS steam tempered general purpose drill set
- 12.7mm (1/2") shank



ATORN®

Drill Range mm	pcs	Increments	Order Code	Price
13.5-20	14	0.5	11067900	**£591.61**
14-25	12	1	11067910	**£355.81**





Tap & Drill Sets Available

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DRILL SHARPENING MACHINE

Fast & Simple Way Of Sharpening Drills 2-26mm

- Fast and simple operation
- Point angle 90°-135° (generally 118° is suitable)
- Chisel edge grinding
- Up & down swing grinding method gives the sharpest & most durable drill
- Spare grinding wheels available in HSS or carbide (sold seperately)



CUTWEL PRO

Drill Diameter Range mm	Order Code	Price
2-13	JD-213	**£499.00**
13-26	JD-1326	**£999.00**

SPARE GRINDING WHEEL FOR DRILL SHARPENING MACHINES

Available for HSS and Carbide Drills



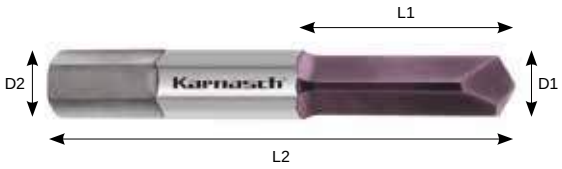
CUTWEL PRO

Drill Diameter Range mm	Order Code	Price
For HSS Drills		
2-13	JD-213-CBN-200	**£81.47**
13-26	JD-1326-CBN-150	**£105.46**
For Carbide Drills		
2-13	JD-213-SDC-200	**£81.47**
13-26	JD-1326-SDC-150	**£111.02**

SOLID CARBIDE DRILLS TO REMOVE JAMMED TAPS

Remove 1–5 Taps with One Drill

- Hexagonal and cylindrical shank drilling for use on NC machines as well as on manual machines with three or four-jaw chucks
- TiAlN coated



Karnasch PROFESSIONAL TOOLS

For Thread	D1 h7	D2 h6	L1	L2	Order Code	Price
M3	2.5	3	10	38	201860010	**£23.33**
M4	3.3	4	14	46	201860020	**£30.00**
M5	4.2	5	19	50	201860030	**£35.00**
M6	5	6	23	50	201860040	**£40.00**
M8	6.8	8	23	60	201860050	**£45.00**
M10	8.5	10	25	80	201860060	**£57.69**
M12	10.2	12	35	80	201860070	**£65.00**

SCREW EXTRACTORS

Used Expressly for Removing Broken or Seized Screws

- They are left-handed, for use on right-handed threads
- The screw is first drilled out to the proper diameter for that extractor, the extractor is then inserted into this hole and turned counter-clockwise
- Presto tools are a household name in the cutting tool industry



PRESTO

Size	Overall Length mm	Body Length mm	Shank Ø	Small Ø	Across Flats	Square Length	Screw Or Bolt Size	Order Code	Price
No.1	50	12	3.29	1.8	2.6	4.5	1/8" - 3/16", M2.5 - M4, #3 - #6	090101	**£2.08**
No.2	60	18	4.8	2.2	3.8	7	1/4", M5 - M6, #6 - #12	090102	**£2.28**
No.3	68	24	6.4	3.1	5	9	5/16" - 3/8", M7 - M8, #14	090103	**£2.69**
No.4	76	33	8.8	4.8	6.6	10	7/16", M10, 1/8" NPT, 1/8" BSP	090104	**£3.10**
No.5	85	36	11.1	6.5	8.3	11	1/2" - 5/8" , M12 - M16, 1/4" NPT, 1/4" BSP	090105	**£3.77**
No.6	96	43	15	9.5	12.5	14	3/4", M20, 3/8" NPT, 3/8" BSP	090106	**£5.17**
No.7	102	46	19.9	11.8	15.6	16	7/8" - 1", M22 - M25, 1/2" NPT, 1/2" BSP	090107	**£8.21**
No.8	112	56	26	15.2	20.5	23	1.3/8", M27 - M36, 3/4" NPT, 3/4" BSP	090108	**£12.79**
No.9	117.8	56	32.3	23	25	25	1.3/4", M36 - M52, 1" NPT, 1" BSP	090109	**£18.70**

SCREW EXTRACTOR SETS

Used Expressly for Removing Broken or Seized Screws

- They are left-handed, for use on right-handed threads.
- The screw is first drilled out to the proper diameter for that extractor. The extractor is then inserted into this hole and turned counter-clockwise.
- Presto tools are a household name in the cutting tool industry

Contents

- **Set 1**
  1-5 Screw Extractor Set
- **Set 2**
  1-6 Screw Extractor Set



PRESTO

Set	Order Code	Price
1	096001-5	**£13.07**
2	096001-6	**£21.95**

SCREW EXTRACTOR & DRILL KIT

- Easy to use, tapered step drill produces a tapered and stepped hole, that allows the screw extractor to get more grip on the broken stud/tap, because the drilled hole is tapered there is no extraction deformation on the hole or thread when removing the broken stud or tap

Contents:

- Stud Extractor Size: No. 1, No. 2
- Drill Size: 4, 5, 5.5, 7.5, 10
- Stud / Bolt Size (Imperial): 1/8" - 3/16", 1/4", 5/16" - 3/8", 7/16", 1/2" - 9/16"
- Stud / Bolt Size (Metric): M2.5 - M4.0, M5.0 - M6.0, M7.0 - M8.0, M10, M12 - M14



PRESTO

Order Code	Price
096071-5	**£128.45**

SCREW EXTRACTOR & DRILL KIT

- 17pc set with spiral drill bits and screw extractors included

Contents:

- Screw extractors: 2, 2.5, 3, 4, 5, 6, 8, 10mm
- Drill bits: 2.3, 2.8, 3.4, 3.5, 5.7, 6.8, 9, 11mm



wiha

Order Code	Price
WIHA-03988	**£69.19**

MULTI 1 DRILLS STUB LENGTH

CDRA03 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL		ALLOY STEEL & PRE-HARD. STEEL		MOLD STEEL & HARDENED STEEL		STAINLESS STEEL (SUS304, 200)		STAINLESS STEEL (SUS420, 440)		TITANIUM & NICKEL ALLOYS		CAST IRON		ALUMINIUM ALLOYS	
Hardness					HRC30 ~ 45		-		-		-		-		-	
Drilling Speed	30 ~ 40 m/min		25 ~ 35 m/min		13 ~ 18 m/min		13 ~ 18 m/min		15 ~ 20 m/min		3 ~ 6 m/min		35 ~ 45 m/min		80 ~ 100 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2	5800	0.06	4700	0.05	2600	0.04	2600	0.04	3100	0.08	800	0.03	6500	0.08	10500	0.17
3	4300	0.12	3500	0.09	1800	0.05	1800	0.05	2100	0.09	530	0.05	4900	0.14	10500	0.27
4	3200	0.15	2600	0.13	1300	0.07	1300	0.07	1600	0.11	400	0.07	3600	0.18	8000	0.33
5	2600	0.18	2100	0.16	1050	0.09	1050	0.09	1250	0.17	320	0.09	2900	0.21	6500	0.39
6	2100	0.2	1700	0.18	900	0.1	900	0.1	1050	0.19	260	0.1	2400	0.25	5200	0.46
8	1600	0.24	1300	0.2	650	0.14	650	0.14	800	0.26	200	0.13	1800	0.29	4200	0.51
10	1300	0.27	1000	0.24	550	0.17	550	0.17	630	0.33	160	0.16	1500	0.32	3400	0.61
12	1100	0.29	850	0.26	450	0.2	450	0.2	530	0.39	130	0.19	1200	0.36	2700	0.73

MULTI 1 DRILLS JOBBER LENGTH

CDRA04 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL		ALLOY STEEL & PRE-HARD. STEEL		MOLD STEEL & HARDENED STEEL		STAINLESS STEEL (SUS304, 200)		STAINLESS STEEL (SUS420, 440)		TITANIUM & NICKEL ALLOYS		CAST IRON		ALUMINIUM ALLOYS	
Hardness					HRC30 ~ 45		-		-		-		-		-	
Drilling Speed	30 ~ 40 m/min		25 ~ 35 m/min		13 ~ 18 m/min		13 ~ 18 m/min		15 ~ 20 m/min		3 ~ 6 m/min		35 ~ 45 m/min		80 ~ 100 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2	5800	0.05	4700	0.04	2600	0.03	2600	0.03	3100	0.07	800	0.02	6500	0.07	10500	0.14
3	4300	0.1	3500	0.08	1800	0.04	1800	0.04	2100	0.08	530	0.04	4900	0.12	10500	0.23
4	3200	0.13	2600	0.11	1300	0.06	1300	0.06	1600	0.09	400	0.05	3600	0.15	8000	0.28
5	2600	0.15	2100	0.14	1050	0.08	1050	0.08	1250	0.14	320	0.06	2900	0.18	6500	0.33
6	2100	0.17	1700	0.15	900	0.09	900	0.09	1050	0.16	260	0.07	2400	0.21	5200	0.39
8	1600	0.2	1300	0.17	650	0.12	650	0.12	800	0.22	200	0.09	1800	0.25	4200	0.43
10	1300	0.23	1000	0.2	550	0.14	550	0.14	630	0.28	160	0.11	1500	0.27	3400	0.52
12	1100	0.25	850	0.22	450	0.17	450	0.17	530	0.33	130	0.13	1200	0.31	2700	0.62

RPM: revolutions per minute Feed: mm per minute

TiN COATED & UNCOATED HSS 8% COBALT

D4107, D4105, D2107, D2105 & D2104 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL						ALLOY STEEL				TOOL STEEL		STAINLESS STEEL	
Hardness			~ HRC23		HRC23 ~ 28		HRC23 ~ 34		HRC34 ~ 38		-		HRC23	
Strength	~ 570 N/mm²		~ 830 N/mm²		830 ~ 950 N/mm²		830 ~ 1110 N/mm²		1110 ~ 1260 N/mm²		~ 270 N/mm²		830 N/mm²	
Drilling Speed	22 ~ 27 m/min		15 ~ 20 m/min		10 ~ 15 m/min		15 ~ 20 m/min		8 ~ 12 m/min		20 ~ 25 m/min		15 ~ 20 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2.5	3380	0.025	2550	0.025	1900	0.015	2380	0.020	1400	0.015	3180	0.042	2550	0.025
3	2700	0.050	2000	0.050	1500	0.025	1880	0.050	1100	0.020	2500	0.050	2000	0.050
5	1700	0.063	1280	0.063	960	0.038	1190	0.063	700	0.025	1590	0.063	1280	0.063
8	1050	0.130	780	0.130	590	0.076	730	0.130	430	0.038	970	0.130	780	0.130
11	750	0.150	560	0.150	425	0.076	520	0.180	310	0.050	700	0.180	560	0.150
19	440	0.230	330	0.230	255	0.130	300	0.230	180	0.050	440	0.230	330	0.230
31	260	0.280	195	0.280	145	0.180	180	0.280	107	0.076	240	0.300	195	0.280

MATERIAL	CAST IRON		TITANIUM ALLOYS		ALUMINIUM ALLOYS		MAGNESIUM ALLOYS		ZINC ALLOYS		PLASTICS	
Hardness	~ HRC21		-		-		-		-		-	
Strength	~ 800 N/mm²		410 N/mm²		-		-		-		-	
Drilling Speed	20 ~ 30 m/min		8 ~ 12 m/min		45 ~ 50 m/min		55 ~ 65 m/min		40 ~ 50m/min		20 ~ 25 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2.5	2250	0.025	1400	0.02	6400	0.038	8600	0.038	6400	0.038	3380	0.025
3	2000	0.050	1100	0.025	5000	0.063	6800	0.063	5000	0.063	2700	0.05
5	1280	0.063	700	0.038	3200	0.076	4300	0.076	3200	0.076	1700	0.063
8	780	0.130	430	0.076	2000	0.180	2600	0.180	2000	0.180	1050	0.13
11	560	0.150	430	0.076	1400	0.200	1900	0.200	1400	0.200	750	0.15
19	330	0.230	180	0.13	820	0.300	1100	0.300	820	0.300	440	0.23
31	195	0.280	107	0.18	490	0.380	660	0.380	490	0.380	260	0.28

HPD DRILLS PREMIUM HSS

D4541 & D4542 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL		ALLOY STEELS (SCM-SNC-SNCM)		TOOL STEEL & ALLOY STEELS (SKD11)		TOOL STEEL		CAST IRON		ALUMINIUM & MAGNESIUM ALLOYS	
Drilling Speed	20 ~ 25 m/min		20 ~ 25 m/min		13 ~ 18 m/min		35 ~ 40 m/min		35 ~ 40 m/min		80 ~ 100 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2	4200	0.08	3600	0.08	1750	0.08	5800	0.11	5800	0.11	10500	0.16
3	2900	0.13	2500	0.13	1170	0.13	4000	0.14	4000	0.14	10500	0.25
4	2100	0.14	1900	0.14	880	0.14	3000	0.17	3000	0.17	8000	0.3
5	1700	0.16	1500	0.16	700	0.16	2400	0.2	2400	0.2	6500	0.36
6	1300	0.17	1300	0.17	580	0.17	2100	0.23	2100	0.23	5200	0.42
8	1000	0.21	950	0.21	440	0.21	1500	0.26	1500	0.26	4200	0.47
10	850	0.25	750	0.25	350	0.25	1100	0.32	1100	0.32	3400	0.56
12	700	0.3	650	0.3	290	0.3	1000	0.38	1000	0.38	2700	0.67
14	550	0.35	500	0.35	250	0.35	850	0.4	850	0.4	2400	0.72
16	520	0.38	470	0.38	220	0.38	750	0.42	750	0.42	2100	0.77
18	450	0.44	420	0.44	195	0.44	700	0.45	700	0.45	1900	0.8
20	400	0.45	350	0.45	175	0.45	600	0.51	600	0.51	1600	0.87
22	370	0.5	340	0.5	160	0.5	550	0.52	550	0.52	1500	0.95
24	350	0.54	300	0.54	145	0.54	500	0.58	500	0.58	1400	1
26	320	0.58	280	0.58	135	0.58	450	0.6	450	0.6	1300	1.05
28	300	0.62	260	0.62	125	0.62	420	0.63	420	0.63	1200	1.1
30	280	0.66	240	0.66	115	0.66	400	0.74	400	0.74	1100	1.15
32	260	0.7	230	0.7	110	0.7	380	0.74	380	0.74	950	1.2

PLEASE NOTE: The FEED should be reduced by 15~20% for D4542 Series.

HPD-SUS DRILL HSS 5% COBALT

DJ543 & DJ544 Series

CUTTING DATA

DRILLING

MATERIAL	MILD STEEL & LOW CARBON STEEL		STAINLESS STEEL (SUS304, 200)		STAINLESS STEEL (SUS420, 440)		ALUMINUM & ALUMINIUM ALLOYS		PLASTICS, COPPER & COPPER ALLOYS	
Drilling Speed	30 ~ 40 m/min		15 ~ 20 m/min		13 ~ 18 m/min		80 ~ 100 m/min		30 ~ 35 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2	6300	0.08	2600	0.03	3100	0.07	11000	0.09	5600	0.06
3	4200	0.13	1800	0.04	2100	0.08	7350	0.13	3750	0.08
4	3200	0.14	1300	0.06	1600	0.1	7050	0.18	2800	0.1
5	2500	0.16	1050	0.08	1250	0.15	5500	0.22	2250	0.13
6	2100	0.18	900	0.09	1050	0.18	4600	0.26	1850	0.15
8	1550	0.22	650	0.12	800	0.24	3500	0.34	1350	0.2
10	1250	0.26	550	0.15	630	0.3	2800	0.4	1100	0.25
12	1050	0.32	450	0.18	530	0.36	2300	0.5	950	0.3
14	900	0.36	400	0.33	450	0.44	2050	0.55	800	0.33
16	790	0.4	350	0.36	390	0.48	1750	0.62	700	0.35
18	700	0.45	300	0.39	350	0.5	1600	0.7	620	0.4
20	620	0.47	260	0.43	320	0.53	1450	0.75	560	0.4

PLEASE NOTE: The FEED should be reduced by 15~20% for DJ544 Series.

GOLD-P DRILL HSS 5% COBALT

DLGP195 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL				ALLOY STEEL		STAINLESS STEEL		TITANIUM ALLOYS		ALUMINIUM & ZINC ALLOYS		MAGNESIUM ALLOYS	
Hardness			~ HRC23		HRC23 ~ 34		~ HRC23		-		-		-	
Strength	~ 570 N/mm²		~ 830 N/mm²		810 ~ 1110 N/mm²		~ 830 N/mm²		~ 410 N/mm²		-		-	
Drilling Speed	35 ~ 45 m/min		30 ~ 40 m/min		20 ~ 25 m/min		20 ~ 25 m/min		20 ~ 25 m/min		85 ~ 95 m/min		30 ~ 35 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	14000	0.02	12500	0.02	7700	0.02	7000	0.02	8050	0.02	30000	0.02	11500	0.03
2	7000	0.06	6100	0.06	3850	0.06	3500	0.06	4050	0.06	15000	0.06	5800	0.09
3	4650	0.10	4100	0.08	2550	0.08	2350	0.08	2700	0.08	9900	0.10	3850	0.13
4	3500	0.11	3050	0.11	1950	0.10	1750	0.10	2000	0.09	7450	0.11	2900	0.15
5	2800	0.12	2450	0.11	1550	0.10	1400	0.10	1600	0.10	5950	0.12	2300	0.17
6	2350	0.14	2050	0.13	1300	0.12	1150	0.12	1350	0.12	4950	0.14	1950	0.19
7	2000	0.16	1750	0.15	1100	0.14	1000	0.14	1150	0.14	4250	0.16	1650	0.22
8	1750	0.18	1550	0.18	960	0.15	875	0.15	1000	0.15	3700	0.18	1450	0.24
9	1550	0.20	1350	0.22	855	0.18	780	0.18	895	0.17	3300	0.20	1280	0.27
10	1400	0.21	1250	0.22	770	0.18	700	0.18	805	0.18	3000	0.23	1150	0.29
11	1250	0.22	1100	0.22	700	0.18	650	0.18	730	0.18	2700	0.23	1050	0.30
12	1150	0.23	1000	0.22	650	0.20	585	0.20	670	0.20	2480	0.23	960	0.31
13	1050	0.23	950	0.22	595	0.20	540	0.20	620	0.20	2300	0.23	890	0.31

RPM: revolutions per minute Feed: mm per minute

GOLD-P WORM PATTERN DRILL HSS 5% COBALT

DLGP506 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL & ALLOY STEELS		TOOL STEEL & HARDENED STEEL		SOFT GREY CAST IRON		HARD GREY CAST IRON	
Hardness	HRC15 ~ 30		HRC20 ~ 40		-		-	
Strength	700 ~ 1000 N/mm²		800 ~ 1200 N/mm²		-		-	
Drilling Speed	23 ~ 28 m/min		15 ~ 20 m/min		40 ~ 50 m/min		25 ~ 30 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	8750	0.02	6300	0.02	16000	0.02	9800	0.02
2	4400	0.06	3150	0.06	7900	0.07	4900	0.07
3	2900	0.08	2100	0.08	5250	0.11	3250	0.11
4	2200	0.09	1600	0.09	3950	0.14	2450	0.14
5	1750	0.10	1250	0.10	3150	0.14	1950	0.14
6	1450	0.12	1050	0.12	2650	0.18	1650	0.18
7	1250	0.14	900	0.14	2250	0.20	1400	0.20
8	1100	0.15	790	0.15	1950	0.22	1250	0.22
9	975	0.17	700	0.17	1750	0.24	1100	0.24
10	875	0.18	630	0.18	1600	0.28	980	0.28
11	800	0.20	575	0.20	1450	0.28	890	0.28
12	730	0.20	525	0.20	1300	0.28	815	0.28
13	675	0.20	485	0.20	1200	0.28	755	0.28

SUPER-GP DRILL SUPER HSS

DSH105 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL						ALLOY STEEL				TOOL STEEL	
Hardness	-		~ HRC23		HRC23 ~ 28		HRC23 ~ 34		HRC34 ~ 38		-	
Strength	~ 570 N/mm²		~ 830 N/mm²		830 ~ 950 N/mm²		830 ~ 1110 N/mm²		1110 ~ 1260 N/mm²		~ 270 N/mm²	
Drilling Speed	22 ~ 32 m/min		20 ~ 25 m/min		13 ~ 18 m/min		17 ~ 22 m/min		8 ~ 13 m/min		20 ~ 25 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2.5	3380	0.025	2550	0.025	1900	0.015	2380	0.020	1400	0.015	3180	0.042
3	2700	0.050	2000	0.050	1500	0.025	1880	0.050	1100	0.020	2500	0.050
5	1700	0.063	1280	0.063	960	0.038	1190	0.063	700	0.025	1590	0.063
6	1350	0.085	1000	0.085	750	0.051	950	0.085	550	0.029	1250	0.085
8	1050	0.130	780	0.130	590	0.076	730	0.130	430	0.038	970	0.130
10	850	0.140	640	0.140	480	0.076	600	0.150	350	0.047	780	0.160
11	750	0.150	560	0.150	425	0.076	520	0.180	310	0.050	700	0.180
13	640	0.160	470	0.160	360	0.083	440	0.186	260	0.050	600	0.186

MATERIAL	CAST IRON		ALUMINIUM ALLOYS		MAGNESIUM ALLOYS		ZINC ALLOYS		PLASTICS	
Hardness	~ HRC21		-		-		-		-	
Strength	~ 800 N/mm²		-		-		-		-	
Drilling Speed	15 ~ 20 m/min		40 ~ 50 m/min		55 ~ 65 m/min		40 ~ 50m/min		20 ~ 25 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2.5	2250	0.025	6400	0.038	8600	0.038	6400	0.038	3380	0.025
3	2000	0.050	5000	0.063	6800	0.063	5000	0.063	2700	0.050
5	1280	0.063	3200	0.076	4300	0.076	3200	0.076	1700	0.063
6	1000	0.085	2500	0.111	3400	0.111	2500	0.111	1350	0.085
8	780	0.130	2000	0.180	2600	0.180	2000	0.180	1050	0.130
10	640	0.140	1600	0.190	2100	0.190	1600	0.190	850	0.140
11	560	0.150	1400	0.200	1900	0.200	1400	0.200	750	0.150
13	460	0.160	1200	0.213	1600	0.213	1200	0.213	650	0.160

RPM: revolutions per minute Feed: mm per minute

BASIC TWIST DRILLS HSS

D1105 & D1121 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL						ALLOY STEEL				TOOL STEEL	
Hardness			~ HRC23		HRC23 ~ 28		HRC23 ~ 34		HRC34 ~ 38		-	
Strength	~ 570 N/mm²		~ 830 N/mm²		830 ~ 950 N/mm²		830 ~ 1110 N/mm²		1110 ~ 1260 N/mm²		~ 270 N/mm²	
Drilling Speed	22 ~ 27 m/min		15 ~ 20 m/min		10 ~ 15 m/min		15 ~ 20 m/min		8 ~ 12 m/min		20 ~ 25 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2.5	3380	0.025	2550	0.025	1900	0.015	2380	0.020	1400	0.015	3180	0.042
3	2700	0.050	2000	0.050	1500	0.025	1880	0.050	1100	0.020	2500	0.050
5	1700	0.063	1280	0.063	960	0.038	1190	0.063	700	0.025	1590	0.063
8	1050	0.130	780	0.130	590	0.076	730	0.130	430	0.038	970	0.130
11	750	0.150	560	0.150	425	0.076	520	0.180	310	0.050	700	0.180
19	440	0.230	330	0.230	255	0.130	300	0.230	180	0.050	440	0.230
31	260	0.280	195	0.280	145	0.180	180	0.280	107	0.076	240	0.300

MATERIAL	CAST IRON		ALUMINIUM ALLOYS		MAGNESIUM ALLOYS		ZINC ALLOYS		PLASTICS	
Hardness	~ HRC21		-		-		-		-	
Strength	~ 800 N/mm²		-		-		-		-	
Drilling Speed	15 ~ 20 m/min		45 ~ 50 m/min		55 ~ 65 m/min		40 ~ 50m/min		20 ~ 25 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2.5	2250	0.025	6400	0.038	8600	0.038	6400	0.038	3380	0.025
3	2000	0.050	5000	0.063	6800	0.063	5000	0.063	2700	0.05
5	1280	0.063	3200	0.076	4300	0.076	3200	0.076	1700	0.063
8	780	0.130	2000	0.180	2600	0.180	2000	0.180	1050	0.13
11	560	0.150	1400	0.200	1900	0.200	1400	0.200	750	0.15
19	330	0.230	820	0.300	1100	0.300	820	0.300	440	0.23
31	195	0.280	490	0.380	660	0.380	490	0.380	260	0.28

TWIST DRILLS HSS FOR BRASS/BRONZE

D1100 Series

CUTTING DATA

DRILLING

MATERIAL	BRASS		BRONZE	
Drilling Speed	45 ~ 55 m/min		30 ~ 35 m/min	
Diameter	RPM	Feed	RPM	Feed
2	8750	0.080	5688	0.052
3	5850	0.100	3803	0.065
4	4400	0.120	2860	0.078
5	3500	0.140	2275	0.091
6	2900	0.160	1885	0.104
7	2500	0.180	1625	0.117
8	2200	0.200	1430	0.130
9	1950	0.220	1268	0.143
10	1750	0.250	1138	0.163
11	1600	0.270	1040	0.176
12	1450	0.290	943	0.189
13	1350	0.320	878	0.208

RPM: revolutions per minute Feed: mm per minute

TWIST DRILLS HSS FOR ALUMINIUM

D1106 Series

CUTTING DATA

DRILLING

MATERIAL	LONG CHIP ALUMINUM ALLOYS		SHORT CHIP ALUMINUM ALLOYS	
Drilling Speed	40 ~ 50 m/min		30 ~ 35 m/min	
Diameter	RPM	Feed	RPM	Feed
2	7950	0.08	5550	0.06
3	5300	0.10	3700	0.07
4	4000	0.12	2800	0.08
5	3200	0.14	2230	0.09
6	2650	0.16	1850	0.10
7	2250	0.18	1600	0.11
8	2000	0.20	1400	0.12
9	1750	0.22	1250	0.14
10	1600	0.25	1100	0.16
11	1450	0.28	1000	0.18
12	1330	0.32	930	0.20
13	1220	0.35	860	0.22

WORM PATTERN HSS 5% COBALT

DL510, DL508, DL509, DT600, DT692, DT693 & DL608 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL & ALLOY STEELS		TOOL STEEL & HARDENED STEEL		SOFT GREY CAST IRON		HARD GREY CAST IRON	
Hardness	HRC15 ~ 30		HRC20 ~ 40		-		-	
Strength	700 ~ 1000 N/mm²		800 ~ 1200 N/mm²		-		-	
Drilling Speed	13 ~ 18 m/min		8 ~ 13 m/min		40 ~ 50 m/min		25 ~ 30 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
2	2630	0.03	2100	0.025	4200	0.06	1680	0.05
2.5	2100	0.04	1680	0.03	3300	0.08	1310	0.06
3	1680	0.05	1310	0.04	2630	0.10	1050	0.08
4	1310	0.06	1050	0.05	2100	0.13	840	0.10
5	1050	0.06	840	0.05	1680	0.13	660	0.10
6	840	0.08	660	0.06	1310	0.16	530	0.13
8	660	0.10	530	0.08	1050	0.20	420	0.17
10	530	0.13	420	0.10	840	0.25	330	0.21
13	420	0.13	330	0.10	660	0.25	260	0.21
16	330	0.15	260	0.13	530	0.30	210	0.25
20	260	0.20	210	0.15	420	0.40	170	0.30
25	210	0.25	170	0.20	330	0.50	130	0.50
30	170	0.25	130	0.20	260	0.50	110	0.50

WORM PATTERN HSS 5% COBALT FOR ALUMINIUM

DL507 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL & ALLOY STEELS		SOFT GREY CAST IRON		ALUMINUM ALLOYS	
Hardness	HRC15 ~ 30		-		-	
Strength	700 ~ 1000 N/mm²		-		-	
Drilling Speed	13 ~ 18 m/min		25 ~ 30 m/min		45 ~ 55 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed
2	2630	0.03	4200	0.06	8700	0.04
2.5	2100	0.04	3300	0.08	6950	0.05
3	1680	0.05	2630	0.10	5800	0.06
4	1310	0.06	2100	0.13	4300	0.08
5	1050	0.06	1680	0.13	3500	0.10
6	840	0.08	1310	0.16	2900	0.12
8	660	0.10	1050	0.20	2200	0.16
10	530	0.13	840	0.25	1750	0.20
13	420	0.13	660	0.25	1350	0.26

MORSE TAPER DRILL HSS 5% COBALT HEAVY DUTY

DL205 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL						ALLOY STEEL				STAINLESS STEEL		CAST IRON	
Hardness	-		~ HRC23		HRC23 ~ 28		HRC23 ~ 34		HRC34 ~ 38		HRC23		HRC21	
Strength	~ 570 N/mm²		~ 830 N/mm²		830 ~ 950 N/mm²		830 ~ 1110 N/mm²		1110 ~ 1260 N/mm²		830 N/mm²		800 N/mm²	
Drilling Speed	27 ~ 32 m/min		20 ~ 25 m/min		13 ~ 18 m/min		17 ~ 22 m/min		8 ~ 13 m/min		27 ~ 32 m/min		27 ~ 32 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
13	785	0.17	575	0.17	445	0.09	540	0.20	325	0.05	785	0.17	785	0.17
14	720	0.18	530	0.18	410	0.10	500	0.20	300	0.05	720	0.18	720	0.18
16	635	0.20	475	0.20	365	0.11	445	0.22	265	0.05	635	0.20	635	0.20
18	550	0.22	420	0.22	320	0.12	390	0.23	230	0.05	550	0.22	550	0.22
20	500	0.23	380	0.23	290	0.13	355	0.23	210	0.06	500	0.23	500	0.23
22	450	0.24	340	0.24	260	0.14	320	0.23	190	0.06	450	0.24	450	0.24
24	420	0.25	320	0.25	240	0.15	295	0.23	175	0.07	420	0.25	420	0.25
26	390	0.26	300	0.26	220	0.16	270	0.23	160	0.07	390	0.26	390	0.26
28	360	0.27	275	0.27	205	0.17	250	0.23	150	0.07	360	0.27	360	0.27
30	330	0.28	250	0.28	190	0.18	230	0.23	140	0.08	330	0.28	330	0.28

MORSE TAPER DRILL HSS

D1205, D1209 & D1210 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL						ALLOY STEELS				TOOL STEEL		STAINLESS STEEL	
Hardness	-		~ HRC23		HRC23 ~ 28		HRC23 ~ 34		HRC34 ~ 38		-		HRC23	
Strength	~ 570 N/mm²		~ 830 N/mm²		830 ~ 950 N/mm²		830 ~ 1110 N/mm²		1110 ~ 1260 N/mm²		~ 270 N/mm²		830 N/mm²	
Drilling Speed	20 ~ 25 m/min		18 ~ 22 m/min		10 ~ 15 m/min		13 ~ 18 m/min		8 ~ 12 m/min		20 ~ 25 m/min		15 ~ 20 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
13	645	0.17	480	0.17	370	0.09	440	0.17	265	0.05	645	0.17	480	0.17
19	440	0.23	330	0.23	255	0.13	300	0.23	180	0.05	440	0.23	330	0.23
32	260	0.28	195	0.28	145	0.18	180	0.28	107	0.08	240	0.30	195	0.28
50	165	0.33	125	0.33	93	0.20	115	0.33	68	0.08	150	0.43	125	0.33
60	140	0.40	105	0.40	78	0.23	95	0.40	57	0.10	125	0.48	105	0.40

MATERIAL	CAST IRON		TITANIUM ALLOYS		ALUMINIUM ALLOYS		MAGNESIUM ALLOYS		ZINC ALLOYS		PLASTICS	
Hardness	~ HRC21		-		-		-		-		-	
Strength	~ 800 N/mm²		410 N/mm²		-		-		-		-	
Drilling Speed	15 ~ 20 m/min		8 ~ 12 m/min		40 ~ 50 m/min		55 ~ 65 m/min		40 ~ 50m/min		20 ~ 25 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
13	480	0.17	265	0.09	1200	0.26	1600	0.26	1200	0.26	645	0.17
19	330	0.23	180	0.13	820	0.30	1100	0.30	820	0.30	440	0.23
32	195	0.28	107	0.18	490	0.38	660	0.38	490	0.38	260	0.28
50	125	0.33	68	0.20	310	0.46	415	0.46	310	0.46	165	0.33
60	105	0.40	57	0.23	260	0.50	345	0.50	260	0.50	140	0.40

RPM: revolutions per minute Feed: mm per minute

GOLD-P ECO DRILL

D1GP165 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEELS		CARBON STEELS		ALLOYSTEELS		STAINLESS STEELS		ALLUMINIUM ALLOYS, ZINC ALLOYS		MAGNESIUM ALLOYS		TITANIUM ALLOYS	
Hardness	-		~ HRC23		HRC23 ~ 34		HRC23							
Strength	~ 570 N/mm²		~ 830 N/mm²		810 ~ 1100 N/mm²		830 N/mm²						410 N/mm²	
Drilling Speed	35 ~ 45 m/min		30 ~ 405 m/min		20 ~ 25 m/min		20 ~ 25 m/min		85 ~ 95 m/min		30 ~ 35 m/min		20 ~ 25 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1.0	14000	0.02	12500	0.02	7700	0.02	7000	0.02	30000	0.02	11500	0.03	8050	0.02
2.0	7000	0.06	6100	0.06	3850	0.06	3500	0.06	15000	0.06	5800	0.09	4050	0.06
3.0	4650	0.10	4100	0.08	2550	0.08	2350	0.08	9900	0.10	3820	0.13	2700	0.08
4.0	3500	0.11	3050	0.11	1950	0.10	1750	0.10	7450	0.11	2900	0.15	2000	0.09
5.0	2800	0.12	2450	0.11	1550	0.10	1400	0.10	5950	0.12	2300	0.17	1600	0.10
6.0	2350	0.14	2050	0.13	1300	0.12	1150	0.12	4950	0.14	1950	0.19	1350	0.12
7.0	2000	0.16	1750	0.15	1100	0.14	1000	0.14	4250	0.16	1650	0.22	1150	0.14
8.0	1750	0.18	1550	0.18	960	0.15	875	0.15	3700	0.18	1450	0.24	1000	0.15
9.0	1550	0.20	1350	0.22	855	0.18	780	0.18	3300	0.20	1280	0.27	895	0.17
10.0	1400	0.21	1250	0.22	770	0.18	700	0.18	3000	0.23	1150	0.29	805	0.18
11.0	1250	0.22	1100	0.22	700	0.18	650	0.18	2700	0.23	1050	0.30	730	0.18
12.0	1150	0.23	1000	0.22	650	0.20	585	0.20	2480	0.23	960	0.31	670	0.20
13.0	1050	0.23	950	0.22	595	0.20	540	0.20	2300	0.23	890	0.31	620	0.20

Carbide Drills

P M S K N



High performance carbide drills

Carbide drills for steel, stainless steel, HRSA's, aluminium, cast iron, graphite & composite material. Includes specific ranges for harder to machine materials such as titanium and hardened steel.

Advantages

- Exceptional tool life compared to HSS.
- No need to ream on many geometries.
- No need to centre drill.

Features

- Wide range of geometries for different materials.
- Drills from general purpose to ultra-high performance.
- Maximum drill depths of up to 40xD available.

YG KORLOY Karnasch

Tool Selection

Description		Series	Length	Sizes ØD	Page
DREAM DRILL - GENERAL PLAIN SHANK		DH423	3xD	3-20	**670**
		DH424	5xD	1-20	**672**
DREAM DRILL - GENERAL PLAIN SHANK, PARALLEL SHANK		DH404	3xD	3-20	**676**
		DH421	8xD	1-14	**674**
DREAM DRILL PRO PLAIN SHANK • SOLID		DGN523	3xD	3-20	**670**
		DGN526	5xD	3-20	**672**
DREAM DRILL PRO PLAIN SHANK • THROUGH COOLANT		DGN506	3xD	1-20	**670**
		DGN508	5xD	1-20	**672**
DREAM DRILL - INOX PLAIN SHANK • THROUGH COOLANT		DH451	3xD	3-20	**670**
		DH452	5xD	1-20	**672**
		DH453	8xD	3-14	**674**
DREAM DRILL - ALU PLAIN SHANK • THROUGH COOLANT		D5432	3xD	3-20	**670**
		D5433	5xD	1-20	**672**
		D5434	8xD	3-14	**674**
DREAM DRILL - HIGH FEED PLAIN SHANK • THROUGH COOLANT		DGR493	3xD	3-20	**670**
		DGR495	5xD	1-20	**672**
DREAM DRILL - HIGH HARDENED STEEL PLAIN SHANK • HRC50~70		DH500	5xD	2.6-14	**677**
ECONOMY DRILL PLAIN SHANK		D5405	3xD	1-13	**678**
		D5407	5xD	1-13	**679**
MACH DRILL PLUS - INCONEL & TITANIUM PLAIN SHANK • THROUGH COOLANT		MSDPH-3S	3xD	3-12	**680**
		MSDPH-5S	5xD	3-12	**681**
DREAM DRILL - MQL PLAIN SHANK • THROUGH COOLANT		DH510	10xD	3-14	**682**
		DH515	15xD	3-12	**682**
		DH520	20xD	3-12	**682**
DREAM DRILL - MQL EVEN NO. SHANK PLAIN SHANK • THROUGH COOLANT		DHM15	15xD	3-12	**683**
		DHM20	20xD	3-12	**683**
		DHM25	25xD	3-10	**683**
		DHM30	30xD	3-6	**683**
ALU-DRILL 40° HELIX PLAIN SHANK		DCA40	3xD	2-20	**684**
		DCA60	5xD	2-20	**685**
K-DRILL-MICRO - ALU PLAIN SHANK		22.0360	5xD	0.5-3	**686**
K-DRILL - MICRO PLAIN SHANK		22.0341	<10xD	0.1-3	**687**
DREAM DRILL - FLAT BOTTOM PLAIN SHANK • SOLID & THROUGH COOLANT		DPP447	2xD	3-20	**688**
		DH450	5xD	3-20	**689**
90° POINT DRILLS - COMPOSITES PLAIN SHANK • DIAMOND COATED		29.0120	-	0.5-12	**690**
		29.0121	-	0.5-12	**692**
90° POINT DRILLS - COMPOSITES PLAIN SHANK • DIAMOND COATED • THRU. COOLANT		29.0122	-	6-12	**693**
CROWN POINT DRILLS - COMPOSITES PLAIN SHANK • DIAMOND COATED OR POLISHED		22.0080A 22.0080B	-	3-16	**694**

Drills for all applications!

The Cutwel carbide drill range offers excellent solutions for any application, performance requirement or budget.

From low cost general purpose drills to ultra-high performance 3 flute carbide drills, our product range covers all materials including steel, high-hardened steel, stainless steel, exotics, aluminium, cast iron and composites.



YG

P K

Dream Drill General

First choice for high performance drilling of alloy steels, pre-hardened steel and cast iron. Dream Drill General is available in stub length with parallel shank and short or jobber length with nominal diameter shanks.

- Self centering
- TiAlN coated carbide
- Strong steel geometry
- Lengths: 3xD, 5XD
- Through coolant: 8xD



STUB 670 | JOBBER 672 | LONG 674 | ★★★★ Performance

YG

P K

Dream Drill Pro

YG-1's Dream Drill Pro range boasts unrivalled drilling speeds on steel and cast Iron materials.

The unique wave shape cutting edge and 4 facet geometry improves chip formation in high speed conditions, whilst only a low cutting force is required.

- Optimised wide flute design
- Lengths: 3xD, 5xD
- Low cutting force
- With or without through coolant
- Z Coating



STUB 670 | JOBBER 672 | ★★★★ Performance

YG

P M K N

Dream Drill Inox

First choice for high performance drilling of stainless steel, low alloy or low carbon steels and also suitable for drilling heat resistant super alloys. Special geometry with Point-R thinning prevents work hardening and eliminates built up edge.

- Self centering
- TiAlN coated carbide
- m7 tolerance
- With or without through coolant
- Lengths: 3xD, 5xD & 8xD



STUB 670 | JOBBER 672 | LONG 674 | ★★★★ Performance

YG

N

Dream Drill Alu

The highest performing range of drills dedicated to aluminium and non-ferrous drilling.

These through coolant drills are self centering and give exceptional surface finish due to the sharp drill point and lapped flutes.

- Self centering
- Lapped polished flutes
- Deep flute pockets prevent built up edge
- With or without through coolant
- Lengths: 3xD, 5xD & 8xD



STUB 670 | JOBBER 672 | LONG 674 | ★★★★ Performance

YG

P K

Dream Drill High Feed

Triple flute high feed drill for 1.5-2 times faster cycle times compared to conventional carbide drill. Suitable for low-medium hardness drills, steels and cast iron.

- Triple flute for highest performance
- Self centering
- Coated solid carbide
- Through coolant
- m7 tolerance
- Lengths: 3xD & 5xD



STUB 670 | JOBBER 672 | ★★★★ Performance

YG

H

Hard Steel Drills HRC50-70

Special geometry carbide drill for high hardened steels from HRC55-70. The 15° helix and strong flute design enables drilling in the hardest of materials normally only possible with EDM/spark erosion.

- Self centering
- TiAlN coated carbide
- High performance
- Strong 15° helix flute design for highest strength
- h7 or m7 tolerance
- Lengths: 5xD



PAGE 677 | ★★★★ Performance

KORLOY

S

Mach Drill Plus Inconel & Titanium

Specialised ultra performance drill for HRSA's with extreme resistance to wear, especially in high temperatures.

- Wide chip pockets for improved productivity
- New PC325T grade with extreme heat resistance
- Exceptional surface finish and long tool life
- Through coolant
- h7 tolerance
- Lengths: 3xD & 5xD



STUB 680 | JOBBER 681 | ★★★★★ Performance

YG

MQL DRILLS Deep Hole Drilling

The high performance drill for deep hole drilling. High accuracy, high penetration rates and no pecking required (up to 20xD). Available in maximum drill lengths from 10xD to 30xD.

- Optimised wide flute design
- Lengths: 10xD, 15xD, 20xD, 25xD & 30xD
- Low cutting force
- With or without through coolant
- Z Coating



PAGE 682 | ★★★★ Performance

YG

P H M S K N

Flat Bottoms Drills 180° Point

High performance 90° point drills for drilling into inclined and uneven surfaces, cross holes, counterbores and thin plates. Flat bottom drills can be 2-3 times faster than using a slot drill.

- Coated or lapped solid carbide
- Self centering
- 90° drill point
- Lengths: 2xD & 5xD



STUB 688 | JOBBER 689 | ★★★★★ Performance

Karnasch

N

Diamond Coated Drills

High performance, high accuracy drill for drilling carbon fibre, glass filled plastics, Kevlar and graphite. Available in 2 designs for unidirectional and multi-directional fibre materials, the drills are designed to prevent delamination and ensure the longest tool life.

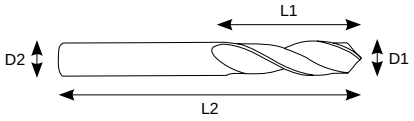
- Diamond coated solid carbide
- Self centering
- With or without cooling holes
- 35° with deep chip pockets



PAGE 690 | ★★★★ Performance

YG-1 STUB LENGTH DREAM DRILLS, 3xD

High Performance, High Accuracy Drilling



	Dream Drill General		Dream Drill Pro (Solid)		Dream Drill Pro (TC)		Dream Drill INOX		Dream Drill Alu		Dream Drill High Feed	
Series	DH423		DGN523		DGN506		DH451		D5432		DGR493	
Performance	★★★★		★★★★★		★★★★★		★★★★★		★★★★★		★★★★★	
Finish / Coating	TiAlN		Z		Z		TiAlN		-		H (Multi-layer)	
Drill Point	140°		140°		140°		140°		118°		140°	
No. Flutes	2		2		2		2		2		3	
Through Coolant	✕		✕		✓		✓		✓		✓	
Cutting Data	Page 695		Page 695		Page 695		Page 697		Page 698		Page 699	
P Steel	●		●		●		●				●	
H Hardened Steel							●					
M Stainless Steel							●					
S HRSA's							○					
K Cast Iron	●		●		●		○		●		●	
N Non-Ferrous							○					

D1	D2	L1	L2	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3				DH423030		DGN523030		DGN506030		DH451030		D5432030		-	-
3.1				DH423031		DGN523031		DGN506031		DH451031		D5432031		-	-
3.2				DH423032		DGN523032		DGN506032		DH451032		D5432032		-	-
3.3	6	20	62	DH423033	£18.09	DGN523033	£24.96	DGN506033	£36.00	DH451033	£27.60	D5432033	£30.89	-	-
3.4				DH423034		DGN523034		DGN506034		DH451034		D5432034		-	-
3.5				DH423035		DGN523035		DGN506035		DH451035		D5432035		-	-
3.6				DH423036		DGN523036		DGN506036		DH451036		D5432036		-	-
3.7				DH423037		DGN523037		DGN506037		DH451037		D5432037		-	-
3.8				DH423038		DGN523038		DGN506038		DH451038		D5432038		-	-
3.9				DH423039		DGN523039		DGN506039		DH451039		D5432039		-	-
4				DH423040		DGN523040		DGN506040		DH451040		D5432040		-	-
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4.2	6	24	66	DH423042	£18.09	DGN523042	£24.96	DGN506042	£36.00	DH451042	£27.60	D5432042	£30.89	-	-
4.3				DH423043		DGN523043		DGN506043		DH451043		D5432043		-	-
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YG-1 STUB LENGTH DREAM DRILLS, 3xD

High Performance, High Accuracy Drilling



Material Applications

● Excellent ○ Good

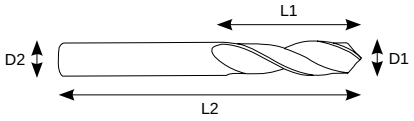
	Dream Drill General		Dream Drill Pro (Solid)		Dream Drill Pro (TC)		Dream Drill INOX		Dream Drill Alu		Dream Drill High Feed	
Series	DH423		DGN523		DGN506		DH451		D5432		DGR493	
Performance	★★★★★		★★★★★		★★★★★		★★★★★		★★★★★		★★★★★	
Finish / Coating	TiAlN		Z		Z		TiAlN		-		H (Multi-layer)	
Drill Point	140°		140°		140°		140°		118°		140°	
No. Flutes	2		2		2		2		2		3	
Through Coolant	✕		✕		✓		✓		✓		✓	
Cutting Data	Page 695		Page 695		Page 695		Page 697		Page 698		Page 699	
P Steel	●		●		●		●				●	
H Hardened Steel							●					
M Stainless Steel							●					
S HRSA's							○					
K Cast Iron	●		●		●		○		●		●	
N Non-Ferrous							○					

D1	D2	L1	L2	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
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8.9				DH423089		DGN523089		DGN506089		DH451089		D5432089		DGR493089	
9				DH423090		DGN523090		DGN506090		DH451090		D5432090		DGR493090	
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9.4				DH423094		DGN523094		DGN506094		DH451094		D5432094		DGR493094	
9.5	10	47	89	DH423095	£26.48	DGN523095	£38.09	DGN506095	£54.72	DH451095	£41.96	D5432095	£46.57	DGR493095	£68.75
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13	14	60	107	DH423130	£54.87	DGN523130	£78.89	DGN506130	£109.59	DH451130	£84.00	D5432130	£94.92	DGR493130	£137.62
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15	16	65	115	DH423150	£67.34	DGN523150	£96.84	DGN506150	£138.10	DH451150	£105.85	D5432150	£119.44	DGR493150	£173.46
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18.5				DH423185		DGN523185		DGN506185		DH451185		D5432185		DGR493185	
19				DH423190		DGN523190		DGN506190		DH451190		D5432190		DGR493190	
19.5	20	79	131	DH423195	£111.91	DGN523195	£154.42	DGN506195	£247.74	DH451195	£189.89	D5432195	£214.50	DGR493195	£311.18
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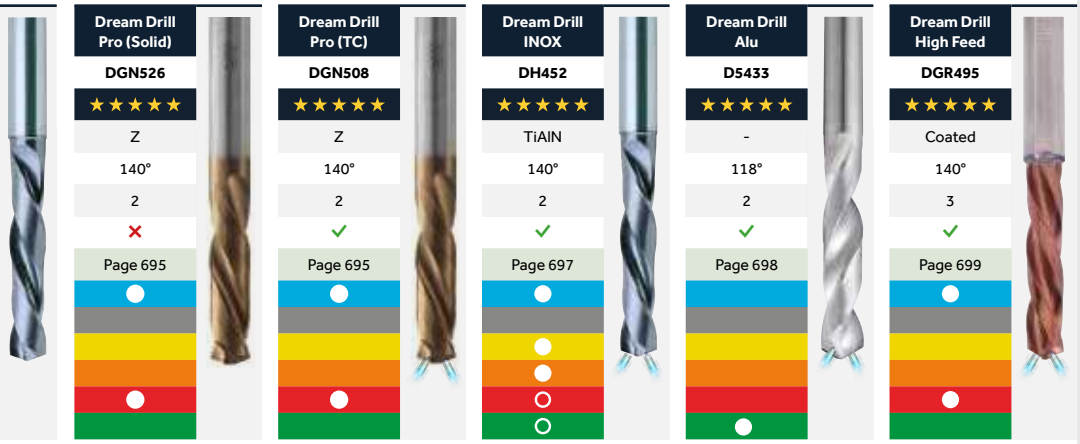
YG-1 JOBBER LENGTH DREAM DRILLS, 5xD

High Performance, High Accuracy Drilling

● Flute length SHORTER, please refer to website for dimensions



Series	Dream Drill General	Dream Drill Pro (Solid)	Dream Drill Pro (TC)	Dream Drill INOX	Dream Drill Alu	Dream Drill High Feed
	DH424	DGN526	DGN508	DH452	D5433	DGR495
Performance	★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
Finish / Coating	TiAlN	Z	Z	TiAlN	-	Coated
Drill Point	140°	140°	140°	140°	118°	140°
No. Flutes	2	2	2	2	2	3
Through Coolant	✕	✕	✓	✓	✓	✓
Cutting Data	Page 695	Page 695	Page 695	Page 697	Page 698	Page 699
P Steel	●	●	●	●		●
H Hardened Steel						
M Stainless Steel				●		
S HRSA's				●		
K Cast Iron	●	●	●	○		●
N Non-Ferrous				○	●	



D1	D2	L1	L2	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
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1.1				DH424011		DGN526011		DGN508011		DH452011		-	-	-	-
1.2				DH424012		DGN526012		DGN508012		DH452012		-	-	-	-
1.3				DH424013		DGN526013		DGN508013		DH452013		-	-	-	-
1.4	3	12	55	DH424014	£18.66	DGN526014	£25.75	DGN508014	£41.68	DH452014	£31.94	-	-	-	-
1.5				DH424015 ●		DGN526015		DGN508015		DH452015 ●		-	-	-	-
1.6				DH424016 ●		DGN526016		DGN508016		DH452016 ●		-	-	-	-
1.7				DH424017 ●		DGN526017		DGN508017		DH452017 ●		-	-	-	-
1.8				DH424018 ●		DGN526018		DGN508018		DH452018 ●		-	-	-	-
1.9				DH424019 ●		DGN526019		DGN508019		DH452019 ●		-	-	-	-
2				DH424020		DGN526020		DGN508020		DH452020		-	-	-	-
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2.2				DH424022		DGN526022		DGN508022		DH452022		-	-	-	-
2.3				DH424023		DGN526023		DGN508023		DH452023		-	-	-	-
2.4	4	21	57	DH424024	£18.66	DGN526024	£25.75	DGN508024	£41.68	DH452024	£31.94	-	-	-	-
2.5				DH424025		DGN526025		DGN508025		DH452025		-	-	-	-
2.6				DH424026		DGN526026		DGN508026		DH452026		-	-	-	-
2.7				DH424027		DGN526027		DGN508027		DH452027		-	-	-	-
2.8				DH424028		DGN526028		DGN508028		DH452028		-	-	-	-
2.9				DH424029		DGN526029		DGN508029		DH452029		-	-	-	-
3				DH424030		DGN526030		DGN508030		DH452030		D5433030		-	-
3.1				DH424031		DGN526031		DGN508031		DH452031		D5433031		-	-
3.2				DH424032		DGN526032		DGN508032		DH452032		D5433032		-	-
3.3	6	28	66	DH424033	£23.11	DGN526033	£31.88	DGN508033	£46.17	DH452033	£35.40	D5433033	£39.94	-	-
3.4				DH424034		DGN526034		DGN508034		DH452034		D5433034		-	-
3.5				DH424035		DGN526035		DGN508035		DH452035		D5433035		-	-
3.6				DH424036		DGN526036		DGN508036		DH452036		D5433036		-	-
3.7				DH424037		DGN526037		DGN508037		DH452037		D5433037		-	-
3.8				DH424038		DGN526038		DGN508038		DH452038		D5433038		-	-
3.9				DH424039		DGN526039		DGN508039		DH452039		D5433039		-	-
4				DH424040		DGN526040		DGN508040		DH452040		D5433040		-	-
4.1				DH424041		DGN526041		DGN508041		DH452041		D5433041		-	-
4.2	6	36	74	DH424042	£23.11	DGN526042	£31.88	DGN508042	£46.17	DH452042	£35.40	D5433042	£39.94	-	-
4.3				DH424043		DGN526043		DGN508043		DH452043		D5433043		-	-
4.4				DH424044		DGN526044		DGN508044		DH452044		D5433044		-	-
4.5				DH424045		DGN526045		DGN508045		DH452045		D5433045		-	-
4.6				DH424046		DGN526046		DGN508046		DH452046		D5433046		-	-
4.7				DH424047		DGN526047		DGN508047		DH452047		D5433047		-	-
4.8				DH424048		DGN526048		DGN508048		DH452048		D5433048		-	
4.9				DH424049		DGN526049		DGN508049		DH452049		D5433049		-	
5				DH424050		DGN526050		DGN508050		DH452050		D5433050		DGR495050	
5.1				DH424051		DGN526051		DGN508051		DH452051		D5433051		DGR495051	
5.2				DH424052		DGN526052		DGN508052		DH452052		D5433052		DGR495052	
5.3				DH424053		DGN526053		DGN508053		DH452053		D5433053		DGR495053	
5.4	6	44	82	DH424054	£23.11	DGN526054	£31.88	DGN508054	£46.17	DH452054	£35.40	D5433054	£39.94	DGR495054	£57.98
5.5				DH424055		DGN526055		DGN508055		DH452055		D5433055		DGR495055	
5.6				DH424056		DGN526056		DGN508056		DH452056		D5433056		DGR495056	
5.7				DH424057		DGN526057		DGN508057		DH452057		D5433057		DGR495057	
5.8				DH424058		DGN526058		DGN508058		DH452058		D5433058		DGR495058	
5.9				DH424059		DGN526059		DGN508059		DH452059		D5433059		DGR495059	
6				DH424060		DGN526060		DGN508060		DH452060		D5433060		DGR495060	
6.1				DH424061		DGN526061		DGN508061		DH452061		D5433061		DGR495061	
6.2				DH424062		DGN526062		DGN508062		DH452062		D5433062		DGR495062	
6.3				DH424063		DGN526063		DGN508063		DH452063		D5433063		DGR495063	
6.4				DH424064		DGN526064		DGN508064		DH452064		D5433064		DGR495064	
6.5	8	53	91	DH424065	£24.89	DGN526065	£35.80	DGN508065	£51.02	DH452065	£39.10	D5433065	£43.82	DGR495065	£64.08
6.6				DH424066		DGN526066		DGN508066		DH452066		D5433066		DGR495066	
6.7				DH424067		DGN526067		DGN508067		DH452067		D5433067		DGR495067	
6.8				DH424068		DGN526068		DGN508068		DH452068		D5433068		DGR495068	
6.9				DH424069		DGN526069		DGN508069		DH452069		D5433069		DGR495069	
7				DH424070		DGN526070		DGN508070		DH452070		D5433070		DGR495070	
7.1	8	53	91	DH424071	£24.89	DGN526071	£35.80	DGN508071	£51.02	DH452071	£39.10	D5433071	£43.82	DGR495071	£64.08
7.2				DH424072		DGN526072		DGN508072		DH452072		D5433072		DGR495072	
7.3				DH424073		DGN526073		DGN508073		DH452073		D5433073		DGR495073	

YG-1 JOBBER LENGTH DREAM DRILLS, 5xD

High Performance, High Accuracy Drilling



Material Applications

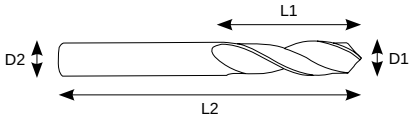
● Excellent ○ Good

	Dream Drill General		Dream Drill Pro (Solid)		Dream Drill Pro (TC)		Dream Drill INOX		Dream Drill Alu		Dream Drill High Feed	
Series	DH424		DGN526		DGN508		DH452		D5433		DGR495	
Performance	★★★★		★★★★★		★★★★★		★★★★★		★★★★★		★★★★★	
Finish / Coating	TiAlN		Z		Z		TiAlN		-		Coated	
Drill Point	140°		140°		140°		140°		118°		140°	
No. Flutes	2		2		2		2		2		3	
Through Coolant	✕		✕		✓		✓		✓		✓	
Cutting Data	Page 695		Page 695		Page 695		Page 697		Page 698		Page 699	
P Steel	●		●		●		●				●	
H Hardened Steel							●					
M Stainless Steel							●					
S HRSA's							○					
K Cast Iron	●		●		●		○		●		●	
N Non-Ferrous							○					

D1	D2	L1	L2	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
7.4				DH424074		DGN526074		DGN508074		DH452074		D5433074		DGR495074	
7.5				DH424075		DGN526075		DGN508075		DH452075		D5433075		DGR495075	
7.6				DH424076		DGN526076		DGN508076		DH452076		D5433076		DGR495076	
7.7	8	53	91	DH424077	£24.89	DGN526077	£35.80	DGN508077	£51.02	DH452077	£39.10	D5433077	£43.82	DGR495077	£64.08
7.8				DH424078		DGN526078		DGN508078		DH452078		D5433078		DGR495078	
7.9				DH424079		DGN526079		DGN508079		DH452079		D5433079		DGR495079	
8				DH424080		DGN526080		DGN508080		DH452080		D5433080		DGR495080	
8.1				DH424081		DGN526081		DGN508081		DH452081		D5433081		DGR495081	
8.2				DH424082		DGN526082		DGN508082		DH452082		D5433082		DGR495082	
8.3				DH424083		DGN526083		DGN508083		DH452083		D5433083		DGR495083	
8.4				DH424084		DGN526084		DGN508084		DH452084		D5433084		DGR495084	
8.5				DH424085		DGN526085		DGN508085		DH452085		D5433085		DGR495085	
8.6				DH424086		DGN526086		DGN508086		DH452086		D5433086		DGR495086	
8.7				DH424087		DGN526087		DGN508087		DH452087		D5433087		DGR495087	
8.8				DH424088		DGN526088		DGN508088		DH452088		D5433088		DGR495088	
8.9				DH424089		DGN526089		DGN508089		DH452089		D5433089		DGR495089	
9	10	61	103	DH424090	£32.07	DGN526090	£46.11	DGN508090	£60.74	DH452090	£46.55	D5433090	£51.55	DGR495090	£76.27
9.1				DH424091		DGN526091		DGN508091		DH452091		D5433091		DGR495091	
9.2				DH424092		DGN526092		DGN508092		DH452092		D5433092		DGR495092	
9.3				DH424093		DGN526093		DGN508093		DH452093		D5433093		DGR495093	
9.4				DH424094		DGN526094		DGN508094		DH452094		D5433094		DGR495094	
9.5				DH424095		DGN526095		DGN508095		DH452095		D5433095		DGR495095	
9.6				DH424096		DGN526096		DGN508096		DH452096		D5433096		DGR495096	
9.7				DH424097		DGN526097		DGN508097		DH452097		D5433097		DGR495097	
9.8				DH424098		DGN526098		DGN508098		DH452098		D5433098		DGR495098	
9.9				DH424099		DGN526099		DGN508099		DH452099		D5433099		DGR495099	
10				DH424100		DGN526100		DGN508100		DH452100		D5433100		DGR495100	
10.1				DH424101		DGN526101		DGN508101		DH452101		D5433101		DGR495101	
10.2				DH424102		DGN526102		DGN508102		DH452102		D5433102		DGR495102	
10.3				DH424103		DGN526103		DGN508103		DH452103		D5433103		DGR495103	
10.4				DH424104		DGN526104		DGN508104		DH452104		D5433104		DGR495104	
10.5				DH424105		DGN526105		DGN508105		DH452105		D5433105		DGR495105	
10.6				DH424106		DGN526106		DGN508106		DH452106		D5433106		DGR495106	
10.7				DH424107		DGN526107		DGN508107		DH452107		D5433107		DGR495107	
10.8				DH424108		DGN526108		DGN508108		DH452108		D5433108		DGR495108	
10.9				DH424109		DGN526109		DGN508109		DH452109		D5433109		DGR495109	
11	12	71	118	DH424110	£44.90	DGN526110	£64.55	DGN508110	£85.36	DH452110	£65.43	D5433110	£72.92	DGR495110	£107.20
11.1				DH424111		DGN526111		DGN508111		DH452111		D5433111		DGR495111	
11.2				DH424112		DGN526112		DGN508112		DH452112		D5433112		DGR495112	
11.3				DH424113		DGN526113		DGN508113		DH452113		D5433113		DGR495113	
11.4				DH424114		DGN526114		DGN508114		DH452114		D5433114		DGR495114	
11.5				DH424115		DGN526115		DGN508115		DH452115		D5433115		DGR495115	
11.6				DH424116		DGN526116		DGN508116		DH452116		D5433116		DGR495116	
11.7				DH424117		DGN526117		DGN508117		DH452117		D5433117		DGR495117	
11.8				DH424118		DGN526118		DGN508118		DH452118		D5433118		DGR495118	
11.9				DH424119		DGN526119		DGN508119		DH452119		D5433119		DGR495119	
12				DH424120		DGN526120		DGN508120		DH452120		D5433120		DGR495120	
12.5				DH424125		DGN526125		DGN508125		DH452125		D5433125		DGR495125	
13	14	77	124	DH424130	£62.34	DGN526130	£89.62	DGN508130	£121.29	DH452130	£92.98	D5433130	£104.26	DGR495130	£152.38
13.5				DH424135		DGN526135		DGN508135		DH452135		D5433135		DGR495135	
14				DH424140		DGN526140		DGN508140		DH452140		D5433140		DGR495140	
14.5				DH424145		DGN526145		DGN508145		DH452145		D5433145		DGR495145	
15	16	83	133	DH424150	£78.51	DGN526150	£112.88	DGN508150	£160.31	DH452150	£122.88	D5433150	£138.41	DGR495150	£201.37
15.5				DH424155		DGN526155		DGN508155		DH452155		D5433155		DGR495155	
16				DH424160		DGN526160		DGN508160		DH452160		D5433160		DGR495160	
16.5				DH424165		DGN526165		DGN508165		DH452165		D5433165		DGR495165	
17	18	93	143	DH424170	£103.67	DGN526170	£143.06	DGN508170	£239.79	DH452170	£183.81	D5433170	£208.00	DGR495170	£301.19
17.5				DH424175		DGN526175		DGN508175		DH452175		D5433175		DGR495175	
18				DH424180		DGN526180		DGN508180		DH452180		D5433180		DGR495180	
18.5				DH424185		DGN526185		DGN508185		DH452185		D5433185		DGR495185	
19	20	101	153	DH424190	£130.02	DGN526190	£179.41	DGN508190	£274.51	DH452190	£210.42	D5433190	£236.18	DGR495190	£344.78
19.5				DH424195		DGN526195		DGN508195		DH452195		D5433195		DGR495195	
20				DH424200		DGN526200		DGN508200		DH452200		D5433200		DGR495200	

YG-1 LONG LENGTH DREAM DRILLS, 8xD

High Performance, High Accuracy Drilling



	Dream Drill General		Dream Drill INOX		Dream Drill Alu	
Series	DH421		DH453		D5434	
Performance	★★★★		★★★★★		★★★★★	
Finish / Coating	TiAlN		TiAlN		-	
Drill Point	140°		140°		118°	
No. Flutes	2		2		2	
Through Coolant	✓		✓		✓	
Cutting Data	View Online		Page 697		Page 698	
P Steel	●		●			
H Hardened Steel						
M Stainless Steel			●			
S HRSA's			○			
K Cast Iron	●					
N Non-Ferrous			○		●	

D1	D2	L1	L2	Order Code	Price	Order Code	Price	Order Code	Price
3	6	34	72	DH421030	£66.00	DH453030	£69.81	D5434030	£79.72
3.1				DH421031		DH453031		D5434031	
3.2				DH421032		DH453032		D5434032	
3.3				DH421033		DH453033		D5434033	
3.4				DH421034		DH453034		D5434034	
3.5				DH421035		DH453035		D5434035	
3.6				DH421036		DH453036		D5434036	
3.7				DH421037		DH453037		D5434037	
3.8	6	43	81	DH421038	£66.00	DH453038	£69.81	D5434038	£79.72
3.9				DH421039		DH453039		D5434039	
4				DH421040		DH453040		D5434040	
4.1				DH421041		DH453041		D5434041	
4.2				DH421042		DH453042		D5434042	
4.3				DH421043		DH453043		D5434043	
4.4				DH421044		DH453044		D5434044	
4.5				DH421045		DH453045		D5434045	
4.6				DH421046		DH453046		D5434046	
4.7				DH421047		DH453047		D5434047	
4.8	6	57	95	DH421048	£66.00	DH453048	£69.81	D5434048	£79.72
4.9				DH421049		DH453049		D5434049	
5				DH421050		DH453050		D5434050	
5.1				DH421051		DH453051		D5434051	
5.2				DH421052		DH453052		D5434052	
5.3				DH421053		DH453053		D5434053	
5.4				DH421054		DH453054		D5434054	
5.5				DH421055		DH453055		D5434055	
5.6				DH421056		DH453056		D5434056	
5.7				DH421057		DH453057		D5434057	
5.8				DH421058		DH453058		D5434058	
5.9				DH421059		DH453059		D5434059	
6				DH421060		DH453060		D5434060	
6.1	8	76	114	DH421061	£71.82	DH453061	£79.61	D5434061	£88.20
6.2				DH421062		DH453062		D5434062	
6.3				DH421063		DH453063		D5434063	
6.4				DH421064		DH453064		D5434064	
6.5				DH421065		DH453065		D5434065	
6.6				DH421066		DH453066		D5434066	
6.7				DH421067		DH453067		D5434067	
6.8				DH421068		DH453068		D5434068	
6.9				DH421069		DH453069		D5434069	
7				DH421070		DH453070		D5434070	
7.1				DH421071		DH453071		D5434071	
7.2				DH421072		DH453072		D5434072	
7.3				DH421073		DH453073		D5434073	
7.4				DH421074		DH453074		D5434074	
7.5				DH421075		DH453075		D5434075	
7.6				DH421076		DH453076		D5434076	
7.7				DH421077		DH453077		D5434077	

YG-1 LONG LENGTH DREAM DRILLS, 8xD

High Performance, High Accuracy Drilling



Material Applications

● Excellent ○ Good

	Dream Drill General	Dream Drill INOX	Dream Drill Alu
Series	DH421	DH453	D5434
Performance	★★★★	★★★★★	★★★★★
Finish / Coating	TiAlN	TiAlN	-
Drill Point	140°	140°	118°
No. Flutes	2	2	2
Through Coolant	✓	✓	✓
Cutting Data	View Online	Page 697	Page 698
P Steel	●	●	
H Hardened Steel			
M Stainless Steel		●	
S HRSA's		○	
K Cast Iron	●		
N Non-Ferrous		○	●







D1	D2	L1	L2	Order Code	Price	Order Code	Price	Order Code	Price
7.8				DH421078		DH453078		D5434078	
7.9	8	76	114	DH421079	£71.82	DH453079	£79.61	D5434079	£88.20
8				DH421080		DH453080		D5434080	
8.1				DH421081		DH453081		D5434081	
8.2				DH421082		DH453082		D5434082	
8.3				DH421083		DH453083		D5434083	
8.4				DH421084		DH453084		D5434084	
8.5				DH421085		DH453085		D5434085	
8.6				DH421086		DH453086		D5434086	
8.7				DH421087		DH453087		D5434087	
8.8				DH421088		DH453088		D5434088	
8.9				DH421089		DH453089		D5434089	
9	10	95	142	DH421090	£98.38	DH453090	£109.02	D5434090	£119.53
9.1				DH421091		DH453091		D5434091	
9.2				DH421092		DH453092		D5434092	
9.3				DH421093		DH453093		D5434093	
9.4				DH421094		DH453094		D5434094	
9.5				DH421095		DH453095		D5434095	
9.6				DH421096		DH453096		D5434096	
9.7				DH421097		DH453097		D5434097	
9.8				DH421098		DH453098		D5434098	
9.9				DH421099		DH453099		D5434099	
10				DH421100		DH453100		D5434100	
10.1				DH421101		DH453101		D5434101	
10.2				DH421102		DH453102		D5434102	
10.3				DH421103		DH453103		D5434103	
10.4				DH421104		DH453104		D5434104	
10.5				DH421105		DH453105		D5434105	
10.6				DH421106		DH453106		D5434106	
10.7				DH421107		DH453107		D5434107	
10.8				DH421108		DH453108		D5434108	
10.9				DH421109		DH453109		D5434109	
11	12	114	162	DH421110	£130.54	DH453110	£144.65	D5434110	£158.88
11.1				DH421111		DH453111		D5434111	
11.2				DH421112		DH453112		D5434112	
11.3				DH421113		DH453113		D5434113	
11.4				DH421114		DH453114		D5434114	
11.5				DH421115		DH453115		D5434115	
11.6				DH421116		DH453116		D5434116	
11.7				DH421117		DH453117		D5434117	
11.8				DH421118		DH453118		D5434118	
11.9				DH421119		DH453119		D5434119	
12				DH421120		DH453120		D5434120	
12.5				DH421125		DH453125		D5434125	
13	14	133	178	DH421130	£159.47	DH453130	£176.74	D5434130	£187.62
13.5				DH421135		DH453135		D5434135	
14				DH421140		DH453140		D5434140	

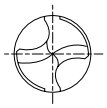
DREAM DRILL GENERAL - STUB LENGTH 3XD, PARALLEL SHANK

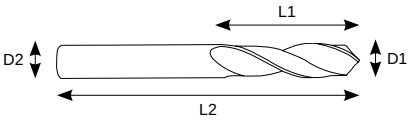
Steel, Cast Steel, Chilled & Malleable Cast Iron, Non-Ferrous Heavy & Light Metal & Abrasive Plastic

- Self centering with a 118° drill point
- Special Design for powerful drilling with good chip removal
- Reaming is not required

Series	Cutting Data
DH404 YG-1	P695







3xD

MG SC | DIN 6539 | 30° | h6 | h7 | 140° | TiAlN 850

ECONOMY DRILL | SELF CENTERING

D1/D2	L1	L2	★★★ Performance Order Code	Price
3	16	46	DH404030	£9.76
3.1	18	49	DH404031	£9.85
3.2			DH404032	£9.85
3.3			DH404033	£9.85
3.4	20	52	DH404034	£9.85
3.5			DH404035	£9.85
3.6			DH404036	£10.91
3.7			DH404037	£10.91
3.8	22	55	DH404038	£10.91
3.9			DH404039	£10.91
4			DH404040	£10.91
4.1			DH404041	£11.81
4.2			DH404042	£11.81
4.3	24	58	DH404043	£11.81
4.4			DH404044	£11.81
4.5			DH404045	£11.81
4.6			DH404046	£12.97
4.7			DH404047	£12.97
4.8	26	62	DH404048	£12.97
4.9			DH404049	£12.97
5			DH404050	£12.97
5.1			DH404051	£15.60
5.2			DH404052	£15.60
5.3			DH404053	£15.60
5.4	28	66	DH404054	£15.60
5.5			DH404055	£15.60
5.6			DH404056	£16.28
5.7			DH404057	£16.28
5.8			DH404058	£16.28
5.9			DH404059	£16.28
6			DH404060	£16.28

D1/D2	L1	L2	★★★ Performance Order Code	Price
6.1	31	70	DH404061	£17.64
6.2			DH404062	£17.64
6.3			DH404063	£17.64
6.4			DH404064	£17.64
6.5			DH404065	£17.64
6.6			DH404066	£20.25
6.7			DH404067	£20.25
6.8	34	74	DH404068	£20.25
6.9			DH404069	£20.25
7			DH404070	£20.25
7.1			DH404071	£23.20
7.2			DH404072	£23.20
7.3			DH404073	£23.20
7.4			DH404074	£23.20
7.5			DH404075	£23.20
7.6	37	79	DH404076	£25.46
7.7			DH404077	£25.46
7.8			DH404078	£25.46
7.9			DH404079	£25.46
8			DH404080	£25.46
8.1			DH404081	£28.18
8.2			DH404082	£28.18
8.3			DH404083	£28.18
8.4			DH404084	£28.18
8.5			DH404085	£28.18
8.6	40	84	DH404086	£30.49
8.7			DH404087	£30.49
8.8			DH404088	£30.49
8.9			DH404089	£30.49
9			DH404090	£30.49
9.1			DH404091	£32.82

D1/D2	L1	L2	★★★ Performance Order Code	Price
9.2	40	84	DH404092	£32.82
9.3			DH404093	£32.82
9.4			DH404094	£32.82
9.5			DH404095	£32.82
9.6	43	89	DH404096	£33.77
9.7			DH404097	£33.77
9.8			DH404098	£33.77
9.9			DH404099	£33.77
10			DH404100	£33.77
10.2			DH404102	£38.49
10.5			DH404105	£38.49
11	47	95	DH404110	£43.11
11.5			DH404115	£43.11
12	51	102	DH404120	£43.11
13			DH404130	£62.69
13.5	54	107	DH404135	£65.96
14			DH404140	£65.96
14.5	56	111	DH404145	£76.64
15			DH404150	£76.64
15.5	58	115	DH404155	£80.98
16			DH404160	£80.98
16.5	60	119	DH404165	£80.98
17			DH404170	£80.98
17.5	62	123	DH404175	£94.15
18			DH404180	£94.15
18.5	64	127	DH404185	£113.25
19			DH404190	£113.25
19.5	66	131	DH404195	£121.49
20			DH404200	£121.49

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	●						●					

DREAM DRILL - HIGH HARDENED STEEL HRC50~HRC70

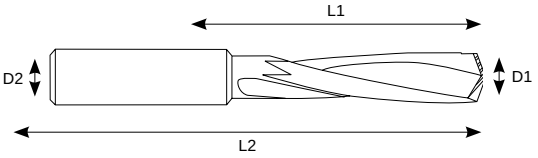
Drilling of High Hardened Steel & Quenched Steel, Tempered Steel (Under HRC70)

- High performance high hardness drilling
- Low 15° helix angle to maximise rigidity
- Self centering with a 140° drill point

Series	Cutting Data
DH500 YG-1	P697







5xD

MG SC | 15° | h6 | h7 | 140° | TiAlN 850

SELF CENTERING

HARDENED STEEL <HRc70

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
2.6	3	14	44	DH500026	£17.27
3		16	46	DH500030	£17.27
3.3	4	18	48	DH500033	£19.75
3.4		20	50	DH500034	£19.75
3.5				DH500035	£19.75
4		22	52	DH500040	£20.19
4.2	6	25	65	DH500042	£28.63
4.3		28	68	DH500043	£28.63
4.4				DH500044	£28.63
4.5				DH500045	£28.63
5		32	72	DH500050	£28.63
5.1				DH500051	£28.63
5.2				DH500052	£28.63
5.5		35	75	DH500055	£28.63
6				DH500060	£28.63
6.5	8	40	80	DH500065	£47.96
6.8		45	85	DH500068	£47.96
6.9				DH500069	£47.96
7		45	85	DH500070	£47.96
7.5				DH500075	£47.96
8	8	50	98	DH500080	£52.03
8.5	10	50	98	DH500085	£65.99
8.6		57	105	DH500086	£65.99
8.8				DH500088	£65.99
9				DH500090	£65.99
9.5				DH500095	£65.99
10		63	111	DH500100	£77.87
10.2	12	63	111	DH500102	£101.36
10.3				DH500103	£101.36
10.5				DH500105	£101.36
10.8	12	71	119	DH500108	£101.36
11				DH500110	£101.36
11.5				DH500115	£101.36
12				DH500120	£101.36
14	14	77	125	DH500140	£126.88

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	○	●	●	●						○			

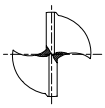
ECONOMY DRILL STUB LENGTH 3XD

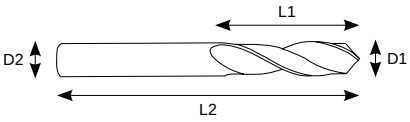
Steel, Cast Steel, Chilled & Malleable Cast Iron, Non-Ferrous Heavy & Light Metal & Abrasive Plastic

- Self centering with a 118° drill point
- Low cost drilling of steel, stainless steel, titanium, cast iron and aluminium

Series	Cutting Data
D5405 YG-1	P696







3xD

MG SC | DIN 6539 | 33° | h6 | h7 | 118°

ECONOMY DRILL **SELF CENTERING**

D1/D2	L1	L2	★★★ Performance Order Code	Price
1	6	26	D5405010	£4.65
1.1	7	28	D5405011	£4.65
1.2	8	30	D5405012	£4.48
1.3			D5405013	£4.48
1.4	9	32	D5405014	£4.48
1.5			D5405015	£4.29
1.6	10	34	D5405016	£4.29
1.7			D5405017	£4.29
1.8	11	36	D5405018	£4.29
1.9			D5405019	£4.29
2	12	38	D5405020	£3.13
2.1			D5405021	£3.48
2.2	13	40	D5405022	£3.48
2.3			D5405023	£3.48
2.4	14	43	D5405024	£3.48
2.5			D5405025	£3.48
2.6			D5405026	£3.48
2.7	16	46	D5405027	£4.61
2.8			D5405028	£4.61
2.9			D5405029	£4.61
3			D5405030	£4.61
3.1	18	49	D5405031	£4.70
3.2			D5405032	£4.70
3.3			D5405033	£4.70
3.4	20	52	D5405034	£5.09
3.5			D5405035	£5.09
3.6			D5405036	£5.65
3.7			D5405037	£5.65
3.8			D5405038	£6.02
3.9	22	55	D5405039	£6.02
4			D5405040	£6.02
4.1			D5405041	£6.36
4.2			D5405042	£6.36
4.3	24	58	D5405043	£6.74
4.4			D5405044	£6.74
4.5			D5405045	£6.74
4.6			D5405046	£6.74
4.7			D5405047	£7.25
4.8	26	62	D5405048	£7.25
4.9			D5405049	£7.25
5			D5405050	£7.25
5.1			D5405051	£7.25
5.2			D5405052	£9.42
5.3	26	62	D5405053	£9.42
5.4			D5405054	£9.42
5.5			D5405055	£9.42
5.6			D5405056	£10.02
5.7			D5405057	£10.02
5.8			D5405058	£10.02
5.9			D5405059	£10.02
6			D5405060	£10.02
6.1	31	70	D5405061	£12.56
6.2			D5405062	£12.56
6.3			D5405063	£12.56
6.4			D5405064	£12.56
6.5			D5405065	£12.19
6.6			D5405066	£14.84
6.7			D5405067	£14.84
6.8	34	74	D5405068	£14.84
6.9			D5405069	£14.84
7			D5405070	£14.66
7.1			D5405071	£17.77
7.2			D5405072	£17.77
7.3			D5405073	£17.77
7.4			D5405074	£17.77
7.5			D5405075	£17.60
7.6	37	79	D5405076	£20.05
7.7			D5405077	£20.05
7.8			D5405078	£20.05
7.9			D5405079	£20.05
8			D5405080	£19.69
8.1			D5405081	£24.48
8.2			D5405082	£24.48
8.3			D5405083	£24.48
8.4			D5405084	£24.48
8.5			D5405085	£24.88
8.6	40	84	D5405086	£26.57
8.7			D5405087	£26.57
8.8			D5405088	£26.57
8.9			D5405089	£26.57
9			D5405090	£25.09
9.1			D5405091	£29.09
9.2			D5405092	£29.09
9.3			D5405093	£29.09
9.4			D5405094	£29.09
9.5			D5405095	£27.98
9.6	43	89	D5405096	£30.04
9.7			D5405097	£30.04
9.8			D5405098	£30.04
9.9			D5405099	£30.04
10			D5405100	£28.64
10.2			D5405102	£34.03
10.5			D5405105	£34.03
11	47	95	D5405110	£37.78
11.5			D5405115	£44.29
12	51	102	D5405120	£44.29
13			D5405130	£53.60

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	○				○	○		○		○			

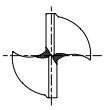
ECONOMY DRILL JOBBER LENGTH 5XD

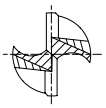
Steel, Cast Steel, Chilled & Malleable Cast Iron, Non-Ferrous Heavy & Light Metal & Abrasive Plastic

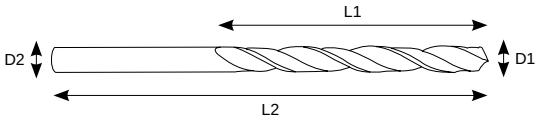
- Self centering with a 118° drill point
- Low cost drilling of steel, stainless steel, titanium, cast iron and aluminium

Series	Cutting Data
D5407 YG-1	P696









5xD

MG SC | DIN 338 | 30° | h6 | h7 | 118°

ECONOMY DRILL | SELF CENTERING

D1/D2	L1	L2	★★★ Performance Order Code	Price
1	12	34	D5407010	£4.87
1.1	14	36	D5407011	£4.87
1.2	16	38	D5407012	£4.70
1.3			D5407013	£4.70
1.4	18	40	D5407014	£4.70
1.5			D5407015	£4.48
1.6	20	43	D5407016	£4.48
1.7			D5407017	£4.48
1.8	22	46	D5407018	£4.48
1.9			D5407019	£4.48
2	24	49	D5407020	£4.09
2.1			D5407021	£4.78
2.2	27	53	D5407022	£5.26
2.3			D5407023	£5.26
2.4	30	57	D5407024	£5.26
2.5			D5407025	£5.16
2.6			D5407026	£6.90
2.7	33	61	D5407027	£6.90
2.8			D5407028	£6.90
2.9			D5407029	£6.90
3			D5407030	£6.71
3.1	36	65	D5407031	£6.71
3.2			D5407032	£6.71
3.3			D5407033	£6.74
3.4	39	70	D5407034	£7.47
3.5			D5407035	£7.30
3.6			D5407036	£7.93
3.7			D5407037	£7.93
3.8	43	75	D5407038	£8.38
3.9			D5407039	£8.38
4			D5407040	£8.28
4.1			D5407041	£8.52
4.2			D5407042	£8.52

D1/D2	L1	L2	★★★ Performance Order Code	Price
4.3	47	80	D5407043	£11.31
4.4			D5407044	£11.31
4.5			D5407045	£10.31
4.6			D5407046	£11.70
4.7			D5407047	£11.70
4.8	52	86	D5407048	£12.15
4.9			D5407049	£12.15
5			D5407050	£11.26
5.1			D5407051	£13.64
5.2			D5407052	£13.64
5.3			D5407053	£13.64
5.4	57	93	D5407054	£15.48
5.5			D5407055	£14.93
5.6			D5407056	£16.25
5.7			D5407057	£16.25
5.8			D5407058	£16.25
5.9			D5407059	£16.25
6			D5407060	£15.82
6.1	63	101	D5407061	£20.20
6.2			D5407062	£20.20
6.3			D5407063	£20.20
6.4			D5407064	£20.20
6.5			D5407065	£19.56
6.6			D5407066	£23.72
6.7			D5407067	£23.72
6.8	69	109	D5407068	£23.72
6.9			D5407069	£23.72
7			D5407070	£23.46
7.1			D5407071	£27.13
7.2			D5407072	£27.13
7.3			D5407073	£27.13
7.4			D5407074	£27.13
7.5			D5407075	£23.51

D1/D2	L1	L2	★★★ Performance Order Code	Price
7.6	75	117	D5407076	£29.95
7.7			D5407077	£29.95
7.8			D5407078	£29.95
7.9			D5407079	£29.95
8			D5407080	£27.98
8.1			D5407081	£34.27
8.2			D5407082	£34.27
8.3			D5407083	£34.27
8.4			D5407084	£34.27
8.5			D5407085	£32.51
8.6	81	125	D5407086	£36.61
8.7			D5407087	£36.61
8.8			D5407088	£36.61
8.9			D5407089	£36.61
9			D5407090	£33.03
9.1			D5407091	£40.28
9.2			D5407092	£40.28
9.3			D5407093	£40.28
9.4			D5407094	£40.28
9.5			D5407095	£36.78
9.6	87	133	D5407096	£42.23
9.7			D5407097	£42.23
9.8			D5407098	£42.23
9.9			D5407099	£42.23
10			D5407100	£41.01
10.2			D5407102	£49.60
10.5			D5407105	£47.11
11	94	142	D5407110	£58.25
11.5			D5407115	£62.36
12	101	151	D5407120	£67.53
13			D5407130	£81.01

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	○				○	○		○		○			

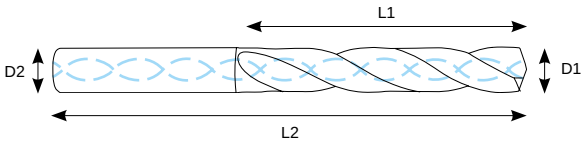
MACH DRILL PLUS - THROUGH COOLANT, STUB LENGTH 3XD

Low Resistance Drilling of Inconel, Hastelloy, Monel, Nimonic & Nickel Alloy

- Notch controlled cutting edge and special edge preperation for low cutting resistance
- Back taper design reduces friction and cutting temperature
- Exceptional surface finish
- Self centering with a 140° drill point

Series	Cutting Data
MSDPH-3S YG-1	P697





3xD

MG SC | DIN 6537 | 30° | h6 | h7 | 140°

SELF CENTERING | INCONEL & TITANIUM | KORLOY

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
3	6	20	62	MSDPH030-3S PC325T	£47.84
3.1				MSDPH031-3S PC325T	£49.74
3.2				MSDPH032-3S PC325T	£49.74
3.3				MSDPH033-3S PC325T	£49.74
3.4				MSDPH034-3S PC325T	£49.74
3.5				MSDPH035-3S PC325T	£49.74
3.6				MSDPH036-3S PC325T	£49.74
3.7				MSDPH037-3S PC325T	£49.74
3.8	6	24	66	MSDPH038-3S PC325T	£49.74
3.9				MSDPH039-3S PC325T	£49.74
4				MSDPH040-3S PC325T	£49.74
4.1				MSDPH041-3S PC325T	£51.72
4.2				MSDPH042-3S PC325T	£51.72
4.3				MSDPH043-3S PC325T	£51.72
4.4				MSDPH044-3S PC325T	£51.72
4.5				MSDPH045-3S PC325T	£51.72
4.6				MSDPH046-3S PC325T	£51.72
4.7				MSDPH047-3S PC325T	£51.72
4.8	6	28	66	MSDPH048-3S PC325T	£62.08
4.9				MSDPH049-3S PC325T	£51.72
5				MSDPH050-3S PC325T	£51.72
5.1				MSDPH051-3S PC325T	£54.32
5.2				MSDPH052-3S PC325T	£54.32
5.3				MSDPH053-3S PC325T	£54.32
5.4				MSDPH054-3S PC325T	£54.32
5.5				MSDPH055-3S PC325T	£54.32
5.6				MSDPH056-3S PC325T	£54.32
5.7				MSDPH057-3S PC325T	£54.32
5.8				MSDPH058-3S PC325T	£54.32
5.9				MSDPH059-3S PC325T	£54.32
6				MSDPH060-3S PC325T	£54.32
6.1	8	34	79	MSDPH061-3S PC325T	£57.37
6.2				MSDPH062-3S PC325T	£57.37
6.3				MSDPH063-3S PC325T	£57.37
6.4				MSDPH064-3S PC325T	£57.37
6.5				MSDPH065-3S PC325T	£57.37
6.6				MSDPH066-3S PC325T	£57.37
6.7				MSDPH067-3S PC325T	£57.37
6.8				MSDPH068-3S PC325T	£57.37
6.9				MSDPH069-3S PC325T	£57.37

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
7	8	34	79	MSDPH070-3S PC325T	£57.37
7.1	8	41	79	MSDPH071-3S PC325T	£61.97
7.2				MSDPH072-3S PC325T	£61.97
7.3				MSDPH073-3S PC325T	£61.97
7.4				MSDPH074-3S PC325T	£61.97
7.5				MSDPH075-3S PC325T	£61.97
7.6				MSDPH076-3S PC325T	£61.97
7.7				MSDPH077-3S PC325T	£61.97
7.8				MSDPH078-3S PC325T	£61.97
7.9				MSDPH079-3S PC325T	£61.97
8				MSDPH080-3S PC325T	£61.97
8.1	10	47	89	MSDPH081-3S PC325T	£66.83
8.2				MSDPH082-3S PC325T	£66.83
8.3				MSDPH083-3S PC325T	£66.83
8.4				MSDPH084-3S PC325T	£66.83
8.5				MSDPH085-3S PC325T	£66.83
8.6				MSDPH086-3S PC325T	£66.83
8.7				MSDPH087-3S PC325T	£66.83
8.8				MSDPH088-3S PC325T	£66.83
8.9				MSDPH089-3S PC325T	£66.83
9				MSDPH090-3S PC325T	£66.83
9.1				MSDPH091-3S PC325T	£73.48
9.2				MSDPH092-3S PC325T	£73.48
9.3				MSDPH093-3S PC325T	£73.48
9.4				MSDPH094-3S PC325T	£73.48
9.5				MSDPH095-3S PC325T	£73.48
9.6				MSDPH096-3S PC325T	£73.48
9.7				MSDPH097-3S PC325T	£73.48
9.8				MSDPH098-3S PC325T	£73.48
9.9				MSDPH099-3S PC325T	£73.48
10				MSDPH100-3S PC325T	£73.48
10.2	12	55	102	MSDPH102-3S PC325T	£90.86
10.3				MSDPH103-3S PC325T	£90.86
10.4				MSDPH104-3S PC325T	£90.86
10.5				MSDPH105-3S PC325T	£90.86
10.6				MSDPH106-3S PC325T	£90.86
10.8				MSDPH108-3S PC325T	£90.86
11				MSDPH110-3S PC325T	£90.86
11.5				MSDPH115-3S PC325T	£118.09
12				MSDPH120-3S PC325T	£118.09

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
						●	●						

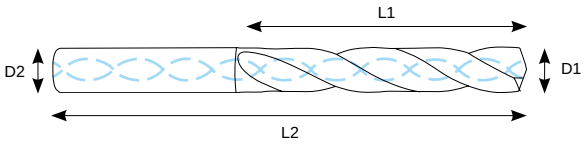
MACH DRILL PLUS - THROUGH COOLANT, JOBBER LENGTH 5XD

Low Resistance Drilling of Inconel, Hastelloy, Monel, Nimonic & Nickel

- Notch controlled cutting edge and special edge preperation for low cutting resistance
- Back taper design reduces friction and cutting temperature
- Exceptional surface finish
- Self centering with a 140° drill point

Series	Cutting Data
MSDPH-5S YG-1	P697





5xD

MG SC | DIN 6537 | 30° | h6 | h7 | 140°

SELF CENTERING

INCONEL & TITANIUM

KORLOY

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
3	6	28	66	MSDPH030-5S PC325T	£59.80
3.1				MSDPH031-5S PC325T	£62.19
3.2				MSDPH032-5S PC325T	£62.19
3.3				MSDPH033-5S PC325T	£62.19
3.4				MSDPH034-5S PC325T	£62.19
3.5				MSDPH035-5S PC325T	£62.19
3.6				MSDPH036-5S PC325T	£62.19
3.7				MSDPH037-5S PC325T	£62.19
3.8	6	36	74	MSDPH038-5S PC325T	£62.19
3.9				MSDPH039-5S PC325T	£62.19
4				MSDPH040-5S PC325T	£62.19
4.1				MSDPH041-5S PC325T	£64.66
4.2				MSDPH042-5S PC325T	£64.66
4.3				MSDPH043-5S PC325T	£64.66
4.4				MSDPH044-5S PC325T	£64.66
4.5				MSDPH045-5S PC325T	£64.66
4.6				MSDPH046-5S PC325T	£64.66
4.7				MSDPH047-5S PC325T	£64.66
4.8	6	44	82	MSDPH048-5S PC325T	£64.66
4.9				MSDPH049-5S PC325T	£64.66
5				MSDPH050-5S PC325T	£64.66
5.1				MSDPH051-5S PC325T	£67.89
5.2				MSDPH052-5S PC325T	£67.89
5.3				MSDPH053-5S PC325T	£67.89
5.4				MSDPH054-5S PC325T	£67.89
5.5				MSDPH055-5S PC325T	£67.89
5.6				MSDPH056-5S PC325T	£87.97
5.7				MSDPH057-5S PC325T	£67.89
5.8				MSDPH058-5S PC325T	£67.89
5.9				MSDPH059-5S PC325T	£67.89
6				MSDPH060-5S PC325T	£67.89
6.1	8	53	91	MSDPH061-5S PC325T	£71.52
6.2				MSDPH062-5S PC325T	£71.52
6.3				MSDPH063-5S PC325T	£71.52
6.4				MSDPH064-5S PC325T	£71.52
6.5				MSDPH065-5S PC325T	£71.52
6.6				MSDPH066-5S PC325T	£71.52
6.7				MSDPH067-5S PC325T	£71.52
6.8				MSDPH068-5S PC325T	£71.52
6.9				MSDPH069-5S PC325T	£71.52

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
7	8	53	91	MSDPH070-5S PC325T	£71.52
7.1				MSDPH071-5S PC325T	£77.25
7.2				MSDPH072-5S PC325T	£77.25
7.3				MSDPH073-5S PC325T	£77.25
7.4				MSDPH074-5S PC325T	£77.25
7.5				MSDPH075-5S PC325T	£77.25
7.6				MSDPH076-5S PC325T	£77.25
7.7				MSDPH077-5S PC325T	£77.25
7.8				MSDPH078-5S PC325T	£77.25
7.9				MSDPH079-5S PC325T	£77.25
8				MSDPH080-5S PC325T	£77.25
8.1	10	61	103	MSDPH081-5S PC325T	£83.81
8.2				MSDPH082-5S PC325T	£83.81
8.3				MSDPH083-5S PC325T	£83.81
8.4				MSDPH084-5S PC325T	£83.81
8.5				MSDPH085-5S PC325T	£83.81
8.6				MSDPH086-5S PC325T	£83.81
8.7				MSDPH087-5S PC325T	£83.81
8.8				MSDPH088-5S PC325T	£83.81
8.9				MSDPH089-5S PC325T	£83.81
9				MSDPH090-5S PC325T	£83.81
9.1				MSDPH091-5S PC325T	£92.19
9.2				MSDPH092-5S PC325T	£92.19
9.3				MSDPH093-5S PC325T	£92.19
9.4				MSDPH094-5S PC325T	£92.19
9.5				MSDPH095-5S PC325T	£92.19
9.6				MSDPH096-5S PC325T	£92.19
9.7				MSDPH097-5S PC325T	£92.19
9.8				MSDPH098-5S PC325T	£92.19
9.9				MSDPH099-5S PC325T	£92.19
10				MSDPH100-5S PC325T	£92.19
10.2	12	71	118	MSDPH102-5S PC325T	£113.69
10.3				MSDPH103-5S PC325T	£113.69
10.4				MSDPH104-5S PC325T	£113.69
10.5				MSDPH105-5S PC325T	£113.69
10.6				MSDPH106-5S PC325T	£113.69
10.8				MSDPH108-5S PC325T	£113.69
11				MSDPH110-5S PC325T	£113.69
11.5				MSDPH115-5S PC325T	£147.83
12				MSDPH120-5S PC325T	£147.83

Material Applications

● Excellent ○ Good

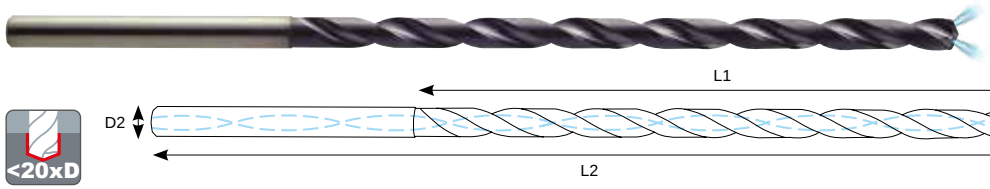
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
						●	●						

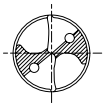
DREAM DRILL - MQL TYPE THROUGH COOLANT, EXTRA LONG <20XD

Deep Drilling of Steel & Cast Iron

- Long tool life, high penetration rates and good chip removal
- Reaming is not required
- Non step drilling of up to 20 times drill diameter
- Self centering with a 140° drill point
- Always use a toolholder with <0.05mm run-out and follow pre drilling guidelines

Series	Cutting Data
DH510/15/20 YG-1	P698





MG SC | 30° | h6 | h7 | 140° | TiAlN 850

SELF CENTERING

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
DH510 10xD					
3	3	39	90	DH510030	£95.36
3.3	4	46	97	DH510033	£95.36
3.5				DH510035	£95.36
4		52	103	DH510040	£95.36
4.2	5	59	112	DH510042	£96.82
4.5				DH510045	£96.82
5		65	118	DH510050	£96.82
5.5	6	72	127	DH510055	£96.82
6		78	133	DH510060	£96.82
6.5	7	85	141	DH510065	£119.90
6.8		91	147	DH510068	£119.90
7				DH510070	£119.90
7.5	8	98	155	DH510075	£119.90
8		104	161	DH510080	£119.90
8.5	9	111	169	DH510085	£153.86
9		117	175	DH510090	£153.86
9.5	10	124	182	DH510095	£153.86
10		130	188	DH510100	£153.86
10.5	11	137	201	DH510105	£211.52
11		143	207	DH510110	£211.52
11.5	12	150	215	DH510115	£211.52
12		156	221	DH510120	£211.52
12.5	13	163	229	DH510125	£286.46
13		169	235	DH510130	£286.46
13.5	14	176	243	DH510135	£286.46
14		182	249	DH510140	£286.46
DH515 15xD					
3	3	54	105	DH515030	£116.64
3.5	4	63	114	DH515035	£116.64
4		72	123	DH515040	£116.64
4.5	5	81	134	DH515045	£132.41
5		90	143	DH515050	£132.41
5.5	6	99	154	DH515055	£132.41
6		108	163	DH515060	£132.41
7	7	126	182	DH515070	£152.96
8	8	144	201	DH515080	£152.96
9	9	162	220	DH515090	£197.28
10	10	180	238	DH515100	£197.28
11	11	198	262	DH515110	£265.01
12	12	216	281	DH515120	£265.01
DH520 20xD					
3	3	69	120	DH520030	£159.55
3.5	4	81	132	DH520035	£159.55
4		92	143	DH520040	£159.55
4.5	5	104	157	DH520045	£179.48
5		115	168	DH520050	£179.48
5.5	6	127	182	DH520055	£179.48
6		138	193	DH520060	£179.48
7	7	161	217	DH520070	£203.16
8	8	184	241	DH520080	£203.16
9	9	207	265	DH520090	£255.35
10	10	230	288	DH520100	£255.35
12	12	276	341	DH520120	£346.09

Material Applications

● Excellent ○ Good

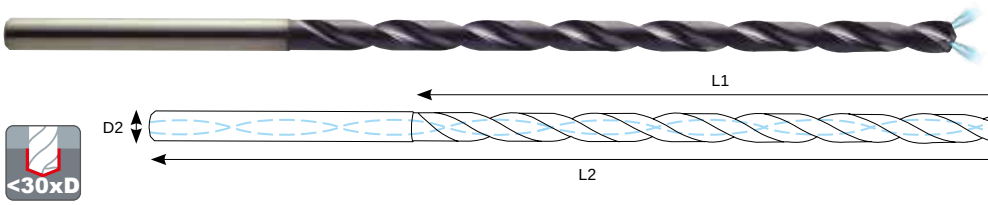
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○						○					

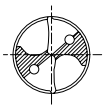
DREAM DRILL - MQL TYPE THROUGH COOLANT, EXTRA LONG <30XD

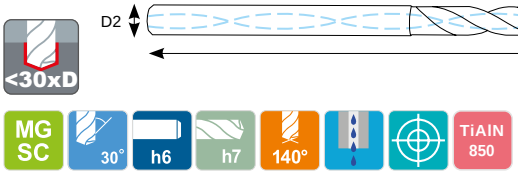
Deep Drilling of Steel & Cast Iron

- Long tool life, high penetration rates and good chip removal
- Reaming is not required
- Non step drilling of up to 20 times drill diameter
- Self centering with a 140° drill point
- Always use a toolholder with <0.05mm run-out and follow pre drilling guidelines

Series	Cutting Data
DHM15/20/25/30 YG-1	P698







SELF CENTERING

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
DHM15 15xD					
3	6	55	95	DHM15030	£127.62
3.5		64	104	DHM15035	£127.62
4		73	113	DHM15040	£129.42
4.5		82	122	DHM15045	£138.65
5		91	131	DHM15050	£138.65
5.5		100	140	DHM15055	£138.65
6		109	149	DHM15060	£138.65
7	8	127	167	DHM15070	£160.19
8		145	185	DHM15080	£160.19
9	10	163	207	DHM15090	£206.64
10		182	226	DHM15100	£206.64
11	12	200	249	DHM15110	£277.48
12		218	267	DHM15120	£277.48
DHM20 20xD					
3	6	70	110	DHM20030	£167.21
3.5		82	122	DHM20035	£167.21
4		93	133	DHM20040	£173.63
4.5		105	145	DHM20045	£187.90
5		116	156	DHM20050	£187.90
5.5		128	168	DHM20055	£187.90
6		139	179	DHM20060	£187.90
7	8	162	202	DHM20070	£212.74
8		185	225	DHM20080	£212.74
9	10	208	252	DHM20090	£267.39
10		232	276	DHM20100	£267.39
11	12	255	304	DHM20110	£362.40
12		278	327	DHM20120	£362.40
DHM25 25xD					
3	6	85	125	DHM25030	£193.32
3.5		99	139	DHM25035	£193.32
4		113	153	DHM25040	£200.77
4.5		127	167	DHM25045	£217.38
5		141	181	DHM25050	£217.38
5.5		155	195	DHM25055	£224.48
6		169	209	DHM25060	£224.48
7	8	197	237	DHM25070	£248.38
8		225	265	DHM25080	£248.38
9	10	253	297	DHM25090	£308.20
10		282	326	DHM25100	£308.20
DHM30 30xD					
3	6	100	140	DHM30030	£223.83
3.5		117	157	DHM30035	£223.83
4		133	173	DHM30040	£232.47
4.5		150	190	DHM30045	£247.61
5		166	206	DHM30050	£222.61
5.5		183	223	DHM30055	£248.58
6		199	239	DHM30060	£248.58
7	8	232	272	DHM30070	£282.48
8		265	305	DHM30080	£282.48

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○						○					

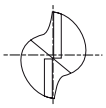
ALU-DRILL 40° HELIX STUB LENGTH 3XD

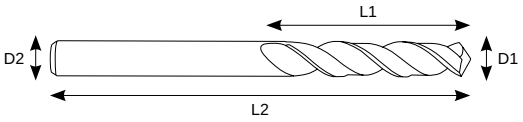
High Performance Drilling of Aluminium, Non-Ferrous Alloy & Copper

- 40° helix and deep flute pockets aid chip flow
- Polished flutes prevent built up edge
- Self centering
- Without through coolant

Series	Cutting Data
DCA40 Cutwel Pro	P696







3xD

MG SC | 40° | h6 | 118° | POLISHED

SELF CENTERING

1st FOR ALUMINIUM

CUTWEL PRO

D1/D2	L1	L2	★★★ Performance Order Code	Price
2	12	38	DCA400020	£6.63
2.1			DCA400021	£6.89
2.2	13	40	DCA400022	£6.98
2.3			DCA400023	£6.98
2.4	14	43	DCA400024	£7.16
2.5			DCA400025	£7.16
2.6			DCA400026	£7.42
2.7	16	46	DCA400027	£7.58
2.8			DCA400028	£7.58
2.9			DCA400029	£7.58
3			DCA400030	£7.58
3.1	18	49	DCA400031	£8.13
3.2			DCA400032	£8.13
3.3			DCA400033	£8.13
3.4	20	52	DCA400034	£8.46
3.5			DCA400035	£8.46
3.6			DCA400036	£8.80
3.7			DCA400037	£8.80
3.8	22	55	DCA400038	£10.47
3.9			DCA400039	£10.47
4			DCA400040	£10.47
4.1			DCA400041	£11.16
4.2			DCA400042	£11.16
4.3	24	58	DCA400043	£11.43
4.4			DCA400044	£11.43
4.5			DCA400045	£11.43
4.6			DCA400046	£11.87
4.7			DCA400047	£11.87
4.8	26	62	DCA400048	£12.22
4.9			DCA400049	£12.22
5			DCA400050	£12.64
5.1			DCA400051	£13.61
5.2			DCA400052	£13.61
5.3			DCA400053	£13.61
5.4	28	66	DCA400054	£14.84
5.5			DCA400055	£14.84
5.6			DCA400056	£16.13
5.7			DCA400057	£16.13
5.8			DCA400058	£16.13
5.9			DCA400059	£16.13
6.0			DCA400060	£16.13
6.1	31	70	DCA400061	£17.36
6.2			DCA400062	£17.36
6.3			DCA400063	£17.36
6.4			DCA400064	£17.36
6.5			DCA400065	£17.36
6.6			DCA400066	£18.24
6.7			DCA400067	£18.24
6.8	34	74	DCA400068	£19.96
6.9			DCA400069	£19.96
7			DCA400070	£19.96
7.1			DCA400071	£21.28
7.2			DCA400072	£21.28
7.3			DCA400073	£21.28
7.4			DCA400074	£21.28
7.5			DCA400075	£21.28
7.6	37	79	DCA400076	£24.07
7.7			DCA400077	£24.07
7.8			DCA400078	£24.07
7.9			DCA400079	£24.07
8			DCA400080	£24.07
8.1			DCA400081	£25.37
8.2			DCA400082	£25.37
8.3			DCA400083	£25.37
8.4			DCA400084	£25.37
8.5			DCA400085	£25.37
8.6	40	84	DCA400086	£28.86
8.7			DCA400087	£28.86
8.8			DCA400088	£28.86
8.9			DCA400089	£28.86
9			DCA400090	£28.86
9.1			DCA400091	£30.52
9.2			DCA400092	£30.52
9.3			DCA400093	£30.52
9.4			DCA400094	£30.52
9.5			DCA400095	£30.52
9.6	43	89	DCA400096	£33.93
9.7			DCA400097	£33.93
9.8			DCA400098	£33.93
9.9			DCA400099	£33.93
10			DCA400100	£33.93
10.1			DCA400101	£35.68
10.2	43	89	DCA400102	£35.68
10.3			DCA400103	£35.68
10.4			DCA400104	£35.68
10.5			DCA400105	£35.68
10.6	47	95	DCA400106	£42.91
10.7			DCA400107	£42.91
10.8			DCA400108	£42.91
10.9			DCA400109	£42.91
11			DCA400110	£42.91
11.1			DCA400111	£44.57
11.2			DCA400112	£44.57
11.3			DCA400113	£44.57
11.4			DCA400114	£44.57
11.5			DCA400115	£44.57
11.6			DCA400116	£49.10
11.7			DCA400117	£49.10
11.8			DCA400118	£49.10
11.9			DCA400119	£49.10
12	51	102	DCA400120	£51.38
12.1			DCA400121	£55.30
12.2			DCA400122	£55.30
12.3			DCA400123	£55.30
12.4			DCA400124	£55.30
12.5			DCA400125	£55.30
12.6			DCA400126	£57.38
12.7			DCA400127	£57.38
12.8			DCA400128	£57.38
13			DCA400130	£57.38
13.5	54	107	DCA400135	£64.88
14			DCA400140	£67.92
14.5	56	111	DCA400145	£76.82
15			DCA400150	£76.82
15.5	58	115	DCA400155	£87.13
16			DCA400160	£87.13
16.5	60	119	DCA400165	£97.40
17			DCA400170	£97.40
17.5	62	123	DCA400175	£97.40
18			DCA400180	£112.48
18.5	64	127	DCA400185	£112.48
19			DCA400190	£112.48
19.5	66	131	DCA400195	£141.61
20			DCA400200	£141.61

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
									●	●			

ALU-DRILL 40° HELIX ALU JOBBER LENGTH 5XD

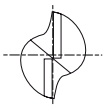
High Performance Drilling of Aluminium, Non-Ferrous Alloy & Copper

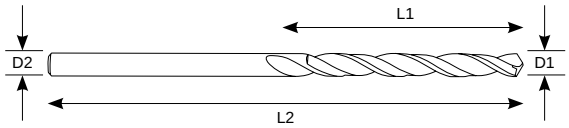
- 40° helix and deep flute pockets aid chip flow
- Polished flutes prevent built up edge
- Self centering
- Without through coolant

P680

Series	Cutting Data
DCA60 Cutwel Pro	P696







5xD

MG SC | 40° | h6 | 118° | POLISHED

SELF CENTERING

1st FOR ALUMINIUM

CUTWEL PRO

D1/D2	L1	L2	★★★ Performance Order Code	Price
2	24	49	DCA600020	£10.11
2.1			DCA600021	£10.40
2.2	27	53	DCA600022	£10.55
2.3			DCA600023	£10.55
2.4	30	57	DCA600024	£10.74
2.5			DCA600025	£10.74
2.6			DCA600026	£11.09
2.7	33	61	DCA600027	£12.92
2.8			DCA600028	£12.92
2.9			DCA600029	£12.92
3			DCA600030	£12.92
3.1	35	65	DCA600031	£13.53
3.2			DCA600032	£13.53
3.3			DCA600033	£13.53
3.4	39	70	DCA600034	£13.70
3.5			DCA600035	£13.70
3.6			DCA600036	£14.13
3.7			DCA600037	£14.13
3.8	43	75	DCA600038	£14.91
3.9			DCA600039	£14.91
4			DCA600040	£14.91
4.1			DCA600041	£15.78
4.2			DCA600042	£15.78
4.3	47	80	DCA600043	£16.49
4.4			DCA600044	£16.49
4.5			DCA600045	£16.49
4.6			DCA600046	£17.00
4.7			DCA600047	£17.00
4.8			DCA600048	£18.33
4.9			DCA600049	£18.33
5	52	86	DCA600050	£18.33
5.1			DCA600051	£19.45
5.2			DCA600052	£19.45
5.3			DCA600053	£19.45
5.4	57	93	DCA600054	£20.14
5.5			DCA600055	£20.14
5.6			DCA600056	£21.28
5.7			DCA600057	£21.28
5.8			DCA600058	£21.28
5.9			DCA600059	£21.28
6			DCA600060	£21.28
6.1	63	101	DCA600061	£23.65
6.2			DCA600062	£23.65
6.3	63	101	DCA600063	£23.65
6.4			DCA600064	£23.65
6.5			DCA600065	£23.65
6.6			DCA600066	£24.78
6.7			DCA600067	£24.78
6.8	69	109	DCA600068	£26.96
6.9			DCA600069	£26.96
7			DCA600070	£26.96
7.1			DCA600071	£28.78
7.2			DCA600072	£28.78
7.3			DCA600073	£28.78
7.4			DCA600074	£28.78
7.5			DCA600075	£28.78
7.6	75	117	DCA600076	£33.93
7.7			DCA600077	£33.93
7.8			DCA600078	£33.93
7.9			DCA600079	£33.93
8			DCA600080	£33.93
8.1			DCA600081	£35.75
8.2			DCA600082	£35.75
8.3			DCA600083	£35.75
8.4			DCA600084	£35.75
8.5			DCA600085	£35.75
8.6	81	125	DCA600086	£42.22
8.7			DCA600087	£42.22
8.8			DCA600088	£42.22
8.9			DCA600089	£42.22
9			DCA600090	£42.22
9.1			DCA600091	£46.04
9.2			DCA600092	£46.04
9.3			DCA600093	£46.04
9.4			DCA600094	£46.04
9.5			DCA600095	£46.04
9.6	81	113	DCA600096	£51.89
9.7			DCA600097	£51.89
9.8			DCA600098	£51.89
9.9			DCA600099	£51.89
10	87	133	DCA600100	£51.89
10.1			DCA600101	£58.51
10.2			DCA600102	£58.51
10.3			DCA600103	£58.51
10.4			DCA600104	£58.51
10.5			DCA600105	£58.51
10.6	87	133	DCA600106	£64.52
10.7			DCA600107	£64.52
10.8	94	142	DCA600108	£68.89
10.9			DCA600109	£68.89
11			DCA600110	£73.38
11.1			DCA600111	£76.25
11.2			DCA600112	£76.25
11.3			DCA600113	£76.25
11.4			DCA600114	£76.25
11.5			DCA600115	£76.25
11.6			DCA600116	£81.07
11.7			DCA600117	£81.07
11.8	101	142	DCA600118	£81.07
11.9			DCA600119	£84.41
12			DCA600120	£84.41
12.1			DCA600121	£90.08
12.2			DCA600122	£90.08
12.3			DCA600123	£90.08
12.4			DCA600124	£90.08
12.5			DCA600125	£90.08
12.6			DCA600126	£93.62
12.7			DCA600127	£93.62
12.8			DCA600128	£93.62
12.9			DCA600129	£93.62
13			DCA600130	£93.62
13.5	108	160	DCA600135	£107.84
14			DCA600140	£114.88
14.5	114	169	DCA600145	£132.42
15			DCA600150	£132.42
15.5	120	178	DCA600155	£154.61
16			DCA600160	£154.61
16.5	125	184	DCA600165	£179.32
17			DCA600170	£179.32
17.5	130	191	DCA600175	£197.14
18			DCA600180	£197.14
18.5	135	198	DCA600185	£217.49
19			DCA600190	£217.49
19.5	140	205	DCA600195	£247.45
20			DCA600200	£236.21

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
									●	●			

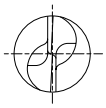
K-DRILL MICRO - ALU

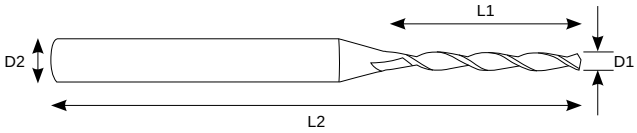
High Performance Drilling of Aluminium with Ultra High Feed Rates & Excellent Chip Control

- For small diameter non-ferrous drilling
- Self centering with a 130° drill point
- Polished flutes prevent built up edge
- Always use a toolholder with <0.05mm run-out

Series	Cutting Data
22.0360 Karnasch	View Online







5xD

MG SC | 30° | h6 | h7 | 130° | ONLINE | POLISHED

MICRO

SELF CENTERING

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.50	3	6.5	39	2203600050050	£20.18
0.55				2203600055050	£20.18
0.60				2203600060050	£20.18
0.65	3	7.5	39	2203600065060	£20.18
0.70				2203600070060	£20.18
0.75	3	9.5	39	2203600075080	£20.18
0.80				2203600080080	£20.18
0.85				2203600085080	£20.18
0.90	3	11.5	39	2203600090100	£20.18
0.95				2203600095100	£20.18
1.00				2203600100100	£20.18
1.05				2203600105100	£20.18
1.10				2203600110100	£20.18
1.15				2203600115100	£20.18
1.20	3	14.5	39	2203600120120	£20.18
1.25				2203600125120	£20.32
1.30				2203600130120	£20.18
1.35				2203600135120	£20.18
1.40				2203600140120	£20.18
1.45				2203600145120	£20.18
1.50				2203600150120	£20.18
1.60				2203600160120	£20.18
1.65				2203600165120	£20.18
1.70				2203600170120	£20.18
1.80				2203600180120	£20.18
1.85				2203600185120	£20.18
2.00	3	16.5	39	2203600200140	£20.18
2.05				2203600205140	£20.18
2.10				2203600210140	£20.18
2.20				2203600220140	£20.18
2.30				2203600230140	£20.18
2.40				2203600240140	£20.18
2.50				2203600250140	£20.18
2.60				2203600260140	£20.18
2.70				2203600270140	£19.60
2.80				2203600280140	£20.18
2.90				2203600290140	£20.18
3.00				2203600300140	£20.18

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
									●	●		●	

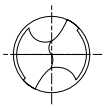
K-DRILL MICRO <10XD

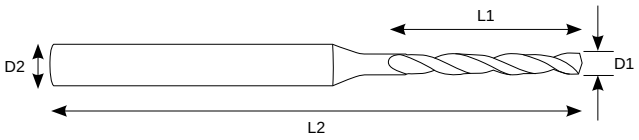
For Drilling Steel, Stainless teel, Inconel, Hastelloy, Titanium & Cast Iron

- Self centering with a 140° drill point
- Solid type (no coolant holes)
- Short, long and extra long length <10xD
- Always use a toolholder with <0.05mm run-out

Series	Cutting Data
22.0341 Karnasch	View Online







<10xD

MG SC | 30° | h6 | k5 | 140° | DVC X2²

MICRO

SELF CENTERING

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.10	3.0	1.5	38	2203410010005	£47.06
0.15	3.0	1.8	38	22034100150075	£58.11
0.20	3.0	1.8	38	2203410020008	£55.56
		1.8		2203410020012	£55.56
0.25	3.0	2.2	38	2203410025010	£55.56
		2		2203410025015	£55.56
0.30	3.0	2.5	38	2203410030012	£55.56
		2.2		2203410030018	£55.56
0.35	3.0	2.8	38	2203410035014	£55.56
		2.4		2203410035021	£55.56
0.40	3.0	3.1	38	2203410040016	£55.56
		2.6		2203410040024	£55.56
0.45	3.0	3.4	38	2203410045018	£55.56
		2.8		2203410045027	£55.56
0.50	3.0	3.7	38	2203410050020	£55.56
		3		2203410050030	£55.56
		4		2203410050060	£54.69
0.55	3.0	6	38	2203410055022	£55.56
		3.2		2203410055033	£55.56
0.60	3.0	4.3	38	2203410060024	£55.56
		3.4		2203410060036	£55.56
		4.6		2203410060060	£54.69
0.65	3.0	3.6	38	2203410065026	£55.56
0.70	3.0	3.8	38	2203410070028	£55.56
		5.2		2203410070042	£55.56
		10.0		2203410070080	£54.69
0.75	3.0	4.5	38	2203410075030	£55.56
		5.5		2203410075045	£55.56
0.80	3.0	4.8	46	2203410080032	£54.69
		5.8	54	2203410080048	£54.69
		10.0	38	2203410080080	£54.69
0.85	3.0	5.1	46	2203410085034	£54.69
		6.1	54	2203410085051	£54.69
0.90	3.0	5.4	46	2203410090036	£54.69
		6.5	54	2203410090054	£54.69
		12.0	38	2203410090100	£54.69
0.95	3.0	5.7	46	2203410095038	£54.69
		6.8	54	2203410095057	£54.69
1.00	3.0	6.0	46	2203410100040	£54.69
		7.2	54	2203410100060	£54.69
		12.0	38	2203410100100	£54.69
1.05	3.0	6.6	46	2203410105042	£54.69
		7.6	54	2203410105063	£54.69
1.10	3.0	6.6	46	2203410110044	£54.69
		7.9	54	2203410110066	£54.69
		20.0	50	2203410110160	£54.69
1.15	3.0	6.9	46	2203410115046	£54.69
		8.3	54	2203410115069	£54.69
1.20	3.0	7.2	46	2203410120048	£54.69
		8.6	54	2203410120072	£54.69
		20.0	50	2203410120160	£54.69
1.25	3.0	7.5	46	2203410125050	£54.69
		8.9	54	2203410125075	£54.69

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
1.30	3.0	7.8	46	2203410130052	£54.69
		9.4	54	2203410130078	£54.69
		20	50	2203410130160	£54.69
1.35	3.0	8.1	46	2203410135054	£54.69
		9.7	54	2203410135081	£54.69
1.40	3.0	8.4	46	2203410140056	£54.69
		10.1	54	2203410140084	£54.69
		20	50	2203410140160	£54.69
1.45	3.0	8.7	46	2203410145058	£54.69
		10.4	54	2203410145087	£54.69
1.50	3.0	9	46	2203410150060	£54.69
		10.8	54	2203410150090	£54.69
		20	50	2203410150160	£54.69
1.55	3.0	7.4	46	2203410155062	£54.69
		11.2	54	2203410155093	£54.69
1.60	3.0	7.7	46	2203410160064	£54.69
		11.5	54	2203410160096	£54.69
		30	66	2203410160220	£54.69
1.65	3.0	7.9	46	2203410165066	£54.69
		11.9	54	2203410165099	£54.69
1.70	3.0	8.2	46	2203410170068	£54.69
		12.2	54	2203410170102	£54.69
		30	66	2203410170220	£54.69
1.75	3.0	8.4	46	2203410175070	£54.69
		12.6	54	2203410175105	£54.69
1.80	3.0	8.6	46	2203410180072	£54.69
		13	54	2203410180108	£54.69
		30	66	2203410180220	£54.69
1.85	3.0	8.9	46	2203410185074	£54.69
		13.3	54	2203410185111	£54.69
1.90	3.0	9.1	46	2203410190076	£54.69
		13.7	54	2203410190114	£54.69
		30	66	2203410190220	£54.69
1.95	3.0	9.4	46	2203410195078	£54.69
		14	54	2203410195117	£54.69
2.00	4.0	12	60	2203410200080	£54.69
		14.4	65	2203410200120	£54.69
		30	66	2203410200220	£54.69
2.05	4.0	12.3	60	2203410205082	£54.69
		14.7	65	2203410205123	£54.69
2.10	4.0	12.6	60	2203410210084	£54.69
		15.1	65	2203410210126	£54.69
		35	74	2203410210250	£54.69
2.15	4.0	12.9	60	2203410215086	£54.69
		15.5	65	2203410215129	£54.69
2.20	4.0	13.2	60	2203410220088	£54.69
		15.8	65	2203410220132	£54.69
		35	74	2203410220250	£54.69
2.25	4.0	13.5	60	2203410225090	£54.69
		16.2	65	2203410225135	£54.69
2.30	4.0	13.8	60	2203410230092	£54.69
		16.6	65	2203410230138	£54.69
		35	74	2203410230250	£54.69

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
2.35	4.0	14.1	60	2203410235094	£54.69
		16.9	65	2203410235141	£54.69
2.40	4.0	14.4	60	2203410240096	£54.69
		17.2	65	2203410240144	£54.69
		35	74	2203410240250	£54.69
2.45	4.0	14.7	60	2203410245098	£54.69
		17.6	65	2203410245147	£54.69
2.50	4.0	15	60	2203410250100	£54.69
	4.0	18	65	2203410250150	£54.69
	3.0	35	74	2203410250250	£54.69
2.55	4.0	15.3	60	2203410255102	£54.69
		18.5	65	2203410255153	£54.69
2.60	4.0	15.6	60	2203410260104	£54.69
	4.0	18.7	65	2203410260156	£54.69
	3.0	40	82	2203410260320	£54.69
2.65	4.0	15.9	60	2203410265106	£54.69
		19.1	65	2203410265159	£54.69
2.70	4.0	16.2	60	2203410270108	£54.69
	4.0	19.4	65	2203410270162	£54.69
	3.0	40	82	2203410270320	£54.69
2.75	4.0	16.5	60	2203410275110	£54.69
		19.8	65	2203410275165	£54.69
2.80	4.0	16.8	60	2203410280112	£54.69
	4.0	20.2	65	2203410280168	£54.69
	3.0	40	82	2203410280320	£54.69
2.85	4.0	17.1	60	2203410285114	£54.69
		20.5	65	2203410285171	£54.69
2.90	4.0	17.4	60	2203410290116	£54.69
	4.0	20.9	65	2203410290174	£54.69
	3.0	40	82	2203410290320	£54.69
2.95	4.0	17.7	60	2203410295118	£54.69
		21.2	65	2203410295177	£54.69
3.00	4.0	18	60	2203410300120	£54.69
		21.6	65	2203410300180	£54.69

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	●	●	○	●	●	●	●					

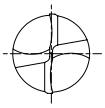
DREAM DRILL - FLAT BOTTOM STUB LENGTH 2XD

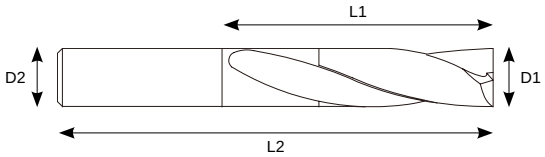
180° Point Angle Enables Drilling of Flat, Inclined and Curved Surfaces

- Designed for drilling into uneven or inclined surfaces
- 2-3 times quicker than drilling with a slot drill
- For drilling steel, stainless steel and cast iron
- Minimized burrs at entrance and exit when drilling through holes in thin plate

Series	Cutting Data
DPP447 YG-1	View Online







2xD

MG SC | 20° | h6 | h7 | 180° | X1100 COATED

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
3	6	16	50	DPP447030	£30.02
3.1				DPP447031	£30.02
3.2				DPP447032	£30.02
3.3				DPP447033	£30.02
3.4	6	18	50	DPP447034	£30.02
3.5				DPP447035	£30.02
3.6				DPP447036	£30.02
3.7				DPP447037	£30.02
3.8				DPP447038	£30.02
3.9				DPP447039	£30.02
4				DPP447040	£30.02
4.1	6	20	60	DPP447041	£30.02
4.2				DPP447042	£30.02
4.3				DPP447043	£30.02
4.4				DPP447044	£30.02
4.5	6	22	60	DPP447045	£30.02
4.6				DPP447046	£30.02
4.7				DPP447047	£30.02
4.8				DPP447048	£30.02
4.9				DPP447049	£30.02
5				DPP447050	£30.02
5.1	6	24	60	DPP447051	£30.02
5.2				DPP447052	£30.02
5.3				DPP447053	£30.02
5.4				DPP447054	£30.02
5.5				DPP447055	£30.02
5.6				DPP447056	£30.02
5.7	6	26	60	DPP447057	£30.02
5.8				DPP447058	£30.02
5.9				DPP447059	£30.02
6				DPP447060	£30.02
6.1	8	28	70	DPP447061	£52.84
6.2				DPP447062	£52.84
6.3				DPP447063	£52.84
6.4	8	30	70	DPP447064	£52.84
6.5				DPP447065	£52.84
6.6				DPP447066	£52.84
6.7				DPP447067	£52.84
6.8				DPP447068	£52.84
6.9				DPP447069	£52.84
7				DPP447070	£52.84
7.1	8	34	70	DPP447071	£52.84
7.2				DPP447072	£52.84
7.3				DPP447073	£52.84
7.4				DPP447074	£52.84
7.5				DPP447075	£52.84
7.6				DPP447076	£52.84
7.7				DPP447077	£52.84

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
7.8	10	38	80	DPP447078	£52.84
7.9				DPP447079	£52.84
8				DPP447080	£52.84
8.1				DPP447081	£66.56
8.2				DPP447082	£66.56
8.3				DPP447083	£66.56
8.4				DPP447084	£66.56
8.5				DPP447085	£66.56
8.6				DPP447086	£66.56
8.7	10	40	80	DPP447087	£66.56
8.8				DPP447088	£66.56
8.9				DPP447089	£66.56
9				DPP447090	£66.56
9.1	10	42	80	DPP447091	£66.56
9.2				DPP447092	£66.56
9.3				DPP447093	£66.56
9.4				DPP447094	£66.56
9.5				DPP447095	£66.56
9.6				DPP447096	£66.56
9.7	10	45	80	DPP447097	£66.56
9.8				DPP447098	£66.56
9.9				DPP447099	£66.56
10				DPP447100	£66.56
10.2	12	46	90	DPP447102	£83.38
10.5	12	48	90	DPP447105	£83.38
10.8				DPP447108	£83.38
11				DPP447110	£83.38
11.5	12	50	90	DPP447115	£83.38
11.8	12	52	90	DPP447118	£83.38
11.9				DPP447119	£83.38
12				DPP447120	£83.38
12.5	14	54	100	DPP447125	£119.27
13	14	56	100	DPP447130	£119.27
13.5				DPP447135	£119.27
14				DPP447140	£119.27
14.5	16	62	105	DPP447145	£159.37
15				DPP447150	£159.37
15.5	16	64	115	DPP447155	£159.37
16				DPP447160	£159.37
16.5	18	70	125	DPP447165	£191.93
17				DPP447170	£191.93
17.5				DPP447175	£191.93
18				DPP447180	£191.93
18.5	20	75	135	DPP447185	£212.53
19				DPP447190	£212.53
19.5	20	75	135	DPP447195	£212.53
20				DPP447200	£212.53

APPLICATIONS


INCLINED ENTRY


INCLINED EXIT


COUNTER BORING


GUIDE DRILLING


CROSS DRILLING


THIN PLATE


CURVED SURFACE


CHAINED HOLE


BLIND HOLE FOR THREADING

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	●			○			●	○	○			

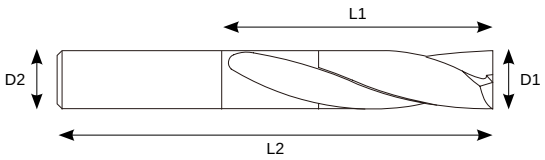
DREAM DRILL - FLAT BOTTOM, THROUGH COOLANT JOBBER 5XD

180° Point Angle Enables Drilling of Flat, Inclined and Curved Surfaces

- Designed for drilling into uneven or inclined surfaces
- 2-3 times quicker than drilling with a slot drill
- For drilling steel, stainless steel and cast iron
- Minimized burrs at entrance and exit when drilling through holes in thin plate
- Through coolant

Series	Cutting Data
DH450 YG-1	View Online





5xD

MG SC | 20° | h6 | h7 | 180° | X1100 COATED

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
3.0	6	28	66	DH450030	£62.36
3.1				DH450031	£62.36
3.2				DH450032	£62.36
3.3				DH450033	£62.36
3.4				DH450034	£62.36
3.5				DH450035	£62.36
3.6				DH450036	£62.36
3.7				DH450037	£62.36
3.8	6	36	74	DH450038	£62.36
3.9				DH450039	£62.36
4.0				DH450040	£62.36
4.1				DH450041	£62.36
4.2				DH450042	£62.36
4.3				DH450043	£62.36
4.4				DH450044	£62.36
4.5				DH450045	£62.36
4.6				DH450046	£62.36
4.7				DH450047	£62.36
4.8	6	44	82	DH450048	£62.36
4.9				DH450049	£62.36
5.0				DH450050	£62.36
5.1				DH450051	£62.36
5.2				DH450052	£62.36
5.3				DH450053	£62.36
5.4				DH450054	£62.36
5.5				DH450055	£62.36
5.6				DH450056	£62.36
5.7				DH450057	£62.36
5.8				DH450058	£62.36
5.9				DH450059	£62.36
6.0				DH450060	£62.36

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6.1	8	53	91	DH450061	£66.40
6.2				DH450062	£66.40
6.3				DH450063	£66.40
6.4				DH450064	£66.40
6.5				DH450065	£66.40
6.6				DH450066	£66.40
6.7				DH450067	£66.40
6.8				DH450068	£66.40
6.9				DH450069	£66.40
7.0				DH450070	£66.40
7.1				DH450071	£66.40
7.2				DH450072	£66.40
7.3				DH450073	£66.40
7.4				DH450074	£66.40
7.5				DH450075	£66.40
7.6				DH450076	£66.40
7.7				DH450077	£66.40
7.8				DH450078	£66.40
7.9				DH450079	£66.40
8.0				DH450080	£66.40
8.1	10	61	103	DH450081	£77.02
8.2				DH450082	£77.02
8.3				DH450083	£77.02
8.4				DH450084	£77.02
8.5				DH450085	£77.02
8.6				DH450086	£77.02
8.7				DH450087	£77.02
8.8				DH450088	£77.02
8.9				DH450089	£77.02
9.0				DH450090	£77.02
9.1				DH450091	£77.02

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
9.2	10	61	103	DH450092	£77.02
9.3				DH450093	£77.02
9.4				DH450094	£77.02
9.5				DH450095	£77.02
9.6				DH450096	£77.02
9.7				DH450097	£77.02
9.8				DH450098	£77.02
9.9				DH450099	£77.02
10.0				DH450100	£77.02
10.5	12	71	118	DH450105	£106.89
11.0				DH450110	£106.89
11.5				DH450115	£106.89
12.0				DH450120	£106.89
12.5	14	77	125	DH450125	£152.57
13.0				DH450130	£152.57
13.5				DH450135	£152.57
14.0				DH450140	£152.57
14.5	16	83	133	DH450145	£200.56
15.0				DH450150	£200.56
15.5				DH450155	£200.56
16.0				DH450160	£200.56
16.5	18	93	143	DH450165	£303.25
17.0				DH450170	£303.25
17.5				DH450175	£303.25
18.0				DH450180	£303.25
18.5	20	101	153	DH450185	£342.51
19.0				DH450190	£342.51
19.5				DH450195	£342.51
20.0				DH450200	£342.51

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	●			○			●	○	○			

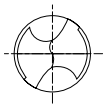
90° POINT DRILLS - COMPOSITES DIAMOND COATED

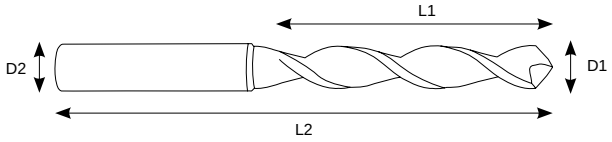
Carbon & Glass Fibre Composite, Graphite, Kevlar, High Grade Engineered & Abrasive Plastic

- Special geometry drill point prevents delamination of through holes
- Diamond coating prevents premature tool wear in highly abrasive materials
- Self centering with a 90° drill point

Series	Cutting Data
29.0120 Karnasch	View Online







MG SC | 35° | h6 | m7 | 90° | DCC 0318



MULTI-DIRECTIONAL CARBON FIBRES

SELF CENTERING

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
0.5	3	5.5	55	29012000500045	£93.20
0.6				29012000600045	£93.20
0.7				29012000700045	£93.20
0.8				29012000800045	£93.20
0.9				29012000900045	£93.20
1.0		8		2901200100005	£57.67
1.1	3	12	55	2901200110008	£66.01
1.2				2901200120008	£66.01
1.3				2901200130008	£66.01
1.4				2901200140008	£66.01
1.5				2901200150008	£66.01
1.6	3	16	68	2901200160011	£69.37
1.7				2901200170011	£69.37
1.8				2901200180011	£69.37
1.9				2901200190011	£69.37
2.0				2901200200011	£60.61
2.1	3	20	74	2901200210014	£71.61
2.2				2901200220014	£71.61
2.3				2901200230014	£71.61
2.4				2901200240014	£71.61
2.5				2901200250014	£71.61
2.6	3	23	81	2901200260016	£73.84
2.7				2901200270016	£73.84
2.8				2901200280016	£73.84
2.9				2901200290016	£73.84
3.0	6	28	66	2901200300023	£146.13
3.1				2901200310023	£131.51
1/8"				29012003175023	£140.75
3.2				2901200320023	£131.51
3.3				2901200330023	£163.96
3.4				2901200340023	£131.51
3.5				2901200350023	£131.51
3.6				2901200360023	£131.51
3.7				2901200370023	£131.51
3.8				2901200380023	£146.13
3.9				2901200390023	£131.51

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
4.0	6	36	74	2901200400029	£120.71
4.1				2901200410029	£130.49
4.2				2901200420029	£130.49
4.3				2901200430029	£130.49
4.4				2901200440029	£130.49
4.5				2901200450029	£130.49
4.6				2901200460029	£130.49
4.7				2901200470029	£130.49
3/16"				29012004763029	£149.31
4.8				2901200480029	£130.49
4.9				2901200490029	£130.49
5.0	6	44	82	2901200500035	£130.49
5.1				2901200510035	£130.49
5.2				2901200520035	£130.49
5.3				2901200530035	£130.49
5.4				2901200540035	£130.49
5.5				2901200550035	£130.49
5.6				2901200560035	£146.52
5.7				2901200570035	£130.49
5.8				2901200580035	£130.49
5.9				2901200590035	£130.49
6.0				2901200600035	£130.49
6.1	8	53	91	2901200610043	£196.25
6.2				2901200620043	£196.25
6.3				2901200630043	£196.25
1/4"				2901200635043	£171.48
6.4				2901200640043	£196.25
6.5				2901200650043	£190.52
6.6				2901200660043	£196.25
6.7				2901200670043	£196.25
6.8				2901200680043	£196.25
6.9				2901200690043	£196.25
7.0				2901200700043	£196.25
7.1				2901200710043	£196.25
7.2				2901200720043	£196.25
7.3				2901200730043	£196.25

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
											●		●

90° POINT DRILLS - COMPOSITES DIAMOND COATED (CONTINUED)

Carbon & Glass Fibre Composite, Graphite, Kevlar, High Grade Engineered & Abrasive Plastic



Series	Cutting Data
29.0120 Karnasch	View Online

Karnasch™ PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
7.4	8	53	91	2901200740043	£196.25
7.6				2901200760043	£196.25
7.7				2901200770043	£196.25
7.8				2901200780043	£196.25
7.9				2901200790043	£196.25
8.0				2901200800043	£196.25
8.1	10	61	103	2901200810049	£233.81
8.2				2901200820049	£233.81
8.3				2901200830049	£233.81
8.4				2901200840049	£233.81
8.6	10	61	103	2901200860049	£233.81
8.7				2901200870049	£233.81
8.8				2901200880049	£233.81
8.9				2901200890049	£233.81
9.0				2901200900049	£233.81
9.1				2901200910049	£233.81
9.2				2901200920049	£233.81
9.3				2901200930049	£233.81
9.4				2901200940049	£233.81
9.5				2901200950049	£233.81
9.6				2901200960049	£233.81
9.7				2901200970049	£233.81
9.8				2901200980049	£233.81
9.9				2901200990049	£233.81
10.0				2901201000049	£233.81
10.1	12	71	118	2901201010056	£253.65
10.2				2901201020056	£253.65
10.3				2901201030056	£253.65
10.4				2901201040056	£253.65
10.5				2901201050056	£253.65
10.6				2901201060056	£253.65
10.7				2901201070056	£253.65
10.8				2901201080056	£253.65
10.9				2901201090056	£253.65
11				2901201100056	£253.65
12.0				2901201200056	£253.65

CUTTING DATA

COMPOSITES CFC/GFC	Speed m/min	Feed mm/rev				
		Ø<3	Ø3-4.9	Ø5-7.9	Ø8-9.9	Ø10-12
	160	0.02-0.03	0.04	0.05	0.07	0.1

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
											●		●

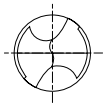
90° POINT - COMPOSITES DIAMOND COATED

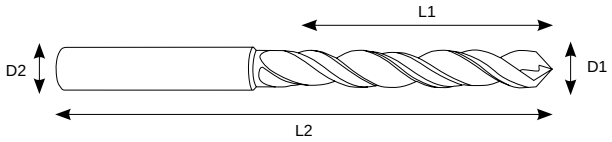
Carbon & Glass Fibre Composite, Graphite, Kevlar, High Grade Engineered & Abrasive Plastic

- Special geometry drill point prevents delamination of through holes
- Diamond coating prevents premature tool wear in highly abrasive materials
- Self centering with a 90° drill point

Series	Cutting Data
29.0121 Karnasch	View Online







MG SC | 35° | h6 | m7 | 90° | DCC 0318



UNIDIRECTIONAL CARBON FIBRES

SELF CENTERING

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
2.8	6	24	66	2901210280019	£170.13
2.9				2901210290019	£170.13
3.0	6	28	66	2901210300023	£170.13
3.1				2901210310023	£170.13
1/8"				29012103175023	£159.85
3.2				2901210320023	£170.13
3.3				2901210330023	£170.13
3.4				2901210340023	£170.13
3.5				2901210350023	£170.13
3.6				2901210360023	£170.13
3.7				2901210370023	£170.13
3.8				2901210380023	£170.13
3.9				2901210390023	£170.13
4.0	6	36	74	2901210400029	£173.28
4.1				2901210410029	£173.28
4.2				2901210420029	£173.28
4.3				2901210430029	£173.28
4.4				2901210440029	£173.28
4.5				2901210450029	£173.28
4.6				2901210460029	£173.28
4.7				2901210470029	£173.28
3/16"				29012104763029	£162.58
4.8				2901210480029	£173.28
4.9				2901210490029	£173.28
5.0	6	44	82	2901210500035	£183.70
5.1				2901210510035	£183.70
5.2				2901210520035	£183.70
5.3				2901210530035	£183.70
5.4				2901210540035	£183.70
5.6				2901210560035	£183.70
5.7				2901210570035	£183.70
5.8				2901210580035	£183.70
5.9				2901210590035	£183.70

CUTTING DATA

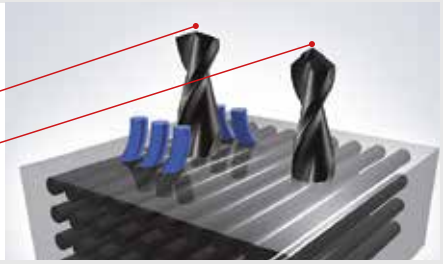
COMPOSITES CFC/GFC	Speed m/min	Feed mm/rev			
		Ø2.8-4.9	Ø5-7.9	Ø8-9.9	Ø10-12
	160	0.04	0.05	0.07	0.1

DRILLING MULTI-DIRECTIONAL COMPOSITES



STANDARD 140° DRILL POINT
creates delamination

KARNASCH 90° DRILL POINT
prevents delamination



Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
											●		●

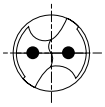
90° POINT - COMPOSITES DIAMOND COATED

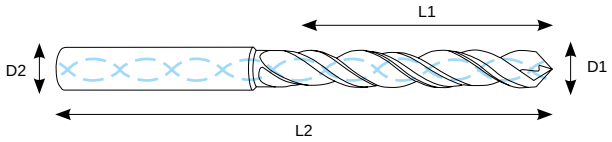
Carbon & Glass Fibre Composite, Graphite, Kevlar, High Grade Engineered & Abrasive

- Special geometry drill point prevents delamination of through holes
- Diamond coating prevents premature tool wear in highly abrasive materials
- Self centering with a 90° drill point
- Air cooling

Series	Cutting Data
29.0122 Karnasch	View Online







MG SC | 35° | h6 | m7 | 90° | DCC 0318



UNIDIRECTIONAL CARBON FIBRES

SELF CENTERING

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
6.0	6	44	82	2901220600035	£230.67
6.1	8	53	91	2901220610043	£286.00
6.2				2901220620043	£286.00
6.3				2901220630043	£286.00
1/4"				2901220635043	£249.91
6.4				2901220640043	£286.00
6.5				2901220650043	£286.00
6.6				2901220660043	£286.00
6.7				2901220670043	£286.00
6.8				2901220680043	£286.00
6.9				2901220690043	£286.00
7				2901220700043	£286.00
7.1				2901220710043	£286.00
7.3				2901220730043	£286.00
7.4				2901220740043	£286.00
7.5				2901220750043	£286.00
7.6				2901220760043	£286.00
7.7				2901220770043	£286.00
7.8				2901220780043	£286.00
7.9				2901220790043	£286.00
5/16"				29012207938043	£264.46
8				2901220800043	£286.00
8.1	10	61	103	2901220810049	£348.64
8.2				2901220820049	£348.64
8.3				2901220830049	£348.64
8.4				2901220840049	£348.64
8.5				2901220850049	£348.64
8.6				2901220860049	£348.64

D1	D2	L1	L2	★★★★★ Performance Order Code	Price
8.7	10	61	103	2901220870049	£348.64
8.8				2901220880049	£348.64
8.9				2901220890049	£348.64
9				2901220900049	£348.64
9.1				2901220910049	£348.64
9.2				2901220920049	£348.64
9.3				2901220930049	£348.64
9.4				2901220940049	£348.64
9.5				2901220950049	£348.64
3/8"				29012209525049	£322.36
9.6				2901220960049	£348.64
9.7				2901220970049	£348.64
9.8				2901220980049	£348.64
9.9				2901220990049	£348.64
10				2901221000049	£348.64
10.1	12	71	118	2901221010056	£388.29
10.2				2901221020056	£388.29
10.3				2901221030056	£388.29
10.4				2901221040056	£388.29
10.5				2901221050056	£388.29
10.6				2901221060056	£388.29
10.7				2901221070056	£388.29
10.8				2901221080056	£388.29
10.9				2901221090056	£388.29
11				2901221100056	£388.29
7/16"				2901221111056	£339.28
11.5				2901221150056	£388.29
11.8				2901221180056	£388.29
12				2901221200056	£388.29

CUTTING DATA

COMPOSITES CFC/GFC	Speed m/min	Feed mm/rev			
		Ø2.8-4.9	Ø5-7.9	Ø8-9.9	Ø10-12
	160	0.04	0.05	0.07	0.1

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
											●		●

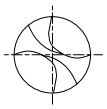
CROWN POINT DRILLS - COMPOSITES

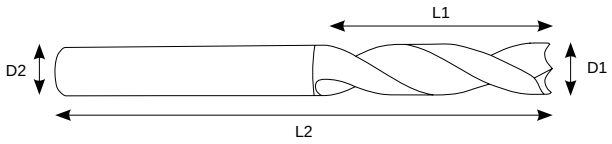
Carbon & Glass Fibre Composite, Graphite, Kevlar, High Grade Engineered & Abrasive Plastic

- Special geometry prevents delamination
- Available with polished finish or diamond coating

Series	Cutting Data
22.0080A / B Karnasch	View Online







MG SC | 30° | h6 | m7 | DCA 06 | POLISHED





ALL CARBON FIBRES

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	★★★★★ Performance			
				DCA-06 Coated		Polished	
				Order Code	Price	Order Code	Price
3.0	3.0	16	45	290080A0300012	**£52.60**	290080B0300012	**£29.26**
3.2	3.2	18	50	290080A0320014	**£68.29**	290080B0320014	**£29.26**
3.3				-	-	290080B0330014	**£29.26**
3.5	3.5	20	50	290080A0350015	**£68.29**	290080B0350015	**£29.26**
3.7			52	-	-	290080B0370015	**£29.26**
4.0	4.0	22	55	290080A0400017	**£68.29**	290080B0400017	**£29.26**
4.2				-	-	290080B0420017	**£34.45**
4.5	4.5	25	57	290080A0450018	**£89.31**	290080B0450018	**£34.45**
4.7	4.7		58	-	-	290080B0470018	**£42.50**
5.0	5.0	25	62	290080A0500020	**£97.37**	290080B0500020	**£42.50**
5.3	5.3	26	62	-	-	290080B0530020	**£42.50**
5.5	5.5	28	65	290080A0550020	**£104.40**	290080B0550020	**£49.54**
5.8	5.8	28	66	-	-	290080B0580020	**£49.54**
6.0	6.0	28	65	290080A0600020	**£104.40**	290080B0600020	**£49.54**
6.5	6.5	30	70	290080A0650022	**£104.40**	290080B0650022	**£54.77**
7.0	7.0	33	75	290080A0700025	**£135.70**	290080B0700025	**£60.93**
7.5	7.5		74	-	-	290080B0750025	**£60.93**
8.0	8.0	36	80	290080A0800027	**£148.34**	290080B0800027	**£73.57**
8.5	8.5			290080A0850027	**£166.72**	290080B0850027	**£80.33**
9.0	9.0	40	85	290080A0900030	**£171.31**	290080B0900030	**£84.91**
9.5	9.5	37	84	-	-	290080B0950030	**£93.85**
10.0	10.0	42	90	290080A1000032	**£184.87**	290080B1000032	**£98.48**
10.5	10.5			-	-	290080B1050032	**£111.40**
11.0	11.0	47	95	-	-	290080B1100034	**£127.09**
11.5	11.5			-	-	290080B1150034	**£141.54**
12.0	12.0	50	100	290080A1200035	**£240.66**	290080B1200035	**£141.54**
13.0	13.0	50		-	-	290080B1300035	**£141.54**
14.0	14.0	54	105	-	-	290080B1400037	**£141.54**
15.0	15.0	56	110	-	-	290080B1500038	**£141.54**
16.0	16.0	58	115	-	-	290080B1600038	**£141.54**

CUTTING DATA

MATERIAL	THERMOPLASTIC		DUROPLASTIC		FIBREGLASS - GFK		FIBREGLASS - CFK	
Strength	800-3,200 N/mm²		<10,000 N/mm²		<10,000 N/mm²		<10,000 N/mm²	
Diameter	RPM	Feed mm/min	RPM	Feed mm/min	RPM	Feed mm/min	RPM	Feed mm/min
1.0-3.0	18,000	2,200	10,000	2,200	6,000	4,000	5,000	1,600
3.2-7.0	18,000	2,000	10,000	2,000	6,000	2,400	5,000	1,000
8.0-11.0	20,000	1,900	10,000	1,900	6,000	1,800	5,000	720
12.0-14.0	20,000	1,600	10,000	1,600	6,000	1,500	5,000	800

RPM: revolutions per minute Feed: mm per minute

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	HRSA's e.g. Inconel	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
											●		●

DREAM DRILL GENERAL

DH404, DH423 & DH424* Series

CUTTING DATA

DRILLING

MATERIAL	NON-ALLOY STEELS			ALLOY STEELS			SOFT GREY CAST IRON			HARD GREY CAST IRON		
Strength	< 700 N/mm²			< 1000 N/mm²			< HB240, GG25			< HB300, GG40		
Drilling Speed	Under Ø3 40 ~ 80 m/min Over Ø3 100 m/min			Under Ø3 35 ~ 70 m/min Over Ø3 75 m/min			Under Ø3 60 ~ 130 m/min Over Ø3 100 m/min			Under Ø3 40 ~ 90 m/min Over Ø3 80 m/min		
Diameter	RPM	FEED		RPM	FEED		RPM	FEED		RPM	FEED	
		Min.	Max.		Min.	Max.		Min.	Max.		Min.	Max.
1	13000	0.03	0.05	11250	0.03	0.05	21300	0.03	0.05	14200	0.03	0.05
2	13000	0.05	0.07	11250	0.05	0.07	21300	0.05	0.07	14200	0.05	0.07
3	10500	0.06	0.12	7890	0.06	0.12	10500	0.06	0.12	8410	0.06	0.12
4	7920	0.08	0.16	5920	0.08	0.16	7920	0.08	0.16	6310	0.08	0.16
5	6310	0.1	0.2	4740	0.1	0.2	6310	0.1	0.2	5050	0.1	0.2
6	5270	0.12	0.24	3950	0.12	0.24	5270	0.12	0.24	4220	0.12	0.24
7	4510	0.14	0.26	3400	0.14	0.26	4510	0.14	0.26	3610	0.14	0.26
8	3950	0.16	0.28	2970	0.16	0.28	3950	0.16	0.28	3160	0.16	0.28
9	3510	0.18	0.3	2640	0.18	0.3	3510	0.18	0.3	2820	0.18	0.3
10	3160	0.2	0.3	2370	0.2	0.3	3160	0.2	0.3	2530	0.2	0.3
11	2880	0.2	0.3	2160	0.2	0.3	2880	0.2	0.3	2310	0.2	0.3
12	2640	0.21	0.3	1980	0.21	0.3	2640	0.21	0.3	2120	0.21	0.3
13	2430	0.21	0.33	1830	0.21	0.33	2430	0.21	0.33	1950	0.21	0.33
14	2260	0.22	0.35	1710	0.22	0.35	2260	0.22	0.35	1810	0.22	0.35
16	1980	0.25	0.36	1490	0.25	0.36	1980	0.25	0.36	1590	0.25	0.36
18	1760	0.28	0.38	1330	0.28	0.38	1760	0.28	0.38	1420	0.28	0.38
20	1590	0.3	0.4	1180	0.3	0.4	1590	0.3	0.4	1270	0.3	0.4

*NOTE: For DH424 series reduce feed by 15%.

DREAM DRILL PRO

DGN523 & DGN526 Series

CUTTING DATA

DRILLING

MATERIAL	NON- ALLOY STEEL		LOW ALLOY STEEL		HIGH ALLOYED STEEL & TOOL STEEL		STAINLESS STEEL 400 SERIES		GREY CAST IRON		NODULAR CAST IRON		MALLEABLE CAST IRON	
Drilling Speed	85-120 m/min		85-120 m/min		35-80 m/min		45-60 m/min		85-120 m/min		60-120 m/min		60-95 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1.0	27,060	0.03-0.05	27,060	0.03-0.05	19,100	0.03-0.05	19,100	9,550	27,060	0.04-0.06	27,060	0.04-0.06	23,870	0.04-0.16
2.0	13,530	0.05-0.07	13,530	0.05-0.07	9,550	0.05-0.07	9,550	0.03-0.05	13,530	0.04-0.06	13.530	0.04-0.06	11,940	0.04-0.06
3.0	12,730	0.06-0.12	12,730	0.06-0.12	8,490	0.04-0.10	9,020	0.06-0.12	12,730	0.08-0.14	12,730	0.08-0.14	10,080	0.08-0.14
4.0	9,5500	0.08-0.14	9,5500	0.08-0.14	6,370	0.07-0.13	6,760	0.07-0.13	9,550	0.12-0.18	9,550	0.12-0.18	7,560	0.12-0.18
5.0	7,640	0.14-0.20	7,640	0.14-0.20	5,090	0.10-0.16	5,410	0.14-0.20	7,640	0.18-0.24	7,640	0.18-0.24	6,050,	0.18-0.24
6.0	6,370	0.16-0.22	6,370	0.16-0.22	4,240	0.12-0.18	4,510	0.16-0.22	7,640	0.18-0.24	6,370	0.14-0.26	5,040	0.14-0.26

DREAM DRILL PRO

DGN506 & DGN508 Series

CUTTING DATA

DRILLING

MATERIAL	NON- ALLOY STEEL		LOW ALLOY STEEL		HIGH ALLOYED STEEL & TOOL STEEL		STAINLESS STEEL 400 SERIES		GREY CAST IRON		NODULAR CAST IRON		MALLEABLE CAST IRON	
Drilling Speed	95-130 m/min		75-120 m/min		45-90 m/min		55-95 m/min		95-130 m/min		75-145 m/min		75-110 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1.0	30,240	0.03-0.05	30,240	0.03-0.05	22,280	0.03-0.05	23,870	0.02-0.04	30,240	0.04-0.06	35,010	0.04-0.06	27,060	0.04-0.06
2.0	15,120	0.05-0.07	15,120	0.05-0.07	11,140	0.05-0.07	11,940	0.05-0.07	15,120	0.04-0.06	17,510	0.04-0.06	13,530	0.04-0.06
3.0	13,790	0.06-0.12	13,790	0.06-0.12	9,550	0.04-0.10	10,080	0.06-0.12	13,790	0.08-0.14	15,380	0.08-0.14	11,670	0.08-0.14
4.0	10,350	0.06-0.12	10,350	0.08-0.14	7,160	0.07-0.13	7,560	0.08-0.14	10,350	0.12-0.18	11,540	0.12-0.18	8,750	0.12-0.18
5.0	8,280	0.14-0.20	8,280	0.14-0.20	5,730	0.10-0.16	6,050	0.14-0.20	8,280	0.18-0.24	9,230	0.18-0.24	7,000	0.18-0.24
6.0	6,900	0.16-0.22	6,900	0.16-0.22	4,770	0.12-0.18	5,040	0.16-0.22	6,900	0.14-0.26	7,690	0.14-0.26	5,840	0.14-0.26
8.0	5,170	0.18-0.24	5,170	0.18-0.24	3,580	0.14-0.20	3,780	0.18-0.24	5,170	0.16-0.28	5,770	0.16-0.28	4,380	0.16-0.28
10.0	4,140	0.22-0.28	4,140	0.22-0.28	2,860	0.18-0.24	3,020	0.22-0.28	4,140	0.24-0.34	4,620	0.24-0.34	3,500	0.24-0.34
12.0	3,450	0.20-0.30	3,450	0.20-0.30	2,390	0.14-0.24	2,520	0.20-0.30	3,450	0.26-0.36	3,850	0.26-0.36	2,920	0.26-0.36
14.0	2,960	0.22-0.32	2,960	0.22-0.32	2,050	0.16-0.26	2,160	0.22-0.32	2,960	0.28-0.38	3,300	0.28-0.38	2,500	0.28-0.38
16.0	2,590	0.28-0.38	2,590	0.28-0.38	1,790	0.18-0.28	1,890	0.24-0.34	2,590	0.30-0.40	2,880	0.30-0.40	2,190	0.30-0.40
18.0	2,300	0.28-0.38	2,300	0.28-0.38	1,590	0.20-0.30	1,680	0.28-0.38	2,300	0.32-0.42	2,560	0.32-0.42	1,950	0.32-0.42
20.0	2,070	0.30-040	2,070	0.30-040	1,430	0.22-0.32	1,510	0.30-0.40	2,070	0.34-0.44	2,310	0.34-0.44	1,750	0.34-0.44

ECONOMY DRILL

D5405 & D5407 Series

CUTTING DATA

DRILLING

MATERIAL	NON-ALLOY STEELS		ALLOY STEELS		STAINLESS STEEL		Ti, Ni ALLOY STEELS	
Strength	< 700 N/mm²		< 1000 N/mm²		-		-	
Drilling Speed	35-70 m/min		30-50 m/min		15-25 m/min		10-20 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	11500	0.03	8600	0.03	6000	0.02	5900	0.02
2	11500	0.04	8600	0.04	6000	0.03	5900	0.03
3	7800	0.05	5750	0.05	4000	0.04	3900	0.04
4	5800	0.06	4300	0.06	3000	0.05	2950	0.05
5	4700	0.07	3450	0.07	2400	0.06	2350	0.06
6	3900	0.08	2850	0.08	2000	0.07	1950	0.07
7	3350	0.09	2450	0.09	1700	0.08	1700	0.08
8	2900	0.1	2150	0.1	1500	0.09	1450	0.09
9	2600	0.11	1900	0.11	1350	0.1	1300	0.1
10	2350	0.12	1700	0.12	1200	0.11	1200	0.11
11	2150	0.13	1600	0.13	1100	0.12	1050	0.12
12	1950	0.14	1450	0.14	1000	0.13	980	0.13
13	1800	0.16	1350	0.16	950	0.13	905	0.13

MATERIAL	SOFT GREY CAST IRON		HARD GREY CAST IRON		Al-Si ALLOYS, Si<10%		Al-Si ALLOYS, Si>10%	
Strength	< HB240, GG25		< HB300, GG40		-		-	
Drilling Speed	25-45 m/min		20-35 m/min		80-140 m/min		60-80 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	16000	0.04	11500	0.04	27000	0.05	21000	0.05
2	16000	0.05	11500	0.05	27000	0.06	21000	0.06
3	10500	0.06	7600	0.06	18000	0.07	14000	0.07
4	7800	0.07	5700	0.07	13000	0.08	10500	0.08
5	6200	0.08	4550	0.08	10500	0.09	8500	0.09
6	5200	0.09	3800	0.09	8800	0.11	7100	0.11
7	4500	0.1	3250	0.1	7600	0.13	6100	0.13
8	3900	0.12	2850	0.12	6600	0.15	5350	0.15
9	3450	0.14	2550	0.14	5900	0.17	4750	0.17
10	3100	0.16	2300	0.16	5300	0.19	4250	0.19
11	2850	0.18	2100	0.18	4850	0.21	3900	0.21
12	2600	0.2	1900	0.2	4450	0.23	3550	0.23
13	2400	0.2	1750	0.2	4100	0.25	3300	0.25

ALU-DRILL 40° HELIX

DCA40 & DCA60 Series

CUTTING DATA

DRILLING

MATERIAL	COPPER, BRASS, BRONZE		ALUMINIUM (<Si 12%)		ALUMINIUM (>Si 12%)		THERMOPLASTICS	
Diameter	Speed	Feed	Speed	Feed	Speed	Feed	RPM	Feed
2-4	100-150	0.04-0.06	80-150	0.03-0.04	50-80	0.02-0.04	30-50	0.01-0.02
4-8		0.06-0.10		0.04-0.06		0.04-0.06		0.02-0.04
8-12		0.10-0.14		0.06-0.09		0.06-0.08		0.04-0.08
12-16		0.14-0.16		0.09-0.18		0.09-0.18		0.08-0.10
16-20		0.16-0.20		0.12-0.16		0.12-0.14		0.10-0.12

RPM: revolutions per minute Feed: mm per rev

DREAM DRILL-INOX, THROUGH COOLANT

DH451, DH452 & DH453* Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL & ALLOY STEELS		STAINLESS STEEL				TITANIUM ALLOYS		ALUMINIUM				NON FERROUS	
Strength	-		< 800 N/mm²		> 800 N/mm²		~ 410 N/mm²		< 10% Si		> 10% Si		-	
Drilling Speed	70-100 m/min		40-60 m/min		25-45 m/min		25-40 m/min		130-180 m/min		110-160 m/min		90-130 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	26000	0.02	12000	0.02	6200	0.02	8100	0.01	48000	0.04	38000	0.03	38000	0.02
1.5	18000	0.03	9000	0.03	5400	0.02	7500	0.01	43000	0.05	32000	0.04	25500	0.03
2.5	10800	0.05	7000	0.04	4200	0.03	4500	0.02	25500	0.08	19500	0.06	15500	0.05
3	13000	0.04	7400	0.04	4700	0.02	5300	0.03	23000	0.12	18500	0.10	16000	0.08
4	10000	0.05	5600	0.05	3600	0.03	4000	0.04	17500	0.18	13900	0.15	11900	0.10
5	8000	0.05	4400	0.05	2800	0.03	3200	0.05	14000	0.20	11000	0.18	9500	0.12
6	6600	0.06	3700	0.06	2400	0.04	2650	0.06	11700	0.25	9300	0.25	8000	0.15
8	5000	0.08	2800	0.08	1800	0.06	2000	0.07	8800	0.30	7000	0.30	6000	0.18
10	4000	0.10	2200	0.10	1400	0.08	1600	0.08	7000	0.40	5600	0.35	4800	0.22
12	3300	0.12	1900	0.12	1200	0.10	1300	0.10	5800	0.50	4600	0.40	4000	0.26
14	2800	0.15	1600	0.15	1000	0.12	1100	0.12	5000	0.60	4000	0.50	3400	0.30
16	2500	0.20	1400	0.20	900	0.15	1000	0.14	4380	0.80	3500	0.60	3000	0.40
18	2200	0.22	1250	0.22	800	0.17	900	0.16	3900	1.00	3100	0.70	2650	0.45
20	2000	0.24	1120	0.24	720	0.19	800	0.18	3500	1.20	2800	0.80	2400	0.50

*NOTE: For DH453 Series reduce Feed by 15%.

DREAM DRILL-HIGH HARDENED STEEL

DH500 Series

CUTTING DATA

DRILLING

MATERIAL	HARDENED STEELS		HIGH HARDENED STEELS			
Hardness	HRc50~55		HRc55~60		HRc70~70	
Drilling Speed	15-20 m/min		10-15 m/min		8-12 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed
3	1900	0.04	1330	0.04	1250	0.04
4	1430	0.04	1000	0.04	950	0.04
5	1150	0.04	800	0.04	750	0.04
6	960	0.04	670	0.04	630	0.04
8	720	0.04	500	0.04	480	0.04
10	570	0.04	400	0.04	380	0.04
12	480	0.04	330	0.04	320	0.04
14	438	0.04	282	0.04	272	0.04

MACH DRILL Plus - INCONEL & TITANIUM

MSDPH-3S & MSDPH-5S Series

CUTTING DATA

DRILLING

MATERIAL	HRSA (INCONEL, HASTELLOY, WASPALLOY)				TITANIUM			
Material	Fe-BASED HRc25-30		Ni or Co BASED HRc35-45		Pure Titanium HRc10-15		Titanium Alloys HRc 35-45	
Diameter	Speed (m/min)	Feed	Speed (m/min)	Feed	Speed (m/min)	Feed	Speed (m/min)	Feed
2.5-5.0	25 ~ 30 m/min	0.055~0.07	20 ~ 25 m/min	0.07~0.10	40 ~ 50 m/min	0.08~0.13	30 ~ 40 m/min	0.10~0.15
5.1-8.0		0.045~0.06		0.06~0.09		0.07~0.12		0.09~0.14
8.1-12.0		0.045~0.06		0.09~0.14		0.12~0.18		0.16~0.23
12.1-16.0		0.05~0.09		0.07~0.12		0.10~0.16		0.14~0.21

RPM: revolutions per minute Feed: mm per rev

DREAM DRILL - ALU, THROUGH COOLANT

D5432, D5433 & D5434 Series

CUTTING DATA

DRILLING

MATERIAL	ALUMINIUM ALLOY CASTING & ALUMINIUM DIE CASTING			WROUGHT ALUMINIUM ALLOYS		
Diameter	RPM	Speed Vc (m/min)	Feed	RPM	Speed Vc (m/min)	Feed
3 ~ 6	8,000~15,000	80~150	0.2~0.5	8,000~15,000	80~150	0.15~0.3
6.1 ~ 10	6,000~10,500	100~200	0.3~1.0	6,000~10,500	100~200	0.2~0.4
10.1 ~ 14	4,500~5,800	150~250	0.3~1.0	4,500~5,800	150~250	0.2~0.4
14.1 ~ 20	3,200~4,600	150~200	0.3~1.0	3,200~4,600	150~200	0.2~0.4

DREAM DRILL - MQL, THROUGH COOLANT

DH510, DH515, DH520, DHM15 & DHM20 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL & ALLOY STEELS		CAST IRON		DUCTILE CAST IRON	
Hardness	~ 1060 N/mm²		250 ~ 350 N/mm²		400 ~ 500 N/mm²	
Drilling Speed	63 ~ 125 m/min		63 ~ 125 m/min		60 ~ 80 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed
3	7500	0.06~0.12	7500	0.06~0.12	7500	0.06~0.12
4	6400	0.08~0.16	6400	0.08~0.16	5600	0.08~0.16
5	5800	0.10~0.20	5800	0.10~0.20	4500	0.10~0.20
6	4800	0.12~0.24	4800	0.12~0.24	3800	0.12~0.24
8	3600	0.16~0.28	3600	0.16~0.28	2800	0.16~0.28
10	2900	0.20~0.35	2900	0.20~0.35	2300	0.20~0.35
12	2400	0.24~0.42	2400	0.24~0.42	1900	0.24~0.42
14	2050	0.28~0.46	2050	0.28~0.46	1600	0.28~0.46

DHM25 & DHM30 Series

DRILLING

MATERIAL	CARBON STEEL & ALLOY STEELS		CAST IRON		DUCTILE CAST IRON	
Hardness	~ 1060 N/mm²		250 ~ 350 N/mm²		400 ~ 500 N/mm²	
Drilling Speed	50 ~ 110 m/min		50 ~ 110 m/min		40 ~ 70 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed
3	6400	0.06~0.12	6400	0.06~0.12	6400	0.06~0.12
4	5500	0.08~0.16	5500	0.08~0.16	4700	0.08~0.16
5	4900	0.10~0.20	4900	0.10~0.20	3800	0.10~0.20
6	4200	0.12~0.24	4200	0.12~0.24	3200	0.12~0.24
8	3000	0.16~0.28	3000	0.16~0.28	2400	0.16~0.28
10	2500	0.20~0.35	2500	0.20~0.35	1900	0.20~0.35

PLEASE NOTE: follow these guidelines when MQL drilling.

1. Guide Drilling should be done as Diameter+0.1mm between 3xD and 5xD.
2. For Main Drilling, proceed with low RPM at Guide Drilling segment. (RPM 300, FEED 400mm/min)
3. Just before the end of Guide Drilling segment, reduce feed to zero and increase the rpm according to Recommended Cutting Condition.
4. After then, proceed main drilling by increasing feed without step drilling.
5. When coming out from Guide Drilling start point after drilling, RPM should be reduced as 300 and feed should be 1000 mm/min.
6. When coming out from Guide Drilling segment to the outside, the feed should be decreased as 50%.

RPM: revolutions per minute Feed: mm per rev

DREAM DRILL - HIGH FEED, THROUGH COOLANT

DGR493 & DGR495 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEELS & ALLOY STEELS			ALLOY STEELS			CAST IRON			DUCTILE CAST IRON		
Hardness	~ HRc 20			HRc 20 ~ 35			-			-		
Drilling Speed	110 m/min			75 m/min			100 m/min			80 m/min		
Diameter	RPM	FEED		RPM	FEED		RPM	FEED		RPM	FEED	
		Min.	Max.		Min.	Max.		Min.	Max.		Min.	Max.
5	6370	0.2	0.25	4780	0.2	0.25	6370	0.23	0.3	5100	0.2	0.25
6	5310	0.24	0.3	3980	0.24	0.3	5310	0.27	0.36	4250	0.24	0.3
7	4550	0.28	0.35	3420	0.28	0.35	4550	0.32	0.42	3640	0.28	0.35
8	3980	0.32	0.4	2990	0.32	0.4	3980	0.36	0.48	3190	0.32	0.4
9	3540	0.36	0.45	2660	0.36	0.45	3540	0.41	0.54	2840	0.36	0.45
10	3190	0.4	0.5	2390	0.4	0.5	3190	0.45	0.6	2550	0.4	0.5
12	2660	0.48	0.6	2000	0.48	0.54	2660	0.54	0.72	2130	0.48	0.6
14	2280	0.56	0.7	1710	0.56	0.63	2280	0.63	0.84	1820	0.56	0.7
16	1990	0.56	0.72	1500	0.56	0.64	1990	0.64	0.8	1600	0.56	0.72
18	1770	0.63	0.81	1330	0.63	0.72	1770	0.72	0.9	1420	0.63	0.81
20	1600	0.7	0.88	1190	0.68	0.81	1600	0.8	0.98	1280	0.7	0.9

DREAM DRILL - FLAT BOTTOM

DPP447 &DH4500 Series

CUTTING DATA

DRILLING

MATERIAL	STRUCTURAL STEELS		CARBON STEELS & ALLOY STEELS		PREHARDENED STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON		ALUMINIUM	
Strength	-		< HB225		HRc 30 ~ 40		HRc 40 ~ 50		~ HB200		-		-	
Drilling Speed	80 m/min		70 m/min		38 m/min		25 m/min		30 m/min		68 m/min		165 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	8350	0.05	7250	0.05	3890	0.05	2790	0.03	3180	0.02	7250	0.04	17850	0.06
4	6250	0.07	5410	0.07	2940	0.06	2100	0.04	2380	0.03	5410	0.06	13130	0.08
5	5040	0.08	4360	0.08	2310	0.08	1680	0.05	1910	0.04	4360	0.07	10500	0.1
6	4200	0.1	3630	0.1	1890	0.09	1370	0.06	1590	0.05	3630	0.09	8930	0.12
8	3150	0.14	2730	0.13	1470	0.12	1050	0.08	1190	0.06	2730	0.12	6670	0.16
10	2520	0.17	2160	0.17	1160	0.15	840	0.1	955	0.08	2160	0.15	5360	0.2
12	2100	0.21	1790	0.21	1000	0.18	690	0.12	796	0.1	1790	0.18	4470	0.24
16	1580	0.28	1370	0.28	740	0.24	530	0.16	597	0.12	1370	0.24	3360	0.32
20	1260	0.35	1110	0.34	580	0.31	420	0.2	477	0.15	1110	0.3	2680	0.4

PLEASE NOTE:

- A rigid and precise machine and holder are required.
- The recommended depth of hole is measured from the highest point of the hole on drilling in inclined and angled surfaces.
- Please decrease cutting speed as material hardness increases.
- Only use for drilling.
  Do not use for side milling, traversing & helical milling.
- The recommended cutting conditions are those for drilling on flat and horizontal surfaces.

CUTTING CONDITION ADJUSTMENT ACCORDING TO SURFACE ANGLE		
Surface Angle	RPM	Feed
0° ~ 15°	100%	100%
15° ~ 30°	100%	50%
30° ~	70%	30%

RPM: revolutions per minute Feed: mm per rev

Reamers

P H M K N



For machine & hand reaming

Wide range of carbide, HSS & HSS 5% cobalt machine and hand reamers available to produce high tolerance holes in a variety of materials. Including German made BECK HSSE reamers with 10 micron increments from 0.95 - 12.05mm.

Advantages

- Produces high tolerance holes & improved surface finish.
- Suitable for a wide range of materials.
- Spiral flute for through holes, straight flute for through & blind hole.

Features

- Carbide, HSS & HSS 5% colbalt substrates.
- Straight or taper shanks & spiral flute or straight flute reamers.
- Multi-flute design.

YG PRESTO ATORN® Karnasch™

Tool Selection

Description		Series	Sizes ØD	Helix	Page
HSSE REAMERS IN 10 MICRON INCREMENTS RH SPIRAL FLUTES		30103	0.95-12.05	-	**702**
NC MACHINE REAMER HSS 5% COBALT PLAIN SHANK • WHOLE NUMBER SHANK • LH SPIRAL FLUTES		K21B1	2-20	LH7°	**708**
CHUCKING REAMER HSS 5% COBALT PLAIN SHANK • STRAIGHT FLUTES		K2101	2-20	-	**710**
CHUCKING REAMER HSS 5% COBALT PLAIN SHANK • LH SPIRAL FLUTES		K2111	2-20	LH7°	**710**
CHUCKING REAMER HSS 5% COBALT MORSE TAPER SHANK • LH SPIRAL FLUTES		K2112	10-50	LH7°	**712**
CHUCKING REAMER HSS 5% COBALT MORSE TAPER SHANK • STRAIGHT FLUTES		K2102	10-50	-	**712**
HAND REAMER HSS SQUARE DRIVE SHANK • LH SPIRAL FLUTES		K1153	2-60	LH7°	**713**
HAND REAMER HSS SQUARE DRIVE SHANK • STRAIGHT FLUTES		K1143	2-60	-	**713**
CHUCKING REAMER HSS 5% COBALT PLAIN SHANK • QUICK SPIRAL		K2121	4-20	LH45°	**711**
CARBIDE MACHINE REAMERS RH SPIRAL FLUTES		30826	1-12	-	**714**
NC MACHINE REAMER CARBIDE PLAIN SHANK • STRAIGHT FLUTES		K4101	2-20	-	**715**
NC MACHINE REAMER CARBIDE PLAIN SHANK • LH SPIRAL FLUTES		K4111	2-20	LH7°	**715**
CARBIDE REAMERS - HARDENED STEEL RH SPIRAL FLUTES		22.1490	2.97-12.03	-	**716**

HSSE MACHINE REAMERS IN 10 MICRON INCREMENTS

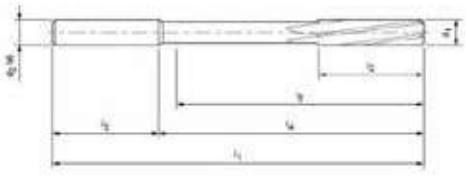
Machine Reamers From Market Leader Beck

Series	Cutting Data
30103 Beck	P721

- Diameter: 0.95 - 12.05mm
- 0.01mm increments
- Right-hand cutting with spiral flute
- +0.004/+0.005mm cutting tolerance, h9 shank tolerance
- Made in Germany

Tolerance:
- D1 0-95 ~ 5.5**: +0.004mm**
- D1 5.51 ~ 12.05**: +0.005mm**





Through & Blind Holes

HSS Co5 | h8

BECK

D1	D2	L1	L2	L4	Z	Order Code	Price
0.95	1	34	5.5	15	3	30103654	
0.96	1	34	5.5	15	3	30103655	
0.97	1	34	5.5	15	3	30103656	
0.98	1	34	5.5	15	3	30103657	
0.99	1	34	5.5	15	3	30103658	
1	1	34	5.5	15	3	30103659	
1.01	1	34	5.5	15	3	30103660	
1.02	1	34	5.5	15	3	30103661	
1.03	1	34	5.5	15	3	30103662	
1.04	1	34	5.5	15	3	30103663	
1.05	1	34	5.5	15	3	30103664	
1.06	1	34	5.5	15	3	30103665	
1.07	1.1	36	6.5	15.5	3	30103666	
1.08	1.1	36	6.5	15.5	3	30103667	
1.09	1.1	36	6.5	15.5	3	30103668	
1.1	1.1	36	6.5	15.5	3	30103669	
1.11	1.1	36	6.5	15.5	3	30103670	
1.12	1.1	36	6.5	15.5	3	30103671	
1.13	1.1	36	6.5	15.5	3	30103672	
1.14	1.1	36	6.5	15.5	3	30103673	
1.15	1.1	36	6.5	15.5	3	30103674	
1.16	1.1	36	6.5	15.5	3	30103675	
1.17	1.1	36	6.5	15.5	3	30103676	**£26.00**
1.18	1.1	36	6.5	15.5	3	30103677	
1.19	1.2	38	7.5	16.5	3	30103678	
1.2	1.2	38	7.5	16.5	3	30103679	
1.21	1.2	38	7.5	16.5	3	30103680	
1.22	1.2	38	7.5	16.5	3	30103681	
1.23	1.2	38	7.5	16.5	3	30103682	
1.24	1.2	38	7.5	16.5	3	30103683	
1.25	1.2	38	7.5	16.5	3	30103684	
1.26	1.2	38	7.5	16.5	3	30103685	
1.27	1.2	38	7.5	16.5	3	30103686	
1.28	1.2	38	7.5	16.5	3	30103687	
1.29	1.2	38	7.5	16.5	3	30103688	
1.3	1.2	38	7.5	16.5	3	30103689	
1.31	1.2	38	7.5	16.5	3	30103690	
1.32	1.2	38	7.5	16.5	3	30103691	
1.33	1.4	40	8	18	3	30103692	
1.34	1.4	40	8	18	3	30103693	
1.35	1.4	40	8	18	3	30103694	
1.36	1.4	40	8	18	3	30103695	
1.37	1.4	40	8	18	3	30103696	
1.38	1.4	40	8	18	3	30103697	
1.39	1.4	40	8	18	3	30103698	
1.4	1.4	40	8	18	3	30103699	
1.41	1.4	40	8	18	3	30103700	
1.42	1.5	40	8	18	3	30103701	
1.43	1.5	40	8	18	3	30103702	
1.44	1.5	40	8	18	3	30103703	
1.45	1.5	40	8	18	3	30103704	
1.46	1.5	40	8	18	3	30103705	
1.47	1.5	40	8	18	3	30103706	
1.48	1.5	40	8	18	3	30103707	
1.49	1.5	40	8	18	3	30103708	
1.5	1.5	40	8	18	3	30103709	
1.51	1.6	43	9	20	3	30103710	
1.52	1.6	43	9	20	3	30103711	**£22.77**
1.54	1.6	43	9	20	3	30103713	
1.55	1.6	43	9	20	3	30103714	
1.56	1.6	43	9	20	3	30103715	
1.57	1.6	43	9	20	3	30103716	
1.58	1.6	43	9	20	3	30103717	
1.59	1.6	43	9	20	3	30103718	
1.6	1.6	43	9	20	3	30103719	
1.61	1.6	43	9	20	3	30103720	
1.62	1.6	43	9	20	3	30103721	
1.63	1.6	43	9	20	3	30103722	
1.64	1.6	43	9	20	3	30103723	
1.65	1.6	43	9	20	3	30103724	
1.66	1.6	43	9	20	3	30103725	
1.67	1.6	43	9	20	3	30103726	
1.68	1.6	43	9	20	3	30103727	
1.69	1.6	43	9	20	3	30103728	
1.7	1.6	43	9	20	3	30103729	
1.71	1.8	46	10	22	4	30103730	
1.72	1.8	46	10	22	4	30103731	
1.73	1.8	46	10	22	4	30103732	
1.74	1.8	46	10	22	4	30103733	
1.75	1.8	46	10	22	4	30103734	
1.76	1.8	46	10	22	4	30103735	
1.77	1.8	46	10	22	4	30103736	
1.78	1.8	46	10	22	4	30103737	**£22.77**
1.79	1.8	46	10	22	4	30103738	
1.8	1.8	46	10	22	4	30103739	
1.81	1.8	46	10	22	4	30103740	
1.82	1.8	46	10	22	4	30103741	
1.83	1.8	46	10	22	4	30103742	
1.84	1.8	46	10	22	4	30103743	
1.85	1.8	46	10	22	4	30103744	
1.86	1.8	46	10	22	4	30103745	
1.87	1.8	46	10	22	4	30103746	
1.88	1.8	46	10	22	4	30103747	
1.89	1.8	46	10	22	4	30103748	
1.9	1.8	46	10	22	4	30103749	
1.91	2	49	11	24	4	30103750	
1.92	2	49	11	24	4	30103751	
1.93	2	49	11	24	4	30103752	
1.94	2	49	11	24	4	30103753	
1.95	2	49	11	24	4	30103754	
1.96	2	49	11	24	4	30103755	
1.97	2	49	11	24	4	30103756	
1.98	2	49	11	24	4	30103757	
1.99	2	49	11	24	4	30103758	
2	2	49	11	24	4	30103759	
2.01	2	49	11	24	4	30103760	
2.02	2	49	11	24	4	30103761	
2.03	2	49	11	24	4	30103762	
2.04	2	49	11	24	4	30103763	
2.05	2	49	11	24	4	30103764	**£21.49**
2.06	2	49	11	24	4	30103765	
2.07	2	49	11	24	4	30103766	
2.08	2	49	11	24	4	30103767	
2.09	2	49	11	24	4	30103768	
2.1	2	49	11	24	4	30103769	
2.11	2	49	11	24	4	30103770	
2.12	2	49	11	24	4	30103771	**£24.56**
2.13	2.2	53	12	25	4	30103772	
2.14	2.2	53	12	25	4	30103773	
2.15	2.2	53	12	25	4	30103774	
2.16	2.2	53	12	25	4	30103775	
2.17	2.2	53	12	25	4	30103776	
2.18	2.2	53	12	25	4	30103777	
2.19	2.2	53	12	25	4	30103778	
2.2	2.2	53	12	25	4	30103779	
2.21	2.2	53	12	25	4	30103780	
2.22	2.2	53	12	25	4	30103781	
2.23	2.2	53	12	25	4	30103782	
2.24	2.2	53	12	25	4	30103783	
2.25	2.2	53	12	25	4	30103784	
2.26	2.2	53	12	25	4	30103785	
2.27	2.2	53	12	25	4	30103786	
2.28	2.2	53	12	25	4	30103787	
2.29	2.2	53	12	25	4	30103788	
2.3	2.2	53	12	25	4	30103789	
2.32	2.2	53	12	25	4	30103791	
2.31	2.2	53	12	25	4	30103790	
2.33	2.2	53	12	25	4	30103792	**£24.56**
2.34	2.2	53	12	25	4	30103793	
2.35	2.2	53	12	25	4	30103794	
2.36	2.2	53	12	25	4	30103795	
2.37	2.5	57	14	29	4	30103796	
2.38	2.5	57	14	29	4	30103797	
2.39	2.5	57	14	29	4	30103798	
2.4	2.5	57	14	29	4	30103799	
2.41	2.5	57	14	29	4	30103800	
2.42	2.5	57	14	29	4	30103801	
2.43	2.5	57	14	29	4	30103802	
2.44	2.5	57	14	29	4	30103803	
2.45	2.5	57	14	29	4	30103804	
2.46	2.5	57	14	29	4	30103805	
2.47	2.5	57	14	29	4	30103806	
2.48	2.5	57	14	29	4	30103807	
2.49	2.5	57	14	29	4	30103808	
2.5	2.5	57	14	29	4	30103809	
2.51	2.5	57	14	29	4	30103810	
2.52	2.5	57	14	29	4	30103811	
2.53	2.5	57	14	29	4	30103812	
2.54	2.5	57	14	29	4	30103813	
2.55	2.5	57	14	29	4	30103814	**£21.07**
2.56	2.5	57	14	29	4	30103815	
2.57	2.5	57	14	29	4	30103816	
2.58	2.5	57	14	29	4	30103817	
2.59	2.5	57	14	29	4	30103818	
2.6	2.5	57	14	29	4	30103819	
2.61	2.5	57	14	29	4	30103820	
2.62	2.5	57	14	29	4	30103821	
2.63	2.5	57	14	29	4	30103822	
2.64	2.5	57	14	29	4	30103823	
2.65	2.5	57	14	29	4	30103824	
2.66	3	61	15	33	6	30103825	
2.67	3	61	15	33	6	30103826	**£25.41**
2.68	3	61	15	33	6	30103827	
2.69	3	61	15	33	6	30103828	
2.7	3	61	15	33	6	30103829	
2.71	3	61	15	33	6	30103830	
2.72	3	61	15	33	6	30103831	
2.73	3	61	15	33	6	30103832	
2.74	3	61	15	33	6	30103833	

HSSE MACHINE REAMERS IN 10 MICRON INCREMENTS (CONTINUED)

Machine Reamers From Market Leader Beck



BECK

D1	D2	L1	L2	L4	Z	Order Code	Price
2.75	3	61	15	33	6	30103834	
2.76	3	61	15	33	6	30103835	
2.77	3	61	15	33	6	30103836	
2.78	3	61	15	33	6	30103837	
2.79	3	61	15	33	6	30103838	
2.8	3	61	15	33	6	30103839	
2.81	3	61	15	33	6	30103840	
2.82	3	61	15	33	6	30103841	
2.83	3	61	15	33	6	30103842	
2.84	3	61	15	33	6	30103843	
2.85	3	61	15	33	6	30103844	
2.86	3	61	15	33	6	30103845	
2.87	3	61	15	33	6	30103846	£25.41
2.88	3	61	15	33	6	30103847	
2.89	3	61	15	33	6	30103848	
2.9	3	61	15	33	6	30103849	
2.91	3	61	15	33	6	30103850	
2.92	3	61	15	33	6	30103851	
2.93	3	61	15	33	6	30103852	
2.94	3	61	15	33	6	30103853	
2.95	3	61	15	33	6	30103854	
2.96	3	61	15	33	6	30103855	
2.97	3	61	15	33	6	30103856	
2.98	3	61	15	33	6	30103857	
2.99	3	61	15	33	6	30103858	
3	3	61	15	33	6	30103859	
3.01	3	61	15	33	6	30103860	
3.02	3	61	15	33	6	30103861	
3.03	3	61	15	33	6	30103862	
3.04	3.2	65	16	37	6	30103863	£18.52
3.05	3.2	65	16	37	6	30103864	
3.06	3.2	65	16	37	6	30103865	
3.07	3.2	65	16	37	6	30103866	
3.08	3.2	65	16	37	6	30103867	
3.09	3.2	65	16	37	6	30103868	
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3.11	3.2	65	16	37	6	30103870	
3.12	3.2	65	16	37	6	30103871	
3.13	3.2	65	16	37	6	30103872	
3.14	3.2	65	16	37	6	30103873	
3.15	3.2	65	16	37	6	30103874	
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3.17	3.2	65	16	37	6	30103876	
3.18	3.2	65	16	37	6	30103877	
3.19	3.2	65	16	37	6	30103878	
3.2	3.2	65	16	37	6	30103879	
3.21	3.2	65	16	37	6	30103880	
3.22	3.2	65	16	37	6	30103881	
3.23	3.2	65	16	37	6	30103882	
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3.25	3.2	65	16	37	6	30103884	
3.26	3.2	65	16	37	6	30103885	
3.27	3.2	65	16	37	6	30103886	
3.28	3.2	65	16	37	6	30103887	
3.29	3.2	65	16	37	6	30103888	£24.13
3.3	3.2	65	16	37	6	30103889	
3.31	3.2	65	16	37	6	30103890	
3.32	3.2	65	16	37	6	30103891	
3.33	3.2	65	16	37	6	30103892	
3.34	3.2	65	16	37	6	30103893	
3.35	3.2	65	16	37	6	30103894	
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3.37	3.5	70	18	42	6	30103896	
3.38	3.5	70	18	42	6	30103897	
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3.42	3.5	70	18	42	6	30103901	
3.43	3.5	70	18	42	6	30103902	
3.44	3.5	70	18	42	6	30103903	
3.45	3.5	70	18	42	6	30103904	
3.46	3.5	70	18	42	6	30103905	
3.47	3.5	70	18	42	6	30103906	
3.48	3.5	70	18	42	6	30103907	
3.49	3.5	70	18	42	6	30103908	
3.5	3.5	70	18	42	6	30103909	£21.07
3.51	3.5	70	18	42	6	30103910	
3.52	3.5	70	18	42	6	30103911	
3.53	3.5	70	18	42	6	30103912	
3.54	3.5	70	18	42	6	30103913	
3.55	3.5	70	18	42	6	30103914	£21.07
3.56	3.5	70	18	42	6	30103915	
3.57	3.5	70	18	42	6	30103916	
3.58	3.5	70	18	42	6	30103917	
3.59	3.5	70	18	42	6	30103918	
3.6	3.5	70	18	42	6	30103919	
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3.66	3.5	70	18	42	6	30103925	
3.67	3.5	70	18	42	6	30103926	
3.68	3.5	70	18	42	6	30103927	
3.69	3.5	70	18	42	6	30103928	
3.7	3.5	70	18	42	6	30103929	£26.34
3.71	3.5	70	18	42	6	30103930	
3.72	3.5	70	18	42	6	30103931	
3.73	3.5	70	18	42	6	30103932	
3.74	3.5	70	18	42	6	30103933	
3.75	3.5	70	18	42	6	30103934	
3.76	4	75	19	47	6	30103936	
3.77	4	75	19	47	6	30103938	
3.78	4	75	19	47	6	30103940	
3.79	4	75	19	47	6	30103942	
3.8	4	75	19	47	6	30103944	
3.81	4	75	19	47	6	30103946	
3.82	4	75	19	47	6	30103948	
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3.85	4	75	19	47	6	30103954	
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3.92	4	75	19	47	6	30103968	
3.93	4	75	19	47	6	30103970	
3.94	4	75	19	47	6	30103972	
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3.97	4	75	19	47	6	30103978	
3.98	4	75	19	47	6	30103980	
3.99	4	75	19	47	6	30103982	
4	4	75	19	47	6	30103984	
4.01	4	75	19	47	6	30103986	£20.74
4.02	4	75	19	47	6	30103988	
4.03	4	75	19	47	6	30103990	
4.04	4	75	19	47	6	30103992	
4.05	4	75	19	47	6	30103994	
4.06	4	75	19	47	6	30103996	
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4.08	4	75	19	47	6	30104000	
4.09	4	75	19	47	6	30104002	
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4.15	4	75	19	47	6	30104014	
4.16	4	75	19	47	6	30104016	
4.17	4	75	19	47	6	30104018	
4.18	4	75	19	47	6	30104020	
4.19	4	75	19	47	6	30104022	
4.2	4	75	19	47	6	30104024	
4.21	4	75	19	47	6	30104026	
4.22	4	75	19	47	6	30104028	
4.23	4	75	19	47	6	30104030	£25.06
4.24	4	75	19	47	6	30104032	
4.25	4	75	19	47	6	30104034	
4.26	4.5	80	21	52	6	30104036	
4.27	4.5	80	21	52	6	30104038	
4.28	4.5	80	21	52	6	30104040	
4.29	4.5	80	21	52	6	30104042	
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4.31	4.5	80	21	52	6	30104046	
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4.42	4.5	80	21	52	6	30104068	
4.43	4.5	80	21	52	6	30104070	
4.44	4.5	80	21	52	6	30104072	
4.45	4.5	80	21	52	6	30104074	
4.46	4.5	80	21	52	6	30104076	
4.47	4.5	80	21	52	6	30104078	
4.48	4.5	80	21	52	6	30104080	
4.49	4.5	80	21	52	6	30104082	
4.5	4.5	80	21	52	6	30104084	
4.51	4.5	80	21	52	6	30104086	£25.06
4.52	4.5	80	21	52	6	30104088	
4.53	4.5	80	21	52	6	30104090	
4.54	4.5	80	21	52	6	30104092	
4.55	4.5	80	21	52	6	30104094	
4.56	4.5	80	21	52	6	30104096	
4.57	4.5	80	21	52	6	30104098	
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4.6	4.5	80	21	52	6	30104104	
4.61	4.5	80	21	52	6	30104106	
4.62	4.5	80	21	52	6	30104108	
4.63	4.5	80	21	52	6	30104110	
4.64	4.5	80	21	52	6	30104112	
4.65	4.5	80	21	52	6	30104114	
4.66	4.5	80	21	52	6	30104116	
4.67	4.5	80	21	52	6	30104118	
4.68	4.5	80	21	52	6	30104120	
4.69	4.5	80	21	52	6	30104122	
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4.71	4.5	80	21	52	6	30104126	
4.72	4.5	80	21	52	6	30104128	
4.73	4.5	80	21	52	6	30104130	
4.74	4.5	80	21	52	6	30104132	
4.75	4.5	80	21	52	6	30104134	
4.76	5	86	23	58	6	30104136	
4.77	5	86	23	58	6	30104138	
4.78	5	86	23	58	6	30104140	
4.79	5	86	23	58	6	30104142	
4.8	5	86	23	58	6	30104144	
4.81	5	86	23	58	6	30104146	
4.82	5	86	23	58	6	30104148	
4.83	5	86	23	58	6	30104150	
4.84	5	86	23	58	6	30104152	
4.85	5	86	23	58	6	30104154	
4.86	5	86	23	58	6	30104156	
4.87	5	86	23	58	6	30104158	
4.88	5	86	23	58	6	30104160	
4.89	5	86	23	58	6	30104162	£22.34
4.9	5	86	23	58	6	30104164	
4.91	5	86	23	58	6	30104166	
4.92	5	86	23	58	6	30104168	
4.93	5	86	23	58	6	30104170	
4.94	5	86	23	58	6	30104172	
4.95	5	86	23	58	6	30104174	
4.96	5	86	23	58	6	30104176	
4.97	5	86	23	58	6	30104178	
4.98	5	86	23	58	6	30104180	
4.99	5	86	23	58	6	30104182	
5	5	86	23	58	6	30104184	
5.01	5	86	23	58	6	30104186	
5.02	5	86	23	58	6	30104188	

HSSE MACHINE REAMERS IN 10 MICRON INCREMENTS (CONTINUED)

Machine Reamers From Market Leader Beck



D1	D2	L1	L2	L4	Z	Order Code	Price
5.03	5	86	23	58	6	30104190	
5.04	5	86	23	58	6	30104192	
5.05	5	86	23	58	6	30104194	
5.06	5	86	23	58	6	30104196	
5.07	5	86	23	58	6	30104198	
5.08	5	86	23	58	6	30104200	
5.09	5	86	23	58	6	30104202	
5.1	5	86	23	58	6	30104204	
5.11	5	86	23	58	6	30104206	
5.12	5	86	23	58	6	30104208	
5.13	5	86	23	58	6	30104210	
5.14	5	86	23	58	6	30104212	
5.15	5	86	23	58	6	30104214	
5.16	5	86	23	58	6	30104216	
5.17	5	86	23	58	6	30104218	
5.18	5	86	23	58	6	30104220	
5.19	5	86	23	58	6	30104222	
5.2	5	86	23	58	6	30104224	**£22.34**
5.21	5	86	23	58	6	30104226	
5.22	5	86	23	58	6	30104228	
5.23	5	86	23	58	6	30104230	
5.24	5	86	23	58	6	30104232	
5.25	5	86	23	58	6	30104234	
5.26	5	86	23	58	6	30104236	
5.27	5	86	23	58	6	30104238	
5.28	5	86	23	58	6	30104240	
5.29	5	86	23	58	6	30104242	
5.3	5	86	23	58	6	30104244	
5.31	5.6	93	26	57	6	30104246	
5.32	5.6	93	26	57	6	30104248	
5.33	5.6	93	26	57	6	30104250	
5.34	5.6	93	26	57	6	30104252	
5.35	5.6	93	26	57	6	30104254	
5.36	5.6	93	26	57	6	30104256	
5.37	5.6	93	26	57	6	30104258	
5.38	5.6	93	26	57	6	30104260	
5.39	5.6	93	26	57	6	30104262	
5.4	5.6	93	26	57	6	30104264	
5.41	5.6	93	26	57	6	30104266	
5.42	5.6	93	26	57	6	30104268	
5.43	5.6	93	26	57	6	30104270	
5.44	5.6	93	26	57	6	30104272	
5.45	5.6	93	26	57	6	30104274	
5.46	5.6	93	26	57	6	30104276	
5.47	5.6	93	26	57	6	30104278	
5.48	5.6	93	26	57	6	30104280	
5.49	5.6	93	26	57	6	30104282	
5.5	5.6	93	26	57	6	30104284	**£24.56**
TOLERANCE +0.005mm							
5.51	5.6	93	26	57	6	30104286	
5.52	5.6	93	26	57	6	30104288	
5.53	5.6	93	26	57	6	30104290	
5.54	5.6	93	26	57	6	30104292	
5.55	5.6	93	26	57	6	30104294	
5.56	5.6	93	26	57	6	30104296	
5.57	5.6	93	26	57	6	30104298	
5.58	5.6	93	26	57	6	30104300	
5.59	5.6	93	26	57	6	30104302	
5.6	5.6	93	26	57	6	30104304	
5.61	5.6	93	26	57	6	30104306	
5.62	5.6	93	26	57	6	30104308	
5.63	5.6	93	26	57	6	30104310	
5.64	5.6	93	26	57	6	30104312	
5.65	5.6	93	26	57	6	30104314	
5.66	5.6	93	26	57	6	30104316	
5.67	5.6	93	26	57	6	30104318	
5.68	5.6	93	26	57	6	30104320	
5.69	5.6	93	26	57	6	30104322	
5.7	5.6	93	26	57	6	30104324	
5.71	5.6	93	26	57	6	30104326	
5.72	5.6	93	26	57	6	30104328	
5.73	5.6	93	26	57	6	30104330	
5.74	5.6	93	26	57	6	30104332	
5.75	5.6	93	26	57	6	30104334	
5.76	5.6	93	26	57	6	30104336	
5.77	5.6	93	26	57	6	30104338	
5.78	5.6	93	26	57	6	30104340	**£24.56**

D1	D2	L1	L2	L4	Z	Order Code	Price
5.79	5.6	93	26	57	6	30104342	
5.8	5.6	93	26	57	6	30104344	
5.81	5.6	93	26	57	6	30104346	
5.82	5.6	93	26	57	6	30104348	
5.83	5.6	93	26	57	6	30104350	
5.84	5.6	93	26	57	6	30104352	
5.85	5.6	93	26	57	6	30104354	
5.86	5.6	93	26	57	6	30104356	
5.87	5.6	93	26	57	6	30104358	
5.88	5.6	93	26	57	6	30104360	
5.9	5.6	93	26	57	6	30104364	
5.91	5.6	93	26	57	6	30104366	
5.92	5.6	93	26	57	6	30104368	
5.93	5.6	93	26	57	6	30104370	
5.94	5.6	93	26	57	6	30104372	
5.95	5.6	93	26	57	6	30104374	
5.96	5.6	93	26	57	6	30104376	
5.97	5.6	93	26	57	6	30104378	
5.98	5.6	93	26	57	6	30104380	
5.99	5.6	93	26	57	6	30104382	
6	5.6	93	26	57	6	30104384	
6.01	5.6	93	26	57	6	30104386	
6.02	5.6	93	26	57	6	30104388	
6.03	5.6	93	26	57	6	30104390	
6.04	6.3	101	28	65	6	30104392	
6.05	6.3	101	28	65	6	30104394	
6.06	6.3	101	28	65	6	30104396	
6.07	6.3	101	28	65	6	30104398	
6.08	6.3	101	28	65	6	30104400	
6.09	6.3	101	28	65	6	30104402	
6.1	6.3	101	28	65	6	30104404	
6.11	6.3	101	28	65	6	30104406	**£24.56**
6.12	6.3	101	28	65	6	30104408	
6.13	6.3	101	28	65	6	30104410	
6.14	6.3	101	28	65	6	30104412	
6.15	6.3	101	28	65	6	30104414	
6.16	6.3	101	28	65	6	30104416	
6.17	6.3	101	28	65	6	30104418	
6.18	6.3	101	28	65	6	30104420	
6.19	6.3	101	28	65	6	30104422	
6.2	6.3	101	28	65	6	30104424	
6.21	6.3	101	28	65	6	30104426	
6.22	6.3	101	28	65	6	30104428	
6.23	6.3	101	28	65	6	30104430	
6.24	6.3	101	28	65	6	30104432	
6.25	6.3	101	28	65	6	30104434	
6.26	6.3	101	28	65	6	30104436	
6.27	6.3	101	28	65	6	30104438	
6.28	6.3	101	28	65	6	30104440	
6.29	6.3	101	28	65	6	30104442	
6.3	6.3	101	28	65	6	30104444	
6.31	6.3	101	28	65	6	30104446	
6.32	6.3	101	28	65	6	30104448	
6.33	6.3	101	28	65	6	30104450	
6.34	6.3	101	28	65	6	30104452	
6.35	6.3	101	28	65	6	30104454	
6.36	6.3	101	28	65	6	30104456	
6.37	6.3	101	28	65	6	30104458	
6.38	6.3	101	28	65	6	30104460	
6.39	6.3	101	28	65	6	30104462	
6.4	6.3	101	28	65	6	30104464	
6.41	6.3	101	28	65	6	30104466	
6.42	6.3	101	28	65	6	30104468	
6.43	6.3	101	28	65	6	30104470	
6.44	6.3	101	28	65	6	30104472	
6.45	6.3	101	28	65	6	30104474	
6.46	6.3	101	28	65	6	30104476	
6.47	6.3	101	28	65	6	30104478	
6.48	6.3	101	28	65	6	30104480	
6.49	6.3	101	28	65	6	30104482	
6.5	6.3	101	28	65	6	30104484	
6.51	6.3	101	28	65	6	30104486	
6.52	6.3	101	28	65	6	30104488	
6.53	6.3	101	28	65	6	30104490	
6.54	6.3	101	28	65	6	30104492	
6.55	6.3	101	28	65	6	30104494	**£26.34**

D1	D2	L1	L2	L4	Z	Order Code	Price
6.56	6.3	101	28	65	6	30104496	
6.57	6.3	101	28	65	6	30104498	
6.58	6.3	101	28	65	6	30104500	
6.59	6.3	101	28	65	6	30104502	
6.6	6.3	101	28	65	6	30104504	
6.61	6.3	101	28	65	6	30104506	
6.62	6.3	101	28	65	6	30104508	
6.63	6.3	101	28	65	6	30104510	
6.64	6.3	101	28	65	6	30104512	
6.65	6.3	101	28	65	6	30104514	
6.66	6.3	101	28	65	6	30104516	
6.67	6.3	101	28	65	6	30104518	
6.68	6.3	101	28	65	6	30104520	
6.69	6.3	101	28	65	6	30104522	
6.7	6.3	101	28	65	6	30104524	
6.71	7.1	109	31	73	6	30104526	
6.72	7.1	109	31	73	6	30104528	
6.73	7.1	109	31	73	6	30104530	
6.74	7.1	109	31	73	6	30104532	
6.75	7.1	109	31	73	6	30104534	
6.76	7.1	109	31	73	6	30104536	
6.77	7.1	109	31	73	6	30104538	
6.78	7.1	109	31	73	6	30104540	
6.79	7.1	109	31	73	6	30104542	
6.8	7.1	109	31	73	6	30104544	
6.81	7.1	109	31	73	6	30104546	
6.82	7.1	109	31	73	6	30104548	
6.83	7.1	109	31	73	6	30104550	
6.84	7.1	109	31	73	6	30104552	
6.85	7.1	109	31	73	6	30104554	
6.86	7.1	109	31	73	6	30104556	
6.87	7.1	109	31	73	6	30104558	
6.88	7.1	109	31	73	6	30104560	
6.89	7.1	109	31	73	6	30104562	
6.9	7.1	109	31	73	6	30104564	
6.91	7.1	109	31	73	6	30104566	
6.92	7.1	109	31	73	6	30104568	
6.93	7.1	109	31	73	6	30104570	
6.94	7.1	109	31	73	6	30104572	
6.95	7.1	109	31	73	6	30104574	
6.96	7.1	109	31	73	6	30104576	
6.97	7.1	109	31	73	6	30104578	
6.98	7.1	109	31	73	6	30104580	
6.99	7.1	109	31	73	6	30104582	
7	7.1	109	31	73	6	30104584	
7.01	7.1	109	31	73	6	30104586	
7.02	7.1	109	31	73	6	30104588	
7.03	7.1	109	31	73	6	30104590	
7.04	7.1	109	31	73	6	30104592	
7.05	7.1	109	31	73	6	30104594	
7.06	7.1	109	31	73	6	30104596	
7.07	7.1	109	31	73	6	30104598	
7.08	7.1	109	31	73	6	30104600	
7.09	7.1	109	31	73	6	30104602	
7.1	7.1	109	31	73	6	30104604	
7.11	7.1	109	31	73	6	30104606	
7.12	7.1	109	31	73	6	30104608	
7.13	7.1	109	31	73	6	30104610	
7.14	7.1	109	31	73	6	30104612	
7.15	7.1	109	31	73	6	30104614	
7.16	7.1	109	31	73	6	30104616	
7.17	7.1	109	31	73	6	30104618	
7.18	7.1	109	31	73	6	30104620	
7.19	7.1	109	31	73	6	30104622	
7.2	7.1	109	31	73	6	30104624	
7.21	7.1	109	31	73	6	30104626	
7.22	7.1	109	31	73	6	30104628	
7.23	7.1	109	31	73	6	30104630	
7.24	7.1	109	31	73	6	30104632	
7.25	7.1	109	31	73	6	30104634	
7.26	7.1	109	31	73	6	30104636	
7.27	7.1	109	31	73	6	30104638	
7.28	7.1	109	31	73	6	30104640	
7.29	7.1	109	31	73	6	30104642	
7.3	7.1	109	31	73	6	30104644	
7.31	7.1	109	31	73	6	30104646	**£26.34**

HSSE MACHINE REAMERS IN 10 MICRON INCREMENTS (CONTINUED)

Machine Reamers From Market Leader Beck



BECK

D1	D2	L1	L2	L4	Z	Order Code	Price
7.32	7.1	109	31	73	6	30104648	
7.33	7.1	109	31	73	6	30104650	
7.34	7.1	109	31	73	6	30104652	
7.35	7.1	109	31	73	6	30104654	
7.36	7.1	109	31	73	6	30104656	
7.37	7.1	109	31	73	6	30104658	
7.38	7.1	109	31	73	6	30104660	
7.39	7.1	109	31	73	6	30104662	
7.4	7.1	109	31	73	6	30104664	
7.41	7.1	109	31	73	6	30104666	
7.42	7.1	109	31	73	6	30104668	
7.43	7.1	109	31	73	6	30104670	
7.44	7.1	109	31	73	6	30104672	
7.45	7.1	109	31	73	6	30104674	
7.46	7.1	109	31	73	6	30104676	
7.47	7.1	109	31	73	6	30104678	
7.48	7.1	109	31	73	6	30104680	
7.49	7.1	109	31	73	6	30104682	
7.5	7.1	109	31	73	6	30104684	
7.51	8	117	33	81	6	30104686	
7.52	8	117	33	81	6	30104688	
7.53	8	117	33	81	6	30104690	
7.54	8	117	33	81	6	30104692	
7.55	8	117	33	81	6	30104694	
7.56	8	117	33	81	6	30104696	
7.57	8	117	33	81	6	30104698	
7.58	8	117	33	81	6	30104700	
7.59	8	117	33	81	6	30104702	
7.6	8	117	33	81	6	30104704	
7.61	8	117	33	81	6	30104706	
7.62	8	117	33	81	6	30104708	
7.63	8	117	33	81	6	30104710	
7.64	8	117	33	81	6	30104712	
7.65	8	117	33	81	6	30104714	
7.66	8	117	33	81	6	30104716	
7.67	8	117	33	81	6	30104718	
7.68	8	117	33	81	6	30104720	
7.69	8	117	33	81	6	30104722	
7.7	8	117	33	81	6	30104724	£26.34
7.71	8	117	33	81	6	30104726	
7.72	8	117	33	81	6	30104728	
7.73	8	117	33	81	6	30104730	
7.74	8	117	33	81	6	30104732	
7.75	8	117	33	81	6	30104734	
7.76	8	117	33	81	6	30104736	
7.77	8	117	33	81	6	30104738	
7.78	8	117	33	81	6	30104740	
7.79	8	117	33	81	6	30104742	
7.8	8	117	33	81	6	30104744	
7.81	8	117	33	81	6	30104746	
7.82	8	117	33	81	6	30104748	
7.83	8	117	33	81	6	30104750	
7.84	8	117	33	81	6	30104752	
7.85	8	117	33	81	6	30104754	
7.86	8	117	33	81	6	30104756	
7.87	8	117	33	81	6	30104758	
7.88	8	117	33	81	6	30104760	
7.89	8	117	33	81	6	30104762	
7.9	8	117	33	81	6	30104764	
7.91	8	117	33	81	6	30104766	
7.92	8	117	33	81	6	30104768	
7.93	8	117	33	81	6	30104770	
7.94	8	117	33	81	6	30104772	
7.95	8	117	33	81	6	30104774	
7.96	8	117	33	81	6	30104776	
7.97	8	117	33	81	6	30104778	
7.98	8	117	33	81	6	30104780	
7.99	8	117	33	81	6	30104782	
8	8	117	33	81	6	30104784	
8.01	8	117	33	81	6	30104786	
8.02	8	117	33	81	6	30104788	
8.03	8	117	33	81	6	30104790	
8.04	8	117	33	81	6	30104792	
8.05	8	117	33	81	6	30104794	
8.06	8	117	33	81	6	30104796	
8.07	8	117	33	81	6	30104798	

D1	D2	L1	L2	L4	Z	Order Code	Price
8.08	8	117	33	81	6	30104800	
8.09	8	117	33	81	6	30104802	
8.1	8	117	33	81	6	30104804	
8.11	8	117	33	81	6	30104806	
8.12	8	117	33	81	6	30104808	
8.13	8	117	33	81	6	30104810	
8.14	8	117	33	81	6	30104812	£26.34
8.15	8	117	33	81	6	30104814	
8.16	8	117	33	81	6	30104816	
8.17	8	117	33	81	6	30104818	
8.18	8	117	33	81	6	30104820	
8.19	8	117	33	81	6	30104822	
8.2	8	117	33	81	6	30104824	
8.21	8	117	33	81	6	30104826	
8.22	8	117	33	81	6	30104828	
8.23	8	117	33	81	6	30104830	
8.24	8	117	33	81	6	30104832	
8.25	8	117	33	81	6	30104834	
8.26	8	117	33	81	6	30104836	
8.27	8	117	33	81	6	30104838	
8.28	8	117	33	81	6	30104840	
8.29	8	117	33	81	6	30104842	
8.3	8	117	33	81	6	30104844	
8.31	8	117	33	81	6	30104846	
8.32	8	117	33	81	6	30104848	
8.33	8	117	33	81	6	30104850	
8.34	8	117	33	81	6	30104852	
8.35	8	117	33	81	6	30104854	
8.36	8	117	33	81	6	30104856	
8.37	8	117	33	81	6	30104858	
8.38	8	117	33	81	6	30104860	
8.39	8	117	33	81	6	30104862	
8.4	8	117	33	81	6	30104864	
8.41	8	117	33	81	6	30104866	
8.42	8	117	33	81	6	30104868	
8.43	8	117	33	81	6	30104870	
8.44	8	117	33	81	6	30104872	
8.45	8	117	33	81	6	30104874	
8.46	8	117	33	81	6	30104876	
8.47	8	117	33	81	6	30104878	
8.48	8	117	33	81	6	30104880	
8.49	8	117	33	81	6	30104882	
8.5	8	117	33	81	6	30104884	
8.51	9	125	36	85	6	30104886	
8.52	9	125	36	85	6	30104888	£34.07
8.53	9	125	36	85	6	30104890	
8.54	9	125	36	85	6	30104892	
8.55	9	125	36	85	6	30104894	
8.56	9	125	36	85	6	30104896	
8.57	9	125	36	85	6	30104898	
8.58	9	125	36	85	6	30104900	
8.59	9	125	36	85	6	30104902	
8.6	9	125	36	85	6	30104904	
8.61	9	125	36	85	6	30104906	
8.62	9	125	36	85	6	30104908	
8.63	9	125	36	85	6	30104910	
8.64	9	125	36	85	6	30104912	
8.65	9	125	36	85	6	30104914	
8.66	9	125	36	85	6	30104916	
8.67	9	125	36	85	6	30104918	
8.68	9	125	36	85	6	30104920	
8.69	9	125	36	85	6	30104922	
8.7	9	125	36	85	6	30104924	
8.71	9	125	36	85	6	30104926	
8.72	9	125	36	85	6	30104928	
8.73	9	125	36	85	6	30104930	
8.74	9	125	36	85	6	30104932	
8.75	9	125	36	85	6	30104934	
8.76	9	125	36	85	6	30104936	
8.77	9	125	36	85	6	30104938	
8.78	9	125	36	85	6	30104940	
8.79	9	125	36	85	6	30104942	
8.8	9	125	36	85	6	30104944	
8.81	9	125	36	85	6	30104946	
8.82	9	125	36	85	6	30104948	
8.83	9	125	36	85	6	30104950	

D1	D2	L1	L2	L4	Z	Order Code	Price
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8.85	9	125	36	85	6	30104954	
8.86	9	125	36	85	6	30104956	
8.87	9	125	36	85	6	30104958	
8.88	9	125	36	85	6	30104960	
8.89	9	125	36	85	6	30104962	
8.9	9	125	36	85	6	30104964	
8.91	9	125	36	85	6	30104966	
8.92	9	125	36	85	6	30104968	
8.93	9	125	36	85	6	30104970	
8.94	9	125	36	85	6	30104972	
8.95	9	125	36	85	6	30104974	
8.96	9	125	36	85	6	30104976	
8.97	9	125	36	85	6	30104978	
8.98	9	125	36	85	6	30104980	
8.99	9	125	36	85	6	30104982	
9	9	125	36	85	6	30104984	
9.01	9	125	36	85	6	30104986	
9.02	9	125	36	85	6	30104988	
9.03	9	125	36	85	6	30104990	
9.04	9	125	36	85	6	30104992	
9.05	9	125	36	85	6	30104994	
9.06	9	125	36	85	6	30104996	
9.07	9	125	36	85	6	30104998	
9.08	9	125	36	85	6	30105000	
9.09	9	125	36	85	6	30105002	
9.1	9	125	36	85	6	30105004	
9.11	9	125	36	85	6	30105006	
9.12	9	125	36	85	6	30105008	
9.13	9	125	36	85	6	30105010	
9.14	9	125	36	85	6	30105012	
9.15	9	125	36	85	6	30105014	
9.16	9	125	36	85	6	30105016	
9.17	9	125	36	85	6	30105018	
9.18	9	125	36	85	6	30105020	
9.19	9	125	36	85	6	30105022	
9.2	9	125	36	85	6	30105024	
9.21	9	125	36	85	6	30105026	
9.22	9	125	36	85	6	30105028	£34.07
9.23	9	125	36	85	6	30105030	
9.24	9	125	36	85	6	30105032	
9.25	9	125	36	85	6	30105034	
9.26	9	125	36	85	6	30105036	
9.27	9	125	36	85	6	30105038	
9.28	9	125	36	85	6	30105040	
9.29	9	125	36	85	6	30105042	
9.3	9	125	36	85	6	30105044	
9.31	9	125	36	85	6	30105046	
9.32	9	125	36	85	6	30105048	
9.33	9	125	36	85	6	30105050	
9.34	9	125	36	85	6	30105052	
9.35	9	125	36	85	6	30105054	
9.36	9	125	36	85	6	30105056	
9.37	9	125	36	85	6	30105058	
9.38	9	125	36	85	6	30105060	
9.39	9	125	36	85	6	30105062	
9.4	9	125	36	85	6	30105064	
9.41	9	125	36	85	6	30105066	
9.42	9	125	36	85	6	30105068	
9.43	9	125	36	85	6	30105070	
9.44	9	125	36	85	6	30105072	
9.45	9	125	36	85	6	30105074	
9.46	9	125	36	85	6	30105076	
9.47	9	125	36	85	6	30105078	
9.48	9	125	36	85	6	30105090	
9.49	9	125	36	85	6	30105092	
9.5	9	125	36	85	6	30105094	
9.51	10	133	38	93	6	30105096	
9.52	10	133	38	93	6	30105098	
9.53	10	133	38	93	6	30105100	
9.54	10	133	38	93	6	30105102	
9.55	10	133	38	93	6	30105104	
9.56	10	133	38	93	6	30105106	
9.57	10	133	38	93	6	30105108	
9.58	10	133	38	93	6	30105110	
9.59	10	133	38	93	6	30105112	

HSSE MACHINE REAMERS IN 10 MICRON INCREMENTS (CONTINUED)

Machine Reamers From Market Leader Beck



BECK

D1	D2	L1	L2	L4	Z	Order Code	Price
9.6	10	133	38	93	6	30105114	
9.61	10	133	38	93	6	30105116	
9.62	10	133	38	93	6	30105118	
9.63	10	133	38	93	6	30105120	
9.64	10	133	38	93	6	30105122	
9.65	10	133	38	93	6	30105124	
9.66	10	133	38	93	6	30105126	
9.67	10	133	38	93	6	30105128	
9.68	10	133	38	93	6	30105130	
9.69	10	133	38	93	6	30105132	
9.7	10	133	38	93	6	30105134	
9.71	10	133	38	93	6	30105136	
9.72	10	133	38	93	6	30105138	
9.73	10	133	38	93	6	30105140	
9.74	10	133	38	93	6	30105142	
9.75	10	133	38	93	6	30105144	
9.76	10	133	38	93	6	30105146	
9.77	10	133	38	93	6	30105148	
9.78	10	133	38	93	6	30105150	
9.79	10	133	38	93	6	30105152	
9.8	10	133	38	93	6	30105154	
9.81	10	133	38	93	6	30105156	
9.82	10	133	38	93	6	30105158	
9.83	10	133	38	93	6	30105160	
9.84	10	133	38	93	6	30105162	
9.85	10	133	38	93	6	30105164	
9.86	10	133	38	93	6	30105166	
9.87	10	133	38	93	6	30105168	
9.88	10	133	38	93	6	30105170	
9.89	10	133	38	93	6	30105172	
9.9	10	133	38	93	6	30105174	**£34.07**
9.91	10	133	38	93	6	30105176	
9.92	10	133	38	93	6	30105178	
9.93	10	133	38	93	6	30105180	
9.94	10	133	38	93	6	30105182	
9.95	10	133	38	93	6	30105184	
9.96	10	133	38	93	6	30105186	
9.97	10	133	38	93	6	30105188	
9.98	10	133	38	93	6	30105190	
9.99	10	133	38	93	6	30105192	
10	10	133	38	93	6	30105194	
10.01	10	133	38	93	6	30105196	
10.02	10	133	38	93	6	30105198	
10.03	10	133	38	93	6	30105200	
10.04	10	133	38	93	6	30105202	
10.05	10	133	38	93	6	30105204	
10.06	10	133	38	93	6	30105206	
10.07	10	133	38	93	6	30105208	
10.08	10	133	38	93	6	30105210	
10.09	10	133	38	93	6	30105212	
10.1	10	133	38	93	6	30105214	
10.11	10	133	38	93	6	30105216	
10.12	10	133	38	93	6	30105218	
10.13	10	133	38	93	6	30105220	
10.14	10	133	38	93	6	30105222	
10.15	10	133	38	93	6	30105224	
10.16	10	133	38	93	6	30105226	
10.17	10	133	38	93	6	30105228	
10.18	10	133	38	93	6	30105230	
10.19	10	133	38	93	6	30105232	
10.2	10	133	38	93	6	30105234	
10.21	10	133	38	93	6	30105236	
10.22	10	133	38	93	6	30105238	
10.23	10	133	38	93	6	30105240	
10.24	10	133	38	93	6	30105242	
10.25	10	133	38	93	6	30105244	
10.26	10	133	38	93	6	30105246	
10.27	10	133	38	93	6	30105248	
10.28	10	133	38	93	6	30105250	**£42.66**
10.29	10	133	38	93	6	30105252	
10.3	10	133	38	93	6	30105254	
10.31	10	133	38	93	6	30105256	
10.32	10	133	38	93	6	30105258	
10.33	10	133	38	93	6	30105260	
10.34	10	133	38	93	6	30105262	

D1	D2	L1	L2	L4	Z	Order Code	Price
10.35	10	133	38	93	6	30105264	
10.36	10	133	38	93	6	30105266	
10.37	10	133	38	93	6	30105268	
10.38	10	133	38	93	6	30105270	
10.39	10	133	38	93	6	30105272	
10.4	10	133	38	93	6	30105274	
10.41	10	133	38	93	6	30105276	
10.42	10	133	38	93	6	30105278	
10.43	10	133	38	93	6	30105280	
10.44	10	133	38	93	6	30105282	
10.45	10	133	38	93	6	30105284	
10.46	10	133	38	93	6	30105286	
10.47	10	133	38	93	6	30105288	
10.48	10	133	38	93	6	30105290	
10.49	10	133	38	93	6	30105292	
10.5	10	133	38	93	6	30105294	
10.51	10	133	38	93	6	30105296	
10.52	10	133	38	93	6	30105298	
10.53	10	133	38	93	6	30105300	
10.54	10	133	38	93	6	30105302	
10.55	10	133	38	93	6	30105304	
10.56	10	133	38	93	6	30105306	
10.57	10	133	38	93	6	30105308	
10.58	10	133	38	93	6	30105310	
10.59	10	133	38	93	6	30105312	
10.6	10	142	41	102	6	30105314	
10.61	10	142	41	102	6	30105316	
10.62	10	142	41	102	6	30105318	
10.63	10	142	41	102	6	30105320	
10.64	10	142	41	102	6	30105322	
10.65	10	142	41	102	6	30105324	
10.66	10	142	41	102	6	30105326	
10.67	10	142	41	102	6	30105328	
10.68	10	142	41	102	6	30105330	
10.69	10	142	41	102	6	30105332	
10.7	10	142	41	102	6	30105334	
10.71	10	142	41	102	6	30105336	
10.72	10	142	41	102	6	30105338	**£42.66**
10.73	10	142	41	102	6	30105340	
10.74	10	142	41	102	6	30105342	
10.75	10	142	41	102	6	30105344	
10.76	10	142	41	102	6	30105346	
10.77	10	142	41	102	6	30105348	
10.78	10	142	41	102	6	30105350	
10.79	10	142	41	102	6	30105352	
10.8	10	142	41	102	6	30105354	
10.81	10	142	41	102	6	30105356	
10.82	10	142	41	102	6	30105358	
10.83	10	142	41	102	6	30105360	
10.84	10	142	41	102	6	30105362	
10.85	10	142	41	102	6	30105364	
10.86	10	142	41	102	6	30105366	
10.87	10	142	41	102	6	30105368	
10.88	10	142	41	102	6	30105370	
10.89	10	142	41	102	6	30105372	
10.9	10	142	41	102	6	30105374	
10.91	10	142	41	102	6	30105376	
10.92	10	142	41	102	6	30105378	
10.93	10	142	41	102	6	30105380	
10.94	10	142	41	102	6	30105382	
10.95	10	142	41	102	6	30105384	
10.96	10	142	41	102	6	30105386	
10.97	10	142	41	102	6	30105388	
10.98	10	142	41	102	6	30105390	
10.99	10	142	41	102	6	30105392	
11	10	142	41	102	6	30105394	
11.01	10	142	41	102	6	30105396	
11.02	10	142	41	102	6	30105398	
11.03	10	142	41	102	6	30105400	
11.04	10	142	41	102	6	30105402	
11.05	10	142	41	102	6	30105404	
11.06	10	142	41	102	6	30105406	
11.07	10	142	41	102	6	30105408	
11.08	10	142	41	102	6	30105410	
11.09	10	142	41	102	6	30105412	

HSSE MACHINE REAMERS IN 10 MICRON INCREMENTS (CONTINUED)

Machine Reamers From Market Leader Beck



BECK

D1	D2	L1	L2	L4	Z	Order Code	Price
11.1	10	142	41	102	6	30105414	
11.11	10	142	41	102	6	30105416	
11.12	10	142	41	102	6	30105418	
11.13	10	142	41	102	6	30105420	
11.14	10	142	41	102	6	30105422	
11.15	10	142	41	102	6	30105424	£42.66
11.16	10	142	41	102	6	30105426	
11.17	10	142	41	102	6	30105428	
11.18	10	142	41	102	6	30105430	
11.19	10	142	41	102	6	30105432	
11.2	10	142	41	102	6	30105434	
11.21	10	142	41	102	6	30105436	
11.22	10	142	41	102	6	30105438	
11.23	10	142	41	102	6	30105440	
11.24	10	142	41	102	6	30105442	
11.25	10	142	41	102	6	30105444	
11.26	10	142	41	102	6	30105446	
11.27	10	142	41	102	6	30105448	
11.28	10	142	41	102	6	30105450	
11.29	10	142	41	102	6	30105452	
11.3	10	142	41	102	6	30105454	
11.31	10	142	41	102	6	30105456	
11.32	10	142	41	102	6	30105458	
11.33	10	142	41	102	6	30105460	
11.34	10	142	41	102	6	30105462	
11.35	10	142	41	102	6	30105464	
11.36	10	142	41	102	6	30105466	
11.37	10	142	41	102	6	30105468	
11.38	10	142	41	102	6	30105470	
11.39	10	142	41	102	6	30105472	£48.10
11.4	10	142	41	102	6	30105474	
11.41	10	142	41	102	6	30105476	
11.42	10	142	41	102	6	30105478	
11.43	10	142	41	102	6	30105480	
11.44	10	142	41	102	6	30105482	
11.46	10	142	41	102	6	30105486	
11.48	10	142	41	102	6	30105490	
11.49	10	142	41	102	6	30105492	
11.5	10	142	41	102	6	30105494	
11.51	10	142	41	102	6	30105496	
11.52	10	142	41	102	6	30105498	
11.53	10	142	41	102	6	30105500	
11.54	10	142	41	102	6	30105502	
11.55	10	142	41	102	6	30105504	
11.56	10	142	41	102	6	30105506	
11.57	10	142	41	102	6	30105508	
11.58	10	142	41	102	6	30105510	
11.59	10	142	41	102	6	30105512	

D1	D2	L1	L2	L4	Z	Order Code	Price
11.6	10	142	41	102	6	30105514	
11.61	10	142	41	102	6	30105516	
11.62	10	142	41	102	6	30105518	
11.63	10	142	41	102	6	30105520	
11.64	10	142	41	102	6	30105522	
11.65	10	142	41	102	6	30105524	
11.66	10	142	41	102	6	30105526	
11.67	10	142	41	102	6	30105528	
11.68	10	142	41	102	6	30105530	
11.69	10	142	41	102	6	30105532	
11.7	10	142	41	102	6	30105534	
11.71	10	142	41	102	6	30105536	
11.72	10	142	41	102	6	30105538	
11.73	10	142	41	102	6	30105540	
11.74	10	142	41	102	6	30105542	
11.75	10	142	41	102	6	30105544	
11.76	10	142	41	102	6	30105546	
11.77	10	142	41	102	6	30105548	
11.78	10	142	41	102	6	30105550	
11.79	10	142	41	102	6	30105552	
11.8	10	142	41	102	6	30105554	
11.81	10	151	44	111	6	30105556	
11.82	10	151	44	111	6	30105558	
11.83	10	151	44	111	6	30105560	
11.84	10	151	44	111	6	30105562	
11.85	10	151	44	111	6	30105564	
11.86	10	151	44	111	6	30105566	
11.87	10	151	44	111	6	30105568	
11.88	10	151	44	111	6	30105570	
11.89	10	151	44	111	6	30105572	
11.9	10	151	44	111	6	30105574	
11.91	10	151	44	111	6	30105576	
11.92	10	151	44	111	6	30105578	
11.93	10	151	44	111	6	30105580	
11.94	10	151	44	111	6	30105582	
11.95	10	151	44	111	6	30105584	
11.96	10	151	44	111	6	30105586	
11.97	10	151	44	111	6	30105588	
11.98	10	151	44	111	6	30105590	
11.99	10	151	44	111	6	30105592	
12	10	151	44	111	6	30105594	
12.01	10	151	44	111	6	30105596	
12.02	10	151	44	111	6	30105598	
12.03	10	151	44	111	6	30105600	
12.04	10	151	44	111	6	30105602	
12.05	10	151	44	111	6	30105604	

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○					●	●	●			

MACHINE REAMER HSS 5% COBALT LH SPIRAL FLUTES

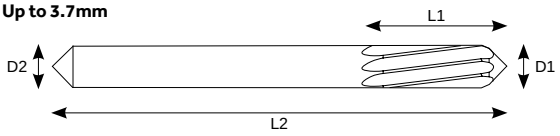
Whole Number Shank Diameter, Ideal For Hydraulic Chucks

Series	Cutting Data
K21B1 YG-1	P720

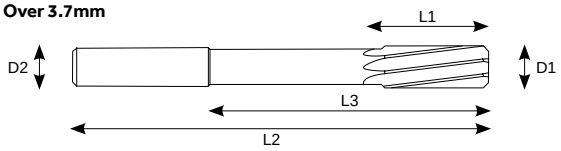
- Left spiral flutes, right hand cut
- O.D. tolerance DIN 1420 for H7, apart from 1/100 sizes which are:
  +0.004/-0.000mm for Ø2.01 to Ø5.03
  +0.005/-0.000mm for Ø5.97 to Ø12.03
- Shank diameter tolerance h6
- Chamfer angle: up to 3.7mm 15°, over 3.7mm 45°

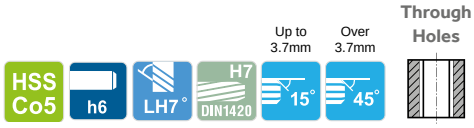


Up to 3.7mm



Over 3.7mm





D1	D2	L1	L2	★★★ Performance Order Code	Price
2	2	11	49	K21B100200	£18.35
2.01				K21B100201	£18.35
2.02				K21B100202	£18.35
2.03				K21B100203	£18.35
2.1				K21B100210	£12.83
2.2	3	12	53	K21B100220	£12.83
2.3				K21B100230	£12.83
2.4	3	14	57	K21B100240	£12.83
2.47				K21B100247	£15.57
2.48				K21B100248	£15.57
2.49				K21B100249	£15.57
2.5				K21B100250	£12.83
2.51				K21B100251	£15.57
2.52				K21B100252	£15.57
2.53				K21B100253	£15.57
2.6				K21B100260	£12.83
2.7	3	15	61	K21B100270	£12.83
2.8				K21B100280	£12.83
2.9				K21B100290	£12.83
2.97				K21B100297	£15.57
2.98				K21B100298	£15.57
2.99				K21B100299	£15.57
3				K21B100300	£12.83
3.01	4	16	65	K21B100301	£16.19
3.02				K21B100302	£16.19
3.03				K21B100303	£16.19
3.1				K21B100310	£13.31
3.2				K21B100320	£13.31
3.3				K21B100330	£13.31
3.4	4	18	70	K21B100340	£13.31
3.5				K21B100350	£13.31
3.6				K21B100360	£15.05
3.7				K21B100370	£15.05

D1	D2	L1	L2	★★★ Performance Order Code	Price
3.8	4	19	75	K21B100380	£15.05
3.9				K21B100390	£15.05
3.97				K21B100397	£16.42
3.98				K21B100398	£16.42
3.99				K21B100399	£16.42
4				K21B100400	£15.05
4.01				K21B100401	£19.81
4.02				K21B100402	£19.81
4.03				K21B100403	£19.81
4.1				K21B100410	£15.05
4.2				K21B100420	£15.05
4.3	5	21	80	K21B100430	£15.35
4.4				K21B100440	£15.35
4.5				K21B100450	£15.35
4.6				K21B100460	£15.35
4.7				K21B100470	£15.35
4.8	5	23	86	K21B100480	£15.35
4.9				K21B100490	£15.35
4.97				K21B100497	£17.28
4.98				K21B100498	£17.28
4.99				K21B100499	£17.28
5				K21B100500	£20.22
5.01				K21B100501	£20.22
5.02				K21B100502	£20.22
5.03				K21B100503	£20.22
5.1				K21B100510	£15.50
5.2				K21B100520	£15.50
5.3				K21B100530	£15.89
5.4	6	26	93	K21B100540	£15.89
5.5				K21B100550	£15.89
5.6				K21B100560	£15.89
5.7				K21B100570	£15.89
5.8				K21B100580	£15.89

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○		○	○	○			

NC MACHINE REAMER HSS 5% COBALT LH SPIRAL FLUTES (CONTINUED)

Whole Number Shank Diameter, Ideal For Hydraulic Chucks

Series	Cutting Data
K21B1 YG-1	P720



D1	D2	L1	L2	★★★ Performance Order Code	Price
5.9	6	26	93	K21B100590	£15.89
5.97				K21B100597	£17.87
5.98				K21B100598	£17.87
5.99				K21B100599	£17.87
6				K21B100600	£15.89
6.01	6	28	101	K21B100601	£20.85
6.02				K21B100602	£20.85
6.03				K21B100603	£20.85
6.1				K21B100610	£16.79
6.2				K21B100620	£16.79
6.3				K21B100630	£16.79
6.4				K21B100640	£16.79
6.5				K21B100650	£16.79
6.6				K21B100660	£16.79
6.7				K21B100670	£16.79
6.8	8	31	109	K21B100680	£19.53
6.9				K21B100690	£19.53
7				K21B100700	£19.53
7.1				K21B100710	£19.93
7.2				K21B100720	£19.93
7.3				K21B100730	£19.93
7.4				K21B100740	£19.93
7.5				K21B100750	£19.93
7.6	8	33	117	K21B100760	£19.93
7.7				K21B100770	£19.93
7.8				K21B100780	£19.93
7.9				K21B100790	£19.93
7.97				K21B100797	£20.50
7.98				K21B100798	£20.50
7.99				K21B100799	£20.50
8				K21B100800	£19.93
8.01				K21B100801	£20.50
8.02				K21B100802	£20.50
8.03				K21B100803	£20.50
8.1				K21B100810	£24.82
8.2				K21B100820	£24.82
8.3				K21B100830	£24.82
8.4				K21B100840	£24.82
8.5				K21B100850	£24.82

D1	D2	L1	L2	★★★ Performance Order Code	Price
8.6	10	36	125	K21B100860	£28.22
8.7				K21B100870	£28.22
8.8				K21B100880	£28.22
8.9				K21B100890	£28.22
9				K21B100900	£28.22
9.01				K21B100901	£31.44
9.02				K21B100902	£31.44
9.03				K21B100903	£31.44
9.1				K21B100910	£28.22
9.2				K21B100920	£28.22
9.3				K21B100930	£28.22
9.4				K21B100940	£28.22
9.5				K21B100950	£28.22
9.6	10	38	133	K21B100960	£28.22
9.7				K21B100970	£28.22
9.8				K21B100980	£28.22
9.9				K21B100990	£28.22
9.97				K21B100997	£28.22
9.98				K21B100998	£28.22
9.99				K21B100999	£28.22
10				K21B101000	£28.22
10.01				K21B101001	£30.47
10.02				K21B101002	£30.47
10.03				K21B101003	£30.47
11	10	41	142	K21B101100	£32.12
11.97			151	K21B101197	£39.78
11.98				K21B101198	£39.78
11.99				K21B101199	£39.78
12	10	44	151	K21B101200	£34.67
12.01				K21B101201	£34.67
12.02				K21B101202	£34.67
12.03				K21B101203	£34.67
13				K21B101300	£38.55
14	14	47	160	K21B101400	£42.16
15		50	162	K21B101500	£45.77
16		52	170	K21B101600	£47.41
17		54	175	K21B101700	£57.65
18		56	182	K21B101800	£58.42
19	16	58	189	K21B101900	£63.53
20		60	195	K21B102000	£64.69

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○		○	○	○			

CHUCKING REAMER HSS 5% COBALT

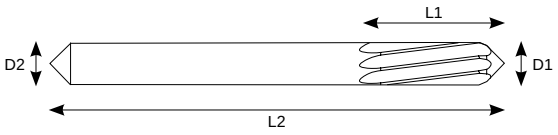
For Reaming Steel, Stainless Steel, Cast Iron & Non-Ferrous Materials

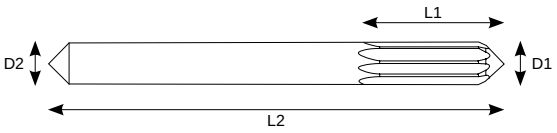
- Left spiral flutes, right hand cut for through holes
- Straight flute, right hand cut for through and blind holes
- O.D. tolerance DIN 1420 for H7
- Shank diameter tolerance h8
- Chamfer angle: up to 3.7mm 15°, over 3.7mm 45°

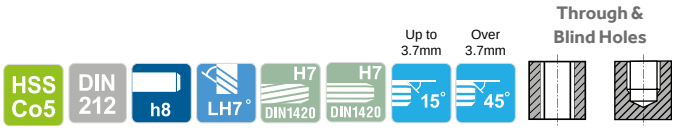
Series	Cutting Data
K2111/K2101 YG-1	P720











D1	D2	L1	L2	L3	No. of Flutes	★★★ Performance Order Code			
						Spiral Flute	Price	Straight Flute	Price
2	2	11	49			K211100200	£17.79	K210100200	£17.79
2.2	2.2	12	53			K211100220	£17.79	K210100220	£17.79
2.5	2.5	14	57	-	4	K211100250	£17.79	K210100250	£17.79
2.6	2.6	14	57			K211100260	£17.79	K210100260	£17.79
2.8	2.8	15	61			K211100280	£17.79	K210100280	£17.79
3	3	15	61	-		K211100300	£17.79	K210100300	£17.79
3.1	3.1	16	65	-	6	K211100310	£17.79	K210100310	£17.79
3.2	3.2					K211100320	£17.79	K210100320	£17.79
3.5	3.5					K211100350	£17.79	K210100350	£17.79
3.6	3.6	18	70	-	6	K211100360	£17.79	K210100360	£19.09
3.7	3.7					K211100370	£17.79	K210100370	£19.09
4	4	19	75	42		K211100400	£19.09	K210100400	£19.09
4.3						K211100430	£19.96	K210100430	£19.96
4.5	4.5	21	80	46	6	K211100450	£19.96	K210100450	£19.96
4.6						K211100460	£20.33	K210100460	£20.33
5	5	23	86	51	6	K211100500	£20.33	K210100500	£20.33
5.5						K211100550	£20.81	K210100550	£20.81
5.6	5.6	26	93	56	6	K211100560	£20.99	K210100560	£20.99
6						K211100600	£20.99	K210100600	£20.99
6.5	6.3	28	101	62	6	K211100650	£20.99	K210100650	£20.99
7	7.1	31	109	68	6	K211100700	£26.49	K210100700	£26.49
7.2						K211100720	£27.06	K210100720	£27.06
8						K211100800	£27.06	K210100800	£27.06
8.3	8	33	117	74	6	K211100830	£34.73	K210100830	£34.73
8.5						K211100850	£34.73	K210100850	£34.73
9	9	36	125	80	6	K211100900	£34.73	K210100900	£34.73
9.5						K211100950	£34.73	K210100950	£34.73
10		38	133	86		K211101000	£34.73	K210101000	£34.73
10.5						K211101050	£43.12	K210101050	£43.12
11	10	41	142	95	6	K211101100	£43.12	K210101100	£43.12
12		44	151	104		K211101200	£44.99	K210101200	£44.99
13						K211101300	£53.35	K210101300	£53.35
14		47	160	108		K211101400	£55.56	K210101400	£55.56
15	12.5	50	162	110	8	K211101500	£60.14	K210101500	£60.14
16		52	170	118		K211101600	£62.46	K210101600	£62.46
17	14	54	175	121	8	K211101700	£75.83	K210101700	£75.83
18		56	182	128		K211101800	£78.13	K210101800	£78.13
19	16	58	189	129	8	K211101900	£85.21	K210101900	£85.21
20		60	195	135		K211102000	£86.60	K210102000	£86.60

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○		○	○	○			

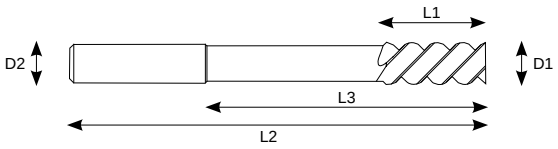
CHUCKING REAMER HSS 5% COBALT QUICK SPIRAL

Ideal For Aluminium & Long Chipping Materials

Series	Cutting Data
K2121 YG-1	P720

- Left spiral flutes, right hand cut
- Quick spiral ideal for aluminium and long chipping materials
- O.D. tolerance DIN 1420 for H7
- Shank diameter tolerance h8
- Chamfer angle: Form E, Tapered





Through Holes



HSS Co5 | DIN 212 | h8 | LH45° | H7 DIN1420 | E TAPERED

D1	D2	L1	L2	L3	No. of Flutes	★★★ Performance Order Code	Price
4	4	19	75	42	3	K212100400	£23.28
4.5	4.5	21	80	46		K212100450	£24.18
5	5	23	86	51		K212100500	£24.72
5.5	5.6	26	93	56	3	K212100550	£25.19
6						K212100600	£25.44
6.5	6.3	28	101	62	3	K212100650	£25.44
7	7.1	31	109	68		K212100700	£32.04
8	8	33	117	74	3	K212100800	£32.77
8.5						K212100850	£41.82
9	9	36	125	80	3	K212100900	£41.82
9.5						K212100950	£41.82
10	10	38	133	86	3	K212101000	£41.82
11		41	142	95		K212101100	£51.81
12	10	44	151	104	3	K212101200	£53.98
13						K212101300	£63.86
14	12.5	47	160	108	4	K212101400	£66.39
15		50	162	110		K212101500	£71.68
16		52	170	118		K212101600	£74.32
17	14	54	175	121	4	K212101700	£90.21
18		56	182	128		K212101800	£92.83
19	16	58	189	129	4	K212101900	£100.81
20		60	195	135		K212102000	£102.14

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
○	○							●	●		●	

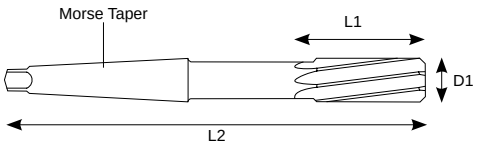
TAPER SHANK CHUCKING REAMER HSS 5% COBALT

For Reaming Steel, Stainless Steel, Cast Iron & Non-Ferrous Materials

- Left spiral flutes, right hand cut for through holes
- Straight flute, right hand cut for through and blind holes
- O.D. tolerance DIN 1420 for H7
- Chamfer angle 45°

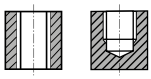
Series	Cutting Data
K2112/K2102 YG-1	P720





HSS Co5 | DIN 208 | 1~4 | LH7° | H7 DIN1420 | H7 DIN1420 | 45°

Through & Blind Holes



D1	Morse Taper	L1	L2	No. of Flutes	★★★ Performance			
					Order Code			
					Spiral Flute	Price	Straight Flute	Price
10	1	38	168	6	K211201000	£31.35	K210201000	£25.21
11		41	175		K211201100	£36.93	K210201100	£27.24
12	1	44	182	6	K211201200	£36.93	K210201200	£27.24
13					K211201300	£36.93	K210201300	£28.54
14	1	47	189	8	K211201400	£36.93	K210201400	£28.54
15	2	50	204	8	K211201500	£42.37	K210201500	£35.16
16		52	210		K211201600	£44.54	K210201600	£35.79
17		54	214		K211201700	£51.90	K210201700	£37.83
18		56	219		K211201800	£51.90	K210201800	£37.83
19		58	223		K211201900	£56.41	K210201900	£41.79
20		60	228		K211202000	£56.41	K210202000	£41.79
21		62	232		K211202100	£63.09	K210202100	£47.04
22		64	237		K211202200	£63.09	K210202200	£47.04
23		66	241		K211202300	£73.38	K210202300	£55.73
24	3	68	268	8	K211202400	£77.01	K210202400	£57.05
25					K211202500	£77.01	K210202500	£57.05
26	3	70	273	8	K211202600	£95.81	K210202600	£70.97
27	3	71	277	10	K211202700	£106.54	K210202700	£78.92
28					K211202800	£106.54	K210202800	£78.92
29	3	73	281	10	K211202900	£110.12	K210202900	£88.27
30					K211203000	£110.12	K210203000	£88.27
31	3	75	285	10	K211203100	£110.45	K210203100	£88.53
32	4	77	317		K211203200	£129.95	K210203200	£104.12
34	4	78	321	10	K211203400	£137.80	K210203400	£110.45
35					K211203500	£137.80	K210203500	£110.45
36	4	79	325	10	K211203600	£172.78	K210203600	£138.48
38	4	81	329	10	K211203800	£191.66	K210203800	£153.54
40					K211204000	£191.66	K210204000	£153.54
41	4	82	333	12	K211204100	£269.48	K210204100	£215.91
42					K211204200	£269.48	K210204200	£215.91
43	4	83	336	12	K211204300	£279.38	K210204300	£223.93
44					K211204400	£279.38	K210204400	£223.93
45					K211204500	£279.38	K210204500	£223.93
46	4	84	340	12	K211204600	£349.19	K210204600	£279.81
47					K211204700	£349.19	K210204700	£279.81
48	4	86	344	12	K211204800	£349.19	K210204800	£279.81
50					K211205000	£349.19	K210205000	£279.81

Material Applications

● Excellent ○ Good

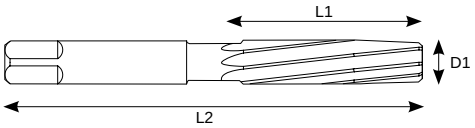
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○		○	●	●			

HAND REAMER HSS

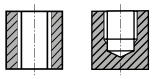
For Reaming Steel, Stainless Steel, Cast Iron & Non-Ferrous Materials

- Up to Ø3.75 external centres, over Ø3.75 internal centres
- O.D. tolerance DIN 1420 for H7
- Left spiral flutes, right hand cut for through holes
- Straight flute, right hand cut for through and blind holes





Through & Blind Holes



HSS | DIN 206 | LH7° | H7 DIN1420 | H7 DIN1420 | TAPERED

D1	L1	L2	No. of Flutes	★★★ Performance			
				Order Code			
				Spiral Flute	Price	Straight Flute	Price
2	25	50	4	K115300200	£11.32	K114300200	£10.21
2.2	27	54		K115300220	£11.32	K114300220	£10.21
2.5	29	58		K115300250	£11.32	K114300250	£10.21
2.8	31	62	4	K115300280	£12.23	K114300280	£10.99
3				K115300300	£12.23	K114300300	£10.99
3.2	33	66	6	K115300320	£12.23	K114300320	£10.99
3.5	35	71		K115300350	£12.23	K114300350	£10.99
4	38	76		K115300400	£11.98	K114300400	£10.81
4.5	41	81		K115300450	£11.98	K114300450	£10.81
5	44	87		K115300500	£11.76	K114300500	£10.54
5.5	47	93	6	K115300550	£12.69	K114300550	£12.79
6				K115300600	£13.10	K114300600	£11.80
7	54	107	6	K115300700	£13.80	K114300700	£12.44
8	58	115		K115300800	£14.17	K114300800	£12.91
9	62	124		K115300900	£18.72	K114300900	£16.94
10	66	133		K115301000	£18.72	K114301000	£16.96
11	71	142		K115301100	£18.80	K114301100	£17.07
12	76	152	6	K115301200	£20.76	K114301200	£18.93
13				K115301300	£30.78	K114301300	£28.00
14	81	163	8	K115301400	£34.92	K114301400	£31.69
15				K115301500	£38.68	K114301500	£35.14
16	87	175	8	K115301600	£39.75	K114301600	£36.26
17				K115301700	£42.11	K114301700	£38.31
18	93	188	8	K115301800	£47.25	K114301800	£43.12
19				K115301900	£47.25	K114301900	£43.16
20	100	201	8	K115302000	£51.07	K114302000	£46.73
22	107	215		K115302200	£55.99	K114302200	£51.40
24	115	231		K115302400	£68.14	K114302400	£62.44
25	115	231		K115302500	£69.42	K114302500	£64.42
26				K115302600	£72.25	K114302600	£67.09
27	124	247	10	K115302700	£95.47	K114302700	£88.30
28				K115302800	£95.47	K114302800	£88.55
29				K115302900	£99.96	K114302900	£92.75
30				K115303000	£99.96	K114303000	£92.97
31	133	265	10	K115303100	£110.31	K114303100	£102.71
32				K115303200	£110.31	K114303200	£102.87
33				K115303300	£111.96	K114303300	£104.61
34	142	284	10	K115303400	£111.96	K114303400	£105.16
35				K115303500	£133.90	K114303500	£125.12
36				K115303600	£133.90	K114303600	£125.39
37				K115303700	£134.65	K114303700	£126.34
38	152	305	10	K115303800	£138.90	K114303800	£130.89
38.1				K115303810	£140.95	K114303810	£132.75
39				K115303900	£145.78	K114303900	£137.37
40				K115304000	£148.74	K114304000	£140.35
41				K115304100	£158.37	K114304100	£149.36
42				K115304200	£165.37	K114304200	£155.91
43	163	326	12	K115304300	£171.71	K114304300	£162.58
44				K115304400	£181.05	K114304400	£171.28
45				K115304500	£192.02	K114304500	£181.57
46				K115304600	£198.67	K114304600	£187.91
47				K115304700	£211.15	K114304700	£199.58
48	174	347	12	K115304800	£220.84	K114304800	£209.42
49				K115304900	£227.72	K114304900	£216.01
52				K115305200	£265.22	K114305200	£251.03
60	184	367	12	K115306000	£373.45	K114306000	£353.30

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●								○	○		○	

CARBIDE MACHINE REAMERS

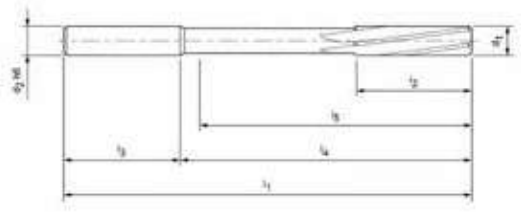
High Hardness &Good Heat Resistance to Allow for High Performance Reaming Operations

Cutting Data

View Online

- Diameter: 1.00 - 12.00mm
- Right-hand cutting with spiral flute
- H7 tolerance
- Made in Germany





Through & Blind Holes

MG SC

DIN 6535HA





BECK

D1	D2	L1	L2	L4	Z	★★★★ Performance Order Code	Price
1	3	50	6	22	3	30612453	£49.37
1.1	3	50	9	22	3	30612457	£63.30
1.2	3	50	9	22	3	30612458	£63.30
1.3	3	50	9	22	3	30786029	£63.30
1.4	3	50	9	22	3	30776658	£63.30
1.5	3	50	9	22	3	30612461	£49.37
1.6	3	50	10	22	3	30612465	£63.30
1.7	3	50	10	22	3	30998575	£63.30
1.8	3	50	11	22	4	30612466	£63.30
1.9	3	50	11	22	4	30944187	£63.30
2	3	50	12	22	4	30612469	£49.37
2.1	3	50	12	22	4	30813575	£63.30
2.2	3	50	12	22	4	30612473	£63.30
2.3	3	50	12	22	4	30809360	£63.30
2.4	3	60	16	32	4	30784540	£63.30
2.5	3	60	16	32	4	30612476	£49.37
2.6	3	60	16	32	4	30998591	£63.30
2.7	4	65	17	37	6	30831898	£66.54
2.8	4	65	17	37	6	30776660	£66.54
2.9	4	65	17	37	6	30831930	£66.54
3	4	65	17	37	6	30612483	£52.01
3.1	4	65	18	37	6	30868596	£66.54
3.2	4	65	18	37	6	30612487	£52.01
3.3	4	65	18	37	6	30813368	£66.54
3.4	4	75	18	47	6	31117161	£66.54
3.5	4	75	18	47	6	30612488	£52.01
3.6	4	75	18	47	6	31117162	£66.54
3.7	4	75	18	47	6	31117163	£66.54
3.8	4	75	19	47	6	30868404	£77.42
3.9	4	75	19	47	6	30868406	£77.42
4	4	75	19	47	6	30612492	£61.95
4.1	4	75	19	47	6	30861535	£77.42
4.2	4	75	19	47	6	30868411	£77.42
4.3	6	80	21	44	6	30861538	£77.42
4.4	6	80	21	44	6	31117164	£77.42
4.5	6	80	21	44	6	30612496	£61.95
4.6	6	80	21	44	6	30726212	£77.42
4.7	6	80	21	44	6	31024689	£77.42
4.8	6	93	23	57	6	31002473	£86.85
4.9	6	93	23	57	6	31117165	£86.85
5	6	93	23	57	6	30612500	£69.51
5.1	6	93	23	57	6	30900462	£86.85
5.2	6	93	23	57	6	30949596	£86.85
5.3	6	93	23	57	6	31117230	£86.85
5.4	6	93	26	57	6	30965132	£93.56
5.5	6	93	26	57	6	30612504	£69.51
5.6	6	93	26	57	6	31109603	£93.56
5.7	6	93	26	57	6	31117275	£93.56
5.8	6	93	26	57	6	31046139	£93.56
5.9	6	93	26	57	6	30826843	£93.56
6	6	93	26	57	6	30612508	£74.78

D1	D2	L1	L2	L4	Z	★★★★ Performance Order Code	Price
6.1	6	101	28	65	6	30826848	£93.56
6.2	6	101	28	65	6	30826851	£93.56
6.3	6	101	28	65	6	30811255	£93.56
6.4	6	101	28	65	6	30932730	£93.56
6.5	6	101	28	65	6	30612512	£74.78
6.6	6	101	28	65	6	30826853	£93.56
6.7	6	101	28	65	6	31117285	£93.56
6.8	8	109	31	73	6	31117287	£101.80
6.9	8	109	31	73	6	30817145	£101.80
7	8	109	31	73	6	30612513	£82.59
7.1	8	109	31	73	6	31117276	£101.80
7.2	8	109	31	73	6	30857469	£101.80
7.3	8	109	31	73	6	30846798	£101.80
7.4	8	109	31	73	6	31117277	£101.80
7.5	8	109	31	73	6	30612514	£82.59
7.6	8	117	33	81	6	30977988	£116.08
7.7	8	117	33	81	6	31117278	£116.08
7.8	8	117	33	81	6	31117279	£116.08
7.9	8	117	33	81	6	30911223	£116.08
8	8	117	33	81	6	30612518	£96.19
8.1	8	117	33	81	6	30840388	£116.08
8.2	8	117	33	81	6	30976803	£116.08
8.3	8	117	33	81	6	31117288	£116.08
8.4	8	117	33	81	6	31117289	£116.08
8.5	8	117	33	81	6	30612523	£96.19
8.6	10	125	36	89	6	31117311	£127.38
8.7	10	125	36	89	6	31023309	£127.38
8.8	10	125	36	89	6	31023342	£127.38
9	10	125	36	85	6	30612524	£105.28
9.1	10	125	36	85	6	31117314	£127.38
9.2	10	125	36	85	6	30978460	£127.38
9.3	10	125	36	85	6	31117315	£127.38
9.4	10	125	36	85	6	30978461	£127.38
9.5	10	125	36	85	6	30612525	£105.28
9.6	10	133	38	93	6	31117316	£135.11
9.7	10	133	38	93	6	31117349	£135.11
9.8	10	133	38	93	6	31117346	£135.11
9.9	10	133	38	93	6	30826855	£135.11
10	10	133	38	93	6	30612529	£113.44
10.1	10	133	38	93	6	30827824	£135.11
10.2	10	133	38	93	6	30874012	£135.11
10.3	10	133	38	93	6	30973064	£135.11
10.4	10	133	38	93	6	30937705	£135.11
10.5	10	133	38	93	6	30612535	£113.44
10.6	10	133	38	93	6	31117350	£135.11
10.7	10	142	41	102	6	30846179	£168.50
10.8	10	142	41	102	6	30877251	£168.50
10.9	10	142	41	102	6	31092517	£168.50
11	10	142	41	102	6	30612536	£145.39
11.5	10	142	41	102	6	30776662	£168.50
12	12	151	44	106	6	30612540	£145.39

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○	○		○	○	●	●	●		●	

NC MACHINE REAMER CARBIDE STRAIGHT FLUTES

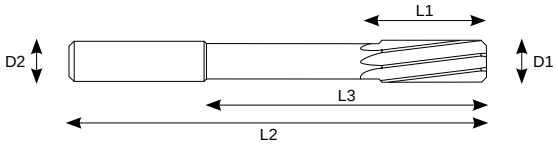
Whole Number Shank Diameter, Ideal for Hydraulic Chucks

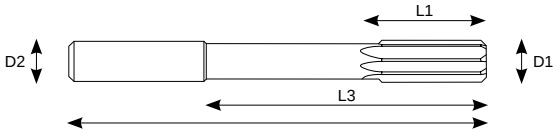
Series	Cutting Data
K4111/K4101 YG-1	P720

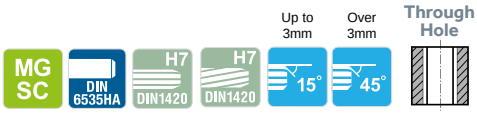
- Left spiral flutes, right hand cut for through holes
- Straight flute, right hand cut for through and blind holes
- Solid carbide up to 12mm, brazed carbide head over 12mm
- Unequal flute spacing
- O.D. tolerance DIN 1420 for H7
- Shank diameter tolerance DIN 6535HA
- Chamfer angle: up to 3mm 15°, over 3mm 45°











D1	D2	L1	L2	L3	No. of Flutes	★★★★ Performance			
						Order Code			
						Spiral Flute	Price	Straight Flute	Price
2	4	11	50	20	4	K411100200	£40.36	K410100200	£40.36
2.5		14	57	26		K411100250	£40.36	K410100250	£40.36
3	4	15	61	31	6	K411100300	£40.36	K410100300	£40.36
3.5		18	70	36		K411100350	£40.36	K410100350	£40.36
4		19	75	42		K411100400	£40.36	K410100400	£40.36
4.5	6	21	80	46	6	K411100450	£50.22	K410100450	£50.22
5		23	86	51		K411100500	£50.22	K410100500	£50.22
5.5		26	93	56		K411100550	£50.22	K410100550	£50.22
6		26	93	56		K411100600	£50.22	K410100600	£50.22
6.5	8	28	101	62	6	K411100650	£77.66	K410100650	£77.66
7		31	109	68		K411100700	£77.66	K410100700	£77.66
7.5		31	109	68		K411100750	£77.66	K410100750	£77.66
8		33	117	74		K411100800	£77.66	K410100800	£77.66
8.5	10	33	117	74	6	K411100850	£102.43	K410100850	£102.43
9		36	125	80		K411100900	£102.43	K410100900	£102.43
9.5		36	125	80		K411100950	£102.43	K410100950	£102.43
10		38	133	86		K411101000	£102.43	K410101000	£102.43
10.5	12	38	133	86	6	K411101050	£136.94	K410101050	£136.94
11		41	142	95		K411101100	£136.94	K410101100	£136.94
12		44	151	104		K411101200	£136.94	K410101200	£136.94
13	16	44	151	104	6	K411101300	£150.45	K410101300	£150.45
14		47	160	108	8	K411101400	£150.45	K410101400	£150.45
15		50	162	110		K411101500	£150.45	K410101500	£150.45
16		52	170	118		K411101600	£150.42	K410101600	£150.42
17	20	54	175	121	8	K411101700	£179.22	K410101700	£179.22
18		56	182	128		K411101800	£179.22	K410101800	£179.22
19		58	189	129		K411101900	£218.09	K410101900	£218.09
20		60	195	135		K411102000	£218.09	K410102000	£218.09

Material Applications

● Excellent ○ Good

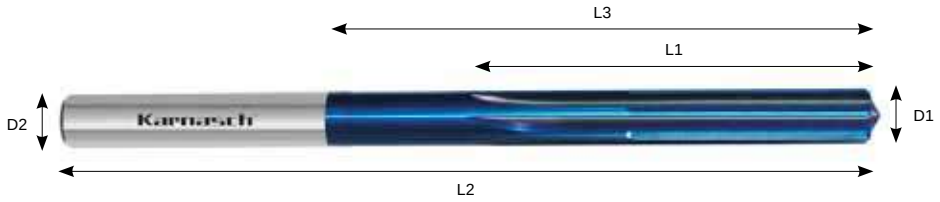
Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○		●	○	○			

CARBIDE REAMERS - HARDENED STEEL

Micrograin Carbide Machine Reamer for Hardened Steel <67HRC and Cast Iron

- Right-hand cutting with spiral flute
- h7 tolerance

Series	Cutting Data
22.1490 Karnasch	P721



Through & Blind Holes

MG DIN 6535HA

Karnasch PROFESSIONAL TOOLS

D1	D2	L1	L2	L3	No. of Flutes	★★★★★ Performance Order Code	Price
2.97	4	16	65	30	4	221490.0297	£86.77
2.98	4	16	65	30	4	221490.0298	£86.77
2.99	4	16	65	30	4	221490.0299	£86.77
3.00	4	16	65	30	4	221490.0300	£86.77
3.01	4	16	65	30	4	221490.0301	£86.77
3.02	4	16	65	30	4	221490.0302	£86.77
3.03	4	16	65	30	4	221490.0303	£86.77
3.97	4	20	75	40	4	221490.0397	£86.77
3.98	4	20	75	40	4	221490.0398	£86.77
3.99	4	20	75	40	4	221490.0399	£86.77
4.00	4	20	75	40	4	221490.0400	£86.77
4.01	4	20	75	40	4	221490.0401	£86.77
4.02	4	20	75	40	4	221490.0402	£86.77
4.03	4	20	75	40	4	221490.0403	£86.77
4.97	6	25	92	50	6	221490.0497	£107.03
4.98	6	25	92	50	6	221490.0498	£107.03
4.99	6	25	92	50	6	221490.0499	£107.03
5.00	6	25	92	50	6	221490.0500	£107.03
5.01	6	25	92	50	6	221490.0501	£107.03
5.02	6	25	92	50	6	221490.0502	£107.03
5.03	6	25	92	50	6	221490.0503	£107.03
5.97	6	25	92	50	6	221490.0597	£107.03
5.98	6	25	92	50	6	221490.0598	£107.03
5.99	6	25	92	50	6	221490.0599	£107.03
6.00	6	25	92	50	6	221490.0600	£107.03
6.01	6	25	92	50	6	221490.0601	£107.03
6.02	6	25	92	50	6	221490.0602	£107.03
6.03	6	25	92	50	6	221490.0603	£107.03
7.97	8	30	115	75	6	221490.0797	£133.46
7.98	8	30	115	75	6	221490.0798	£133.46
7.99	8	30	115	75	6	221490.0799	£133.46
8.00	8	30	115	75	6	221490.0800	£133.46
8.01	8	30	115	75	6	221490.0801	£133.46
8.02	8	30	115	75	6	221490.0802	£133.46
8.03	8	30	115	75	6	221490.0803	£133.46
9.97	10	40	130	85	6	221490.0997	£163.45
9.98	10	40	130	85	6	221490.0998	£163.45
9.99	10	40	130	85	6	221490.0999	£163.45
10.00	10	40	130	85	6	221490.1000	£163.45
10.01	10	40	130	85	6	221490.1001	£163.45
10.02	10	40	130	85	6	221490.1002	£163.45
10.03	10	40	130	85	6	221490.1003	£163.45
11.97	12	45	150	100	6	221490.1197	£213.98
11.98	12	45	150	100	6	221490.1198	£213.98
11.99	12	45	150	100	6	221490.1199	£213.98
12.00	12	45	150	100	6	221490.1200	£213.98
12.01	12	45	150	100	6	221490.1201	£213.98
12.02	12	45	150	100	6	221490.1202	£213.98
12.03	12	45	150	100	6	221490.1203	£213.98

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
		●	●	●			●					

HSSE NC MACHINE REAMER SET

- 7-8° left-hand spiral and variable pitch, type B
- Good bore hole quality (dimensional tolerance, roundness, surface quality)
- Sturdy box protects the tool



ATORN®

Size Range Ømm	Pieces	Type	Order Code	Price
3-12	7	Uncoated	11621050	**£154.36**
		TIN Coated	11621060	**£217.50**
		TiCN Coated	11621070	**£220.14**

CARBIDE NC MACHINE REAMER SET

- 7-8° left-hand spiral and variable pitch, type B
- Good bore hole quality (dimensional tolerance, roundness, surface quality)
- Sturdy box protects the tool



ATORN®

Size Range Ømm	Pieces	Type	Order Code	Price
3-12	7	Uncoated	11744010	**£362.56**

HSS HAND REAMER SET

- 6° left-hand spiral, uneven pitch and long notch shape
- Good bore hole quality (dimensional tolerance, roundness, surface quality)
- Sturdy box protects the tool



ATORN®

Size Range Ømm	Pieces	Order Code	Price
1.5-10	19	11602900	**£351.29**

STRAIGHT SHANK ADJUSTABLE HAND REAMER

75090 Series

- For use with 75290 series blades
- Right hand cutting with unequal pitch
- Square detail DIN10
- Ideal for repair work



PRESTO

Diameter	No. of Blades	Overall Length	Cut Length	Square A/F	Square Length	Order Code	Price
8 - 9	5	111	32	4	7	750908.0	**£133.55**
9 - 10	5	115	32	4.5	7	750909.0	**£131.24**
10 - 11	5	120	35	5	8	7509010.0	**£131.24**
11 - 12	5	125	35	5.6	8	7509011.0	**£131.24**
12 - 13.5	5	130	42	6.3	9	7509012.0	**£141.75**
13.5 - 15.5	5	145	50	6.3	9	7509013.5	**£146.86**
15.5 - 18	5	165	60	8	11	7509015.5	**£148.96**
18 - 21	5	180	65	9	12	7509018.0	**£178.82**
21 - 24	6	190	70	10	13	7509021.0	**£197.42**
24 - 27.5	6	205	75	11.2	14	7509024.0	**£220.65**
27.5 - 31.5	6	225	80	12.5	16	7509027.5	**£267.69**
31.5 - 37	6	240	90	14	18	7509031.5	**£362.44**
37 - 45	6	285	100	16	20	7509037.0	**£485.33**
45 - 55	6	320	109	20	24	7509045.0	**£673.42**
55 - 65	8	350	120	25	28	7509055.0	**£975.29**

SET OF BLADES FOR ADJUSTABLE HAND REAMER

75290 Series

- Blade set for use with 75090 series
- Blades made from special steel



PRESTO

Diameter	No. of Blades	Cut Length	Order Code	Price
8 - 9	5	32	752908.0	**£94.41**
9 - 10	5	32	752909.0	**£94.41**
10 - 11	5	35	7529010.0	**£94.41**
11 - 12	5	35	7529011.0	**£94.41**
12 - 13.5	5	42	7529012.0	**£94.41**
13.5 - 15.5	5	50	7529013.5	**£102.06**
15.5 - 18	5	60	7529015.5	**£121.09**
18 - 21	5	65	7529018.0	**£119.93**
21 - 24	6	70	7529021.0	**£121.70**
24 - 27.5	6	75	7529024.0	**£128.79**
27.5 - 31.5	6	80	7529027.5	**£163.99**
31.5 - 37	6	90	7529031.5	**£192.57**
37 - 45	6	100	7529037.0	**£252.21**
45 - 55	6	109	7529045.0	**£338.61**
55 - 65	8	120	7529055.0	**£387.98**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	○			○		○		●			

HSS METRIC TAPER PIN REAMER 1:50

75040 Series

- Reamers designed for machining all ferrous and non-ferrous metals as well as for hard and soft plastic
- For reaming of taper bores to suit taper pins (acc. DIN 1, DIN 258, DIN 7977, DIN 7978)



PRESTO

Ø mm	Small Diameter	Large Diameter	Overall Length	Cut Length	Square A/F	Square Length	Order Code	Price
1.5	1.4	2.14	57	37	1.8	4	750401.5	**£31.97**
2	1.9	2.86	68	48	2.24	5	750402.0	**£19.99**
2.5	2.4	3.36	68	48	2.8	5	750402.5	**£22.85**
3	2.9	4.06	80	58	3.15	6	750403.0	**£19.08**
4	3.9	5.26	93	68	4	7	750404.0	**£21.47**
5	4.9	6.36	100	73	5	8	750405.0	**£22.98**
6	5.9	8	135	105	6.3	9	750406.0	**£26.78**
7	6.9	9.72	177	141	6.3	9	750407.0	**£27.98**
8	7.9	10.80	180	145	8	11	750408.0	**£33.99**
10	9.9	13.40	215	175	10	13	7504010.0	**£47.87**
12	11.8	16	255	210	11.2	14	7504012.0	**£55.22**
13	12.86	16.74	240	194	12.5	16	7504013.0	**£72.53**
14	13.86	17.74	240	194	12.5	16	7504014.0	**£99.98**
16	15.8	20.40	280	230	14	18	7504016.0	**£109.16**
20	19.8	24.80	310	250	18	22	7504020.0	**£167.00**
25	24.7	30.70	370	300	22.4	26	7504025.0	**£169.81**
30	29.7	36.10	400	320	25	28	7504030.0	**£209.40**
40	39.7	46.50	430	340	31.5	34	7504040.0	**£347.34**
50	49.7	56.90	460	360	40	42	7504050.0	**£536.21**

HSS IMPERIAL TAPER PIN REAMER 1:48

BS328 Straight Shank



PRESTO

Nominal Diameter	Small Diameter	Large Diameter	Overall Length	Cut Length	Square A/F	Square Length	Order Code	Price
1/16"	1.097	1.626	50.8	25.4	0.049"	5/32"	75020-116	**£34.43**
5/64"	1.504	2.032	50.8	25.4	0.063"	5/32"	75020-564	**£30.45**
3/32"	1.753	2.413	57.2	31.8	0.079"	5/32"	75020-332	**£22.73**
7/64"	2.027	2.819	63.5	38.1	0.088"	3/16"	75020-764	**£28.91**
1/8"	2.299	3.226	69.9	44.5	0.098"	3/16"	75020-18	**£18.88**
9/64"	2.639	3.632	73	47.6	0.110"	3/16"	75020-964	**£28.72**
5/32"	2.954	4.013	76.2	50.8	0.124"	1/4"	75020-532	**£22.73**
11/64"	3.228	4.420	88.9	57.2	0.140"	1/4"	75020-1164	**£29.54**
3/16"	3.498	4.953	101.6	69.9	0.157"	9/32"	75020-316	**£26.29**
7/32"	4.133	5.588	101.6	69.9	0.177"	9/32"	75020-732	**£28.12**
1/4"	4.641	6.426	117.5	85.7	0.197"	5/16"	75020-14	**£24.83**
9/32"	5.235	7.417	142.9	104.8	0220"	5/16"	75020-932	**£32.12**
5/16"	5.845	8.026	142.9	104.8	0.248"	11/32"	75020-516	**£29.07**
11/32"	6.434	8.814	152.4	114.3	0.280"	13/32"	75020-1132	**£36.53**
3/8"	7.031	9.677	165.1	127	0.315"	7/16"	75020-38	**£32.46**
13/32"	7.422	10.465	190.5	146.1	0315"	7/16"	75020-1332	**£45.81**
7/16"	8.209	11.252	190.5	146.1	0.354"	15/32"	75020-716	**£43.46**
1/2"	9.413	12.852	209.6	165.1	0.394"	1/2"	75020-12	**£60.99**
9/16"	10.932	14.503	215.9	171.5	0.441"	9/16"	75020-916	**£108.64**
5/8"	12.111	16.078	235	191	0.492"	5/8"	75020-58	**£112.63**
3/4"	14.674	19.304	273.1	222.3	0.630"	25/32"	75020-34	**£133.46**
7/8"	17.452	22.479	304.8	241.3	0.709"	7/8"	75020-78	**£179.71**

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRc30~40	Hardened Steels HRc40~45	Hardened Steels HRc45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●								●			

NC MACHINE REAMERS CARBIDE

K4101 & K4111 Series

CUTTING DATA

REAMING

Material	Hardness	Cutting Speed (m/min.)	Feed (mm/rev.)				
			Up to Ø4	Ø4 ~ Ø8	Ø8 ~ Ø12	Ø12 ~ Ø16	Ø16 ~ Ø20
Structural & Low Carbon Steels	-	15~18	0.10~0.12	0.12~0.20	0.20~0.25	0.25~0.30	0.30~0.40
Carbon Steels	< 500N/mm²	15~18	0.10~0.12	0.12~0.20	0.20~0.25	0.25~0.30	0.30~0.40
Alloy Steels	500-1000N/mm²	12~14	0.08~0.10	0.10~0.16	0.16~0.20	0.20~0.25	0.25~0.30
Pre Hardened Steels	~ HRc40	10~12	0.08~0.10	0.10~0.16	0.16~0.20	0.20~0.25	0.25~0.30
Stainless Steels	-	6~8	0.08~0.10	0.10~0.16	0.16~0.20	0.20~0.25	0.25~0.30
Cast Iron	< 200HB	15~20	0.10~0.12	0.12~0.20	0.20~0.25	0.25~0.30	0.30~0.40
	> 200HB	12~15	0.10~0.12	0.12~0.20	0.20~0.25	0.25~0.30	0.30~0.40
Aluminium & Aluminium Alloys	-	20~30	0.12~0.16	0.16~0.25	0.25~0.30	0.30~0.40	0.40~0.50
Magnesium Alloys	-	20~30	0.10~0.12	0.12~0.20	0.20~0.25	0.25~0.30	0.30~0.40
Copper, Brass	-	20~25	0.10~0.12	0.12~0.20	0.20~0.25	0.25~0.30	0.30~0.40
Plastics	-	15~20	0.12~0.16	0.16~0.25	0.25~0.30	0.30~0.40	0.40~0.50

NC-MACHINE & CHUCKING REAMERS HSS 5% COBALT

K2101, K2111, K2102, K2112 & K21B1 Series

CUTTING DATA

REAMING

Material	Hardness	Cutting Speed (m/min.)	Feed (mm/rev.)					
			Ø2 ~ Ø4	Ø4 ~ Ø8	Ø8 ~ Ø13	Ø13 ~ Ø20	Ø20 ~ Ø30	> Ø30
Steels	< 500N/mm²	12 ~ 16	0.05~0.15	0.10~0.20	0.15~0.25	0.20~0.30	0.25~0.40	0.35~0.50
	500-700N/mm²	10 ~ 12	0.05~0.15	0.10~0.20	0.15~0.25	0.20~0.30	0.25~0.40	0.35~0.50
	700-800N/mm²	6 ~ 8	0.05~0.10	0.08~0.16	0.10~0.20	0.15~0.25	0.20~0.30	0.30~0.40
Alloy Steel Or Carbon Steel Castings	< 500N/mm²	6 ~ 10	0.05~0.10	0.08~0.16	0.10~0.20	0.15~0.25	0.20~0.30	0.30~0.40
	> 500N/mm²	4 ~ 6	0.05~0.10	0.08~0.16	0.10~0.20	0.15~0.25	0.20~0.30	0.30~0.40
Alloy Steel Or Carbon Steel Forgings	-	4 ~ 6	0.03~0.08	0.06~0.10	0.08~0.15	0.10~0.20	0.15~0.25	0.20~0.30
Stainless Steels	-	4 ~ 6	0.03~0.08	0.06~0.10	0.08~0.15	0.10~0.20	0.15~0.25	0.20~0.30
Cast Iron	< 200HB	12 ~ 14	0.05~0.15	0.10~0.20	0.15~0.25	0.20~0.30	0.25~0.40	0.35~0.50
	> 200HB	10 ~ 12	0.05~0.10	0.08~0.16	0.10~0.20	0.15~0.25	0.20~0.30	0.30~0.40
Aluminium & Aluminium Alloys	-	16 ~ 20	0.10~0.20	0.15~0.25	0.20~0.30	0.25~0.40	0.35~0.50	0.40~0.60
Magnesium & Magnesium Alloys	-	10 ~ 16	0.10~0.20	0.15~0.25	0.20~0.30	0.25~0.40	0.35~0.50	0.40~0.60
Copper, Brass	-	16 ~ 18	0.10~0.20	0.15~0.25	0.20~0.30	0.25~0.40	0.35~0.50	0.40~0.60
Plastics	-	8 ~ 12	0.10~0.20	0.20~0.30	0.30~0.40	0.40~0.50	0.50~0.60	0.60~0.80

CHUCKING REAMER HSS 5% COBALT QUICK SPIRAL

K2121 Series

CUTTING DATA

REAMING

Material	Hardness	Cutting Speed (m/min.)	Feed (mm/rev.)			
			Ø2 ~ Ø4	Ø4 ~ Ø8	Ø8 ~ Ø13	Ø13 ~ Ø20
Steels	< 500N/mm²	16 ~ 18	0.08~0.16	0.16~0.25	0.20~0.30	0.30~0.40
	700-800N/mm²	14 ~ 16	0.08~0.16	0.16~0.25	0.20~0.30	0.30~0.40
Aluminium & Aluminium Alloys	-	18 ~ 22	0.10~0.20	0.20~0.30	0.30~0.40	0.40~0.60
Magnesium & Magnesium Alloys	-	10 ~ 16	0.08~0.16	0.16~0.25	0.20~0.30	0.30~0.40
Copper, Brass	-	16 ~ 20	0.08~0.16	0.16~0.25	0.20~0.30	0.30~0.40
Plastics	-	12 ~ 14	0.10~0.20	0.20~0.30	0.30~0.40	0.40~0.60

Reaming Allowance	Diameter	Up to Ø6	Ø6 ~ Ø10	Ø10 ~ Ø16	Ø16 ~ Ø25	Over Ø25
	Removal Amount	0.1 ~ 0.2	0.2 ~ 0.3	0.2 ~ 0.4	0.3 ~ 0.5	0.3 ~ 0.6

CARBIDE REAMERS
Series 30103 & 30826

CUTTING DATA
REAMING

Material	M/mm	Cutting Speed (m/min.)	Feed (mm/rev.)					
			5	5-8	8-12	12-16	16-30	30-50
Unalloyed Steels	< 700 N/mm2	12	0.10	0.15	0.20	0.25	0.30	0.40
	< 1200 N/mm2	10	0.10	0.15	0.20	0.25	0.30	0.40
Alloyed Steels	< 900 N/mm2	12	0.10	0.15	0.20	0.25	0.30	0.40
	< 1400 N/mm2	10	0.10	0.15	0.20	0.25	0.30	0.40
High Alloyed Steels	< 900 N/mm2	12	0.10	0.15	0.20	0.25	0.30	0.40
	< 1500 N/mm2	10	0.10	0.15	0.20	0.25	0.30	0.40
Cast Iron	< 300 N/mm2	12	0.15	0.20	0.20	0.30	0.35	0.40
	< 500 N/mm2	10	0.15	0.20	0.20	0.30	0.35	0.40
	500-800 N/mm2	10	0.15	0.20	0.20	0.30	0.35	0.40
	> 800 N/mm2	10	0.15	0.20	0.20	0.30	0.35	0.40
Malleable Cast Iron	< 500 N/mm2	10	0.15	0.20	0.20	0.30	0.35	0.40
	> 500 N/mm2	10	0.15	0.20	0.20	0.30	0.35	0.40
Copper	< 300 N/mm2	20	0.15	0.20	0.20	0.25	0.30	0.40
	> 300 N/mm2	20	0.15	0.20	0.20	0.25	0.30	0.40
Graphite	< 1200 N/mm2	20	0.15	0.20	0.20	0.25	0.30	0.40
Plastic		25	0.15	0.20	0.20	0.25	0.30	0.40
		25	0.15	0.20	0.20	0.25	0.30	0.40
		25	0.15	0.20	0.20	0.25	0.30	0.40

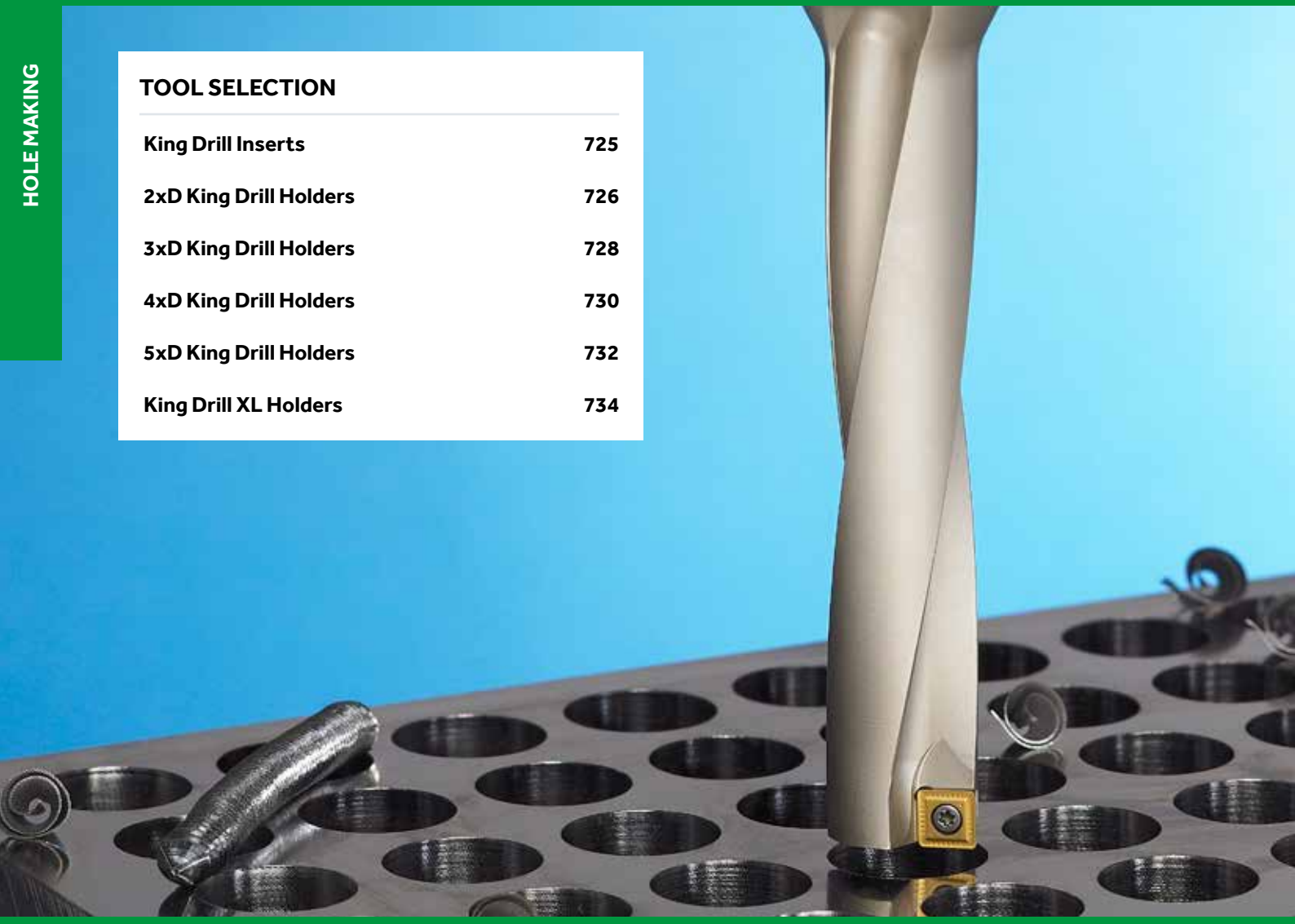
CARBIDE REAMERS
Series 221490

CUTTING DATA
REAMING

Material	M/mm	Cutting Speed (m/min.)				
			Ø3.91-4.96	Ø4.97-7.96	Ø7.97-9.97	Ø9.97-12.03
Hardened Steels	45-55 HRC	25	0,03	0,05	0,10	0,15
	55-62 HRC	18	0,03	0,05	0,10	0,15
	60-67-70 HRC	12	0,03	0,05	0,10	0,15
	Hardened cast iron up to 48 HRC	30	0,05	0,08	0,15	0,20

King Drill

P M S K N



TOOL SELECTION

King Drill Inserts	725
2xD King Drill Holders	726
3xD King Drill Holders	728
4xD King Drill Holders	730
5xD King Drill Holders	732
King Drill XL Holders	734

Renowned for reliability

Renowned for it's reliability, low cutting resistance and accuracy. The inner & outer pocket design ensures more equal and consistent wear, which in turn reduces cutting loads by up to 50% and virtually eliminates deflection on entry.

Advantages

- Exceptionally accurate drilling compared to other indexable drills, even in deep holes.
- High performance drilling of a wide range of materials.
- Lower risk of tool failure & reduced insert wear.

Features

- Inserts available in grades for steel, stainless steel, HRSA's, cast iron, aluminium & plastic.
- Tool holders available in 2xD, 3xD, 4xD & 5xD max drill depths.
- Available in diameters 12mm-60.5mm in 0.5mm increments.

KORLOY

INSERT FEATURES

INSERTS OPTIMIZED FOR ACCURACY AND TO REDUCE TOOL FAILURE

The central and peripheral inserts are specially designed for each pocket to prevent premature insert wear and drill failure.

This special KING DRILL design eliminates up to 90% of drill failures caused by the central insert grade and geometry.

The central insert design also lowers cutting resistance and provides more accurate drilling, especially in longer holes.

INSERTS FOR STEEL, STAINLESS STEEL, HRSA's & CAST IRON

Medium speed and medium feed.

Central Insert	Peripheral Insert
XOMT	SPMT





AVAILABLE GRADES

Central Insert	Peripheral Insert
PC5300	PC5300
KEP8545	PC3700
	PC6510
	KEP8545

INSERTS FOR ALUMINIUM & PLASTICS

Low ~ medium speed and medium feed

Central Insert	Peripheral Insert
XOET	SPET





AVAILABLE GRADES

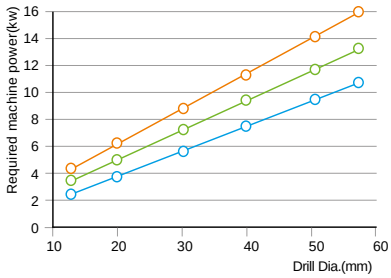
Central Insert	Peripheral Insert
H01	H01

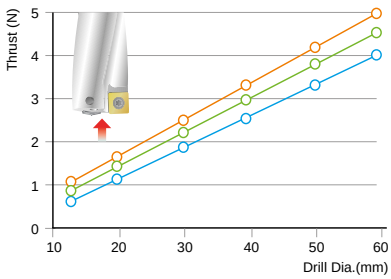
REQUIRED MACHINE POWER

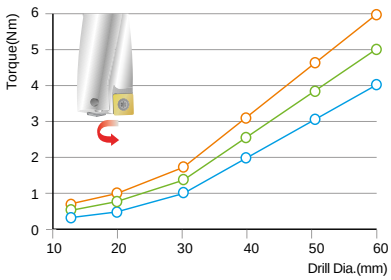
The graphs below show the cutting force required when drilling with the KING DRILL on a machine with high rigidity and power using through coolant.

WORKPIECE:
SCM440 (240HB)

CUTTING CONDITION:
vc(m/min) = 100,
- fn(mm/rev)=0.13,
- fn(mm/rev)=0.10
- fn(mm/rev)=0.07







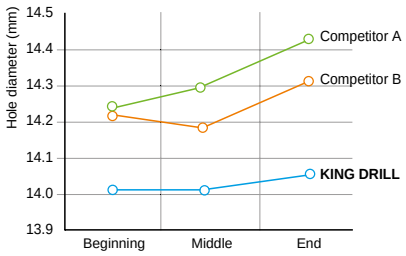
HIGHER ACCURACY

KING DRILL
Consistent hole diameter

COMPETITOR A & B
Diameter of the hole increases at the end

WORKPIECE:
SCM440 (240HB)

CUTTING CONDITION:
vc(m/min)=150,
fn(mm/rev)=0.08
Depth of drilling 6m (pass though), wet

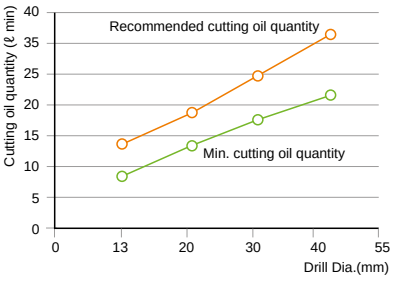


CUTTING OIL QUALITY

Data may change depending on workpiece and cutting condition.

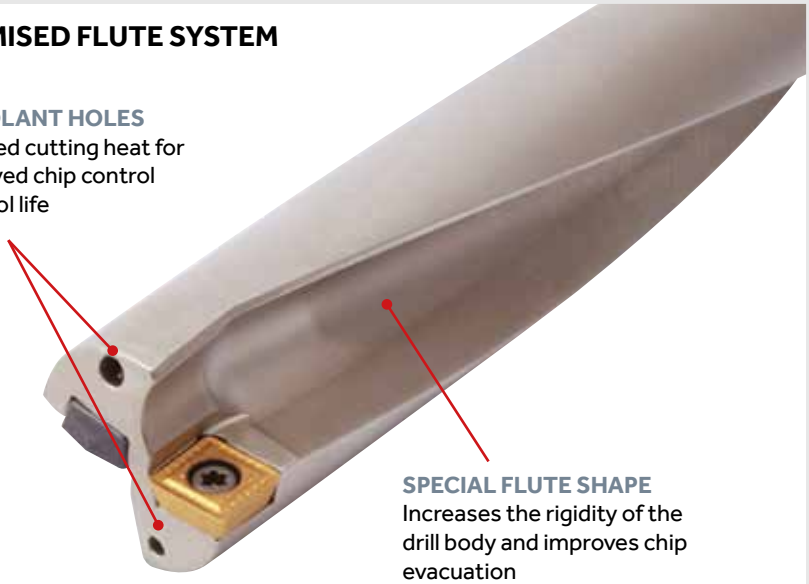
WORKPIECE:
SCM440 (240HB)

CUTTING CONDITION:
vc(m/min) = 100
Through coolant system



OPTIMISED FLUTE SYSTEM

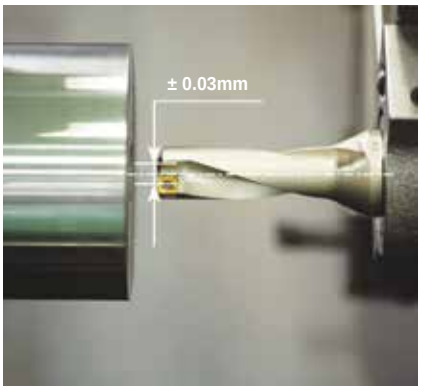
2 COOLANT HOLES
Reduced cutting heat for improved chip control and tool life

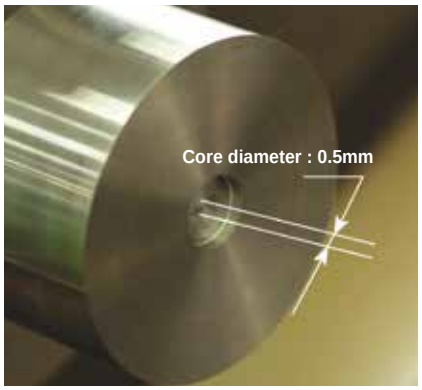


SPECIAL FLUTE SHAPE
Increases the rigidity of the drill body and improves chip evacuation

SETTING THE DRILL IN THE LATHE

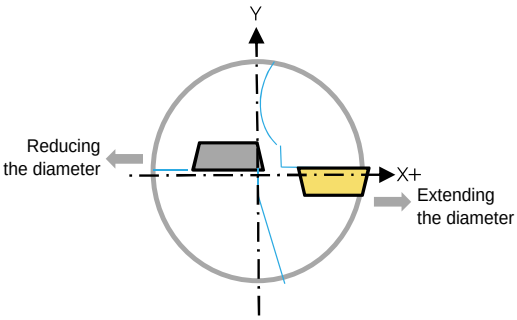






- Set the peripheral insert parallel to the X axis. (based on the side lock*).
- If the machined core is 0.5mm after machining 5mm, that is the proper setting.
*Please check the location of the side lock, as it may be different depending on manufacturers of machine.

RANGE OF ADJUSTING MACHINING DIAMETER IN THE LATHE



- When used on a lathe, the King Drill can extend and reduce the machining diameter by moving the x axis. Please refer to the table showing the range of adjusting drilling diameter below.
- The greater the drilling diameter is extended or reduced the more the drill loses drilling balance. In this case, reduce the feed or cutting speed in machining.
- Reducing the machining diameter excessively could damage the holder.

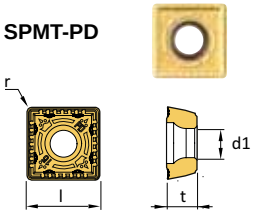
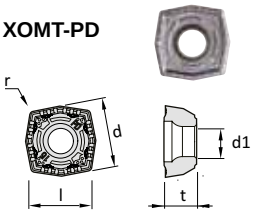
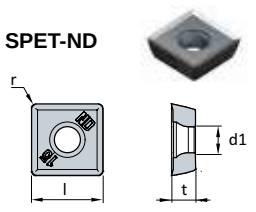
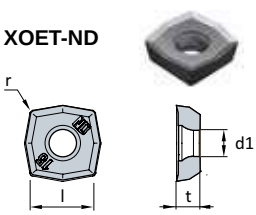
Drill Size	Diameter Range	Drill Size	Diameter Range	Drill Size	Diameter Range	Drill Size	Diameter Range
12	11.7 - 12.4	24.5	23.9 - 25.1	37	36.3 - 37.7	49.5	48.7 - 50.2
12.5	12.2 - 12.9	25	24.4 - 25.6	37.5	36.8 - 38.2	50	49.2 - 50.7
13	12.7 - 13.4	25.5	24.9 - 26.1	38	37.3 - 38.7	50.5	49.7 - 51.2
13.5	13.2 - 13.9	26	25.4 - 26.6	38.5	37.8 - 39.2	51	50.2 - 51.7
14	13.6 - 14.5	26.5	25.9 - 27.1	39	38.3 - 39.7	51.5	50.7 - 52.2
14.5	14.1 - 15.0	27	26.4 - 27.6	39.5	38.8 - 40.2	52	51.2 - 52.7
15	14.6 - 15.5	27.5	26.9 - 28.1	40	39.3 - 40.7	52.5	51.7 - 53.2
15.5	15.1 - 16.0	27.8	27.4 - 28.6	40.5	39.8 - 41.2	53	52.2 - 53.7
16	15.6 - 16.5	28.5	27.9 - 29.1	41	40.3 - 41.7	53.5	52.7 - 54.2
16.5	16.0 - 17.0	29	28.4 - 29.6	41.5	40.8 - 42.2	54	53.2 - 54.7
17	16.5 - 17.5	29.5	28.9 - 30.1	42	41.3 - 42.7	54.5	53.7 - 55.2
17.5	17.0 - 18.0	30	29.3 - 30.7	42.5	41.8 - 43.2	55	54.2 - 55.7
18	17.5 - 18.5	30.5	29.8 - 31.2	43	42.2 - 43.7	55.5	54.7 - 56.2
18.5	18.0 - 19.0	31	30.3 - 31.7	43.5	42.7 - 44.2	56	55.2 - 56.7
19	18.5 - 19.5	31.5	30.8 - 32.2	44	43.2 - 44.7	56.5	55.7 - 57.2
19.5	19.0 - 20.0	32	31.3 - 32.7	44.5	43.7 - 45.2	57	56.2 - 57.7
20	19.4 - 20.6	32.5	31.8 - 33.2	45	44.2 - 45.7	57.5	56.7 - 58.2
20.5	19.9 - 21.1	33	32.3 - 33.7	45.5	44.7 - 46.2	58	57.2 - 58.7
21	20.4 - 21.6	33.5	32.8 - 34.2	46	45.2 - 46.7	58.5	57.7 - 59.2
21.5	20.9 - 22.1	34	33.3 - 34.7	46.5	45.7 - 47.2	59	58.2 - 59.7
22	21.4 - 22.6	34.5	33.8 - 35.2	47	46.2 - 47.7	59.5	58.7 - 60.2
22.5	21.9 - 23.1	35	34.3 - 35.7	47.5	46.7 - 48.2	60	59.2 - 60.7
23	22.4 - 23.6	35.5	34.8 - 36.2	48	47.2 - 48.7	60.5	59.7 - 61.2
23.5	22.9 - 24.1	36	35.3 - 36.7	48.5	47.7 - 49.2		
24	23.4 - 24.6	36.5	35.8 - 37.2	49	48.2 - 49.7		

*For 5 x D reduce the cutting conditions by 30-40%. In interrupted cutting reduce feed by 30-50%

KING DRILL INSERTS

High Performance Next Generation Indexable Drilling System

KORLOY

Insert	Dimensions					For Drill Diameter	Grades					Order Code	Price
	l	d	t	r	d1		PC3700	PC5300	PC6510	KEP8545	H01		
Inserts for Steel, Stainless Steel, HRSA's & Cast Iron													
SPMT-PD 	4.7	-	2.4	0.4	2.3	12-13.5	●	●	●	●	-	SPMT 040204-PD	£10.46
	5.1	-	2.4	0.4	2.3	14-16	●	●	●	●	-	SPMT 050204-PD	£10.46
	6.2	-	2.5	0.5	2.5	16.5-19.5	●	●	●	●	-	SPMT 060205-PD	£10.46
	7.5	-	2.8	0.7	2.8	20-23.5	●	●	●	●	-	SPMT 07T208-PD	£10.46
	9.2	-	3.3	0.8	3.4	24-29.5	●	●	●	●	-	SPMT 090308-PD	£10.46
	11	-	4	0.8	4	30-35.5	●	●	●	●	-	SPMT 11T308-PD	£10.46
	13	-	4.5	1	4.5	39-42.5	●	●	●	●	-	SPMT 130410-PD	£10.82
	15.2	-	5	1	5.5	43-50.5	●	●	●	●	-	SPMT 15M510-PD	£10.82
	18.2	-	5.5	1	6	51-60.5	●	●	●	●	-	SPMT 180510-PD	£10.82
XOMT-PD 	4.3	4.9	2.4	0.4	2.3	12-13.5	-	●	-	●	-	XOMT 040204-PD	£10.46
	4.8	5.4	2.4	0.4	2.3	14-16	-	●	-	●	-	XOMT 050204-PD	£10.46
	5.8	6.6	2.5	0.5	2.5	16.5-19.5	-	●	-	●	-	XOMT 060204-PD	£10.46
	6.9	7.8	2.8	0.7	2.8	20-23.5	-	●	-	●	-	XOMT 07T205-PD	£10.46
	8.4	9.6	3.3	0.8	3.4	24-29.5	-	●	-	●	-	XOMT 090305-PD	£10.46
	10	11.4	4	0.8	4	30-35.5	-	●	-	●	-	XOMT 11T306-PD	£10.46
	11.9	13.6	4.5	1	4.5	39-42.5	-	●	-	●	-	XOMT 130406-PD	£10.82
	13.9	15.9	5	1	5.5	43-50.5	-	●	-	●	-	XOMT 15M508-PD	£10.82
	16.5	18.9	5.5	1	6	51-60.5	-	●	-	●	-	XOMT 180508-PD	£10.82
Inserts for Aluminium & Plastic													
SPET-ND 	4.7	-	2.4	0.4	2.3	12-13.5	-	-	-	-	●	SPET 040204-ND	£10.46
	5.1	-	2.4	0.4	2.3	14-16	-	-	-	-	●	SPET 050204-ND	£10.46
	6.2	-	2.5	0.5	2.5	16.5-19.5	-	-	-	-	●	SPET 060205-ND	£10.46
	7.5	-	2.8	0.7	2.8	20-23.5	-	-	-	-	●	SPET 07T208-ND	£10.46
	9.2	-	3.3	0.8	3.4	24-29.5	-	-	-	-	●	SPET 090308-ND	£10.46
	11	-	4	0.8	4	30-35.5	-	-	-	-	●	SPET 11T308-ND	£10.46
	13	-	4.5	1	4.5	39-42.5	-	-	-	-	●	SPET 130410-ND	£10.82
	15.2	-	5	1	5.5	43-50.5	-	-	-	-	●	SPET 15M510-ND	£10.82
	18.2	-	5.5	1	6	51-60.5	-	-	-	-	●	SPET 180510-ND	£10.82
XOET-ND 	4.3	4.9	2.4	0.4	2.3	12-13.5	-	-	-	-	●	XOET 040204-ND	£10.46
	4.8	5.4	2.4	0.4	2.3	14-16	-	-	-	-	●	XOET 050204-ND	£10.46
	5.8	6.6	2.5	0.5	2.5	16.5-19.5	-	-	-	-	●	XOET 060204-ND	£10.46
	6.9	7.8	2.8	0.7	2.8	20-23.5	-	-	-	-	●	XOET 07T205-ND	£10.46
	8.4	9.6	3.3	0.8	3.4	24-29.5	-	-	-	-	●	XOET 090305-ND	£10.46
	10	11.4	4	0.8	4	30-35.5	-	-	-	-	●	XOET 11T306-ND	£10.46
	11.9	13.6	4.5	1	4.5	39-42.5	-	-	-	-	●	XOET 130406-ND	£10.82
	13.9	15.9	5	1	5.5	43-50.5	-	-	-	-	●	XOET 15M508-ND	£10.82
	16.5	18.9	5.5	1	6	51-60.5	-	-	-	-	●	XOET 180508-ND	£10.82

RECOMMENDED CUTTING CONDITIONS KING DRILL 2XD, 3XD, 4XD & 5XD*

Grade Selection		Workpiece			Surface Speed vc (m/min)	Feed rate (mm/rev)				
Central Insert	Peripheral Insert	ISO	Material	Hardness (Bhn)		Ø12 - 16	Ø17 - 23	Ø24 - 29	Ø30 - 42	Ø43 - 60
PC5300	PC3700	(P) Carbon Steel	Low Carbon Steel	80-180	190 (130 - 250)	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08	0.04 - 0.08
			High Carbon Steel	180-280	140 (80 - 200)	0.04 - 0.10	0.04 - 0.12	0.05 - 0.16	0.08 - 0.18	0.10 - 0.22
		(P) Alloy Steel	Low Alloy Steel	140-260	130 (70 - 200)	0.04 - 0.10	0.06 - 0.12	0.08 - 0.16	0.08 - 0.20	0.08 - 0.24
			Low Alloy Steel	50-260	100 (50 - 160)	0.04 - 0.18	0.06 - 0.12	0.08 - 0.16	0.08 - 0.18	0.08 - 0.22
			Low Pre-Hardened	200-400	100 (50 - 150)	0.04 - 0.10	0.06 - 0.12	0.08 - 0.16	0.08 - 0.18	0.08 - 0.22
			High Pre-Hardened Steel	220-450	70 (30 - 120)	0.04 - 0.12	0.06 - 0.14	0.08 - 0.17	0.08 - 0.17	0.08 - 0.20
KEP8545	KEP8545	(M) Stainless Steel	Austenite Series e.g. 316	135-275 Ni>8%	160 (130 - 210)	0.04 - 0.09	0.04 - 0.09	0.04 - 0.09	0.04 - 0.10	0.04 - 0.10
			Ferrite/Martensite Series e.g. 403	135-275	160 (130 - 210)	0.04 - 0.09	0.04 - 0.09	0.04 - 0.09	0.04 - 0.10	0.04 - 0.10
PC5300	PC5300		Austenite Series e.g. 316	135-275 Ni>8%	130 (90 - 160)	0.04 - 0.07	0.04 - 0.07	0.04 - 0.07	0.04 - 0.08	0.04 - 0.08
			Ferrite/Martensite Series e.g. 403	135-275	130 (90 - 160)	0.04 - 0.07	0.04 - 0.07	0.04 - 0.07	0.04 - 0.08	0.04 - 0.08
KEP8545	KEP8545	(S) Heat Resistant Alloy	Nickel Alloys	130-400	70 (50 - 130)	0.04 - 0.13	0.04 - 0.13	0.04 - 0.13	0.04 - 0.13	0.04 - 0.13
			Titanium Alloys	130-400	80 (60 - 100)	0.04 - 0.10	0.04 - 0.13	0.04 - 0.15	0.04 - 0.17	0.04 - 0.19
PC5300	PC5300		Nickel Alloys	130-400	50 (30 - 100)	0.04 - 0.10	0.04 - 0.10	0.04 - 0.10	0.04 - 0.10	0.04 - 0.10
			Titanium Alloys	130-400	60 (40 - 80)	0.04 - 0.08	0.04 - 0.10	0.04 - 0.12	0.04 - 0.14	0.04 - 0.16
PC5300	PC6510	(K) Cast Iron	Gray Cast Iron	150-230	190 (150 - 250)	0.04 - 0.10	0.05 - 0.14	0.06 - 0.16	0.10 - 0.22	0.10 - 0.26
			Ductile Cast Iron	160-260	150 (100 - 200)	0.04 - 0.12	0.06 - 0.16	0.08 - 0.18	0.08 - 0.20	0.10 - 0.22
H01	H01	(N) Non-Ferrous	Aluminium	30-150	300 (250 - 350)	0.04 - 0.12	0.06 - 0.16	0.08 - 0.18	0.10 - 0.22	0.10 - 0.24
			Copper / Copper Alloys	150-160	250 (200 - 300)	0.04 - 0.12	0.06 - 0.16	0.08 - 0.18	0.10 - 0.22	0.10 - 0.24

INSERT GRADE SELECTION BY APPLICATION

Material	Carbon Steel	Alloy Steel	Stainless Steel		HRSA's		Cast Iron	Aluminium & Plastics
Central Insert	PC5300	PC5300	PC5300	KEP8545	PC5300	KEP8545	PC5300	H01
Peripheral Insert	PC3700	PC3700	PC5300	KEP8545	PC5300	KEP8545	PC6510	H01

KING DRILL HOLDER 2XD

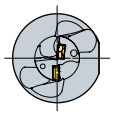
High Performance Next Generation Indexable Drilling System

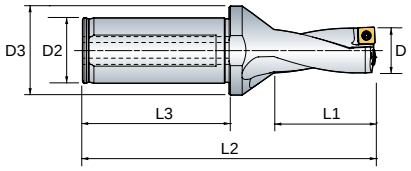
- Exceptionally accurate compared to other indexable drills
- Can be offset on a lathe by up to 0.8mm to drill over or undersized
- Available in diameters 12mm-60.5mm
- Inserts available in coated grades for steel, stainless steel, HRSA's, cast iron
- Uncoated polished H01 grade for aluminium and plastics

Cutting Data

P725







2xD

KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price	Inserts (page 725)	Spares Screw	Spares Wrench
12	20	25	27	91	50	K2D12020-04	£153.79	SPM/ET040204-PD XOM/ET040204-PD	FTNA0204	TW06P
12.5						K2D12520-04	£153.79			
13			29	93		K2D13020-04	£153.79			
13.5						K2D13520-04	£153.79			
14	20	25	31	96	50	K2D14020-05	£174.50	SPM/ET050204-PD XOM/ET050204-PD	FTNA0204	TW06P
14.5						K2D14520-05	£174.50			
15			33	99		K2D15020-05	£174.50			
15.5						K2D15520-05	£174.50			
16			35	101		K2D16020-05	£174.50			
16.5	25	34	35	107	56	K2D16525-06	£174.50	SPM/ET060205-PD XOM/ET060204-PD	FTKA02206S	TW07P
17			37	109		K2D17025-06	£174.50			
17.5						K2D17525-06	£174.50			
18			39	112		K2D18025-06	£174.50			
18.5						K2D18525-06	£174.50			
19			41	114		K2D19025-06	£174.50			
19.5						K2D19525-06	£174.50			
20	25	34	43	118	56	K2D20025-07	£174.50	SPM/ET07T208-PD XOM/ET07T205-PD	FTKA02565	TW07S
20.5						K2D20525-07	£186.76			
21			45	120		K2D21025-07	£186.76			
21.5						K2D21525-07	£186.76			
22			47	122		K2D22025-07	£186.76			
22.5						K2D22525-07	£186.76			
23			49	126		K2D23025-07	£186.76			
23.5						K2D23525-07	£186.76			
24	32	44	51	133	60	K2D24032-09	£186.76	SPM/ET090308-PD XOM/ET090305-PD	FTKA0307	TW09S
24.5						K2D24532-09	£186.76			
25			53	135		K2D25032-09	£186.76			
25.5						K2D25532-09	£202.18			
26			55	137		K2D26032-09	£202.18			
26.5						K2D26532-09	£202.18			
27			57	140		K2D27032-09	£202.18			
27.5						K2D27532-09	£202.18			
28			59	143		K2D28032-09	£202.18			
28.5						K2D28532-09	£202.18			
29			61	145		K2D29032-09	£202.18			
29.5						K2D29532-09	£202.18			
30	32	44	63	150	60	K2D30032-11	£202.18	SPM/ET11T308-PD XOM/ET11T306-PD	FTKA03508	TW15S
30.5						K2D30532-11	£202.18			
31			65	152		K2D31032-11	£228.20			
31.5						K2D31532-11	£228.20			

KING DRILL HOLDER 2XD (CONTINUED)

High Performance Next Generation Indexable Drilling System



Cutting Data

P725

KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price	Inserts (page 725)	Spares Screw	Spares Wrench
32	32	44	67	154	60	K2D32032-11	£228.20	SPM/ET11T308-PD XOM/ET11T306-PD	FTKA03508	TW15S
32.5						K2D32532-11	£228.20			
33			69	157		K2D33032-11	£228.20			
33.5						K2D33532-11	£228.20			
34			71	159		K2D34032-11	£228.20			
34.5						K2D34532-11	£228.20			
35			73	161		K2D35032-11	£228.20			
35.5						K2D35532-11	£240.60			
36	40	48	76	176	70	K2D36040-13	£240.60	SPM/ET130410-PD XOM/ET130406-PD	FTKA0410	TW15S
36.5						K2D36540-13	£240.60			
37			78	178		K2D37040-13	£240.60			
37.5						K2D37540-13	£240.60			
38			80	181		K2D38040-13	£240.60			
38.5						K2D38540-13	£240.60			
39			82	183		K2D39040-13	£240.60			
39.5						K2D39540-13	£240.60			
40			84	186		K2D40040-13	£240.60			
40.5						K2D40540-13	£258.53			
41			86	188		K2D41040-13	£258.53			
41.5						K2D41540-13	£258.53			
42			88	191		K2D42040-13	£258.53			
42.5						K2D42540-13	£258.53			
43	40	58	91	196	70	K2D43040-15	£258.53	SPM/ET15M510-PD XOM/ET15M508-PD	FTNC04511	TW20S
43.5						K2D43540-15	£258.53			
44			93	198		K2D44040-15	£258.53			
44.5						K2D44540-15	£258.53			
45			95	201		K2D45040-15	£258.53			
45.5						K2D45540-15	£273.51			
46			97	203		K2D46040-15	£273.51			
46.5						K2D46540-15	£273.51			
47			99	206		K2D47040-15	£273.51			
47.5						K2D47540-15	£273.51			
48			101	208		K2D48040-15	£273.51			
48.5						K2D48540-15	£273.51			
49			103	210		K2D49040-15	£273.51			
49.5						K2D49540-15	£273.51			
50			105	212		K2D50040-15	£273.51			
50.5						K2D50540-15	£288.51			
51	40	68	108	218	70	K2D51040-18	£288.51	SPM/ET180510-PD XOM/ET180508-PD	FTNA0511	TW20-100
51.5						K2D51540-18	£291.40			
52			110	220		K2D52040-18	£288.51			
52.5						K2D52540-18	£291.40			
53			112	222		K2D53040-18	£288.51			
53.5						K2D53540-18	£291.40			
54			114	224		K2D54040-18	£288.51			
54.5						K2D54540-18	£291.40			
55			116	226		K2D55040-18	£288.51			
55.5						K2D55540-18	£305.98			
56			118	230		K2D56040-18	£302.95			
56.5						K2D56540-18	£305.98			
57			121	233		K2D57040-18	£302.95			
57.5						K2D57540-18	£305.98			
58			124	236		K2D58040-18	£302.95			
58.5						K2D58540-18	£305.98			
59			127	239		K2D59040-18	£302.95			
59.5						K2D59540-18	£305.98			
60			130	242		K2D60040-18	£302.95			
60.5						K2D60540-18	£305.98			

KING DRILL HOLDER 3XD

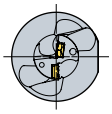
High Performance Next Generation Indexable Drilling System

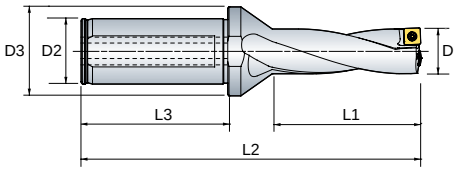
Cutting Data

P725

- Exceptionally accurate compared to other indexable drills
- Can be offset on a lathe by up to 0.8mm to drill over or undersized
- Available in diameters 12mm-60.5mm
- Inserts available in coated grades for steel, stainless steel, HRSA's, cast iron, aluminium & plastics











KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price	Inserts (page 725)	Spares Screw	Spares Wrench
12	20	25	39	103	50	K3D12020-04	£153.79	SPM/ET040204-PD XOM/ET040204-PD	FTNA0204	TW06P
12.2						K3D12220-04	£155.33			
12.5						K3D12520-04	£153.79			
12.9			42	106		K3D12920-04	£155.33			
13						K3D13020-04	£153.79			
13.5						K3D13520-04	£153.79			
14	20	25	45	110	50	K3D14020-05	£174.50	SPM/ET050204-PD XOM/ET050204-PD	FTNA0204	TW06P
14.5						K3D14520-05	£174.50			
15			48	114		K3D15020-05	£174.50			
15.5						K3D15520-05	£174.50			
16			51	117		K3D16020-05	£174.50			
16.5	25	34	51	123	56	K3D16525-06	£174.50	SPM/ET060205-PD XOM/ET060204-PD	FTKA02206S	TW07P
17			54	126		K3D17025-06	£174.50			
17.5						K3D17525-06	£174.50			
18			57	130		K3D18025-06	£174.50			
18.5						K3D18525-06	£174.50			
19			60	133		K3D19025-06	£174.50			
19.5						K3D19525-06	£174.50			
20	25	34	63	138	56	K3D20025-07	£174.50	SPM/ET07T208-PD XOM/ET07T205-PD	FTKA02565	TW07S
20.5						K3D20525-07	£186.76			
21			66	141		K3D21025-07	£186.76			
21.5						K3D21525-07	£186.76			
22			69	144		K3D22025-07	£186.76			
22.5						K3D22525-07	£186.76			
23			72	149		K3D23025-07	£186.76			
23.5						K3D23525-07	£186.76			
24	32	44	75	157	60	K3D24032-09	£186.76	SPM/ET090308-PD XOM/ET090305-PD	FTKA0307	TW09S
24.5						K3D24532-09	£186.76			
25			78	160		K3D25032-09	£186.76			
25.5						K3D25532-09	£202.18			
26			81	163		K3D26032-09	£202.18			
26.5						K3D26532-09	£202.18			
27			84	167		K3D27032-09	£202.18			
27.5						K3D27532-09	£202.18			
28			87	171		K3D28032-09	£202.18			
28.5						K3D28532-09	£202.18			
29			90	174		K3D29032-09	£202.18			
29.5						K3D29532-09	£202.18			
30	32	44	93	180	60	K3D30032-11	£202.18	SPM/ET11T308-PD XOM/ET11T306-PD	FTKA03508	TW15S
30.5						K3D30532-11	£202.18			

KING DRILL HOLDER 3XD (CONTINUED)

High Performance Next Generation Indexable Drilling System



Cutting Data

P725

KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price	Inserts (page 725)	Spares Screw	Spares Wrench
31	32	44	96	183	60	K3D31032-11	£228.20	SPM/ET11T308-PD XOM/ET11T306-PD	FTKA03508	TW15S
31.5						K3D31532-11	£228.20			
32			99	186		K3D32032-11	£228.20			
32.5						K3D32532-11	£228.20			
33			102	190		K3D33032-11	£228.20			
33.5						K3D33532-11	£228.20			
34			105	193		K3D34032-11	£228.20			
34.5						K3D34532-11	£228.20			
35			108	196		K3D35032-11	£228.20			
35.5						K3D35532-11	£240.60			
36	40	48	112	212	70	K3D36040-13	£240.60	SPM/ET130410-PD XOM/ET130406-PD	FTKA0410	TW15S
36.5						K3D36540-13	£240.60			
37			115	215		K3D37040-13	£240.60			
37.5						K3D37540-13	£240.60			
38			118	219		K3D38040-13	£240.60			
38.5						K3D38540-13	£240.60			
39			121	222		K3D39040-13	£240.60			
39.5						K3D39540-13	£240.60			
40			124	226		K3D40040-13	£240.60			
40.5						K3D40540-13	£258.53			
41			127	229		K3D41040-13	£258.53			
41.5						K3D41540-13	£258.53			
42			130	233		K3D42040-13	£258.53			
42.5						K3D42540-13	£258.53			
43	40	58	134	239	70	K3D43040-15	£258.53	SPM/ET15M510-PD XOM/ET15M508-PD	FTNC04511	TW20S
43.5						K3D43540-15	£258.53			
44			137	242		K3D44040-15	£258.53			
44.5						K3D44540-15	£258.53			
45			140	246		K3D45040-15	£258.53			
45.5						K3D45540-15	£273.51			
46			143	249		K3D46040-15	£273.51			
46.5						K3D46540-15	£273.51			
47			146	253		K3D47040-15	£273.51			
47.5						K3D47540-15	£273.51			
48			149	256		K3D48040-15	£273.51			
48.5						K3D48540-15	£273.51			
49			152	259		K3D49040-15	£273.51			
49.5						K3D49540-15	£273.51			
50			155	262		K3D50040-15	£273.51			
50.5						K3D50540-15	£288.51			
51	40	68	159	269	70	K3D51040-18	£288.51	SPM/ET180510-PD XOM/ET180508-PD	FTNA0511	TW20-100
51.5						K3D51540-18	£291.40			
52			162	272		K3D52040-18	£288.51			
52.5						K3D52540-18	£291.40			
53			165	275		K3D53040-18	£288.51			
53.5						K3D53540-18	£291.40			
54			168	278		K3D54040-18	£288.51			
54.5						K3D54540-18	£291.40			
55			171	281		K3D55040-18	£288.51			
55.5						K3D55540-18	£305.98			
56			174	286		K3D56040-18	£302.95			
56.5						K3D56540-18	£305.98			
57			178	290		K3D57040-18	£302.95			
57.5						K3D57540-18	£305.98			
58			182	294		K3D58040-18	£302.95			
58.5						K3D58540-18	£305.98			
59			186	298		K3D59040-18	£302.95			
59.5						K3D59540-18	£305.98			
60			190	302		K3D60040-18	£302.95			
60.5						K3D60540-18	£305.98			

KING DRILL HOLDER 4XD

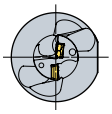
High Performance Next Generation Indexable Drilling System

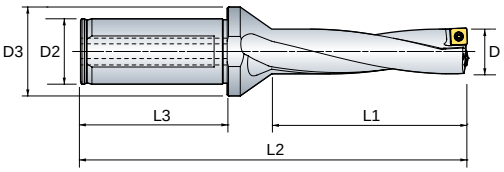
Cutting Data

P725

- Exceptionally accurate compared to other indexable drills
- Can be offset on a lathe by up to 0.8mm to drill over or undersized
- Available in diameters 12mm-60.5mm
- Inserts available in coated grades for steel, stainless steel, HRSA's, cast iron, aluminium & plastics







4xD

KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price	Inserts (page 725)	Spares Screw	Spares Wrench
12	20	25	51	115	50	K4D12020-04	£169.16	SPM/ET040204-PD XOM/ET040204-PD	FTNA0204	TW06P
12.5						K4D12520-04	£169.16			
13			55	119		K4D13020-04	£169.16			
13.5						K4D13520-04	£169.16			
14	20	25	59	124	50	K4D14020-05	£191.94	SPM/ET050204-PD XOM/ET050204-PD	FTNA0204	TW06P
14.5						K4D14520-05	£191.94			
15			63	129		K4D15020-05	£191.94			
15.5						K4D15520-05	£191.94			
16			67	133		K4D16020-05	£191.94			
16.5	25	34	67	139	56	K4D16525-06	£191.94	SPM/ET060205-PD XOM/ET060204-PD	FTKA02206S	TW07P
17			71	143		K4D17025-06	£191.94			
17.5						K4D17525-06	£191.94			
18			75	148		K4D18025-06	£191.94			
18.5						K4D18525-06	£191.94			
19			79	152		K4D19025-06	£191.94			
19.5						K4D19525-06	£191.94			
20	25	34	83	158	56	K4D20025-07	£191.94	SPM/ET07T208-PD XOM/ET07T205-PD	FTKA02565	TW07S
20.5						K4D20525-07	£205.40			
21			87	162		K4D21025-07	£205.40			
21.5						K4D21525-07	£205.40			
22			91	166		K4D22025-07	£205.40			
22.5						K4D22525-07	£205.40			
23			95	172		K4D23025-07	£205.40			
23.5						K4D23525-07	£205.40			
24	32	44	99	181	60	K4D24032-09	£205.40	SPM/ET090308-PD XOM/ET090305-PD	FTKA0307	TW09S
24.5						K4D24532-09	£205.40			
25			103	185		K4D25032-09	£205.40			
25.5						K4D25532-09	£222.43			
26			107	189		K4D26032-09	£222.43			
26.5						K4D26532-09	£222.43			
27			111	194		K4D27032-09	£222.43			
27.5						K4D27532-09	£222.43			
28			115	199		K4D28032-09	£222.43			
28.5						K4D28532-09	£222.43			
29			119	203		K4D29032-09	£222.43			
29.5						K4D29532-09	£222.43			
30	32	44	123	210	60	K4D30032-11	£222.43	SPM/ET11T308-PD XOM/ET11T306-PD	FTKA03508	TW15S
30.5						K4D30532-11	£222.43			
31			127	214		K4D31032-11	£251.06			
31.5						K4D31532-11	£251.06			

KING DRILL HOLDER 4XD (CONTINUED)

High Performance Next Generation Indexable Drilling System



Cutting Data
P725

KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price	Inserts (page 725)	Spares	
									Screw	Wrench
32	32	44	131	218	60	K4D32032-11	£251.06	SPM/ET11T308-PD XOM/ET11T306-PD	FTKA03508	TW15S
32.5						K4D32532-11	£251.06			
33			135	223		K4D33032-11	£251.06			
33.5						K4D33532-11	£251.06			
34			139	227		K4D34032-11	£251.06			
34.5						K4D34532-11	£251.06			
35			143	231		K4D35032-11	£251.06			
35.5						K4D35532-11	£264.68			
36	40	48	148	248	70	K4D36040-13	£264.68	SPM/ET130410-PD XOM/ET130406-PD	FTKA0410	TW15S
36.5						K4D36540-13	£264.68			
37			152	252		K4D37040-13	£264.68			
37.5						K4D37540-13	£264.68			
38			156	257		K4D38040-13	£264.68			
38.5						K4D38540-13	£264.68			
39			160	261		K4D39040-13	£264.68			
39.5						K4D39540-13	£264.68			
40			164	266		K4D40040-13	£264.68			
40.5						K4D40540-13	£284.36			
41			168	270		K4D41040-13	£284.36			
41.5						K4D41540-13	£284.36			
42			172	275		K4D42040-13	£284.36			
42.5						K4D42540-13	£284.36			
43	40	58	177	282	70	K4D43040-15	£284.36	SPM/ET15M510-PD XOM/ET15M508-PD	FTNC04511	TW20S
43.5						K4D43540-15	£284.36			
44			181	286		K4D44040-15	£284.36			
44.5						K4D44540-15	£284.36			
45			185	291		K4D45040-15	£284.36			
45.5						K4D45540-15	£300.85			
46			189	295		K4D46040-15	£300.85			
46.5						K4D46540-15	£300.85			
47			193	300		K4D47040-15	£300.85			
47.5						K4D47540-15	£300.85			
48			197	304		K4D48040-15	£300.85			
48.5						K4D48540-15	£300.85			
49			201	308		K4D49040-15	£300.85			
49.5						K4D49540-15	£300.85			
50			205	312		K4D50040-15	£300.85			
50.5						K4D50540-15	£317.34			
51	40	68	210	320	70	K4D51040-18	£317.34	SPM/ET180510-PD XOM/ET180508-PD	FTNA0511	TW20-100
51.5						K4D51540-18	£320.51			
52			214	324		K4D52040-18	£317.34			
52.5						K4D52540-18	£320.51			
53			218	328		K4D53040-18	£317.34			
53.5						K4D53540-18	£320.51			
54			222	332		K4D54040-18	£317.34			
54.5						K4D54540-18	£320.51			
55			226	336		K4D55040-18	£317.34			
56			230	342		K4D56040-18	£333.23			
56.5						K4D56540-18	£336.56			
57			235	347		K4D57040-18	£333.23			
57.5						K4D57540-18	£336.56			
58			240	352		K4D58040-18	£333.23			
58.5						K4D58540-18	£336.56			
59			245	357		K4D59040-18	£333.23			
59.5						K4D59540-18	£336.56			
60			250	362		K4D60040-18	£333.23			
60.5						K4D60540-18	£336.56			

KING DRILL HOLDER 5XD

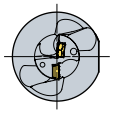
High Performance Next Generation Indexable Drilling System

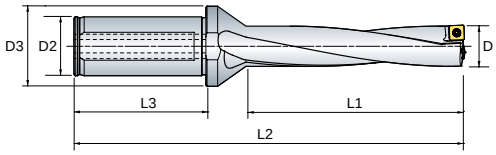
- Exceptionally accurate compared to other indexable drills
- Can be offset on a lathe by up to 0.8mm to drill over or undersized
- Available in diameters 12mm-60.5mm
- Inserts available in coated grades for steel, stainless steel, HRSA's, cast iron, aluminium & plastics

Cutting Data

P725







5xD

KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price	Inserts (page 725)	Spares Screw	Spares Wrench
12	20	25	63	127	50	K5D12020-04	£245.26	SPM/ET040204-PD XOM/ET040204-PD	FTNA0204	TW06P
12.5						K5D12520-04	£245.26			
13			68	132		K5D13020-04	£245.26			
13.5						K5D13520-04	£245.26			
14	20	25	73	138	50	K5D14020-05	£278.29	SPM/ET050204-PD XOM/ET050204-PD	FTNA0204	TW06P
14.5						K5D14520-05	£278.29			
15			78	144		K5D15020-05	£278.29			
15.5						K5D15520-05	£278.29			
16			83	149		K5D16020-05	£278.29			
16.5	25	34	83	155	56	K5D16525-06	£278.29	SPM/ET060205-PD XOM/ET060204-PD	FTKA02206S	TW07P
17			88	160		K5D17025-06	£278.29			
17.5						K5D17525-06	£278.29			
18			93	166		K5D18025-06	£278.29			
18.5						K5D18525-06	£278.29			
19			98	171		K5D19025-06	£278.29			
19.5						K5D19525-06	£278.29			
20	25	34	103	178	56	K5D20025-07	£278.29	SPM/ET07T208-PD XOM/ET07T205-PD	FTKA02565	TW07S
20.5						K5D20525-07	£297.87			
21			108	183		K5D21025-07	£297.87			
21.5						K5D21525-07	£297.87			
22			113	188		K5D22025-07	£297.87			
22.5						K5D22525-07	£297.87			
23			118	195		K5D23025-07	£297.87			
23.5						K5D23525-07	£297.87			
24	32	44	123	205	60	K5D24032-09	£297.87	SPM/ET090308-PD XOM/ET090305-PD	FTKA0307	TW09S
24.5						K5D24532-09	£297.87			
25			128	210		K5D25032-09	£297.87			
25.5						K5D25532-09	£322.50			
26			133	215		K5D26032-09	£322.50			
26.5						K5D26532-09	£322.50			
27			138	221		K5D27032-09	£322.50			
27.5						K5D27532-09	£322.50			
28			143	227		K5D28032-09	£322.50			
28.5						K5D28532-09	£322.50			
29			148	232		K5D29032-09	£322.50			
29.5						K5D29532-09	£322.50			
30	32	44	153	240	60	K5D30032-11	£322.50	SPM/ET11T308-PD XOM/ET11T306-PD	FTKA03508	TW15S
30.5						K5D30532-11	£322.50			
31			158	245		K5D31032-11	£364.01			
31.5						K5D31532-11	£364.01			

KING DRILL HOLDER 5XD (CONTINUED)

High Performance Next Generation Indexable Drilling System



Cutting Data
P725

KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price	Inserts (page 725)	Spares Screw	Spares Wrench
32	32	44	163	250	60	K5D32032-11	£364.01	SPM/ET11T308-PD XOM/ET11T306-PD	FTKA03508	TW15S
32.5						K5D32532-11	£364.01			
33			168	256		K5D33032-11	£364.01			
33.5						K5D33532-11	£364.01			
34			173	261		K5D34032-11	£364.01			
34.5						K5D34532-11	£364.01			
35			178	266		K5D35032-11	£364.01			
35.5						K5D35532-11	£383.78			
36	40	48	184	284	70	K5D36040-13	£383.78	SPM/ET130410-PD XOM/ET130406-PD	FTKA0410	TW15S
36.5						K5D36540-13	£383.78			
37			189	289		K5D37040-13	£383.78			
37.5						K5D37540-13	£383.78			
38			194	295		K5D38040-13	£383.78			
38.5						K5D38540-13	£383.78			
39			199	300		K5D39040-13	£383.78			
39.5						K5D39540-13	£383.78			
40			204	306		K5D40040-13	£383.78			
40.5						K5D40540-13	£412.34			
41			209	311		K5D41040-13	£412.34			
41.5						K5D41540-13	£412.34			
42			214	317		K5D42040-13	£412.34			
42.5						K5D42540-13	£412.34			
43	40	58	220	325	70	K5D43040-15	£412.34	SPM/ET15M510-PD XOM/ET15M508-PD	FTNC04511	TW20S
43.5						K5D43540-15	£412.34			
44			225	330		K5D44040-15	£412.34			
44.5						K5D44540-15	£412.34			
45			230	336		K5D45040-15	£412.34			
45.5						K5D45540-15	£436.24			
46			235	341		K5D46040-15	£436.24			
46.5						K5D46540-15	£436.24			
47			240	347		K5D47040-15	£436.24			
47.5						K5D47540-15	£436.24			
48			245	352		K5D48040-15	£436.24			
48.5						K5D48540-15	£436.24			
49			250	357		K5D49040-15	£436.24			
49.5						K5D49540-15	£436.24			
50			255	362		K5D50040-15	£436.24			
50.5						K5D50540-15	£460.15			
51	40	68	261	371	70	K5D51040-18	£460.15	SPM/ET180510-PD XOM/ET180508-PD	FTNA0511	TW20-100
51.5						K5D51540-18	£464.75			
52			266	376		K5D52040-18	£460.15			
52.5						K5D52540-18	£464.75			
53			271	381		K5D53040-18	£460.15			
53.5						K5D53540-18	£464.75			
54			276	386		K5D54040-18	£460.15			
54.5						K5D54540-18	£464.75			
55			281	391		K5D55040-18	£460.15			
55.5						K5D55540-18	£488.00			
56			286	398		K5D56040-18	£483.17			
56.5						K5D56540-18	£488.00			
57			292	404		K5D57040-18	£483.17			
57.5						K5D57540-18	£488.00			
58			298	410		K5D58040-18	£483.17			
58.5						K5D58540-18	£488.00			
59			304	416		K5D59040-18	£483.17			
59.5						K5D59540-18	£488.00			
60			310	422		K5D60040-18	£483.17			
60.5						K5D60540-18	£488.00			

King Drill XL

P M S K N



ADJUSTING THE DRILLING DIAMETER

Washers can be combined to increase the drilling diameter by up to 5mm



ADJUSTING WASHERS	
Width	**Order Code**
0.5	WA0305
1	WA0310

ADJUSTING DRILL DIAMETER		
Washers	**Adjustment**	**Order Code**
0.5	1	WA0305
1	2	WA0310
0.5 + 1	3	WA0305 + WA0310
1 + 1	4	WA0310 x 2
0.5 + 1 + 1	5	WA0305 + WA0310 x 2

Large diameter drilling

Adjustable system for large diameter drilling. Drill diameters from 61-100mm. Cartridge can adjust the drilling diameter by up to 5mm in 1mm increments. Easy to adjust diameter with adjusting bolt & washers.

Advantages

- Exceptionally accurate drilling compared to other indexable drills, even in deep holes.
- High performance drilling of a wide range of materials.
- Lower risk of tool failure & reduced insert wear.

Features

- Cartridge can adjust the drilling diameter by up to 5mm in 1mm increments.
- Tool holders available in 2xD, 3xD and 4xD max drill depths.
- Insert grades available for steel, stainless steel, HRSA's, cast iron, aluminium & plastics.

KORLOY

KING DRILL HOLDER XL

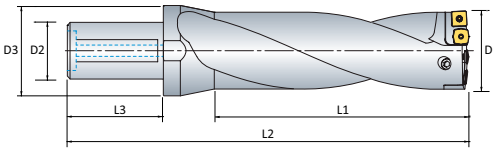
High Performance Next Generation Large Diameter Indexable Drilling System

- Easy to adjust the diameter by up to 5mm with adjusting bolt & washers
- Available in diameters 61mm-100mm
- Inserts available in coated grades for steel, stainless steel, HRSA's, cast iron, aluminium & plastics

Cutting Data

P725







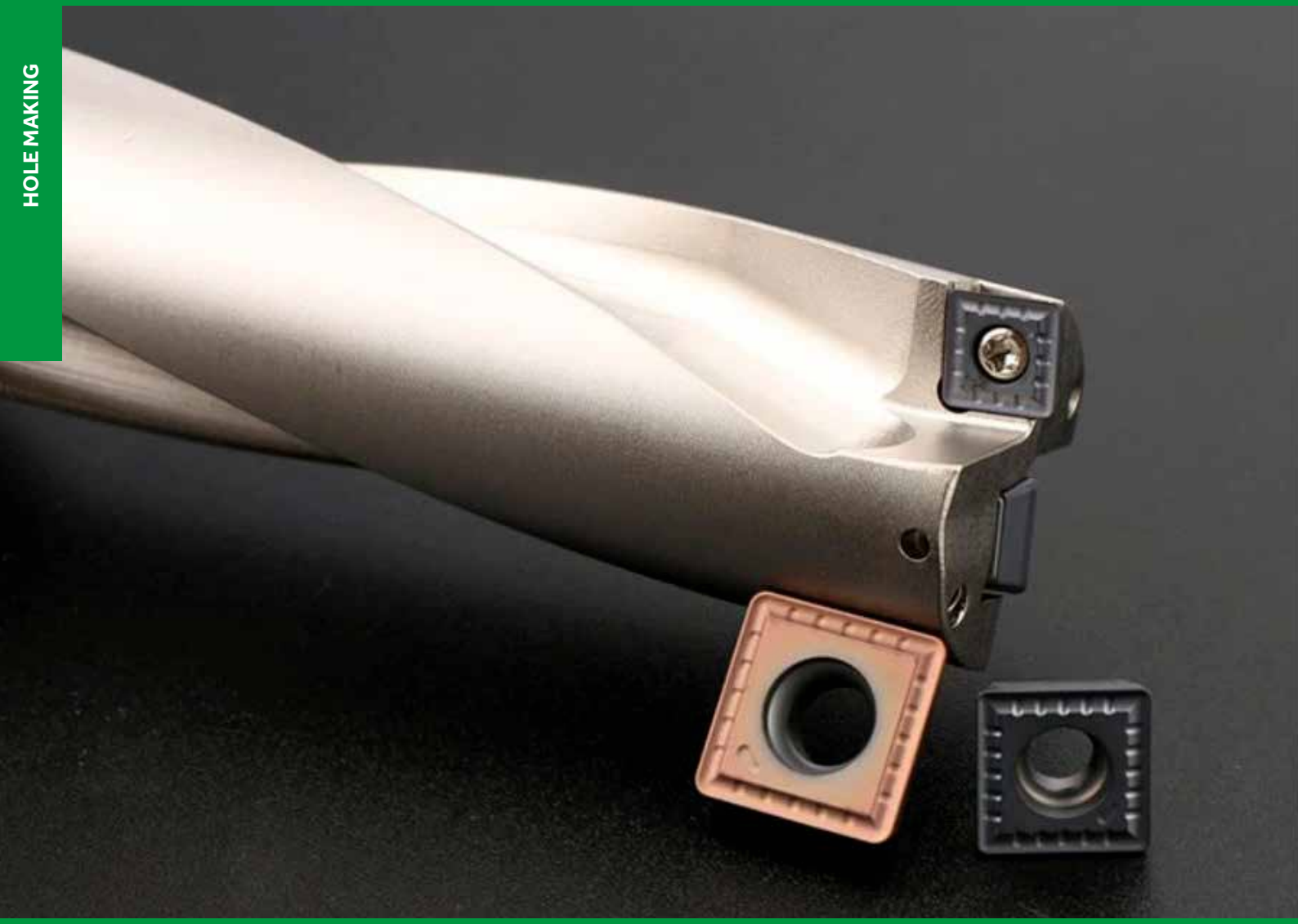


KORLOY

D	D2	D3	L1	L2	L3	★★★★ Performance Order Code	Price
2xD							
61-65	50	80	130	255	80	K2D616550-11	**£784.55**
65-70		88	140	265		K2D657050-13	**£829.36**
70-75			150	275		K2D707550-13	**£851.43**
75-80			160	285		K2D758050-13	**£872.30**
80-85		88	170	295		K2D808550-15	**£903.36**
85-90		95	180	305		K2D859050-15	**£949.19**
90-95		95	190	315		K2D909550-15	**£971.27**
95-100		95	200	325		K2D9510050-18	**£1,004.84**
3xD							
61-65	50	80	195	320	80	K3D616550-11	**£784.55**
65-70		88	210	335		K3D657050-13	**£829.36**
70-75			225	350		K3D707550-13	**£851.43**
75-80			240	365		K3D758050-13	**£872.30**
80-85		88	255	380		K3D808550-15	**£903.36**
85-90		95	270	395		K3D859050-15	**£949.19**
90-95		95	285	410		K3D909550-15	**£971.27**
95-100		95	300	425		K3D9510050-18	**£1,004.84**
4xD							
61-65	50	80	260	385	80	K4D616550-11	**£852.20**
65-70		88	280	405		K4D657050-13	**£907.21**
70-75			300	425		K4D707550-13	**£933.69**
75-80			320	445		K4D758050-13	**£958.97**
80-85		88	340	465		K4D808550-15	**£994.29**
85-90		95	360	485		K4D859050-15	**£1,050.33**
90-95		95	380	505		K4D909550-15	**£1,076.82**
95-100		95	400	525		K4D9510050-18	**£1,114.60**

Diameter Range	Cartridges		Inserts (page 725)		Spares	
	Internal	External	Internal x 2	External x 2	Screw	Wrench
61-65	KDC6165C	KDC6165P	XOM(E)T11T306 _ _	SPM(E)T11T308 _ _	FTKA03508	TW15S
65-70	KDC6570C	KDC6570P	XOM(E)T130406 _ _	SPM(E)T130410 _ _	FTKA0410	TW15S
70-75	KDC7075C	KDC7075P				
75-80	KDC7580C	KDC7580P				
80-85	KDC8085C	KDC8085P	XOM(E)T15M508 _ _	SPM(E)T15M510 _ _	FTNC04511	TW20S
85-90	KDC8590C	KDC8590P				
90-95	KDC9095C	KDC9095P				
95-100	KDC95100C	KDC95100P	XOM(E)T180508 _ _	SPM(E)T180510 _ _	FTNA0511	TW20-100

SPMX U-Drill



Entry level economy indexable drill

Entry level economy indexable drill for SPMX 4 corner inserts. Available in 2xD, 3xD & 4xD, the SPMX U-Drill is ideal for small batch machining of steel, stainless steel and cast iron.

Advantages

- Low cost economical drilling.
- ISO inserts.
- Excellent for general machining.

Features

- Available in diameters 16mm-60mm in 0.5mm increments up to 33mm and 1mm increments over 33mm.
- Tool holders available in 2xD, 3xD & 4xD maximum drill depths.
- Inserts available in a general grade for steel, stainless steel & cast iron.

SPMX MAMMUT U-DRILLS - 2XD

Economy Replaceable Insert Indexable Drilling System

- Excellent general purpose drill
- 4 cutting edges per insert
- Suitable for steel, stainless steel, cast iron

Cutting Data

P741



2xD

MAMMUT

Diameter	Shank Diameter	Max Drill Depth	Overall Length	★★★ Performance Order Code	Price	Inserts	Spares	
							Screw	Wrench
12.5	20	26	94	SP12.5-S20-2D	£33.85	SPMG05 SPMX05	M2.2X5	T6
13	20	28	96	SP13-S20-2D	£33.85			
13.5	20	28	96	SP13.5-S20-2D	£33.85			
14	25	28	96	SP14-S25-2D	£33.85			
14.5	25	30	99	SP14.5-S25-2D	£33.85			
15	25	30	99	SP15-S25-2D	£33.85			
15.5	25	32	108	SP15.5-S25-2D	£33.85			
16	25	32	108	SP16-S25-2D	£33.85	SPMG06 SPMX06	M2.2X5.5	T7
16.5	25	34	110	SP16.5-S25-2D	£33.85			
17	25	34	110	SP17-S25-2D	£33.85			
17.5	25	36	113	SP17.5-S25-2D	£33.85			
18	25	36	113	SP18-S25-2D	£33.85			
18.5	25	38	115	SP18.5-S25-2D	£33.85			
19	25	38	115	SP19-S25-2D	£33.85			
19.5	25	40	119	SP19.5-S25-2D	£38.74			
20	25	40	119	SP20-S25-2D	£38.74			
20.5	25	42	121	SP20.5-S25-2D	£41.69			
21	25	42	121	SP21-S25-2D	£41.69			
21.5	25	44	123	SP21.5-S25-2D	£41.69			
22	25	44	123	SP22-S25-2D	£41.69	SPMG07 SPMX07	M2.5X8	T8
22.5	32	46	131	SP22.5-S32-2D	£41.69			
23	32	46	131	SP23-S32-2D	£41.69			
23.5	32	48	134	SP23.5-S32-2D	£41.69			
24	25	48	134	SP24-S25-2D	£41.69			
24.5	25	50	137	SP24.5-S25-2D	£41.69			
25	32	50	137	SP25-S32-2D	£41.69			
25.5	32	52	139	SP25.5-S32-2D	£41.69			
26	32	52	139	SP26-S32-2D	£41.69			
26.5	32	54	142	SP26.5-S32-2D	£41.69			
27	32	54	142	SP27-S32-2D	£41.69			
27.5	32	56	144	SP27.5-S32-2D	£41.69	SPMG09 SPMX09	M3.5X9	T15
28	32	56	144	SP28-S32-2D	£41.69			
28.5	32	58	146	SP28.5-S32-2D	£41.69			
29	32	58	146	SP29-S32-2D	£41.69			
29.5	32	60	148	SP29.5-S32-2D	£41.69			
30	32	60	148	SP30-S32-2D	£54.52			
30.5	32	62	150	SP30.5-S32-2D	£48.55			
31	32	62	50	SP31-S32-2D	£63.49			
31.5	32	64	152	SP31.5-S32-2D	£63.49			
32	32	64	152	SP32-S32-2D	£63.49			
32.5	32	66	154	SP32.5-S32-2D	£63.49			
33	32	66	154	SP33-S32-2D	£63.49			
34	32	68	156	SP34-S32-2D	£63.49	SPMG11 SPMX11	M4.0X10	T15
35	32	70	158	SP35-S32-2D	£63.49			
36	32	72	160	SP36-S32-2D	£63.49			
37	32	74	162	SP37-S32-2D	£63.49			
38	32	76	164	SP38-S32-2D	£63.49			
39	32	78	166	SP39-S32-2D	£63.49			
40	32	80	185	SP40-S32-2D	£70.54			
40	40	80	185	SP40-S40-2D	£70.54			
41	32	82	187	SP41-S32-2D	£70.54			
41	40	82	187	SP41-S40-2D	£70.54			
42	32	84	189	SP42-S32-2D	£70.54	SPMG14 SPMX14	M5.0X11	T20
42	40	84	189	SP42-S40-2D	£70.54			
43	40	86	191	SP43-S40-2D	£80.15			
44	40	88	193	SP44-S40-2D	£80.15			
45	40	90	195	SP45-S40-2D	£80.15			
46	40	92	197	SP46-S40-2D	£80.15			
47	40	94	199	SP47-S40-2D	£80.15			
48	40	96	201	SP48-S40-2D	£80.15			
49	40	98	203	SP49-S40-2D	£80.15			
50	40	100	205	SP50-S40-2D	£80.15			
55	40	110	205	SP55-S40-2D	£125.13	4x SPMG09 4x SPMX09	M3.5X9	T15
60	40	120	215	SP60-S40-2D	£136.50			

SPMX MAMMUT U-DRILLS - 3XD

Economy Replaceable Insert Indexable Drilling System

- Excellent general purpose drill
- 4 cutting edges per insert
- Suitable for steel, stainless steel, cast iron

Cutting Data

P741



3xD

MAMMUT

Diameter	Shank Diameter	Max Drill Depth	Overall Length	★★★ Performance Order Code	Price	Inserts	Spares	
							Screw	Wrench
12.5	20	37.5	123.5	SP12.5-S20-3D	**£33.85**	SPMG05 SPMX05	M2.2X5	T6
13	20	39	125	SP13-S20-3D	**£33.85**			
13.5	20	40.5	126.5	SP13.5-S20-3D	**£33.85**			
14	25	42	128	SP14-S25-3D	**£33.85**			
14.5	25	43.5	129.5	SP14.5-S25-3D	**£33.85**			
15	25	45	131	SP15-S25-3D	**£33.85**			
15.5	25	46.5	132.5	SP15.5-S25-3D	**£33.85**			
16	25	48	134	SP16-S25-3D	**£33.85**	SPMG06 SPMX06	M2.2X5.5	T7
16.5	25	49.5	135.5	SP16.5-S25-3D	**£33.85**			
17	25	51	137	SP17-S25-3D	**£33.85**			
17.5	25	52.5	138.5	SP17.5-S25-3D	**£33.85**			
18	25	54	140	SP18-S25-3D	**£33.85**			
18.5	25	55.5	141.5	SP18.5-S25-3D	**£33.85**			
19	25	57	143	SP19-S25-3D	**£33.85**			
19.5	25	58.5	144.5	SP19.5-S25-3D	**£38.74**			
20	25	60	146	SP20-S25-3D	**£38.74**			
20.5	25	61.5	147.5	SP20.5-S25-3D	**£41.69**			
21	32	63	158	SP21-S25-3D	**£41.69**			
21.5	25	64.5	153.5	SP21.5-S25-3D	**£41.69**			
22	25	66	161	SP22-S25-3D	**£41.69**	SPMG07 SPMX07	M2.5X8	T8
22.5	32	67.5	162.5	SP22.5-S32-3D	**£41.69**			
23	25	69	164	SP23-S25-3D	**£41.69**			
23.5	32	70.5	165.5	SP23.5-S32-3D	**£41.69**			
24	25	72	167	SP24-S25-3D	**£41.69**			
24.5	32	73.5	168.5	SP24.5-S32-3D	**£41.69**			
25	32	75	170	SP25-S32-3D	**£41.69**			
25.5	32	76.5	171.5	SP25.5-S32-3D	**£41.69**			
26	32	78	173	SP26-S32-3D	**£41.69**			
26.5	32	79.5	174.5	SP26.5-S32-3D	**£41.69**			
27	32	81	176	SP27-S32-3D	**£41.69**			
27.5	32	82.5	177.5	SP27.5-S32-3D	**£41.69**	SPMG09 SPMX09	M3.5X9	T15
28	32	84	179	SP28-S32-3D	**£41.69**			
28.5	32	85.5	180.5	SP28.5-S32-3D	**£41.69**			
29	32	87	182	SP29-S32-3D	**£41.69**			
29.5	32	88.5	183.5	SP29.5-S32-3D	**£41.69**			
30	32	90	185	SP30-S32-3D	**£54.52**			
30.5	32	91.5	186.5	SP30.5-S32-3D	**£48.55**			
31	32	93	188	SP31-S32-3D	**£63.49**			
31.5	32	94.5	189.5	SP31.5-S32-3D	**£63.49**			
32	32	96	191	SP32-S32-3D	**£63.49**			
32.5	32	97.5	192.5	SP32.5-S32-3D	**£63.49**			
33	32	99	194	SP33-S32-3D	**£63.49**			
34	32	102	197	SP34-S32-3D	**£63.49**	SPMG11 SPMX11	M4.0X10	T15
35	32	105	200	SP35-S32-3D	**£63.49**			
36	32	108	203	SP36-S32-3D	**£63.49**			
37	32	111	206	SP37-S32-3D	**£63.49**			
38	32	114	209	SP38-S32-3D	**£63.49**			
39	32	117	212	SP39-S32-3D	**£63.49**			
40	40	120	215	SP40-S40-3D	**£70.54**			
40	32	120	215	SP40-S32-3D	**£70.54**			
41	32	123	218	SP41-S32-3D	**£70.54**			
42	40	126	221	SP42-S40-3D	**£70.54**	SPMG14 SPMX14	M5.0X11	T20
42	32	126	221	SP42-S32-3D	**£70.54**			
43	40	129	239	SP43-S40-3D	**£80.15**			
44	40	132	242	SP44-S40-3D	**£80.15**			
45	40	135	245	SP45-S40-3D	**£80.15**			
46	40	138	248	SP46-S40-3D	**£80.15**			
47	40	141	251	SP47-S40-3D	**£80.15**			
48	40	144	254	SP48-S40-3D	**£80.15**			
49	40	147	257	SP49-S40-3D	**£80.15**			
50	40	150	260	SP50-S40-3D	**£80.15**			
55	40	165	260	SP55-S40-3D	**£125.13**	4x SPMG09 4x SPMX09	M3.5X9	T15
60	40	180	275	SP60-S40-3D	**£136.50**			

SPMX MAMMUT U-DRILLS - 4XD

Economy Replaceable Insert Indexable Drilling System

- Excellent general purpose drill
- 4 cutting edges per insert
- Suitable for steel, stainless steel, cast iron

Cutting Data
P741



4xD

MAMMUT

Diameter	Shank Diameter	Max Drill Depth	Overall Length	★★★ Performance Order Code	Price	Inserts	Spares	
							Screw	Wrench
12.5	20	50	136	SP12.5-S20-4D	£38.25	SPMG05 SPMX05	M2.2X5	T6
13	25	52	138	SP13-S25-4D	??			
13	20	52	138	SP13-S20-4D	£38.25			
13.5	20	54	140	SP13.5-S20-4D	£38.25			
14	25	56	142	SP14-S25-4D	£38.25			
14.5	25	58	144	SP14.5-S25-4D	£38.25			
15	25	60	146	SP15-S25-4D	£38.25			
15.5	25	62	148	SP15.5-S25-4D	£38.25			
16	25	64	150	SP16-S25-4D	£38.25	SPMG06 SPMX06	M2.2X5.5	T7
16.5	25	66	152	SP16.5-S25-4D	£38.25			
17	25	68	154	SP17-S25-4D	£38.25			
17.5	25	70	156	SP17.5-S25-4D	£38.25			
18	25	72	158	SP18-S25-4D	£38.25			
18.5	25	74	160	SP18.5-S25-4D	£38.25			
19	25	76	162	SP19-S25-4D	£38.25			
19.5	25	78	164	SP19.5-S25-4D	£43.16			
20	25	80	166	SP20-S25-4D	£43.16			
20.5	25	82	168	SP20.5-S25-4D	£43.16			
21	32	84	179	SP21-S25-4D	£46.10			
21.5	25	84	179	SP21.5-S25-4D	£46.10			
22	25	88	183	SP22-S25-4D	£46.10	SPMG07 SPMX07	M2.5X8	T8
22.5	32	90	185	SP22.5-S32-4D	£46.10			
23	25	92	187	SP23-S25-4D	£46.10			
23.5	32	94	189	SP23.5-S32-4D	£46.10			
24	25	96	191	SP24-S25-4D	£46.10			
24.5	32	98	193	SP24.5-S32-4D	£46.10			
25	32	100	195	SP25-S32-4D	£46.10			
25.5	32	102	197	SP25.5-S32-4D	£46.10			
26	32	104	199	SP26-S32-4D	£46.10			
26.5	32	106	201	SP26.5-S32-4D	£46.10			
27	32	108	203	SP27-S32-4D	£46.10			
27.5	32	110	205	SP27.5-S32-4D	£46.10	SPMG09 SPMX09	M3.5X9	T15
28	32	112	207	SP28-S32-4D	£46.10			
28.5	32	114	209	SP28.5-S32-4D	£46.10			
29	32	116	211	SP29-S32-4D	£46.10			
29.5	32	118	213	SP29.5-S32-4D	£46.10			
30	32	120	215	SP30-S32-4D	£60.29			
30.5	32	122	217	SP30.5-S32-4D	£52.96			
31	32	124	219	SP31-S32-4D	£69.25			
31.5	32	126	221	SP31.5-S32-4D	£69.25			
32	32	128	223	SP32-S32-4D	£69.25			
32.5	32	130	225	SP32.5-S32-4D	£69.25			
33	32	132	227	SP33-S32-4D	£69.25			
34	32	136	231	SP34-S32-4D	£69.25	SPMG11 SPMX11	M4.0X10	T15
35	32	140	235	SP35-S32-4D	£69.25			
36	32	144	239	SP36-S32-4D	£69.25			
37	32	148	243	SP37-S32-4D	£69.25			
38	32	152	247	SP38-S32-4D	£69.25			
39	32	156	251	SP39-S32-4D	£69.25			
40	32	160	255	SP40-S32-4D	£76.32			
40	40	160	255	SP40-S40-4D	£76.32			
41	32	164	259	SP41-S32-4D	£76.32			
42	40	168	263	SP42-S40-4D	£76.32	SPMG14 SPMX14	M5.0X11	T20
42	32	168	263	SP42-S32-4D	£76.32			
43	40	172	282	SP43-S40-4D	£85.93			
44	40	176	286	SP44-S40-4D	£85.93			
45	40	180	290	SP45-S40-4D	£85.93			
46	40	184	294	SP46-S40-4D	£85.93			
47	40	188	298	SP47-S40-4D	£85.93			
48	40	192	302	SP48-S40-4D	£85.93			
49	40	196	306	SP49-S40-4D	£85.93			
50	40	200	310	SP50-S40-4D	£85.93			
55	40	230	310	SP55-S40-4D	£125.13	4x SPMG09 4x SPMX09	M3.5X9	T15
60	40	240	335	SP60-S40-4D	£136.50			

SPMX U-DRILL INSERTS

Economy Replaceable Drilling Inserts

- Excellent general purpose insert
- 4 cutting edges per insert
- Suitable for steel, stainless steel and cast iron



Diameter Range	Application	Inserts	
		Order Code	Price
12.5-15.5	High quality grade for steel, cast iron & general drilling	SPMX050204-YG602	**£7.70**
	Dedicated geometry for stainless steel drilling	SPMX050204-ST-YG602	**£7.70**
16.0-21.5	High quality grade for steel, cast iron & general drilling	SPMX060204-YG602	**£7.70**
	Dedicated geometry for stainless steel drilling	SPMX060204-ST-YG602	**£7.70**
22.0-27.0	High quality grade for steel, cast iron & general drilling	SPMX07T308-YG602	**£9.42**
	Dedicated geometry for stainless steel drilling	SPMX07T308-ST-YG602	**£9.42**
27.5-33.0	High quality grade for steel, cast iron & general drilling	SPMX090408-YG602	**£9.42**
	Dedicated geometry for stainless steel drilling	SPMX090408-ST-YG602	**£9.42**
34.0-41.0	High quality grade for steel, cast iron & general drilling	SPMX110408-YG602	**£10.59**
42.0-50.0	High quality grade for steel, cast iron & general drilling	SPMX140512-YG602	**£10.59**

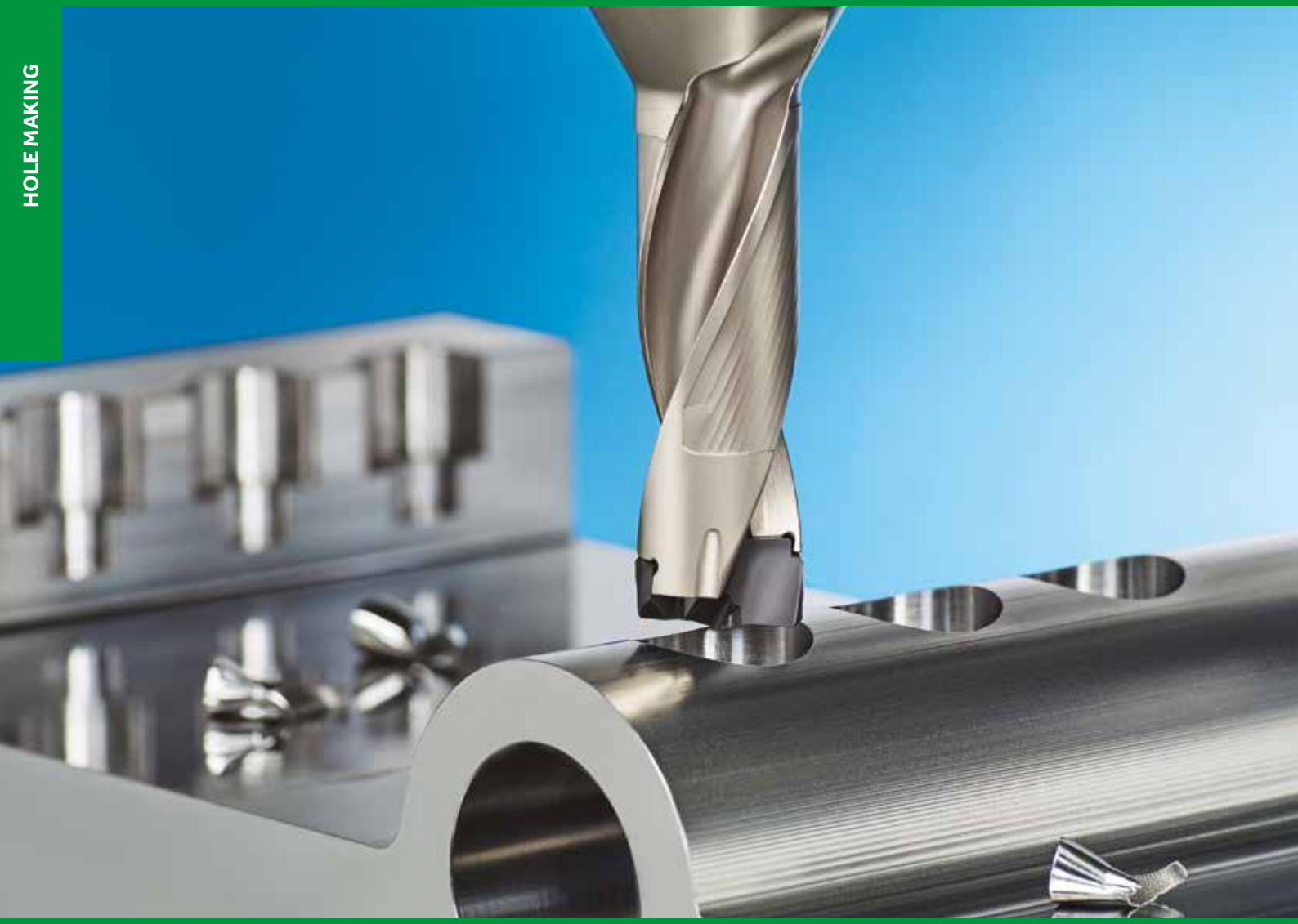
SPMX-U DRILL
Economy Replaceable Insert Indexable Drilling System

CUTTING DATA
DRILLING

Workpiece		Cutting Speed Vc (m/min)	Feed (mm/rev)				
Material	Hardness Bhn		Ø12 ~ 16	Ø17 ~ 23	Ø24~ 29	Ø30 ~ 42	Ø43 ~ 60
LOW CARBON STEEL	80-180	190 (130-250)	0.04 -0.08	0.04 -0.08	0.04 -0.08	0.04 -0.08	0.04 -0.08
HIGH CARBON STEEL	180-280	140 (80-200)	0.04 -0.10	0.04 -0.12	0.05 -0.16	0.08 -0.18	0.10 -0.22
LOW ALLOY STEEL	140-260	130(70-200)	0.04 -0.10	0.06 - 0.12	0.08 -0.16	0.08-0.20	0.08-0.24
MEDIUM ALLOY STEEL	150-280	100(50-160)	0.04 -0.18	0.06 - 0.12	0.08 -0.16	0.08-0.18	0.08-0.22
HIGH ALLOY STEEL	200-400	100 (50-150)	0.04 -0.10	0.06 - 0.10	0.08 -0.16	0.08-0.18	0.08-0.22
PRE-HARDENED STEEL	220-450	70 (30-120)	0.04-0.12	0.06-0.14	0.08-0.17	0.08-0.17	0.08-0.20
GREY CAST IRON	150-230	190 (150-150)	0.04.10	0.04.14	0.04.14	0.04.16	0.10.22
DUCTILE CAST IRON	160-260	150 (100-200)	0.04-0.12	0.04-0.12	0.06-0.16	0.08-0.20	0.10-0.22
STAINLESS STEEL AUSTENITE SERIES	135-275	90 (40-150)	0.04-0.10	0.06-0.12	0.06-0.14	0.06-0.16	0.06-0.20
STAINLESS STEEL FERRITISIC / MARTENSITIC SERIES	135-275	100 (60-160)	0.04-0.10	0.04-0.12	0.06-0.14	0.06-0.16	0.06-0.20

* The speeds and feeds presented in this chart are recommendations and should be considered only as good starting points.

TPDC Plus Drill



High performance & precision

The Korloy TPDC drill offers the same performance levels as high performance carbide drills with a replaceable solid carbide insert. The system provides low cutting load, excellent chip evacuation and highest levels of accuracy and tool life.

Advantages

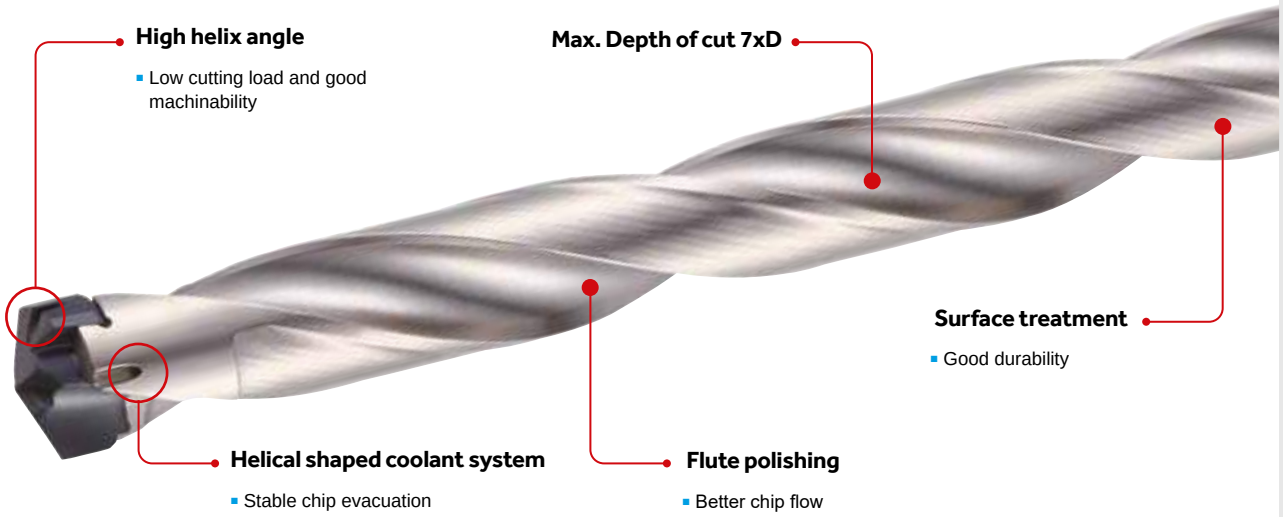
- Increased stability and shortened setting time.
- Reduced cutting load and enhanced chip evacuation.
- Excellent cooling and stable chip evacuation.

Features

- One step clamp system without clamping screw.
- High helix angle and flute polishing.
- Excellent anti chipping & wear resistance with steel and inox geometry inserts available.

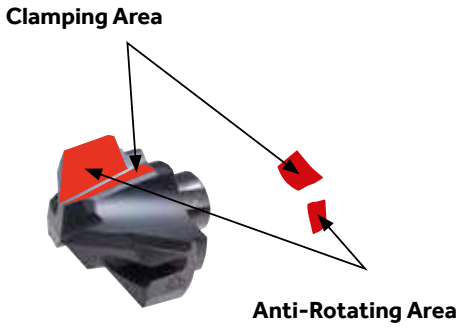
HOLDER FEATURES

- One step clamp system - Increased stability and shortened setting time
- Helical shaped coolant system - Excellent cooling and stable chip evacuation
- High helix angle and flute polishing - Reduced cutting load and enhanced chip evacuation
- Various applications from enlarged line-up by depth of cuts and shapes of workpiece



HOLDER STRUCTURE

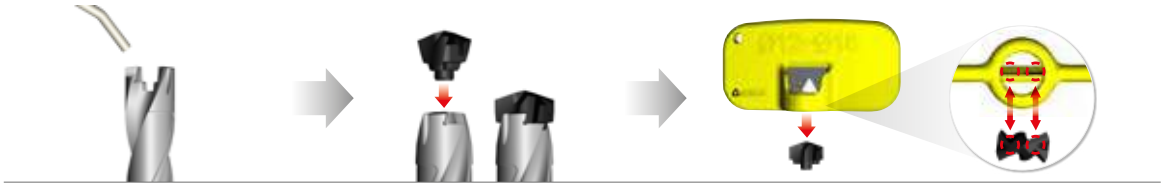
- Clamping area - Clamping insert and holder
- Anti-rotating area - Performing as a stopper
- Clamping and anti-rotating area make an acute angle to prevent insert rotation while machining



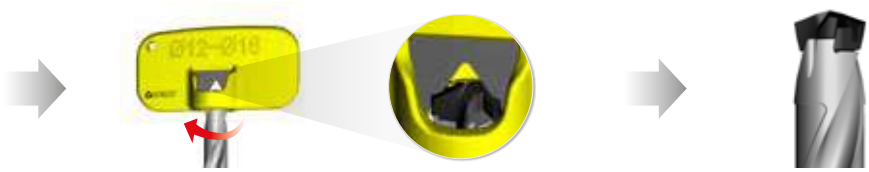


STEPS FOR CORRECT INSERT CLAMPING

- Using the insert with slot on the top



- Clean the mounting seat with air or cloth
- Put an insert on the holder
- Put the wrench in the slot parallel



TPDC PLUS DRILL Ø8 - 30.90MM

High Performance Exchangeable Insert Drilling Tools

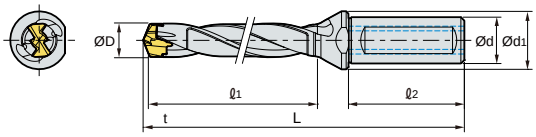
Cutting Data

P746

TPDC PLUS DRILL HOLDERS

- One step clamping system
- Through coolant









KORLOY

Holders								
ØD Range	Ød	Drill Depth	Ød1	ℓ1	ℓ2	L	★★★★★ Performance Order Code	Price
8-8.4	12	3xD	16	24	45	82.2	TPDX3D-08012-24	£116.12
	12	5xD	16	40	45	98.2	TPDX5D-08012-40	£133.63
	12	8xD	16	64	45	122.2	TPDX8D-08012-64	£160.85
8.5-8.9	12	3xD	16	26	45	84.1	TPDX3D-08512-26	£116.12
	12	5xD	16	43	45	101.1	TPDX5D-08512-43	£133.63
	12	8xD	16	68	45	126.6	TPDX8D-08512-68	£160.85
9-9.4	12	3xD	16	27	45	85.9	TPDX3D-09012-27	£122.23
	12	5xD	16	45	45	103.9	TPDX5D-09012-45	£140.69
	12	8xD	16	72	45	130.9	TPDX8D-09012-72	£160.85
9.5-9.9	12	3xD	16	29	45	87.7	TPDX3D-09512-29	£122.23
	12	5xD	16	48	45	106.7	TPDX5D-09512-48	£140.69
	12	8xD	16	76	45	135.2	TPDX8D-09512-76	£160.85
10-10.4	16	3xD	20	30	48	94.6	TPDX3D-10016-30	£132.85
	16	5xD	20	50	48	114.6	TPDX5D-10016-50	£152.92
	16	8xD	20	80	48	144.6	TPDX8D-10016-80	£184.05
10.5-10.9	16	3xD	20	32	48	96.5	TPDX3D-10516-32	£132.85
	16	5xD	20	53	48	117.5	TPDX5D-10516-53	£152.92
	16	8xD	20	84	48	149	TPDX8D-10516-84	£184.05
11-11.4	16	3xD	20	33	48	98.2	TPDX3D-11016-33	£139.08
	16	5xD	20	55	48	120.2	TPDX5D-11016-55	£161.22
	16	8xD	20	88	48	153.2	TPDX8D-11016-88	£192.36
11.5-11.9	16	3xD	20	35	48	100.1	TPDX3D-11516-35	£139.08
	16	5xD	20	58	48	123.1	TPDX5D-11516-58	£161.22
	16	8xD	20	92	48	157.6	TPDX8D-11516-92	£192.36
12.0-12.2	16	3xD	20	36	48	99	TPDC3D-12016-36	£149.56
		5xD		60	48	123	TPDC5D-12016-60	£176.73
		8xD		96	48	159	TPDC8D-12016-96	£212.10
12.5-12.6	16	3xD	20	38	48	101	TPDC3D-12516-38	£149.56
		5xD		63	48	126	TPDC5D-12516-63	£176.73
		8xD		100	48	163	TPDC8D-12516-100	£212.10
13.0-13.0	16	3xD	20	39	48	103	TPDC3D-13016-39	£149.56
		5xD		65	48	129	TPDC5D-13016-65	£176.73
		8xD		104	48	168	TPDC8D-13016-104	£212.10
13.5-13.5	16	3xD	20	41	48	105	TPDC3D-13516-41	£149.56
		5xD		68	48	132	TPDC5D-13516-68	£176.73
		8xD		108	48	173	TPDC8D-13516-108	£212.10
14.0-14.3	16	3xD	20	42	48	106	TPDC3D-14016-42	£149.56
		5xD		70	48	134	TPDC5D-14016-70	£176.73
		8xD		112	48	176	TPDC8D-14016-112	£212.10
14.5-14.5	16	3xD	20	44	48	107	TPDC3D-14516-44	£156.32
		5xD		73	48	136	TPDC5D-14516-73	£188.07
		8xD		116	48	180	TPDC8D-14516-116	£225.67
15.0-15.5	20	3xD	25	45	50	113	TPDC3D-15020-45	£156.32
		5xD		75	50	143	TPDC5D-15020-75	£188.07
		8xD		120	50	188	TPDC8D-15020-120	£225.67
16.0-16.7	20	3xD	25	48	50	117	TPDC3D-16020-48	£156.32
		5xD		80	50	149	TPDC5D-16020-80	£188.07
		8xD		128	50	197	TPDC8D-16020-128	£225.67
17.0-17.7	20	3xD	25	51	50	120	TPDC3D-17020-51	£156.32
		5xD		85	50	154	TPDC5D-17020-85	£188.07
		8xD		136	50	205	TPDC8D-17020-136	£225.67
18.0-18.7	25	3xD	33	54	56	132	TPDC3D-18025-54	£172.19
		5xD		90	56	168	TPDC5D-18025-90	£206.17
		8xD		144	56	222	TPDC8D-18025-144	£247.43
19.0-19.7	25	3xD	33	57	56	135	TPDC3D-19025-57	£172.19
		5xD		95	56	173	TPDC5D-19025-95	£206.17
		8xD		152	56	230	TPDC8D-19025-152	£247.43

Holders								
ØD Range	Ød	Drill Depth	Ød1	ℓ1	ℓ2	L	★★★★★ Performance Order Code	Price
20.0-20.5	25	3xD	33	60	56	138	TPDC3D-20025-60	£172.19
		5xD		100	56	178	TPDC5D-20025-100	£206.17
		8xD		160	56	238	TPDC8D-20025-160	£247.43
21.0-21.5	25	3xD	33	63	56	141	TPDC3D-21025-63	£189.44
		5xD		105	56	183	TPDC5D-21025-105	£226.80
		8xD		168	56	246	TPDC8D-21025-168	£272.18
22.0-22.7	25	3xD	33	66	56	145	TPDC3D-22025-66	£189.44
		5xD		110	56	189	TPDC5D-22025-110	£226.80
		8xD		176	56	255	TPDC8D-22025-176	£272.18
23.0-23.5	25	3xD	33	69	56	149	TPDC3D-23025-69	£208.38
		5xD		115	56	195	TPDC5D-23025-115	£249.50
		8xD		184	56	264	TPDC8D-23025-184	£299.39
24.0-24.9	32	3xD	43	72	60	159	TPDC3D-24032-72	£208.38
		5xD		120	60	207	TPDC5D-24032-120	£249.50
		8xD		192	60	279	TPDC8D-24032-192	£299.39
25.0-25.9	32	3xD	43	75	60	162	TPDC3D-25032-75	£229.20
		5xD		125	60	212	TPDC5D-25032-125	£274.44
		8xD		200	60	287	TPDC8D-25032-200	£329.34
26.0-26.9	32	3xD	43	78	60	173	TPDC3D-26032-78	£229.20
		5xD		130	60	225	TPDC5D-26032-130	£300.77
		8xD		208	60	303	TPDC8D-26032-208	£329.34
27.0-27.9	32	3xD	43	81	60	176	TPDC3D-27032-81	£251.19
		5xD		135	60	230	TPDC5D-27032-135	£300.77
		8xD		216	60	311	TPDC8D-27032-216	£360.93
28.0-28.9	32	3xD	43	84	60	180	TPDC3D-28032-84	£276.33
		5xD		140	60	236	TPDC5D-28032-140	£300.77
		8xD		224	60	320	TPDC8D-28032-224	£360.93
29.0-29.9	32	3xD	43	87	60	185	TPDC3D-29032-87	£276.33
		5xD		145	60	243	TPDC5D-29032-145	£330.84
		8xD		232	60	330	TPDC8D-29032-232	£397.00
30.0-30.9	32	3xD	43	90	60	188	TPDC3D-30032-90	£276.33
		5xD		150	60	248	TPDC5D-30032-150	£330.84
		8xD		240	60	338	TPDC8D-30032-240	£397.00

TPDC PLUS INSERTS

High Performance Exchangeable Insert Drilling Tools

Cutting Data
P746

STEEL (XP) GEOMETRY - NEW

- PC325U coated with long tool life from higher welding resistance
- For steel drilling

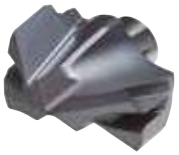
STEEL (CP) GEOMETRY

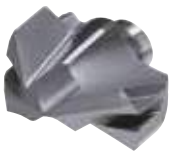
- PC5335 coated with high strength geometry
- For steel and cast iron drilling

INOX (CM) GEOMETRY

- PC330N coated with hard and smooth surface
- For stainless steel drilling
- Suitable for cast iron


XP


CP


CM

KORLOY

Inserts		
ØD mm	Steel (XP)	Price
8	TPD0800XP PC325U	£63.36
8.1	TPD0810XP PC325U	£63.36
8.2	TPD0820XP PC325U	£63.36
8.3	TPD0830XP PC325U	£63.36
8.4	TPD0840XP PC325U	£63.36
8.5	TPD0850XP PC325U	£63.36
8.6	TPD0860XP PC325U	£63.36
8.7	TPD0870XP PC325U	£63.36
8.8	TPD0880XP PC325U	£63.36
8.9	TPD0890XP PC325U	£63.36
9	TPD0900XP PC325U	£63.36
9.1	TPD0910XP PC325U	£63.36
9.2	TPD0920XP PC325U	£63.36
9.3	TPD0930XP PC325U	£63.36
9.4	TPD0940XP PC325U	£63.36
9.5	TPD0950XP PC325U	£63.36
9.6	TPD0960XP PC325U	£63.36
9.7	TPD0970XP PC325U	£63.36
9.8	TPD0980XP PC325U	£63.36
9.9	TPD0990XP PC325U	£63.36
10	TPD1000XP PC325U	£67.94
10.1	TPD1010XP PC325U	£67.94
10.2	TPD1020XP PC325U	£67.94
10.3	TPD1030XP PC325U	£67.94
10.4	TPD1040XP PC325U	£67.94
10.5	TPD1050XP PC325U	£67.94
10.6	TPD1060XP PC325U	£67.94
10.7	TPD1070XP PC325U	£67.94
10.8	TPD1080XP PC325U	£67.94
10.9	TPD1090XP PC325U	£67.94
11	TPD1100XP PC325U	£72.39
11.1	TPD1110XP PC325U	£72.39
11.2	TPD1120XP PC325U	£72.39
11.3	TPD1130XP PC325U	£72.39
11.4	TPD1140XP PC325U	£72.39
11.5	TPD1150XP PC325U	£72.39
11.6	TPD1160XP PC325U	£72.39
11.7	TPD1170XP PC325U	£72.39
11.8	TPD1180XP PC325U	£72.39
11.9	TPD1190XP PC325U	£72.39

Inserts			
ØD mm	Steel (CP)	INOX (CM)	Price
12.0	TPD1200CP PC5335	TPD1200CM PC330N	£73.19
12.2	TPD1220CP PC5335	-	£73.19
12.5	TPD1250CP PC5335	-	£73.19
12.6	TPD1260CP PC5335	-	£73.19
13.0	TPD1300CP PC5335	TPD1300CM PC330N	£73.19
13.5	TPD1350CP PC5335	-	£73.19
14.0	TPD1400CP PC5335	TPD1400CM PC330N	£73.19
14.2	TPD1420CP PC5335	-	£73.19
14.3	TPD1430CP PC5335	-	£73.19
14.5	TPD1450CP PC5335	-	£73.19
15.0	TPD1500CP PC5335	TPD1500CM PC330N	£76.39
15.5	TPD1550CP PC5335	-	£76.39
16.0	TPD1600CP PC5335	TPD1600CM PC330N	£76.39
16.3	TPD1630CP PC5335	-	£76.39
16.5	TPD1650CP PC5335	-	£76.39
16.7	TPD1670CP PC5335	-	£76.39
17	TPD1700CP PC5335	TPD1700CM PC330N	£76.39
17.5	TPD1750CP PC5335	TPD1750CM PC330N	£76.39
17.7	TPD1770CP PC5335	-	£76.39
18.0	TPD1800CP PC5335	TPD1800CM PC330N	£82.75
18.1	TPD1810CP PC5335	-	£82.75
18.5	TPD1850CP PC5335	-	£82.75
18.6	TPD1860CP PC5335	-	£82.75
18.7	TPD1870CP PC5335	-	£82.75
19.0	TPD1900CP PC5335	-	£82.75
19.2	TPD1920CP PC5335	-	£82.75
19.5	TPD1950CP PC5335	TPD1950CM PC330N	£82.75
19.7	TPD1970CP PC5335	TPD1970CM PC330N	£82.75
20	TPD2000CP PC5335	TPD2000CM PC330N	£82.75
20.5	TPD2050CP PC5335	-	£82.75
21	TPD2100CP PC5335	TPD2100CM PC330N	£82.75
21.5	TPD2150CP PC5335	-	£82.75
22	TPD2200CP PC5335	TPD2200CM PC330N	£82.75
22.5	TPD2250CP PC5335	-	£82.75
22.6	TPD2260CP PC5335	-	£82.75
22.7	TPD2270CP PC5335	-	£82.75
23	TPD2300CP PC5335	-	£95.49
23.5	TPD2350CP PC5335	-	£95.49
24	TPD2400CP PC5335	-	£95.49
24.5	TPD2450CP PC5335	-	£95.49
25	TPD2500CP PC5335	TPD2500CM PC330N	£101.82
25.3	TPD2530CP PC5335	-	£101.82
25.5	TPD2550CP PC5335	-	£101.82
25.8	TPD2580CP PC5335	-	£101.82
25.9	TPD2590CP PC5335	-	£101.82
26	TPD2600CP PC5335	TPD2600CM PC330N	£111.36
26.5	TPD2650CP PC5335	-	£111.36
27	TPD2700CP PC5335	-	£111.36
28	TPD2800CP PC5335	-	£111.36
28.5	TPD2850CP PC5335	-	£111.36
29	TPD2900CP PC5335	-	£111.36
29.5	TPD2950CP PC5335	-	£117.73
30	TPD3000CP PC5335	-	£117.73
30.5	TPD3050CP PC5335	-	£103.88

TPDC DRILLS

CUTTING DATA

For General Machining and Drilling Large Diameters with Longer Tool Life and High Productivity

3xD Drilling

Workpiece			Insert	Grade	vc (m/min)	Feed rate (mm/rev) per drill dia (mm)				
ISO	Workpiece	HB				Ø8-Ø9.99	Ø10-Ø11.99	Ø12-Ø17.99	Ø18-Ø25.99	Ø26-Ø30.99
P Carbon steel	Low carbon steel	80-120	XP	PC325U	110 (80-140)	0.12-0.22	0.15-0.28	-	-	-
			CP	PC5335	120 (90-140)	-	-	0.25 - 0.35	0.30 - 0.40	0.35 - 0.45
	High carbon steel	180-280	XP	PC325U	90 (70-110)	0.12-0.22	0.15-0.28	-	-	-
			CP	PC5335	110 (80-130)	-	-	0.25 - 0.35	0.30 - 0.40	0.30 - 0.45
P Alloy steel	Low alloy steel	140-260	XP	PC325U	90 (70-110)	0.12-0.20	0.14-0.25	-	-	-
			CP	PC5335	120 (90-140)	-	-	0.28 - 0.40	0.33 - 0.43	0.38 - 0.48
	Low alloy heat-treated steel	200-400	XP	PC325U	70 (50-90)	0.12-0.20	0.14-0.25	-	-	-
			CP	PC5335	80 (60-100)	-	-	0.28 - 0.40	0.33 - 0.43	0.30 - 0.48
	High alloy steel	260-320	XP	PC325U	70 (50-90)	0.10-0.15	0.12-0.18	-	-	-
			CP	PC5335	75 (60-90)	-	-	0.20 - 0.35	0.22 - 0.40	0.25 - 0.45
	High alloy heat-treated steel	300-450	XP	PC325U	60 (40-80)	0.10-0.15	0.12-0.18	-	-	-
			CP	PC5335	65 (50-80)	-	-	0.20 - 0.35	0.22 - 0.40	0.22 - 0.45
M Stainless steel	Austenitic	135-275	CM	PC330N	65 (50-80)	-	-	0.05 - 0.15	0.10 - 0.20	0.15 - 0.25
	Ferritic, martensitic		CM	PC330N	75 (60-90)	-	-	0.10 - 0.20	0.15 - 0.30	0.20 - 0.35
K Cast iron	Gray cast iron	150-230	XP	PC325U	125 (90-160)	0.15 - 0.30	0.20 - 0.35	-	-	-
			CP	PC5335	130 (90-140)	-	-	0.35 - 0.45	0.40 - 0.50	0.45 - 0.55
	Ductile cast iron	160-260	XP	PC325U	110 (80-140)	0.15 - 0.30	0.20 - 0.35	-	-	-
			CP	PC5335	120(80-130)	-	-	0.30 - 0.40	0.30 - 0.45	0.40 - 0.50

In interrupted machining, reduce the feed to 0.1-0.15 machining around the interrupted part.
In stainless steel machining, start with low feed machining then, gradually get the cutting conditions higher and set the optimal cutting conditions.

5xD Drilling

Workpiece			Insert	Grade	vc (m/min)	Feed rate (mm/rev) per drill dia (mm)				
ISO	Workpiece	HB				Ø8-Ø9.99	Ø10-Ø11.99	Ø12-Ø17.99	Ø18-Ø25.99	Ø26-Ø30.99
P Carbon steel	Low carbon steel	80-120	XP	PC325U	110 (80-140)	0.12 - 0.22	0.15 - 0.28	-	-	-
			CP	PC5335	110 (80 -140)	-	-	0.15 - 0.30	0.20 - 0.35	0.25 - 0.40
	High carbon steel	180-280	XP	PC325U	90 (70 - 110)	0.12 - 0.22	0.15 - 0.28	-	-	-
			CP	PC5335	100 (70 -130)	-	-	0.15 - 0.30	0.20 - 0.35	0.25 - 0.40
P Alloy steel	Low alloy steel	140-260	XP	PC325U	90 (70 - 110)	0.12 - 0.20	0.14 - 0.25	-	-	-
			CP	PC5335	110 (80 -140)	-	-	0.18 - 0.35	0.23 - 0.38	0.28 - 0.43
	Low alloy heat-treated steel	200-400	XP	PC325U	70 (50 - 90)	0.12 - 0.20	0.14 - 0.25	-	-	-
			CP	PC5335	75 (50 -100)	-	-	0.18 - 0.35	0.23 - 0.38	0.28 - 0.43
	High alloy steel	260-320	XP	PC325U	70 (50 - 90)	0.10 - 0.15	0.12 - 0.18	-	-	-
			CP	PC5335	70 (50 - 90)	-	-	0.18 - 0.30	0.20 - 0.35	0.25 - 0.40
	High alloy heat-treated steel	300-450	XP	PC325U	60 (40 - 80)	0.10 - 0.15	0.12 - 0.18	-	-	-
			CP	PC5335	60 (40 - 80)	-	-	0.18 - 0.30	0.20 - 0.35	0.25 - 0.40
M Stainless steel	Austenitic	135-275	CM	PC330N	60 (40 - 80)	-	-	0.05 - 0.15	0.10 - 0.20	0.15 - 0.25
	Ferritic, martensitic		CM	PC330N	70 (50 - 90)	-	-	0.10 - 0.20	0.15 - 0.30	0.20 - 0.35
K Cast iron	Gray cast iron	150-230	XP	PC325U	125 (90 - 160)	0.15 - 0.30	0.20 - 0.35	-	-	-
			CP	PC5335	120 (80 -140)	-	-	0.25 - 0.40	0.30-0.45	0.35 - 0.50
	Ductile cast iron	160-260	XP	PC325U	110 (80 - 140)	0.15 - 0.30	0.20 - 0.35	-	-	-
			CP	PC5335	110 (70 -130)	-	-	0.20 - 0.35	0.25 - 0.40	0.30 - 0.45

In interrupted machining, reduce the feed to 0.1-0.15 machining around the interrupted part.
In stainless steel machining, start with low feed machining then, gradually get the cutting conditions higher and set the optimal cutting conditions.

TPDC DRILLS

CUTTING DATA

For General Machining and Drilling Large Diameters with Longer Tool Life and High Productivity

8D Drilling

Workpiece			Insert	Grade	vc (m/min)	Feed rate (mm/rev) per drill dia (mm)				
ISO	Workpiece	HB				Ø8-Ø9.99	Ø10-Ø11.99	Ø12-Ø17.99	Ø18-Ø25.99	Ø26-Ø30.99
P Carbon steel	Low carbon steel	80-120	XP	PC325U	100 (70 - 130)	0.10 - 0.20	0.12 - 0.25	-	-	-
			CP	PC5335	100 (70 -130)	-	-	0.12 - 0.25	0.17 - 0.30	0.22 - 0.35
	High carbon steel	180-280	XP	PC325U	80 (60 - 100)	0.10 - 0.20	0.12 - 0.25	-	-	-
			CP	PC5335	90 (60 -120)	-	-	0.12 - 0.25	0.17 - 0.30	0.22 - 0.35
P Alloy steel	Low alloy steel	140-260	XP	PC325U	80 (60 - 100)	0.10 - 0.18	0.12 - 0.20	-	-	-
			CP	PC5335	100 (70 -130)	-	-	0.15 - 0.30	0.20 - 0.33	0.25 - 0.38
	Low alloy heat-treated steel	200-400	XP	PC325U	60 (40 - 80)	0.10 - 0.18	0.12 - 0.20	-	-	-
			CP	PC5335	65 (40 - 90)	-	-	0.15 - 0.30	0.20 - 0.33	0.25 - 0.38
	High alloy steel	260-320	XP	PC325U	60 (40 - 80)	0.09 - 0.13	0.10 - 0.16	-	-	-
			CP	PC5335	60 (40 - 80)	-	-	0.15 - 0.25	0.17 - 0.30	0.22 - 0.35
	High alloy heat-treated steel	300-450	XP	PC325U	50 (30 - 70)	0.09 - 0.13	0.10 - 0.16	-	-	-
			CP	PC5335	50 (30 - 70)	-	-	0.15 - 0.25	0.17 - 0.30	0.22 - 0.35
M Stainless steel	Austenitic	135-275	CM	PC330N	50 (30 - 70)	-	-	0.05 - 0.10	0.05 - 0.15	0.10 - 0.20
	Ferritic, martensitic	135-275	CM	PC330N	60 (40 - 80)	-	-	0.05 - 0.15	0.10 - 0.25	0.15 - 0.30
K Cast iron	Gray cast iron	150-230	XP	PC325U	115 (80 - 150)	0.12 - 0.27	0.17 - 0.32	-	-	-
			CP	PC5335	110 (70 -130)	-	-	0.22 - 0.35	0.27 - 0.40	0.32 - 0.45
	Ductile cast iron	160-260	XP	PC325U	100 (70 - 130)	0.12 - 0.27	0.17 - 0.32	-	-	-
			CP	PC5335	100 (60 -120)	-	-	0.17 - 0.30	0.22 - 0.35	0.27 - 0.40

In interrupted machining, reduce the feed to 0.1-0.15 machining around the interrupted part.
In stainless steel machining, start with low feed machining then, gradually get the cutting conditions higher and set the optimal cutting conditions.

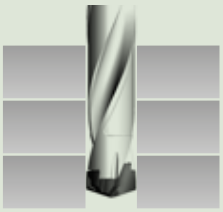
PRECAUTIONS FOR USE

Angled surface drilling



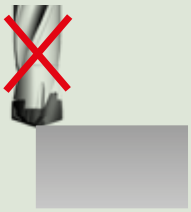
- The approach angle between drill and the workpiece at the beginning and the end should be less than 6˚.
- Reduce the feed (fn) to 30-50% than general cutting conditions at the beginning and the end of angled surface.

Stacked plates drilling



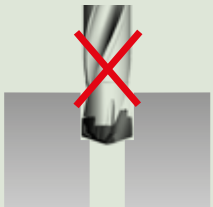
- Gap between the plates could make wrong chip evacuation causing fracture of the drill.
- Place stacked plates without any gap between each.

Plunging



- Irregular cutting resistance in plunging could cause fracture and deformation of the drill.

Boring



- Boring is not recommended due to wear and chipping in the corner of the insert.

i-One Drills



High performance & accuracy

The YG-1 i-ONE drill is designed for the highest performance drilling of steels and cast iron above Ø10mm. The exchangeable carbide head reduced tool cost compared to solid carbide drills, whilst offering greater range of diameters and the same level of performance.

Advantages

- Self centering insert eliminates the need for spot drilling.
- Through coolant allows improved chip flow eliminating premature tool failure.
- Exceptional tool life and performance for production drilling of steel and cast iron.

Features

- Multi layer H coating provides exceptional heat and wear resistance.
- Inserts available from Ø10.0mm-33.73mm in 0.1mm increments and inch sizes.
- Quick and rigid pin-key clamping mechanism.

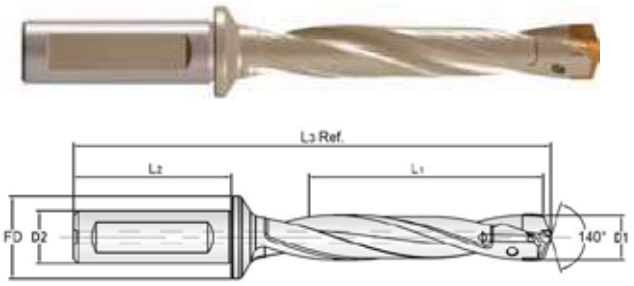
i-ONE DRILL Ø10.00 - 13.90MM

High Performance Exchangeable Insert Drilling Tools

Cutting Data
P755

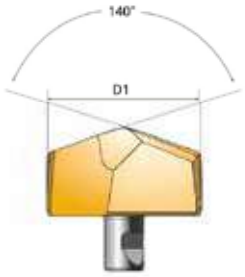
i-ONE DRILL HOLDERS

- Secure and quick clamping system
- Through coolant



i-ONE DRILL INSERTS

- Multi layered coating for long tool life
- Ideal for carbon steel, alloy steel and cast iron
- 140° Point
- Available in metric and imperial sizes



3xD 5xD 8xD

h7 140°

Holders								Inserts				Spares
D1 ø Range	D2	Drill Depth	L1	L2	L3	★★★★★ Performance Order Code	Price	mm	inch	Order Code	Price	Screw
10.0-11.40	16	3xD	31.5	48	103	ZD10003016	£101.17	10.00	-	Y101H1000	£51.25	TX1011P5
		5xD	52.5	48	123	ZD10005016	£133.06	10.10	-	Y101H1010	£51.25	
		8xD	84	48	153	ZD10008016	£140.11	10.20	-	Y101H1020	£51.25	
10.50-10.90	16	3xD	33	48	104	ZD10503016	£101.17	10.30	-	Y101H1030	£51.25	
		5xD	55	48	125	ZD10505016	£133.06	10.32	13/32	Y101H1032	£51.25	
		8xD	88	48	156.5	ZD10508016	£140.11	10.40	-	Y101H1040	£51.25	
11.00-11.40	16	3xD	34.5	48	1.5	ZD11003016	£101.17	10.50	-	Y101H1050	£51.25	
		5xD	57.5	48	127	ZD11005016	£133.06	10.60	-	Y101H1060	£51.25	
		8xD	92	48	160	ZD11008016	£140.11	10.70	-	Y101H1070	£51.25	
11.50-11.91	16	3xD	36	48	106	ZD11503016	£101.17	10.72	27/64	Y101H1072	£51.25	
		5xD	60	48	129	ZD11505016	£133.06	10.80	-	Y101H1080	£51.25	
		8xD	96	48	163.5	ZD11508016	£140.11	10.90	-	Y101H1090	£51.25	
12.00-12.50	16	3xD	37.5	48	109.8	ZD12003016	£101.17	11.00	-	Y101H1100	£51.25	
		5xD	62.5	48	133.8	ZD12005016	£133.06	11.11	7/16	Y101H1111	£51.25	
		8xD	100	48	169.8	ZD12008016	£140.11	11.20	-	Y101H1120	£51.25	
12.60-13.10	16	3xD	39	48	110.8	ZD12503016	£101.17	11.30	-	Y101H1130	£51.25	
		5xD	65	48	135.8	ZD12505016	£133.06	11.40	-	Y101H1140	£51.25	
		8xD	104	48	173.3	ZD12508016	£140.11	11.50	-	Y101H1150	£51.25	
13.20-13.60	16	3xD	40.5	48	112.8	ZD13005016	£139.61	11.51	29/64	Y101H1151	£51.25	
		5xD	67.5	48	138.8	ZD13003016	£106.12	11.60	-	Y101H1160	£51.25	
		8xD	108	48	177.8	ZD13008016	£146.98	11.70	-	Y101H1170	£51.25	
13.70-13.90	16	3xD	42	48	113.8	ZD13503016	£106.12	11.80	-	Y101H1180	£51.25	
		5xD	70	48	140.8	ZD13505016	£139.61	11.90	-	Y101H1190	£51.25	
		8xD	112	48	181.3	ZD13508016	£146.98	11.91	15/32	Y101H1191	£51.25	
								12	-	Y121H1200	£54.96	TX1213P5
								12.10	-	Y121H1210	£54.96	
								12.20	-	Y121H1220	£54.96	
								12.30	31/64	Y121H1230	£54.96	
								12.40	-	Y121H1240	£54.96	
								12.50	-	Y121H1250	£54.96	
								12.60	-	Y121H1260	£54.96	
								12.70	1/2	Y121H1270	£54.96	
								12.80	-	Y121H1280	£54.96	
								12.90	-	Y121H1290	£54.96	
								13.00	-	Y121H1300	£54.96	
								13.10	33/64	Y121H1310	£54.96	
								13.20	-	Y121H1320	£54.96	
								13.30	-	Y121H1330	£54.96	
								13.40	-	Y121H1340	£54.96	
								13.49	17/32	Y121H1349	£54.96	
								13.50	-	Y121H1350	£54.96	
								13.60	-	Y121H1360	£54.96	
								13.70	-	Y121H1370	£54.96	
								13.80	-	Y121H1380	£54.96	
								13.89	35/64	Y121H1389	£54.96	
								13.90	-	Y121H1390	£54.96	

HOLE MAKING

i-ONE DRILL Ø14.00 - 17.90MM

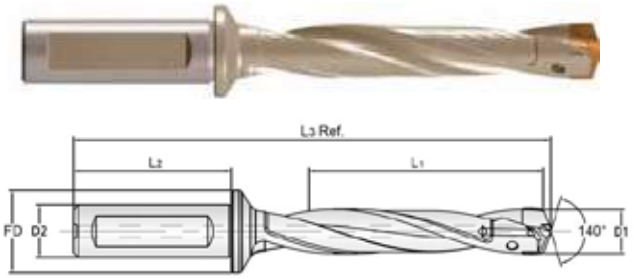
High Performance Exchangeable Insert Drilling Tools

Cutting Data

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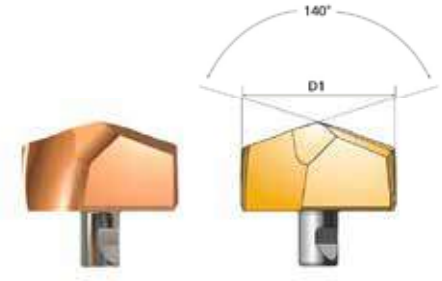
i-ONE DRILL HOLDERS

- Secure and quick clamping system
- Through coolant



i-ONE DRILL INSERTS

- Multi layered coating for long tool life
- Ideal for carbon steel, alloy steel and cast iron
- 140° Point
- Available in metric and imperial sizes



3xD 5xD 8xD

h7 140°

Holders								Inserts				Spares
D1 ø Range	D2	Drill Depth	L1	L2	L3	★★★★★ Performance Order Code	Price	mm	inch	Order Code	Price	Screw
14.00-14.40	16	3xD	43.5	48	116.3	ZD14003016	**£106.12**	14.00	-	Y141H1400	**£55.41**	TX1415P7
		5xD	72.5	48	144.3	ZD14005016	**£139.61**	14.10	-	Y141H1410	**£55.41**	
		8xD	116	48	186.3	ZD14008016	**£146.98**	14.20	-	Y141H1420	**£55.41**	
14.50-14.90	16	3xD	45	48	118.3	ZD14503016	**£111.33**	14.29	9/16	Y141H1429	**£55.41**	
		5xD	75	48	147.3	ZD14505016	**£146.48**	14.30	-	Y141H1430	**£55.41**	
		8xD	120	48	190.8	ZD14508016	**£154.22**	14.40	-	Y141H1440	**£55.41**	
15.00-15.40	16	3xD	46.5	48	120.3	ZD15003016	**£111.33**	14.50	-	Y141H1450	**£55.41**	
		5xD	77.5	48	150.3	ZD15005016	**£146.48**	14.60	-	Y141H1460	**£55.41**	
		8xD	124	48	195.3	ZD15008016	**£154.22**	14.68	37/64	Y141H1468	**£55.41**	
15.48-15.90	16	3xD	48	4	121.3	ZD15503016	**£111.33**	14.70	-	Y141H1470	**£55.41**	
		5xD	80	48	152.3	ZD15505016	**£146.48**	14.80	-	Y141H1480	**£55.41**	
		8xD	128	48	198.8	ZD15508016	**£154.22**	14.90	-	Y141H1490	**£55.41**	
16.00-19.90	20	3xD	51	50	127	ZD16003020	**£113.03**	15.00	-	Y141H1500	**£55.41**	
		5xD	85	50	160	ZD16005020	**£148.70**	15.08	19/32	Y141H1508	**£55.41**	
		8xD	736	50	209.5	ZD16008020	**£156.55**	15.10	-	Y141H1510	**£55.41**	
17.00-17.90	20	3xD	54	50	130	ZD17003020	**£113.03**	15.20	-	Y141H1520	**£55.41**	
		5xD	90	50	165	ZD17005020	**£148.70**	15.30	-	Y141H1530	**£55.41**	
		8xD	144	50	217.5	ZD17008020	**£156.55**	15.40	-	Y141H1540	**£55.41**	
								15.48	39/64	Y141H1548	**£55.41**	
								15.50	-	Y141H1550	**£55.41**	
								15.60	-	Y141H1560	**£55.41**	
								15.70	-	Y141H1570	**£55.41**	
								15.80	-	Y141H1580	**£55.41**	
								15.88	5/8	Y141H1588	**£55.41**	
								15.90	-	Y141H1590	**£55.41**	
								16.00	-	Y161H1600	**£61.76**	TX1617P7
								16.09	-	Y161H1609	**£61.76**	
								16.10	-	Y161H1610	**£61.76**	
								16.20	-	Y161H1620	**£61.76**	
								16.27	41/64	Y161H1627	**£61.76**	
								16.30	-	Y161H1630	**£61.76**	
								16.40	-	Y161H1640	**£61.76**	
								16.50	-	Y161H1650	**£61.76**	
								16.60	-	Y161H1660	**£61.76**	
								16.67	21/32	Y161H1667	**£61.76**	
								16.70	-	Y161H1670	**£61.76**	
								16.80	-	Y161H1680	**£61.76**	
								16.90	-	Y161H1690	**£61.76**	
								17.00	-	Y161H1700	**£61.76**	TX1718P7
								17.07	43/64	Y161H1707	**£61.76**	
								17.10	-	Y161H1710	**£61.76**	
								17.20	-	Y161H1720	**£61.76**	
								17.30	-	Y161H1730	**£61.76**	
								17.40	-	Y161H1740	**£61.76**	
								17.46	11/16	Y161H1746	**£61.76**	
								17.50	-	Y161H1750	**£61.76**	
								17.60	-	Y161H1760	**£61.76**	
								17.70	-	Y161H1770	**£61.76**	
								17.80	-	Y161H1780	**£61.76**	
								17.86	45/65	Y161H1786	**£61.76**	
								17.90	-	Y161H1790	**£61.76**	

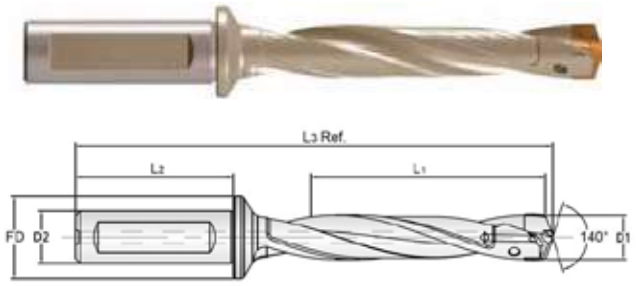
i-ONE DRILL Ø18.00 - 21.90MM

High Performance Exchangeable Insert Drilling Tools

Cutting Data
P755

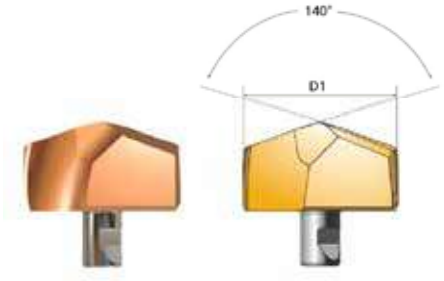
i-ONE DRILL HOLDERS

- Secure and quick clamping system
- Through coolant



i-ONE DRILL INSERTS

- Multi layered coating for long tool life
- Ideal for carbon steel, alloy steel and cast iron
- 140° Point
- Available in metric and imperial sizes



3xD 5xD 8xD

h7 140°

Holders							
D1 ø Range	D2	Drill Depth	L1	L2	L3	★★★★★ Performance Order Code	Price
18.00-18.90	25	3xD	57	56	141.3	ZD18003025	**£119.58**
		5xD	95	56	178.3	ZD18005025	**£157.34**
		8xD	152	56	233.8	ZD18008025	**£167.57**
19.00-19.90	25	3xD	60	56	145.3	ZD19003025	**£119.58**
		5xD	100	56	184.3	ZD19005025	**£157.34**
		8xD	160	56	242.8	ZD19008025	**£167.57**
20.00-20.90	25	3xD	63	56	147.5	ZD20003025	**£120.25**
		5xD	105	56	188.5	ZD20005025	**£158.19**
		8xD	168	56	250	ZD20008025	**£178.17**
21.00-21.90	25	3xD	66	56	150.5	ZD21003025	**£120.25**
		5xD	110	56	193.5	ZD21005025	**£158.19**
		8xD	176	56	258	ZD21008025	**£178.17**

Inserts				Spares
mm	inch	Order Code	Price	Screw
18.00	-	Y181H1800	**£62.33**	TX1819P9
18.10	-	Y181H1810	**£62.33**	
18.20	-	Y181H1820	**£62.33**	
18.26	23/32	Y181H1826	**£62.33**	
18.30	-	Y181H1830	**£62.33**	
18.40	-	Y181H1840	**£62.33**	
18.50	-	Y181H1850	**£62.33**	
18.60	-	Y181H1860	**£62.33**	
18.65	47/64	Y181H1865	**£62.33**	
18.70	-	Y181H1870	**£62.33**	
18.80	-	Y181H1880	**£62.33**	
18.90	-	Y181H1890	**£62.33**	
19.00	-	Y181H1900	**£62.33**	TX1920P9
19.05	3/4	Y181H1905	**£62.33**	
19.10	-	Y181H1910	**£62.33**	
19.20	-	Y181H1920	**£62.33**	
19.27	-	Y181H1927	**£62.33**	
19.30	-	Y181H1930	**£62.33**	
19.40	-	Y181H1940	**£62.33**	
19.45	49/64	Y181H1945	**£62.33**	
19.50	-	Y181H1950	**£62.33**	
19.60	-	Y181H1960	**£62.33**	
19.70	-	Y181H1970	**£62.33**	
19.80	-	Y181H1980	**£62.33**	
19.84	25/32	Y181H1984	**£62.33**	
19.90	-	Y181H1990	**£62.33**	
20.00	-	Y201H2000	**£63.05**	TX2021P9
20.10	-	Y201H2010	**£63.05**	
20.20	-	Y201H2020	**£63.05**	
20.24	51/64	Y201H2024	**£63.05**	
20.30	-	Y201H2030	**£63.05**	
20.40	-	Y201H2040	**£63.05**	
20.50	-	Y201H2050	**£63.05**	
20.60	-	Y201H2060	**£63.05**	
20.64	13/16	Y201H2064	**£63.05**	
20.70	-	Y201H2070	**£63.05**	
20.80	-	Y201H2080	**£63.05**	
20.90	-	Y201H2090	**£63.05**	
21.00		Y201H2100	**£63.05**	TX2122P9
21.03	53/64	Y201H2103	**£63.05**	
21.10	-	Y201H2110	**£63.05**	
21.20	-	Y201H2120	**£63.05**	
21.30	-	Y201H2130	**£63.05**	
21.40	-	Y201H2140	**£63.05**	
21.43	27/32	Y201H2143	**£63.05**	
21.50	-	Y201H2150	**£63.05**	
21.60	-	Y201H2160	**£63.05**	
21.70	-	Y201H2170	**£63.05**	
21.80	-	Y201H2180	**£63.05**	
21.83	55/64	Y201H2183	**£63.05**	
21.90	-	Y201H2190	**£63.05**	

i-ONE DRILL Ø22.00 - 25.90MM

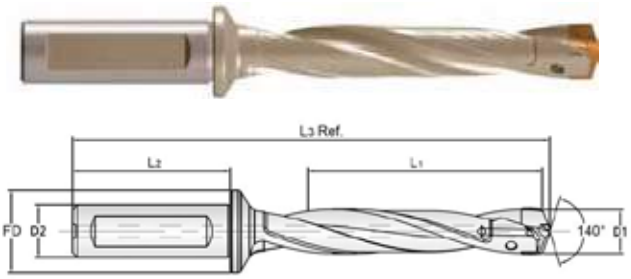
High Performance Exchangeable Insert Drilling Tools

Cutting Data

P755

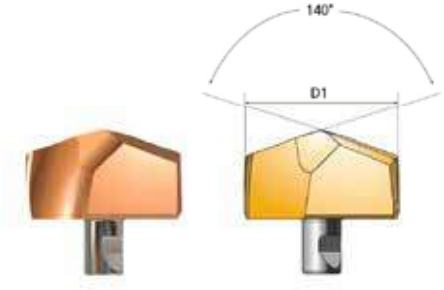
i-ONE DRILL HOLDERS

- Secure and quick clamping system
- Through coolant



i-ONE DRILL INSERTS

- Multi layered coating for long tool life
- Ideal for carbon steel, alloy steel and cast iron
- 140° Point
- Available in metric and imperial sizes



3xD 5xD 8xD

h7 140°

Holders							
D1 ø Range	D2	Drill Depth	L1	L2	L3	★★★★★ Performance Order Code	Price
22.00-22.90	25	3xD	69	56	153.4	ZD22003025	**£128.13**
		5xD	115	56	198.4	ZD22005025	**£168.56**
		8xD	184	56	265.9	ZD22008025	**£201.85**
23.00-23.90	25	3xD	72	56	157.4	ZD23003025	**£128.13**
		5xD	120	56	204.4	ZD23005025	**£168.56**
		8xD	192	56	274.9	ZD23008025	**£201.85**
24.00-24.90	32	3xD	75	60	165.8	ZD24003032	**£146.41**
		5xD	725	60	214.8	ZD24005032	**£178.92**
		8xD	200	60	288.3	ZD24008032	**£205.51**
25.00-25.90	32	3xD	78	60	170.8	ZD25003032	**£146.41**
		5xD	130	60	211.8	ZD25005032	**£178.92**
		8xD	208	60	298.3	ZD25008032	**£205.51**

Inserts				Spares
mm	inch	Order Code	Price	Screw
22.00	-	Y221H2200	**£69.29**	TX2223P9
22.10	-	Y221H2210	**£69.29**	
22.20	-	Y221H2220	**£69.29**	
22.23	7/8	Y221H2223	**£69.29**	
22.30	-	Y221H2230	**£69.29**	
22.40	-	Y221H2240	**£69.29**	
22.50	-	Y221H2250	**£69.29**	
22.60	-	Y221H2260	**£69.29**	
22.62	57/64	Y221H2262	**£69.29**	
22.70	-	Y221H2270	**£69.29**	
22.80	-	Y221H2280	**£69.29**	
22.90	-	Y221H2290	**£69.29**	
23.00	-	Y221H2300	**£69.29**	TX2324P9
23.02	29/32	Y221H2302	**£69.29**	
23.10	-	Y221H2310	**£69.29**	
23.20	-	Y221H2320	**£69.29**	
23.30	-	Y221H2330	**£69.29**	
23.40	-	Y221H2340	**£69.29**	
23.42	59/64	Y221H2342	**£69.29**	
23.50	-	Y221H2350	**£69.29**	
23.60	-	Y221H2360	**£69.29**	
23.70	-	Y221H2370	**£69.29**	
23.80	-	Y221H2380	**£69.29**	
23.81	15/16	Y221H2381	**£69.29**	
23.90	-	Y221H2390	**£69.29**	
24.00	-	Y241H2400	**£82.47**	TX2425P10
24.10	-	Y241H2410	**£82.47**	
24.20	-	Y241H2420	**£82.47**	
24.21	61/64	Y241H2421	**£82.47**	
24.30	-	Y241H2430	**£82.47**	
24.40	-	Y241H2440	**£82.47**	
24.50	-	Y241H2450	**£82.47**	
24.60	-	Y241H2460	**£82.47**	
24.61	31/32	Y241H2461	**£82.47**	
24.70	-	Y241H2470	**£82.47**	
24.80	-	Y241H2480	**£82.47**	
24.90	-	Y241H2490	**£82.47**	
25.00	63/64	Y241H2500	**£82.47**	TX2526P10
25.20	-	Y241H2520	**£82.47**	
25.30	-	Y241H2530	**£82.47**	
25.40	1	Y241H2540	**£82.47**	
25.50	-	Y241H2550	**£82.47**	
25.60	-	Y241H2560	**£82.47**	
25.67	-	Y241H2567	**£82.47**	
25.70	-	Y241H2570	**£82.47**	
25.80	1-1/64	Y241H2580	**£82.47**	
25.90	-	Y241H2590	**£82.47**	

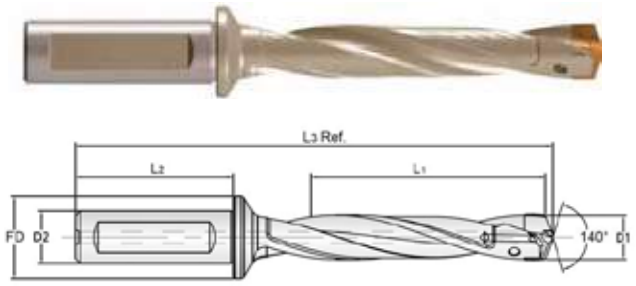
i-ONE DRILL Ø26.00 - 33.73MM

High Performance Exchangeable Insert Drilling Tools

Cutting Data
P755

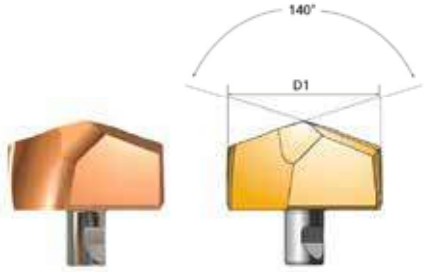
i-ONE DRILL HOLDERS

- Secure and quick clamping system
- Through coolant



i-ONE DRILL INSERTS

- Multi layered coating for long tool life
- Ideal for carbon steel, alloy steel and cast iron
- 140° Point
- Available in metric and imperial sizes



3xD 5xD 8xD

h7 140°

Holders							
D1 ø Range	D2	Drill Depth	L1	L2	L3	★★★★★ Performance Order Code	Price
26.00-26.99	32	3xD	81	60	172.2	ZD26003032	**£146.41**
		5xD	135	60	225.2	ZD26005032	**£178.92**
		8xD	216	60	304	ZD26008032	**£205.51**
27.00-27.78	32	3xD	84	60	175.2	ZD27003032	**£192.24**
		5xD	140	60	230.2	ZD27005032	**£203.32**
		8xD	224	60	312.7	ZD27008032	**£241.05**
28.00-28.97	32	3xD	87	60	179.2	ZD28003032	**£192.24**
		5xD	145	60	236.2	ZD28005032	**£203.32**
		8xD	232	60	321.7	ZD28008032	**£241.05**
29.00-29.77	32	3xD	90	60	183.2	ZD29003032	**£192.24**
		5xD	150	60	242.2	ZD29005032	**£203.32**
		8xD	240	60	330.7	ZD29008032	**£241.05**
30.00-30.96	32	3xD	93	60	187	ZD30003032	**£210.56**
		5xD	155	60	248	ZD30005032	**£222.49**
		8xD	248	60	339.5	ZD30008032	**£263.80**
31.00-31.75	32	3xD	96	60	191	ZD31003032	**£210.56**
		5xD	160	60	254	ZD31005032	**£222.49**
		8xD	256	60	348.5	ZD31008032	**£263.80**
32.00-32.94	32	3xD	99	60	197.2	ZD32003032	**£210.56**
		5xD	165	60	262.2	ZD32005032	**£222.49**
		8xD	264	60	359.7	ZD32008032	**£263.80**
33.00-33.73	32	3xD	102	60	201.2	ZD33003032	**£210.56**
		5xD	170	60	268.2	ZD33005032	**£222.49**
		8xD	272	60	368.7	ZD33008032	**£263.80**

Inserts				Spares
mm	inch	Order Code	Price	Screw
26.00	-	Y261H2600	**£83.99**	TX2627P10
26.19	1-1/32	Y261H2619	**£83.99**	
26.50		Y261H2650	**£83.99**	
26.59	1-3/64	Y261H2659	**£83.99**	
26.99	1-1/16	Y261H2699	**£83.99**	
27.00	-	Y261H2700	**£83.99**	TX2728P10
27.38	1-5/64	Y261H2738	**£83.99**	
27.50	-	Y261H2750	**£83.99**	
27.78	1-3/32	Y261H2778	**£83.99**	
28.00	-	Y281H2800	**£85.03**	TX2829P10
28.18	1-7/64	Y281H2818	**£85.03**	
28.50	-	Y281H2850	**£85.03**	
28.58	1-1/8	Y281H2858	**£85.03**	
28.97	1-9/64	Y281H2897	**£85.03**	
29.00	-	Y281H2900	**£85.03**	TX2930P10
29.37	1-5/32	Y281H2937	**£85.03**	
29.50	-	Y281H2950	**£85.03**	
29.77	1-11/64	Y281H2977	**£85.03**	
30.00	-	Y301H3000	**£86.72**	TX3031P15
30.16	1-3/16	Y301H3016	**£86.72**	
30.50	-	Y301H3050	**£86.72**	
30.56	1-13/64	Y301H3056	**£86.72**	
30.96	1-7/32	Y301H3096	**£86.72**	
31.00	-	Y301H3100	**£86.72**	TX3132P15
31.35	1-5/64	Y301H3135	**£86.72**	
31.50	-	Y301H3150	**£86.72**	
31.75	1-1/4	Y301H3175	**£86.72**	
32.00	-	Y321H3200	**£93.43**	TX3233P15
32.15	1-17/64	Y321H3215	**£93.43**	
32.50	-	Y321H3250	**£93.43**	
32.54	1-9/32	Y321H3254	**£93.43**	
32.94	1-19/64	Y321H3294	**£93.43**	
33.00	-	Y321H3300	**£93.43**	TX3334P15
33.34	1-5-16	Y321H3334	**£93.43**	
33.50	-	Y321H3350	**£93.43**	
33.73	1-21/64	Y321H3373	**£93.43**	

i-ONE DRILL MACHINING ADVICE

High Performance Exchangeable Insert Drilling Tools

ASSEMBLY OF i-ONE DRILLS





Make sure to clean the insert and insert seat beforehand.







Slide the drill insert into the slot of the holder and press down on the insert to touch the bottom of the slot.



After confirming the insert is pressed down to the bottom of the slot, tighten the screw using usti-seize compound.

TROUBLESHOOTING i-ONE DRILLS



Intersecting cross hole is bigger than the drill insert's marging length.



Material with slanting entrance and exit over 7 degrees.

(If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)



For drilling stacked plates, minimize the space between the plates.

The space between stacked plates can cause insert breakage or poor chip control.



The material needs to be fixtured securely before drilling.

i-ONE DRILL

High Performance Exchangeable Insert Drilling Tools

CUTTING DATA

Drilling

Workpiece	HB	HRc	Cutting Speed Vc (m/min)	Feed (mm/rev)					
				Ø10-11.99	Ø12 ~ 14.99	Ø15 ~ 17.99	Ø18 ~ 21.99	Ø22 ~ 26.9	Ø27 ~ 33.90
Non-Alloy Steel	125	-	100-126	0.14-0.24	0.18-0.31	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	190	13	84-110	0.12-0.21	0.15-0.26	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	250	25	63-84	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.36-0.54
	270	28	58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	300	32	58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
Low Alloy Steel	180	10	74-95	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.37-0.55
	275	29	63-84	0.11-0.18	0.13-0.22	0.17-0.28	0.24-0.35	0.33-0.51	0.37-0.55
	300	32	58-74	0.09-0.14	0.11-0.18	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	350	38	47-63	0.07-0.11	0.09-0.13	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
High Alloyed Steel and Tool Steel	200	15	53-68	0.09-0.14	0.11-0.18	0.14-0.23	0.20-0.29	0.22-0.34	0.26-0.39
	325	35	42-58	0.09-0.14	0.11-0.18	0.12-0.20	0.23-0.33	0.22-0.34	0.26-0.39
Grey Cast Iron	180	10	105-131	0.13-0.23	0.17-0.29	0.22-0.41	0.30-0.46	0.40-0.56	0.44-0.61
	260	26	79-100	0.10-0.18	0.12-0.22	0.18-0.32	0.22-0.33	0.28-0.39	0.32-0.44
Nodular Cast Iron	160	3	100-126	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	250	25	79-100	0.10-0.18	0.12-0.22	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44
Malleable Cast Iron	130	-	105-131	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	230	21	79-100	0.10-0.15	0.12-0.20	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44

* The speeds and feeds presented in this chart are recommendations and should be considered only as good starting points.

* When using 8xD holders we recommend pilot drilling with equal to or larger than 140° point angle (0.5xD - 1.5XD drill depth)

i-Dream Drill

P M K N



High performance & cost effective

High performance cost effective replaceable insert carbide drilling system Ø12.00 - 31.75mm. The YG-1 i-Dream Drill offers an excellent cost-performance ratio for a replaceable insert carbide drilling system. The system is an excellent entry level high performance drilling system for medium to large batch machining with a relatively low cost range of inserts and holders.

Advantages

- Precision ground carbide inserts available in steel or inox geometries.
- Self centring with advanced drill point technology.
- Inserts can be changed while the tool is in the machine.

Features

- High precision with accurate and consistent hole size.
- Excellent swarf evacuation, good tool life and high penetration rates.
- Centering, reaming and boring operations eliminated.

YG

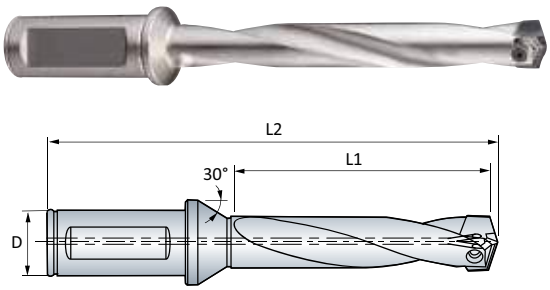
i-DREAM DRILL Ø12.00 - 15.87MM

High Performance Exchangeable Insert Drilling Tools

Cutting Data P761

i-DREAM DRILL HOLDERS

- Through coolant





i-DREAM DRILL INSERTS

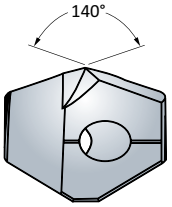
STEEL GEOMETRY

- For steel and cast iron drilling

INOX (CM) GEOMETRY

- For tough, ductile materials and stainless steel and non-ferrous
- Light, sharp cutting edge
- Soft cutting action
- Minimize cutting forces
- Suitable for aluminium
- Reduce built-up edge







Holders						
ø Range	D	Drill Depth	L1	L2	★★★★ Performance Order Code	Price
12.00-12.30	20	3xD	36	112.4	ZH12003020	£88.23
		5xD	60	136.4	ZH12005020	£114.46
		7xD	84	160.4	ZH12007020	£117.90
12.50-12.90	20	3xD	37.5	113.4	ZH12503020	£89.64
		5xD	62.5	138.4	ZH12505020	£117.90
		7xD	87.5	163.4	ZH12507020	£124.15
13.00-13.49	20	3xD	39	115.4	ZH13003020	£89.64
		5xD	65	141.4	ZH13005020	£117.90
		7xD	91	167.4	ZH13007020	£124.15
13.50-13.89	20	3xD	40.5	116.4	ZH13503020	£89.64
		5xD	67.5	143.4	ZH13505020	£117.90
		7xD	94.5	170.4	ZH13507020	£124.15
14.00-14.40	20	3xD	42	118.9	ZH14003020	£89.64
		5xD	70	146.9	ZH14005020	£117.90
		7xD	98	174.9	ZH14007020	£124.15
14.50-14.80	20	3xD	43.5	120.9	ZH14503020	£89.64
		5xD	72.5	149.9	ZH14505020	£124.15
		7xD	101.5	178.9	ZH14507020	£135.83
15.00-15.48	20	3xD	45	122.9	ZH15003020	£89.64
		5xD	75	152.9	ZH15005020	£124.15
		7xD	105	182.9	ZH15007020	£135.85
15.50-15.87	20	3xD	46.5	123.9	ZH15503020	£89.66
		5xD	77.5	154.9	ZH15505020	£117.25
		7xD	108.5	185.9	ZH15507020	£128.33

Inserts					Spares
mm	inch	Steel	INOX	Price	Screw
12.00	-	YA1A1200	YA2C1200	£44.18	TX1213T08
12.10	-	YA1A1210	YA2C1210	£44.18	
12.20	-	YA1A1220	YA2C1220	£44.18	
12.30	31/64	YA1A1230	YA2C1230	£44.18	
12.50	-	YA1A1250	YA2C1250	£44.18	
12.60	-	YA1A1260	YA2C1260	£44.18	
12.70	1/2	YA1A1270	YA2C1270	£44.18	
12.80	-	YA1A1280	YA2C1280	£44.18	
12.90	-	YA1A1290	YA2C1290	£44.18	
13.00	-	YA1A1300	YA2C1300	£44.18	TX1314T08
13.10	33/64	YA1A1310	YA2C1310	£44.18	
13.20	-	YA1A1320	YA2C1320	£44.18	
13.49	17/32	YA1A1349	YA2C1349	£44.18	
13.50	-	YA1A1350	YA2C1350	£44.18	
13.60	-	YA1A1360	YA2C1360	£44.18	
13.70	-	YA1A1370	YA2C1370	£44.18	
13.80	-	YA1A1380	YA2C1380	£44.18	
13.89	35/64	YA1A1389	YA2C1389	£44.18	
14.00	-	YB1A1400	YB2C1400	£45.60	TX1415T08
14.10	-	YB1A1410	YB2C1410	£45.60	
14.20	-	YB1A1420	YB2C1420	£45.60	
14.29	9/16	YB1A1429	YB2C1429	£45.60	
14.30	-	YB1A1430	YB2C1430	£45.60	
14.40	-	YB1A1440	YB2C1440	£45.60	
14.50	-	YB1A1450	YB2C1450	£45.60	
14.60	-	YB1A1460	YB2C1460	£45.60	
14.68	37/64	YB1A1468	YB2C1468	£45.60	
14.80	-	YB1A1480	YB2C1480	£45.60	
15.00	-	YB1A1500	YB2C1500	£47.44	TX1516T08
15.08	19/32	YB1A1508	YB2C1508	£47.44	
15.10	-	YB1A1510	YB2C1510	£47.44	
15.20	-	YB1A1520	YB2C1520	£47.44	
15.30	-	YB1A1530	YB2C1530	£47.44	
15.48	39/64	YB1A1548	YB2C1548	£47.44	
15.50	-	YB1A1550	YB2C1550	£47.44	
15.60	-	YB1A1560	YB2C1560	£47.44	
15.70	-	YB1A1570	YB2C1570	£47.44	
15.80	-	YB1A1580	YB2C1580	£47.44	
15.87	5/8	YB1A1587	YB2C1587	£47.44	

i-DREAM DRILL Ø16.00 - 21.83MM

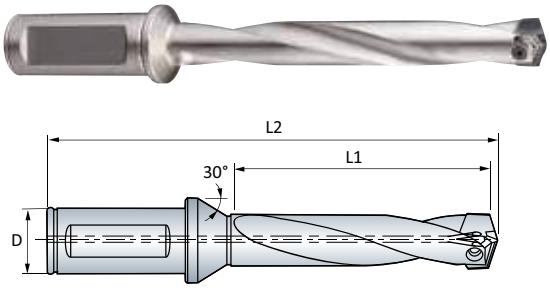
High Accuracy Replaceable Insert Carbide Drilling System

Cutting Data

P761

i-DREAM DRILL HOLDERS

- Through coolant



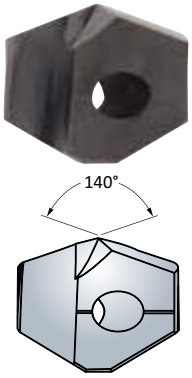
i-DREAM DRILL INSERTS

STEEL GEOMETRY

- For steel and cast iron drilling

INOX GEOMETRY

- For tough, ductile materials and stainless steel
- Light, sharp cutting edge
- Soft cutting action
- Minimize cutting forces
- Reduce built-up edge



3xD 5xD 7xD

Steel Inox

MG SC | h7 | 140° | TiAlN 850 | TiCN

Holders							Inserts					Spares
ø Range	D	Drill Depth	L1	L2	★★★★ Performance Order Code	Price	mm	inch	Steel	INOX	Price	Screw
16.00-16.30	20	3xD	48	125	ZH16003020	£84.69	16.00	-	YC1A1600	YC2C1600	£52.87	TX1617T08
		5xD	80	157	ZH16005020	£117.24	16.09	-	YC1A1609	YC2C1609	£52.87	
		7xD	112	189	ZH16007020	£128.29	16.20	-	YC1A1620	YC2C1620	£52.87	
16.50-16.80	20	3xD	49.5	127	ZH16503020	£85.97	16.27	41/64	YC1A1627	YC2C1627	£52.87	
		5xD	82.5	160	ZH16505020	£128.33	16.30		YC1A1630	YC2C1630	£52.87	
		7xD	115.5	193	ZH16507020	£138.71	16.50	-	YC1A1650	YC2C1650	£52.87	
17.00-17.46	20	3xD	51	128	ZH17003020	£85.97	16.67	21/32	YC1A1667	YC2C1667	£52.87	
		5xD	85	162	ZH17005020	£128.33	16.80	-	YC1A1680	YC2C1680	£52.87	
		7xD	119	196	ZH17007020	£138.71	17.00	-	YC1A1700	YC2C1700	£52.87	TX1718T08
17.50-17.86	20	3xD	52.5	130	ZH17503020	£85.97	17.07	43/64	YC1A1707	YC2C1707	£52.87	
		5xD	87.5	165	ZH17505020	£128.33	17.46	11/16	YC1A1746	YC2C1746	£52.87	
		7xD	122.5	200	ZH17507020	£138.71	17.50	-	YC1A1750	YC2C1750	£52.87	
18.00-18.26	25	3xD	54	140.3	ZH18003025	£85.97	17.80	-	YC1A1780	YC2C1780	£52.87	
		5xD	90	176.3	ZH18005025	£128.33	17.86	45/64	YC1A1786	YC2C1786	£52.87	
		7xD	126	212.3	ZH18007025	£138.71	18.00	-	YD1A1800	YD2C1800	£53.36	TX1819T15
18.50-18.80	25	3xD	55.5	141.3	ZH18503025	£85.97	18.26	23/32	YD1A1826	YD2C1826	£53.36	
		5xD	92.5	178.3	ZH18505025	£139.41	18.50	-	YD1A1850	YD2C1850	£53.36	
		7xD	129.5	215.3	ZH18507025	£148.50	18.65	47/64	YD1A1865	YD2C1865	£53.36	
19.00-19.45	25	3xD	57	144.3	ZH19003025	£85.97	18.80	-	YD1A1880	YD2C1880	£53.36	
		5xD	95	182.3	ZH19005025	£139.41	19.00	-	YD1A1900	YD2C1900	£53.36	TX1920T15
		7xD	133	220.3	ZH19007025	£148.50	19.05	3/4	YD1A1905	YD2C1905	£53.36	
19.50-19.84	25	3xD	58.5	145.3	ZH19503025	£85.97	19.27	-	YD1A1927	YD2C1927	£53.36	
		5xD	97.5	184.3	ZH19505025	£139.41	19.45	49/64	YD1A1945	YD2C1945	£53.36	
		7xD	136.5	223.3	ZH19507025	£148.50	19.50	-	YD1A1950	YD2C1950	£53.36	
20.00-20.24	25	3xD	60	145.5	ZH20003025	£85.97	19.80	-	YD1A1980	YD2C1980	£53.36	
		5xD	100	185.5	ZH20005025	£139.41	19.84	25/32	YD1A1984	YD2C1984	£53.36	
		7xD	140	225.5	ZH20007025	£148.50	20.00	-	YE1A2000	YE2C2000	£53.96	TX2021T20
20.50-20.70	25	3xD	61.5	147.5	ZH20503025	£104.22	20.24	51/64	YE1A2024	YE2C2024	£53.96	
		5xD	102.5	188.5	ZH20505025	£140.20	20.50	-	YE1A2050	YE2C2050	£53.96	
		7xD	143.5	229.5	ZH20507025	£157.88	20.64	13/16	YE1A2064	YE2C2064	£53.96	
21.00-21.43	25	3xD	63	149.5	ZH21003025	£104.84	20.70	-	YE1A2070	YE2C2070	£53.96	
		5xD	105	191.5	ZH21005025	£140.20	21.00	-	YE1A2100	YE2C2100	£53.96	TX2122T20
		7xD	147	233.5	ZH21007025	£157.88	21.03	53/64	YE1A2103	YE2C2103	£53.96	
21.50-21.83	25	3xD	64.5	150.5	ZH21503025	£104.84	21.43	27/32	YE1A2143	YE2C2143	£53.96	
		5xD	107.5	193.5	ZH21505025	£140.20	21.50	-	YE1A2150	YE2C2150	£53.96	
		7xD	150.5	236.5	ZH21507025	£157.88	21.70	-	YE1A2170	YE2C2170	£53.96	
							21.83	55/64	YE1A2183	YE2C2183	£53.96	

i-DREAM DRILL Ø22.00 - 27.78MM

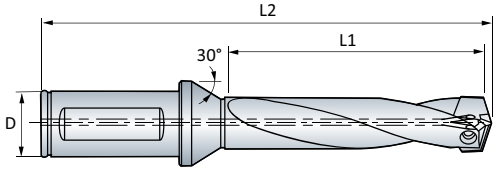
High Accuracy Replaceable Insert Carbide Drilling System

Cutting Data
P761

i-DREAM DRILL HOLDERS

- Through coolant







i-DREAM DRILL INSERTS

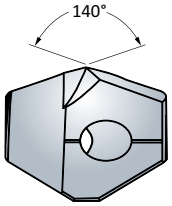
STEEL GEOMETRY

- For steel and cast iron drilling

INOX GEOMETRY

- For tough, ductile materials and stainless steel
- Light, sharp cutting edge
- Soft cutting action
- Minimize cutting forces
- Reduce built-up edge







Holders						
ø Range	D	Drill Depth	L1	L2	★★★★ Performance Order Code	Price
22.00-22.23	25	3xD	66	152.4	ZH22003025	£104.84
		5xD	110	196.4	ZH22005025	£140.20
		7xD	154	240.4	ZH22007025	£157.88
22.50-22.70	25	3xD	67.5	153.4	ZH22503025	£104.84
		5xD	112.5	198.4	ZH22505025	£149.38
		7xD	157.5	243.4	ZH22507025	£178.86
23.00-23.42	25	3xD	69	155.4	ZH23003025	£104.84
		5xD	115	201.4	ZH23005025	£149.38
		7xD	161	247.4	ZH23007025	£178.86
23.50-23.81	25	3xD	70.5	157.4	ZH23503025	£104.84
		5xD	117.5	204.4	ZH23505025	£149.38
		7xD	164.5	251.4	ZH23507025	£178.86
24.00-24.21	32	3xD	72	164.8	ZH24003032	£104.84
		5xD	120	212.8	ZH24005032	£149.38
		7xD	168	260.8	ZH24007032	£178.86
24.50-24.70	32	3xD	73.5	165.8	ZH24503032	£129.74
		5xD	122.5	214.8	ZH24505032	£158.54
		7xD	171.5	263.8	ZH24507032	£182.10
25.00-25.40	32	3xD	75	167.8	ZH25003032	£129.74
		5xD	125	217.8	ZH25005032	£158.54
		7xD	175	267.8	ZH25007032	£182.10
25.50-25.80	32	3xD	76.5	170.8	ZH25503032	£129.74
		5xD	127.5	221.8	ZH25505032	£158.54
		7xD	178.5	272.8	ZH25507032	£182.10
26.00-26.19	32	3xD	78	171.2	ZH26003032	£129.74
		5xD	130	223.2	ZH26005032	£158.54
		7xD	182	275.2	ZH26007032	£182.10
26.50-26.99	32	3xD	79.5	172.2	ZH26503032	£129.74
		5xD	132.5	225.2	ZH26505032	£180.12
		7xD	185.5	278.2	ZH26507032	£212.27
27.00-27.00	32	3xD	81	174.2	ZH27003032	£129.74
		5xD	135	228.2	ZH27005032	£180.12
		7xD	189	282.2	ZH27007032	£212.27
27.50-27.78	32	3xD	82.5	175.2	ZH27503032	£129.74
		5xD	137.5	230.2	ZH27505032	£180.12
		7xD	192.5	285.2	ZH27507032	£212.27

Inserts					Spares
mm	inch	Steel	INOX	Price	Screw
22.00	-	YF1A2200	YF2C2200	£54.76	TX2223T20
22.23	7/8	YF1A2223	YF2C2223	£54.76	
22.50	-	YF1A2250	YF2C2250	£54.76	
22.62	57/64	YF1A2262	YF2C2262	£54.76	
22.70	-	YF1A2270	YF2C2270	£54.76	
23.00	-	YF1A2300	YF2C2300	£54.76	TX2324T20
23.02	29/32	YF1A2302	YF2C2302	£54.76	
23.42	59/64	YF1A2342	YF2C2342	£54.76	
23.50	-	YF1A2350	YF2C2350	£54.76	
23.70	-	YF1A2370	YF2C2370	£54.76	
23.81	15/16	YF1A2381	YF2C2381	£54.76	
24.00	-	YG1A2400	YG2C2400	£65.13	TX2425T20
24.21	61/64	YG1A2421	YG2C2421	£65.13	
24.50	-	YG1A2450	YG2C2450	£65.13	
24.61	31/32	YG1A2461	YG2C2461	£65.13	
24.70	-	YG1A2470	YG2C2470	£65.13	
25.00	63/64	YG1A2500	YG2C2500	£65.13	TX2526T20
25.40	1	YG1A2540	YG2C2540	£65.13	
25.50	-	YG1A2550	YG2C2550	£65.13	
25.67	-	YG1A2567	YG2C2567	£65.13	
25.70	-	YG1A2570	YG2C2570	£65.13	
25.80	1 1/64	YG1A2580	YG2C2580	£65.13	
26.00	-	YH1A2600	YH2C2600	£66.32	TX2627T25
26.19	1 1/32	YH1A2619	YH2C2619	£66.32	
26.50	-	YH1A2650	YH2C2650	£66.32	
26.59	1 3/64	YH1A2659	YH2C2659	£66.32	
26.99	1 1/16	YH1A2699	YH2C2699	£66.32	
27.00	-	YH1A2700	YH2C2700	£66.32	TX2728T25
27.50	-	YH1A2750	YH2C2750	£66.32	
27.78	1 3/32	YH1A2778	YH2C2778	£66.32	

i-DREAM DRILL Ø28.00 - 31.75MM

High Accuracy Replaceable Insert Carbide Drilling System

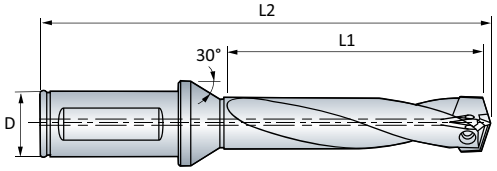
Cutting Data

P761

i-DREAM DRILL HOLDERS

- Through coolant





3xD 5xD 7xD

i-DREAM DRILL INSERTS

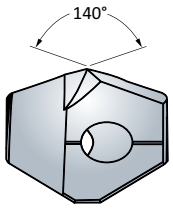
STEEL GEOMETRY

- For steel and cast iron drilling

INOX GEOMETRY

- For tough, ductile materials and stainless steel
- Light, sharp cutting edge
- Soft cutting action
- Minimize cutting forces
- Reduce built-up edge





Steel Inox

MG SC | h7 | 140° | TiAlN 850 | TiCN

Holders						
Ø Range	D	Drill Depth	L1	L2	★★★★ Performance Order Code	Price
28.00-28.18	32	3xD	84	178.2	ZH28003032	**£129.74**
		5xD	140	234.2	ZH28005032	**£180.12**
		7xD	196	290.2	ZH28007032	**£212.27**
25.50-28.58	32	3xD	85.5	179.2	ZH28503032	**£170.31**
		5xD	142.5	236.2	ZH28505032	**£180.12**
		7xD	199.5	293.2	ZH28507032	**£213.54**
29.00-29.37	32	3xD	87	182.2	ZH29003032	**£170.35**
		5xD	145	240.2	ZH29005032	**£180.13**
		7xD	203	298.2	ZH29007032	**£213.59**
29.50-29.77	32	3xD	88.5	183.2	ZH29503032	**£170.35**
		5xD	147.5	242.2	ZH29505032	**£180.13**
		7xD	206.5	301.2	ZH29507032	**£213.59**
30.00-30.16	32	3xD	90	186	ZH30003032	**£170.35**
		5xD	150	246	ZH30005032	**£180.13**
		7xD	210	306	ZH30007032	**£213.59**
30.50-30.96	32	3xD	91.5	187	ZH30503032	**£170.35**
		5xD	152.5	248	ZH30505032	**£180.13**
		7xD	213.5	309	ZH30507032	**£215.56**
31.00-31.00	32	3xD	93	188	ZH31003032	**£170.36**
		5xD	155	250	ZH31005032	**£180.18**
		7xD	217	312	ZH31007032	**£215.58**
31.50-31.75	32	3xD	94.5	191	ZH31503032	**£170.36**
		5xD	157.5	254	ZH31505032	**£180.18**
		7xD	220.5	317	ZH31507032	**£215.58**

Inserts					Spares
mm	inch	Steel	INOX	Price	Screw
28.00	-	YI1A2800	YI2C2800	**£67.23**	TX2829T25
28.18	1 7/64	YI1A2818	YI2C2818	**£67.23**	
28.50	-	YI1A2850	YI2C2850	**£67.23**	
28.58	1 1/8	YI1A2858	YI2C2858	**£67.23**	
29.00	-	YI1A2900	YI2C2900	**£67.23**	TX2930T25
29.37	1 5/32	YI1A2937	YI2C2937	**£67.23**	
29.50	-	YI1A2950	YI2C2950	**£67.23**	
29.77	1 11/64	YI1A2977	YI2C2977	**£68.40**	
30.00	-	YJ1A3000	YJ2C3000	**£68.40**	TX3031T25
30.16	1 3/16	YJ1A3016	YJ2C3016	**£68.40**	
30.50	-	YJ1A3050	YJ2C3050	**£68.40**	
30.56	1 13/64	YJ1A3056	YJ2C3056	**£68.40**	
30.96	1 7/32	YJ1A3096	YJ2C3096	**£68.40**	
31.00	-	YJ1A3100	YJ2C3100	**£68.40**	TX3132T25
31.50	-	YJ1A3150	YJ2C3150	**£68.40**	
31.75	1 1/4	YJ1A3175	YJ2C3175	**£68.40**	

Material Applications

● Excellent ○ Good

Insert Grade	Free Machining Steels	Carbon Steels		Alloy Steels		High Alloy Steels		Structural Steels		Tool Steels		Stainless Steel	Cast Iron		Aluminium	Copper Alloys
	~HRc24 (~HB250)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc28 (~HB275)	HRc28~ (HB275~)	~HRc37 (~ HB350)	HRc37~ (HB350~)	~HRc24 (~HB250)	HRc24~ (HB250~)	~HRc13 (~HB200)	HRc13~ (HB200~)	~HRc28 (~HB275)	~HRc19 (~HB220)	HRc19~ (HB220~)	~HRc8 (~HB180)	~HB110
STEEL	●	●	●	●	●	●	●	●	●	●	●		●	●		
INOX	○	○		○				○		○		●			○	○

i-DREAM DRILL

ZH12 ~ ZH31 Series

CUTTING DATA

Drilling

INSERT GRADE	Workpiece: Material	Tensile Strength N/mm²	Hardness: HB	Hardness: HRc	Cutting Speed Vc (m/min)	Feed (mm/rev): Ø12 - 14.9	Ø15 - 17.9	Ø18 - 21.9	Ø22 - 26.9	Ø27 - 31.9
STEEL	FREE MACHINING STEEL	- 500	100 - 150		95 - 120	0.16 - 0.28	0.21 - 0.35	0.27 - 0.40	0.34 - 0.52	0.38 - 0.55
		500 - 850	150 - 250	-24	80 - 105	0.14 - 0.24	0.21 - 0.35	0.27 - 0.40	0.34 - 0.52	0.38 - 0.55
	LOW ALLOY STEEL CAST STEEL CARBON STEEL	- 450	85 - 125		90 - 115	0.14 - 0.25	0.20 - 0.33	0.25 - 0.39	0.31 - 0.47	0.34 - 0.50
		450 - 755	125 - 225	-19	70 - 90	0.12 - 0.20	0.17 - 0.28	0.22 - 0.32	0.30 - 0.46	0.33 - 0.49
		755 - 900	225 - 265	19-27	60 - 80	0.12 - 0.20	0.17 - 0.28	0.22 - 0.32	0.30 - 0.46	0.33 - 0.49
		900 - 1200	265 - 350	27-37	55 - 70	0.10 - 0.16	0.15 - 0.25	0.21 - 0.30	0.25 - 0.38	0.29 - 0.43
	ALLOY STEEL	- 600	125 - 175	-7	80 - 100	0.14 - 0.25	0.17 - 0.28	0.22 - 0.32	0.30 - 0.46	0.34 - 0.50
		600 - 800	175 - 235	7-22	70 - 90	0.12 - 0.20	0.17 - 0.28	0.22 - 0.32	0.30 - 0.46	0.34 - 0.50
		800 - 950	235 - 280	22-29	60 - 80	0.12 - 0.20	0.17 - 0.25	0.22 - 0.32	0.30 - 0.46	0.34 - 0.50
		950 - 1110	280 - 330	29-35	55 - 70	0.10 - 0.16	0.13 - 0.21	0.21 - 0.30	0.25 - 0.38	0.29 - 0.43
		1110 - 1230	330 - 360	35-39	45 - 60	0.08 - 0.12	0.13 - 0.21	0.21 - 0.30	0.25 - 0.38	0.29 - 0.43
	HIGH ALLOY STEEL	600 - 1020	225 - 300	19-32	45 - 60	0.12 - 0.20	0.15 - 0.25	0.21 - 0.30	0.20 - 0.31	0.24 - 0.35
		1020 - 1200	300 - 355	32-38	40 - 55	0.10 - 0.16	0.11 - 0.18	0.21 - 0.30	0.20 - 0.31	0.24 - 0.35
		1200 - 1330	355 - 390	38-42	40 - 50	0.08 - 0.12	0.09 - 0.14	0.18 - 0.26	0.19 - 0.29	0.23 - 0.34
	STRUCTURAL STEEL	350 - 500	100 - 150	-	75 - 95	0.14 - 0.24	0.21 - 0.35	0.27 - 0.39	0.29 - 0.44	0.32 - 0.47
		500 - 850	150 - 250	-24	60 - 75	0.12 - 0.20	0.20 - 0.33	0.22 - 0.32	0.25 - 0.38	0.29 - 0.43
		850 - 1200	250 - 355	24-38	50 - 65	0.10 - 0.16	0.17 - 0.28	0.21 - 0.30	0.21 - 0.32	0.29 - 0.38
	TOOL STEEL	500 - 705	150 - 210	-16	50 - 65	0.10 - 0.16	0.13 - 0.21	0.18 - 0.26	0.20 - 0.32	0.24 - 0.35
		705 - 950	210 - 280	16-29	40 - 50	0.10 - 0.16	0.13 - 0.21	0.18 - 0.26	0.20 - 0.32	0.24 - 0.35
	GREY CAST IRON	500 - 700	150 - 210	-16	100 - 125	0.15 - 0.26	0.20 - 0.37	0.27 - 0.42	0.36 - 0.51	0.40 - 0.55
		700 - 850	210 - 250	16-24	75 - 90	0.11 - 0.20	0.16 - 0.29	0.20 - 0.30	0.25 - 0.35	0.29 - 0.40
	NODULAR CAST IRON	540	165	4	95 - 120	0.13 - 0.22	0.17 - 0.31	0.21 - 0.32	0.28 - 0.40	0.32 - 0.44
		850	250	24	75 - 95	0.11 - 0.20	0.16 - 0.29	0.20 - 0.30	0.25 - 0.35	0.29 - 0.40
	MALLEABLE CAST IRON	450	125	-	100 - 125	0.13 - 0.22	0.17 - 0.31	0.21 - 0.32	0.28 - 0.40	0.32 - 0.44
		780	230	21	75 - 95	0.11 - 0.18	0.14 - 0.26	0.19 - 0.29	0.25 - 0.35	0.29 - 0.40
INOX	ALUMINIUM ALLOY (WROUGHT)	-	65	-	335 - 420	0.11 - 0.18	0.17 - 0.26	0.28 - 0.35	0.32 - 0.39	0.36 - 0.42
		-	150	-	230 - 290	0.13 - 0.18	0.17 - 0.26	0.28 - 0.35	0.32 - 0.39	0.36 - 0.42
	ALUMINIUM ALLOY (CAST)	-	75	-	332 - 420	0.21 - 0.37	0.31 - 0.49	0.41 - 0.52	0.47 - 0.57	0.50 - 0.59
		-	90	-	285 - 360	0.21 - 0.37	0.30 - 0.47	0.41 - 0.52	0.47 - 0.57	0.50 - 0.59
		-	130	-	205 - 260	0.19 - 0.33	0.28 - 0.44	0.37 - 0.47	0.45 - 0.54	0.48 - 0.57
	COPPER ALLOY	-	110	-	115 - 145	0.16 - 0.28	0.23 - 0.36	0.29 - 0.36	0.37 - 0.45	0.41 - 0.48
		-	90	-	145 - 185	0.17 - 0.29	0.24 - 0.37	0.30 - 0.38	0.38 - 0.46	0.42 - 0.49
		-	100	-	95 - 120	0.06 - 0.09	0.09 - 0.13	0.11 - 0.13	0.15 - 0.18	0.19 - 0.22
	STAINLESS STEEL INOX	450 - 610	135 - 185	-9	45 - 60	0.10 - 0.16	0.12 - 0.18	0.14 - 0.20	0.15 - 0.26	0.18 - 0.28
		610 - 930	185 - 275	9 - 28	30 - 45	0.06 - 0.14	0.09 - 0.15	0.10 - 0.16	0.12 - 0.20	0.14 - 0.22

RPM = revolution per minute (rev/min)
M/min = surface meter per minute(M/min)
DIA. = diameter of drill (mm)
mm/rev = feed rate(mm/rev)

FORMULAS:

$$M/min = \frac{(RPM) \times \pi \times (DIA.)}{1000}$$

$$mm/min = (RPM) \times (mm/rev)$$

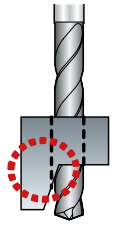
$$RPM = \frac{(M/min) \times 1000}{(\pi) \times (DIA.)}$$

- **The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.**
- **When using 5xD & 7xD holders reduce the feed rate to 70-85%.**
- **For use of 7xD holder, we recommend to drill a centering pre-hole with equal to or larger than 140° point angle to min. 2/3 cutting diameter. The use of the centering pre-hole improves hole location, roundness and surface finish.**

MACHINING GUIDELINES

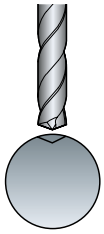
- **All inserts are self centring. DO NOT SPOT DRILL, CENTER DRILL or BORE.**
- **Through coolant must be used on all holes greater than 1xD max drill depth.**

PIERCING STAGE



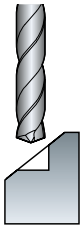
Decrease the feed rate by 50%

CIRCULAR SURFACE



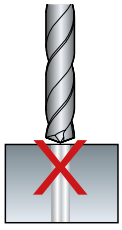
Pilot drill with a larger drill point angle or machine with end mill

INCLINED SURFACE



Machine with end mill first

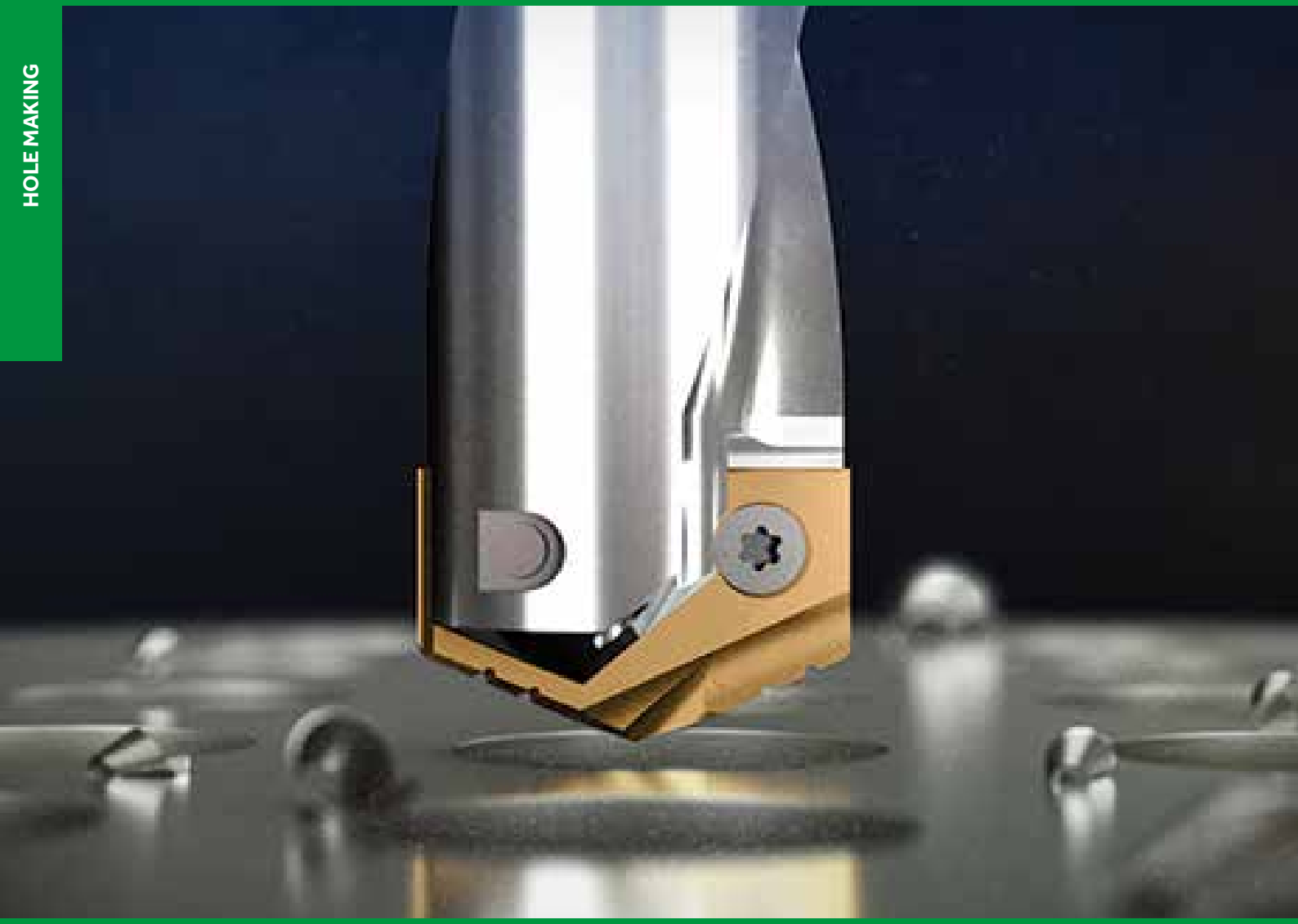
BORING



Not recommended. Will result in tool failure.

Supercut Spade Drill

P M S K N



Versatile drilling system

General machining & drilling large diameters with longer tool life and high productivity Ø9.5 - 114mm. The most VERSATILE drilling system in the world, drill from 9.5mm to 114mm diameter using just 9 different sized holders with high accuracy and performance. Suitable for both CNC and conventional machining applications.

Advantages

- Extremely accurate compared to traditional indexable drills, even in deep holes.
- Faster set up times, as inserts can be changed on the machine.
- High performance in a wide range of materials.

Features

- Fully ground self centering inserts available in five grades HSS, HSS-E, powder metal & 2 carbide grades.
- Inserts are available in both metric and imperial.
- Made from high quality alloy steel.

YG CUTWEL PRO

Tool Selection

INSERTS

Inserts are available in both metric and imperial and a wide range of sizes can fit in each holder. There is a secure, high precision interface between the drill body and the insert so there is no need to reset tool length after insert change.

Flat bottom inserts are also available for creating a flat bottom in a pre-existing hole



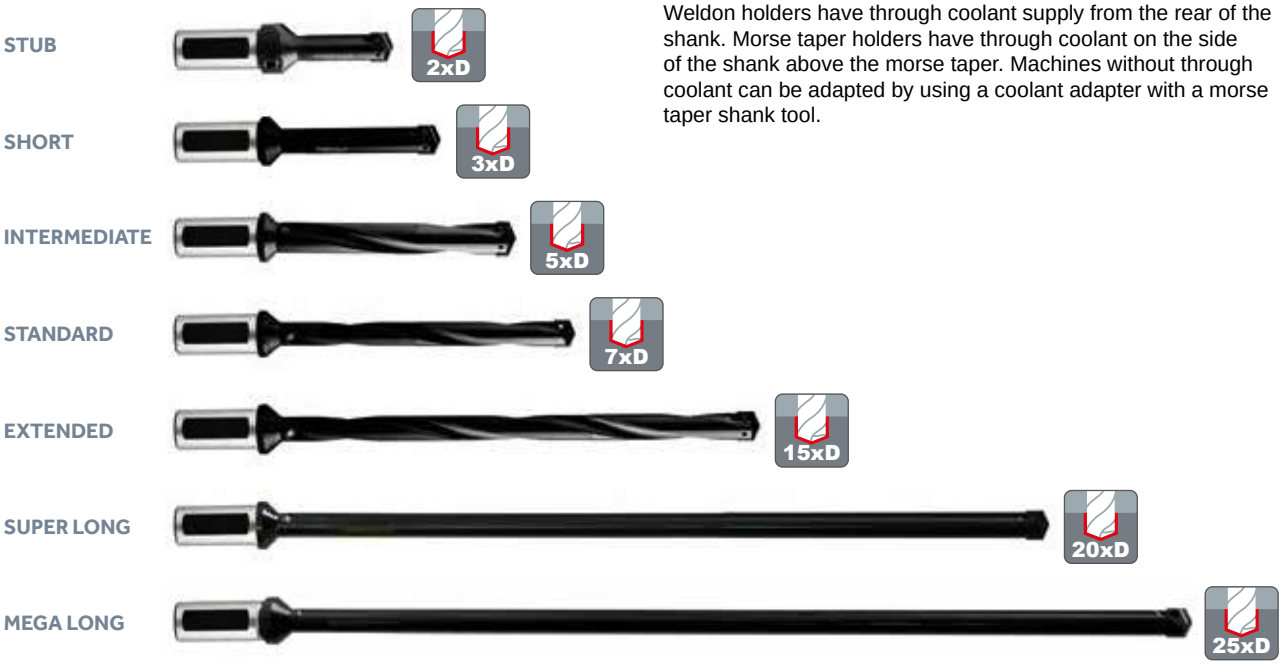


Grade		Application	Unstable Machining	Stable Machining
T15 HSS 5% Cobalt M4 HSS		First choice for general machining of all materials	✓	✓
M48 Powder Metal		For Increased tool life over T15. Ideal for stainless steel, harder & tougher materials	✓	✓
K20 Solid Carbide		Ideal for high alloy steel, stainless steel, HRSA's & aluminium	✗	✓
P40 Solid Carbide		Ultimate performance on all steels	✗	✓

HOLDERS

Supercut holders are available for short holes to deep holes up to 25xD. As the insert is self-centering, deep hole drilling is possible with reliability and accuracy.

For holders 15xD and above, it is recommended that you pilot drill 1xD with a short length spade drill of the same diameter (do not pilot drill with a smaller diameter drill or drill point with a different angle - this will cause tool failure. HSS or PM inserts are recommended for drilling above 7xD.



SHANK TYPES



Weldon holders have through coolant supply from the rear of the shank. Morse taper holders have through coolant on the side of the shank above the morse taper. Machines without through coolant can be adapted by using a coolant adapter with a morse taper shank tool.

SUPERCUT SPADE DRILL HOLDERS

For General Machining and Drilling Large Diameters with Longer Tool Life and High Productivity

- Available in diameters 9.5mm-114mm
- Inserts available in coated grades for steel, stainless steel, cast iron & aluminium
- Straight flute aids swarf evacuation in horizontal or short hole drilling
- Spiral flute aids swarf evacuation in vertical or deep hole drilling

INSERTS P766







Weldon Shank

Insert Dia Range	Length	Flute	Shank Dia	Max Drill Depth	Overall Length	Order Code	Price
9.5-11	Stub	Straight	16	19.1	89	P74Y0160	**£85.03**
	Short	Straight	20	31.8	103	P75Y0200	**£101.42**
	Standard	Spiral	20	60.3	131	P83Y0200	**£111.61**
	Extended*	Spiral	20	111.1	182	P84Y0200	**£132.02**
	Super Long*	Straight	20	222	296	P85Y0200	**£128.28**
	Mega Long*	Straight	20	290	363	P86Y0200	**£153.41**
11.11-12.7	Stub	Straight	16	19.1	89	P74Z0160	**£90.73**
	Short	Straight	20	31.8	103	P75Z0200	**£101.82**
	Standard	Spiral	20	60.3	131	P83Z0200	**£111.62**
	Extended*	Spiral	20	111.1	182	P84Z0200	**£132.48**
	Super Long*	Straight	20	222	296	P85Z0200	**£132.81**
	Mega Long*	Straight	20	290	363	P86Z0200	**£155.08**
13-17.5	Stub	Straight	20	22.2	89	P7400200	**£108.53**
	Short	Straight		34.9	105	P7500200	**£97.79**
	Standard	Spiral		63.5	134	P8300200	**£118.20**
	Intermediate	Spiral		114.3	184	P8400200	**£160.70**
	Extended*	Spiral		178	248	P8500200	**£166.22**
	Super Long*	Straight		295	368	P8600200	**£213.15**
	Mega Long*	Straight		387	457	P8700200	**£231.02**
17.86-24	Stub	Straight	25	47.6	128	P7410250	**£131.47**
	Short	Straight		66.7	160	P7510250	**£130.39**
	Intermediate	Spiral		117.5	207	P8210250	**£136.65**
	Standard	Spiral		168.3	258	P8310250	**£154.44**
	Extended*	Spiral		269.9	360	P8410250	**£214.86**
	Super Long*	Straight		457	551	P8510250	**£245.08**
	Mega Long*	Straight		565	659	P8610250	**£397.26**
24.61-35	Stub	Straight	32	57.2	146	P7420320	**£146.08**
	Short	Straight		85.7	186	P7520320	**£146.08**
	Intermediate	Spiral		136.5	237	P8220320	**£204.53**
	Standard	Spiral		187.3	288	P8320320	**£208.67**
	Extended*	Spiral		288.9	389	P8420320	**£248.35**
	Super Long*	Straight		511	612	P8520320	**£406.26**
	Mega Long*	Straight		692	783	P8620320	**£470.19**
35.72-47.63	Short	Straight	40	120.7	243	P7530400	**£196.18**
	Intermediate	Spiral		165.1	287	P8230400	**£252.33**
	Standard	Straight		209.6	332	P8330400	**£274.92**
	Extended*	Straight		349.3	471	P7830400	**£350.87**
	Super Long*	Straight		558	680	P8430400	**£487.12**
48-65.09	Short	Straight	40	130.2	249	P7540400	**£202.43**
	Standard	Spiral		231.8	351	P8340400	**£297.34**
	Extended*	Straight		422.3	541	P7840400	**£401.08**
	Super Long*	Straight		625	750	P7940400	**£490.80**

Morse Taper Shank

CUTWEL PRO

Insert Dia Range	Length	Flute	Morse Taper	Max Drill Depth	Overall Length	Order Code	Price
9.5-11	Short	Straight	2	31.8	160.3	P51Y0020	**£100.91**
	Standard	Spiral		60.3	188.9	P59Y0020	**£111.61**
	Extended*	Spiral		111.1	239.7	P60Y0020	**£130.45**
11.11-12.7	Short	Straight	2	31.8	160.3	P51Z0020	**£100.91**
	Standard	Spiral		60.3	188.9	P59Z0020	**£111.61**
	Extended	Spiral		111.1	239.7	P60Z0020	**£120.37**
13-17.5	Short	Straight	2	35	164.3	P5100020	**£109.52**
	Intermediate	Spiral		63.5	192.9	P5900020	**£117.88**
	Standard	Spiral		114.3	243.7	P6000020	**£160.69**
	Extended*	Spiral		178	344.0	P6100020	**£169.18**
17.86-24	Short	Straight	3	69.8	232.5	P5110030	**£130.39**
	Intermediate	Spiral		120.7	283.3	P5810030	**£136.65**
	Standard	Spiral		171.5	334.2	P5910030	**£154.44**
	Extended*	Spiral		273.1	435.8	P6010030	**£202.44**
24.61-35	Short	Straight	4	85.7	273.8	P5120040	**£146.08**
	Intermediate	Spiral		136.5	324.6	P5820040	**£204.53**
	Standard	Spiral		187.3	375.4	P5920040	**£206.72**
	Extended*	Spiral		289	477.0	P6020040	**£258.60**
35.72-47.63	Short	Straight	4	120.6	319.1	P5130040	**£196.18**
	Intermediate	Spiral		165.1	363.6	P5830040	**£262.96**
	Standard	Spiral		209.5	408.0	P5930040	**£256.07**
	Extended*	Straight		349.3	547.7	P5430040	**£372.66**
48-65.09	Short	Straight	5	130.1	363.5	P5140050	**£202.44**
	Standard	Spiral		231.8	465.1	P5940050	**£297.35**
	Extended*	Straight		422.3	655.6	P5440050	**£469.23**
65.3-88	Short	Straight	5	171.5	430.2	P5150050	**£323.48**
	Standard	Spiral		273.1	531.8	P5950050	**£525.76**
	Extended*	Straight		463.6	722.3	P5450050	**£511.31**
90-114	Short	Straight	5	171.5	439.7	P5170050	**£400.62**
	Standard	Spiral		273.1	541.3	P5970050	**£626.08**
	Extended*	Straight		555.6	823.9	P5470050	**£730.44**

*Extended, super and mega long holders MUST be pilot drilled to 1xD depth before use. The pilot hole must be the same diameter and drill point angle. We recommend using a shorter length spade drill for pilot drilling. Failing to follow this advice will likely cause the long length drill to break.

SUPERCUT SPADE DRILL HOLDERS

For General Machining and Drilling Large Diameters with Longer Tool Life and High Productivity

- Available in diameters 9.5mm-114mm
- Inserts available in coated grades for steel, stainless steel, cast iron & aluminium
- Straight flute aids swarf evacuation in horizontal or short hole drilling
- Spiral flute aids swarf evacuation in vertical or deep hole drilling

INSERTS P766









Weldon Shank

Insert Dia Range	Flute	Length	Shank Dia	Max Drill Depth	Overall Length	Order Code	Price
9.5-11	Straight	Stub	16	11	95.6	ZY0SBSF016M	£79.02
	Straight	Standard	20	31.8	111.1	ZY0STSF020M	£87.24
	Spiral	Long	20	60.3	139.7	ZY0SDHF020M	£96.21
	Spiral	Extra Long	20	111.1	190.5	ZY0EXHF020M	£151.14
11.11-12.7	Straight	Stub	16	12.5	95.6	ZZ0SBSF016M	£79.02
	Straight	Standard	20	31.8	111.1	ZZ0STSF020M	£87.24
	Spiral	Long	20	60.3	139.7	ZZ0SDHF020M	£96.21
	Spiral	Extra Long	20	111.1	190.5	ZZ0EXHF020M	£187.11
13-17.5	Straight	Stub	20	17.5	97.6	Z00SBSF020M	£82.13
	Straight	Standard	20	34.9	113.5	Z00STSF020M	£90.41
	Spiral	Long	20	63.5	142.1	Z00SDHF020M	£102.00
	Spiral	Extra Long	20	114.3	192.9	Z00EXHF020M	£116.07
15.5-17.5	Straight	Stub	20	17.5	97.6	Z05SBSF020M*	£133.47
	Straight	Standard	20	34.9	113.5	Z05STSF020M*	£146.92
	Spiral	Long	20	63.5	142.1	Z05SDHF020M*	£165.76
	Spiral	Extra Long	20	114.3	192.9	Z05EXHF020M*	£251.09
17.86-24	Straight	Stub	25	24	131.8	Z10SBSF025M	£103.18
	Straight	Standard	25	66.7	163.2	Z10STSF025M	£111.97
	Spiral	Long	25	117.5	210.8	Z10ITHF025M	£128.53
	Spiral	Extra Long	25	168.3	261.6	Z10SDHF025M	£188.01
	Spiral	Super Long	25	269.9	363.2	Z10EXHF025M	£226.09
22-24	Straight	Stub	25	24	144.5	Z15SBSF025M*	£181.65
	Straight	Standard	25	66.7	163.2	Z15STSF025M*	£183.51
	Spiral	Long	25	117.5	210.8	Z15ITHF025M*	£210.37
	Spiral	Extra Long	25	168.3	261.6	Z15SDHF025M*	£235.18
	Spiral	Super Long	25	269.9	363.2	Z15EXHF025M*	£371.29
24.61-35	Straight	Stub	32	35	148.5	Z20SBSF032M	£149.80
	Straight	Standard	32	85.7	188.6	Z20STSF032M	£125.60
	Spiral	Long	32	136.5	239.4	Z20ITHF032M	£258.28
	Spiral	Extra Long	32	187.3	290.2	Z20SDHF032M	£196.54
	Spiral	Super Long	32	288.9	391.8	Z20EXHF032M	£240.97
30-35	Straight	Stub	32	35	183.4	Z25SBSF032M*	£275.17
	Straight	Standard	32	85.7	188.6	Z25STSF032M*	£205.65
	Spiral	Long	32	136.5	239.4	Z25ITHF032M*	£319.77
	Spiral	Extra Long	32	187.3	290.2	Z25SDHF032M*	£323.31
	Spiral	Super Long	32	288.9	391.8	Z25EXHF032M*	£395.45
35.72-47.63	Straight	Stub	40	47	195.0	Z30SBSF040M	£398.32
	Straight	Standard	40	120.7	243.0	Z30STSF040M	£183.23
	Straight	Extra Long	40	349.3	471.6	Z30EXSF040M	£302.85
	Spiral	Long	40	165.1	287.5	Z30ITHF040M	£245.78
	Spiral	Extra Long	40	209.6	331.9	Z30SDHF040M	£264.57
48-65.09	Straight	Stub	40	130.2	249.4	Z40STSF040M	£190.77
	Straight	Extra Long	40	422.3	541.5	Z40EXSF040M	£340.31
	Spiral	Long	40	231.8	351.0	Z40SDHF040M	£367.03

Morse Taper Shank

Insert Dia Range	Flute	Length	Shank MT	Max Drill Depth	Overall Length	Order Code	Price
9.5-11	Spiral	Long	2	60.3	188.9	ZY0SDHMT02M	£108.16
	Spiral	Extra Long	2	111.1	239.7	ZY0EXHMT02M	£127.12
11.11-12.7	Straight	Standard	2	31.8	160.3	ZZ0STSMT02M	£99.11
	Spiral	Long	2	60.3	188.9	ZZ0SDHMT02M	£105.01
	Spiral	Extra Long	2	111.1	239.7	ZZ0EXHMT02M	£127.12
13-17.5	Straight	Standard	2	35	164.3	Z00STSMT02M	£101.96
	Spiral	Long	2	63.5	192.9	Z00SDHMT02M	£160.29
	Spiral	Extra Long	2	114.3	243.7	Z00EXHMT02M	£171.74
	Spiral	Long	2	177.8	307.2	Z00LGHMT02M	£154.59
15.5-17.5	Straight	Standard	2	35	164.3	Z05STSMT02M*	£165.68
	Spiral	Long	2	63.5	192.9	Z05SDHMT02M*	£198.46
	Spiral	Extra Long	2	114.3	243.7	Z05EXHMT02M*	£216.58
	Spiral	Long	2	177.8	307.2	Z05LGHMT02M*	£376.80
17.86-24	Straight	Standard	3	69.8	232.5	Z10STSMT03M	£128.92
	Spiral	Standard	3	171.5	334.2	Z10SDHMT03M	£197.84
	Spiral	Extra Long	3	273.1	435.8	Z10EXHMT03M	£233.89
22-24	Straight	Standard	3	69.8	232.5	Z15STSMT03M*	£211.02
	Spiral	Long	3	171.5	334.2	Z15SDHMT03M*	£326.29
	Spiral	Extra Long	3	273.1	435.8	Z15EXHMT03M*	£383.99
24.61-35	Straight	Standard	4	85.7	273.8	Z20STSMT04M	£162.94
	Spiral	Long	4	187.3	375.4	Z20SDHMT04M	£232.95
	Spiral	Extra Long	4	289	477	Z20EXHMT04M	£275.05
30-35	Straight	Standard	4	85.7	281	Z25STSMT04M*	£267.60
	Spiral	Long	4	187.3	382.6	Z25SDHMT04M*	£383.71
	Spiral	Extra Long	4	289	484.2	Z25EXHMT04M*	£452.08
35.72-47.63	Straight	Standard	4	120.6	319.1	Z30STSMT04M	£181.32
	Straight	Extra Long	4	349.3	547.7	Z30EXSMT04M	£259.46
	Spiral	Extra Long	4	209.5	408	Z30SDHMT04M	£250.36
48-65.09	Straight	Standard	5	130.1	363.5	Z40STSMT05M	£257.66
	Straight	Extra Long	5	422.3	655.6	Z40EXSMT05M	£395.00
	Spiral	Long	5	231.8	465.1	Z40SDHMT05M	£336.41
64-88	Straight	Standard	5	171.5	430.2	Z50STSMT05M	£349.20
	Straight	Long	5	463.6	722.3	Z50EXSMT05M	£733.69
	Spiral	Standard	5	273.1	531.8	Z50SDHMT05M	£730.85
90-114	Straight	Standard	5	171.5	439.7	Z70STSMT05M	£734.14
	Straight	Long	5	555.6	823.9	Z70EXSMT05M	£997.01
	Spiral	Standard	5	273.1	541.3	Z70SDHMT05M	£696.68

*Holders marked with an asterisk have a smaller drilling diameter range. This gives the holders added strength for larger diameter inserts.

SUPERCUT SPADE DRILL INSERTS

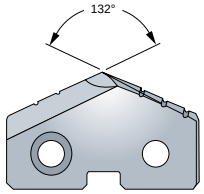
For General Machining and Drilling Large Diameters with Longer Tool Life and High Productivity

- Self centering giving extremely accurate drilling, even in deep holes

Cutting Data

P770





HSS Co5 | YPM | MG | 132° | TiAlN 850

Diameter min. to max. mm (inch)	Diameter		HSS 5% Cobalt (TiN)		HSS 5% Cobalt (TiAlN)		Powder Metal (TiAlN)		Solid Carbide (TiAlN)		Solid Carbide (TiAlN)	
	mm	inch	T15	Price	T15	Price	M48	Price	K20	Price	P40	Price
9.5 - 11 (0.374" - 0.436")	9.5	-	S1155095	£18.99	S1165095	£32.17	S1565095	£35.26	S1765095	£42.81	S1865095	£42.81
	9.53	3/8"	-	-	S1115024	£32.17	S1515024	£37.02	S1715024	£42.81	S1815024	£42.81
	9.8	-	S1155098	£18.99	S1165098	£32.17	S1565098	£35.26	S1765098	£42.81	S1865098	£42.81
	9.92	25/64"	-	-	S1115025	£32.17	S1515025	£37.02	S1715025	£42.81	S1815025	£42.81
	10	-	-	-	S1165100	£32.17	-	-	S1765100	£42.81	S1865100	£42.81
	10.2	-	S1155102	£18.99	-	-	S1565102	£37.02	S1765102	£42.81	S1865102	£42.81
	10.32	13/32"	-	-	S1115026	£32.17	S1515026	£37.02	S1715026	£42.81	S1815026	£42.81
	10.5	-	S1155105	£18.99	S1165105	£32.17	-	-	S1765105	£42.81	S1865105	£42.81
	10.72	27/64"	-	-	S1115027	£32.17	S1515027	£37.02	S1715027	£42.81	S1815027	£42.81
	10.8	-	S1155108	£18.99	S1165108	£32.17	S1565108	£37.02	S1765108	£42.81	S1865108	£42.81
	11	-	S1155110	£18.99	S1165110	£32.17	S1565110	£37.02	S1765110	£42.81	S1865110	£42.81
11.11 - 12.7 (0.437" - 0.51")	11.11	7/16"	-	-	S1115028	£32.17	S1515028	£37.02	S1715028	£42.81	S1815028	£42.81
	11.5	-	S1155115	£21.25	S1165115	£32.17	-	-	S1765115	£42.81	S1865115	£42.81
	11.51	29/64"	-	-	S1115029	£32.17	S1515029	£37.02	S1715029	£42.81	S1815029	£42.81
	11.91	15/32"	-	-	S1115030	£32.17	S1515030	£37.02	S1715030	£42.81	S1815030	£42.81
	12	-	S1155120	£21.25	S1165120	£32.17	S1565120	£37.02	S1765120	£42.81	S1865120	£42.81
	12.3	31/64"	-	-	S1115031	£32.17	S1515031	£37.02	S1715031	£42.81	S1815031	£42.81
	12.5	-	S1155125	£21.25	S1165125	£32.17	S1565125	£37.02	S1765125	£42.81	S1865125	£42.81
	12.7	1/2"	-	-	S1115032	£32.17	S1515032	£37.02	S1715032	£42.81	S1815032	£42.81
12.98 - 17.5 (0.511" - 0.695")	13	-	S1155130	£23.45	S1165130	£36.25	S1565130	£40.36	S1765130	£47.44	S1865130	£47.44
	13.1	33/64"	-	-	S1115033	£36.25	S1515033	£40.36	S1715033	£47.44	S1815033	£47.44
	13.49	17/32"	-	-	S1115034	£36.25	S1515034	£40.36	S1715034	£47.44	S1815034	£47.44
	13.5	-	-	-	S1165135	£36.25	S1565135	£40.36	S1765135	£47.44	S1865135	£47.44
	14	-	S1155140	£23.45	S1165140	£36.25	S1565140	£40.36	S1765140	£47.44	S1865140	£47.44
	14.29	9/16"	-	-	S1115036	£36.25	S1515036	£40.36	S1715036	£47.44	S1815036	£47.44
	14.5	-	S1155145	£23.45	S1165145	£36.25	S1565145	£40.36	S1765145	£47.44	S1865145	£47.44
	14.68	37/64"	-	-	S1115037	£36.25	S1515037	£40.36	S1715037	£47.44	S1815037	£47.44
	15	-	S1155150	£23.45	S1165150	£36.25	S1565150	£40.36	S1765150	£47.44	S1865150	£47.44
	15.08	19/32"	-	-	S1115038	£36.25	S1515038	£40.36	S1715038	£47.44	S1815038	£47.44
	15.5	-	S1155155	£23.45	S1165155	£36.25	S1565155	£40.36	S1765155	£47.44	S1865155	£47.44
	15.88	5/8"	-	-	S1115040	£36.25	S1515040	£40.36	S1715040	£47.44	S1815040	£47.44
	16	-	S1155160	£23.45	S1165160	£36.25	S1565160	£40.36	S1765160	£47.44	S1865160	£47.44
	16.5	-	S1155165	£23.45	S1165165	£36.25	S1565165	£40.36	S1765165	£47.44	S1865165	£47.44
	16.67	21/32"	-	-	S1115042	£36.25	S1515042	£40.36	S1715042	£47.44	S1815042	£47.44
	17	-	-	-	S1165170	£36.25	S1565170	£40.36	S1765170	£47.44	S1865170	£47.44
	17.46	11/16"	-	-	S1115044	£36.25	S1515044	£40.36	S1715044	£47.44	S1815044	£47.44
	17.5	-	S1155175	£23.45	S1165175	£36.25	S1565175	£40.36	S1765175	£47.44	S1865175	£47.44
17.86 - 24 (0.69" - 0.96")	17.86	45/64"	-	-	S1115045	£39.54	S1515045	£48.64	S1715045	£54.21	S1815045	£54.21
	18	-	S1155180	£26.30	S1165180	£39.54	S1565180	£48.64	S1765180	£54.21	S1865180	£54.21
	18.26	23/32"	-	-	S1115046	£39.54	S1515046	£48.64	S1715046	£54.21	S1815046	£54.21
	18.5	-	S1155185	£26.30	S1165185	£39.54	S1565185	£48.64	S1765185	£54.21	S1865185	£54.21
	18.65	47/64"	-	-	S1115047	£39.54	S1515047	£48.64	S1715047	£54.21	S1815047	£54.21
	19	-	S1155190	£26.30	S1165190	£39.54	S1565190	£48.64	S1765190	£54.21	S1865190	£54.21
	19.05	3/4"	-	-	S1115048	£39.54	S1515048	£48.64	S1715048	£54.21	S1815048	£54.21
	19.45	49/64"	-	-	S1115049	£39.54	S1515049	£48.64	S1715049	£54.21	S1815049	£54.21
	19.5	-	S1155195	£26.30	S1165195	£39.54	S1565195	£48.64	S1765195	£54.21	S1865195	£54.21
	19.84	25/32"	-	-	S1115050	£39.54	S1515050	£48.64	S1715050	£54.21	S1815050	£54.21
	20	-	S1155200	£26.30	S1165200	£39.54	S1565200	£48.64	S1765200	£54.21	S1865200	£54.21
	20.5	-	S1155205	£26.30	S1165205	£39.54	S1565205	£48.64	S1765205	£54.21	S1865205	£54.21
	20.64	13/16"	-	-	S1115052	£39.54	S1515052	£48.64	S1715052	£54.21	S1815052	£54.21
	21	-	S1155210	£26.30	S1165210	£39.54	S1565210	£48.64	S1765210	£54.21	S1865210	£54.21
	21.43	27/32"	-	-	S1115054	£39.54	S1515054	£48.64	S1715054	£54.21	S1815054	£54.21
	22	-	S1155220	£26.30	S1165220	£39.54	S1565220	£48.64	S1765220	£54.21	S1865220	£54.21
	22.23	7/8"	-	-	S1115056	£39.54	S1515056	£48.64	S1715056	£54.21	S1815056	£54.21
	23	-	S1155230	£26.30	S1165230	£39.54	S1565230	£48.64	S1765230	£54.21	S1865230	£54.21
	23.02	29/32"	-	-	S1115058	£39.54	S1515058	£48.64	S1715058	£54.21	S1815058	£54.21
	23.42	59/64"	-	-	S1115059	£39.54	S1515059	£48.64	S1715059	£54.21	S1815059	£54.21
	23.81	15/16"	-	-	S1115060	£39.54	S1515060	£48.64	S1715060	£54.21	S1815060	£54.21
	24	-	S1155240	£26.30	S1165240	£39.54	S1565240	£48.64	S1765240	£54.21	S1865240	£54.21

Grade	Application	Unstable Machining	Stable Machining
T15/ M4	First choice for general machining of all materials	✓	✓
M48	Increased tool life over T15. Ideal for stainless steel, harder & tougher materials	✓	✓
K20	Coated carbide. Ideal for high alloy steels, stainless steel & aluminium	✗	✓
P40	Coated carbide. Ultimate performance on all steels	✗	✓

Diameter min. to max. mm (inch)	Diameter		HSS 5% Cobalt (TiN)		HSS 5% Cobalt (TiAlN)		Powder Metal (TiAlN)		Solid Carbide (TiAlN)		Solid Carbide (TiAlN)	
	mm	inch	T15	Price	T15	Price	M48	Price	K20	Price	P40	Price
24.61 - 35 (0.961" - 1.38")	24.61	31/32"	-	-	S1115062	£48.64	S1515062	£53.09	S1715062	£64.00	S1815062	£64.00
	25	63/64"	S1155250	£32.17	S1115063	£48.64	S1565250	£44.54	S1715063	£64.00	S1865250	£64.00
	25.4	1"	-	-	S1115100	£48.64	S1515100	£53.09	S1715100	£64.00	S1815100	£64.00
	25.8	1-1/64"	-	-	S1115101	£48.64	S1515101	£53.09	S1715101	£64.00	S1815101	£64.00
	26	-	S1155260	£32.17	S1165260	£48.64	S1565260	£53.09	S1765260	£64.00	S1865260	£64.00
	26.19	1-1/32"	-	-	S1115102	£48.64	S1515102	£53.09	S1715102	£64.00	S1815102	£64.00
	26.99	1-1/16"	-	-	S1115104	£48.64	S1515104	£53.09	S1715104	£64.00	S1815104	£64.00
	27	-	S1155270	£32.17	S1165270	£48.64	S1565270	£53.09	S1765270	£64.00	S1865270	£64.00
	27.78	1-3/32"	-	-	S1115106	£48.64	S1515106	£53.09	S1715106	£64.00	S1815106	£64.00
	28	-	S1155280	£32.17	S1165280	£48.64	S1565280	£53.09	S1765280	£64.00	S1865280	£64.00
	28.58	1-1/8"	-	-	S1115108	£48.64	S1515108	£53.09	S1715108	£64.00	S1815108	£64.00
	29	-	S1155290	£32.17	S1165290	£48.64	S1565290	£53.09	S1765290	£64.00	S1865290	£64.00
	29.37	1-5/32"	-	-	S1115110	£48.64	S1515110	£53.09	S1715110	£64.00	S1815110	£64.00
	30	-	S1155300	£32.17	S1165300	£48.64	S1565300	£53.09	S1765300	£64.00	S1865300	£64.00
	30.16	1-3/16"	-	-	S1115112	£48.64	S1515112	£53.09	S1715112	£64.00	S1815112	£64.00
	30.96	1-7/32"	-	-	S1115114	£48.64	S1515114	£53.09	S1715114	£64.00	S1815114	£64.00
	31	-	S1155310	£32.17	S1165310	£48.64	S1565310	£53.09	S1765310	£64.00	S1865310	£64.00
	31.75	1-1/4"	-	-	S1115116	£48.64	S1515116	£53.09	S1715116	£64.00	S1815116	£64.00
	32	-	S1155320	£32.17	S1165320	£48.64	S1565320	£53.09	S1765320	£64.00	S1865320	£64.00
	32.54	1-9/32"	-	-	S1115118	£48.64	S1515118	£53.09	S1715118	£64.00	S1815118	£64.00
	33	-	S1155330	£32.17	S1165330	£48.64	S1565330	£53.09	S1765330	£64.00	S1865330	£64.00
	33.34	1-5/16"	-	-	S1115120	£48.64	S1515120	£53.09	S1715120	£64.00	S1815120	£64.00
	34	-	S1155340	£32.17	S1165340	£48.64	S1565340	£53.09	S1765340	£64.00	S1865340	£64.00
	34.13	1-11/32"	-	-	S1115122	£48.64	S1515122	£53.09	S1715122	£64.00	S1815122	£64.00
	34.93	1-3/8"	-	-	S1115124	£48.64	S1515124	£53.09	S1715124	£64.00	S1815124	£64.00
	35	-	S1155350	£32.17	S1165350	£48.64	S1565350	£53.09	S1765350	£64.00	S1865350	£64.00
35.72-47 (1.353" - 1.882")	35.72	1-13/32"	-	-	S1115126	£64.84						
	36	-	S1155360	£42.86	S1165360	£64.84						
	36.51	1-7/16"	-	-	S1115128	£64.84						
	37	-	S1155370	£42.86	S1165370	£64.84						
	37.31	1-15/32"	-	-	S1115130	£64.84						
	38	-	-	-	S1165380	£64.84						
	38.1	1-1/2"	-	-	S1115132	£64.84						
	38.89	1-17/32"	-	-	S1115134	£64.84						
	39	-	S1155390	£42.86	S1165390	£64.84						
	39.69	1-9/16"	-	-	S1115136	£64.84						
	40	-	S1155400	£42.86	S1165400	£64.84						
	40.48	1-19/32"	-	-	S1115138	£64.84						
	41	-	S1155410	£42.86	S1165410	£64.84						
	41.28	1-5/8"	-	-	S1115140	£64.84						
	42	-	S1155420	£42.86	S1165420	£64.84						
	42.07	1-21/32"	-	-	S1115142	£64.84						
	42.86	1-11/16"	-	-	S1115144	£64.84						
	43	-	S1155430	£42.86	S1165430	£64.84						
	43.66	1-23/32"	-	-	S1115146	£64.84						
	44	-	S1155440	£42.86	S1165440	£64.84						
	44.45	1-3/4"	-	-	S1115148	£64.84						
	45	-	S1155450	£42.86	S1165450	£64.84						
	45.24	1-25/32"	-	-	S1115150	£64.84						
	46	-	S1155460	£42.86	S1165460	£64.84						
	46.04	1-13/16"	-	-	S1115152	£64.84						
	46.83	1-27/32"	-	-	S1115154	£64.84						
	47	-	S1155470	£42.86	S1165470	£64.84						
47.63-61 (1.85" - 2.57")	47.63	1-7/8"	-	-	S1115156	£76.74						
	48	-	S1155480	£50.46	S1165480	£76.74						
	48.42	1-29/32"	-	-	S1115158	£76.74						
	49	-	S1155490	£50.46	S1165490	£76.74						
	49.21	1-15/16"	-	-	S1115160	£76.74						
	50	-	S1155500	£50.46	S1165500	£76.74						
	50.01	1-31/32"	-	-	S1115162	£76.74						
	50.8	2"	-	-	S1115200	£76.74						
	51	-	S1155510	£50.46	S1165510	£76.74						
	51.59	2-1/32"	-	-	S1115202	£76.74						
	52	2-3/64"	-	-	S1115203	£76.74						
	52.39	2-1/16"	-	-	S1115204	£76.74						
	53	-	S1155530	£50.46	S1165530	£76.74						
	53.18	2-3/32"	-	-	S1115206	£76.74						
	53.98	2-1/8"	-	-	S1115208	£76.74						
	54	-	S1155540	£50.46	S1165540	£76.74						
	54.79	2-5/32"	-	-	S1115210	£76.74						
	55	-	-	-	S1165550	£76.74						
	55.56	2-3/16"	-	-	S1115212	£76.74						
	56	-	S1155560	£50.46	S1165560	£76.74						
	56.36	2-7/32"	-	-	S1115214	£76.74						
	57	-	S1155570	£50.46	S1165570	£76.74						
	57.15	2-1/4"	-	-	S1115216	£76.74						
	57.94	2-9/32"	-	-	S1115218	£76.74						
	58	-	S1155580	£50.46	S1165580	£76.74						
	58.74	2-5/16'	-	-	S1115220	£76.74						
	59	-	S1155590	£50.46	S1165590	£76.74						
	59.53	2-11/32"	-	-	S1115222	£76.74						
	60	-	-	-	S1165600	£76.74						
	60.33	2-3/8"	-	-	S1115224	£76.74						
	61	-	S1155610	£50.46	S1165610	£76.74						

Diameter range	Diameter		HSS & HSS 5% Cobalt (TiAlN)	
	mm	inch	T15/M4	Price
HSS 5% Cobalt 61.12-65.09	61.12	2-13/32"	S1115226	£76.74
	61.91	2-7/16"	S1115228	£76.74
	62	-	S1165620	£76.74
	62.71	2-15/32"	S1115230	£76.74
	63	-	S1165630	£76.74
	63.5	2-1/2"	S1115232	£76.74
	64	-	S1165640	£76.74
	64.29	2-17/32"	S1115234	£76.74
	65	-	S1165650	£76.74
	65.09	2-9/16"	S1115236	£76.74
HSS 63.5-88	63.5	2-1/2"	S14152D2	£83.52
	64	-	S146564A	£87.70
	64.29	2-17/32"	S14152D4	£83.52
	65.09	2-9/16"	S14152D6	£83.52
	65.88	2-19/32"	S1415238	£83.52
	66	-	S1465660	£87.70
	66.68	2-5/8"	S1415240	£83.52
	67.47	2-21/32"	S1415242	£83.52
	68	-	S1465680	£87.70
	68.26	2-11/16"	S1415244	£83.52
	69.05	2-23/32"	S1415246	£83.52
	69.85	2-3/4"	S1415248	£83.52
	70	-	S1465700	£87.70
	70.64	2-25/32"	S1415250	£83.52
	71.44	2-13/16"	S1415252	£83.52
	72	-	S1465720	£87.70
	72.23	2-27/32"	S1415254	£83.52
	73.03	2-7/8"	S1415256	£83.52
	73.82	2-29/32"	S1415258	£83.52
	74	-	S1465740	£87.70
	74.61	2-15/16"	S1415260	£83.52
	75.41	2-31/32"	S1415262	£83.52
	76	-	S1465760	£87.70
	76.2	3"	S1415300	£83.52
	78	-	S1465780	£110.23
	80	-	S1465800	£110.23
	82	-	S1465820	£110.23
	84	-	S1465840	£110.23
	86	-	S1465860	£110.23
	88	-	S1465880	£110.23
90 - 114	90	-	S1465900	£131.47
	92	-	S1465920	£131.47
	94	-	S1465940	£131.47
	96	-	S1465960	£131.47
	98	-	S1465980	£131.47
	100	-	S1465A00	£131.47
	102	-	S1465A20	£151.64
	104	-	S1465A40	£151.64
	106	-	S1465A60	£151.64
	108	-	S1465A80	£151.64
	110	-	S1465B00	£151.64
	112	-	S1465B20	£151.64
	114	-	S1465B40	£151.64

SUPERCUT SPADE DRILL FLAT BOTTOM INSERTS Ø11.50 - 45.00MM

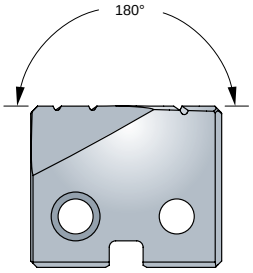
For General Machining and Drilling Large Diameters with Longer Tool Life and High Productivity

- Can be used as a finishing tool for creating a flat bottom in a pre-existing hole
- Suitable for drilling into a solid surface (maximum depth 1xD)

Cutting Data

P775





1xD

HSS Co5 | 180° | TiAlN 850

MATERIAL APPLICATIONS

T15	First choice for general machining of all materials

Diameter min. to max.	Diameter	Thickness	HSS 5% Cobalt (TiAlN)	
			T15	Price
11.5 - 12.5	11.5	2.4	S2165115	£48.75
	12.5		S2165125	£48.75
13 - 17.5	13	3.2	S2165130	£53.16
	13.5		S2165135	£53.16
	14		S2165140	£53.16
	14.5		S2165145	£53.16
	15		S2165150	£53.16
	15.5		S2165155	£53.16
	16		S2165160	£53.16
	16.5		S2165165	£53.16
	17		S2165170	£53.16
18 - 24	18	4	S2165180	£58.95
	18.5		S2165185	£58.95
	19.5		S2165195	£58.95
	20		S2165200	£58.95
	20.5		S2165205	£58.95
	21		S2165210	£58.95
	22		S2165220	£58.95
	23		S2165230	£58.95
	24		S2165240	£58.95
25 - 35	25	4.8	S2165250	£67.78
	26		S2165260	£67.78
	27		S2165270	£67.78
	28		S2165280	£67.78
	29		S2165290	£67.78
	32		S2165320	£67.78
	33		S2165330	£67.78
	34		S2165340	£67.78
	35		S2165350	£67.78
37 - 45	37		S2165370	£87.07
	38		S2165380	£87.07
	39		S2165390	£87.07
	40		S2165400	£87.07
	41		S2165410	£87.07
	42		S2165420	£87.07
	43		S2165430	£87.07
	44		S2165440	£87.07
	45		S2165450	£87.07

Insert Material Applications

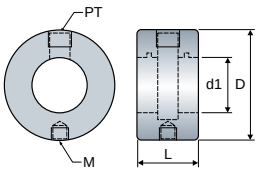
Insert Grade	Non-alloy steel					Low alloy steel				High alloyed steel and tool steel		Hardened Steel	Stainless Steels	HRSA	Cast Iron	Aluminium	Copper Alloys
	HB125	HB190 HRc13	HB250 Rc25	HB270 HRc28	HB300 HRc32	HB180 HRc10	HB275 HRc29	HB300 HRc32	HB350 HRc38	HB200 HRc15	HB325 HRc35	HRc55	HB240 HRc23	HB350 HRc38	HB220 HRc19	HB180 HRc8	HB110
T15 (HSS 5% Cobalt) TiN or TiAlN Caoted)	●	●	●	●		●	●	○	○	○	○	○	○	○	●	○	○
M4 (HSS 5% Cobalt) TiAlN Coated	○	○	○	○		○	○						○		○	●	●
M48 (Powder Metal) TiAlN Coated	●	●	●	●		●	●	●	●	●	●	○	○	●	●	○	○
K20 (Carbide) TiAlN Coated	○	○	○	○		○	○	○	○	○	○	○	●	●	○	●	●
P40 (Carbide) TiAlN Coated	●	●	●	●		●	●	●	●	●	●	●	○	○	○	○	○
T15 (Flat Bottom Insert)	●	●	●	●		●	●	○	○	○	○	○	○	○	●	○	○

COOLANT RINGS

For Morse Taper Shank Spade Drill Holders

- Convert taper shank holders to through coolant from an external coolant pipe. Ideal for deeper holes, better swarf clearance, preventing insert failure and longer tool life. Through coolant machine not required!





CUTWEL PRO YG

Drill Diameter	B	C	M	E	Order Code			
					Cutwel Pro	Price	YG-1	Price
9.5 - 11	44.45	22.23	M8x1.25	1/8"	COS - 190522	**£55.43**	PR120190	**£67.40**
11.11 - 12.7								
13.00 - 17.5								
17.86 - 24	53.97	28.57	M8x1.25	1/8"	COS - 254028	**£64.64**	PR120254	**£69.10**
24.61 - 35								
35.72 - 47.63	63.50	34.92	M10x1.5	1/4"	COS - 317535	**£73.89**	PR120317	**£70.88**
48.00 - 65.09	76.20	34.92	M10x1.5	1/4"	COS - 444535	**£83.14**	PR120444	**£71.76**
65 - 88	95.27	44.45	M12x1.75	1/2"	COS - 571544	**£101.62**	PR120571	**£98.91**
90 - 114								

SPADE DRILL TORX SCREWS



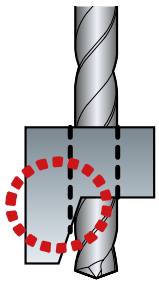
YG

Metric	Inch	Order Code	Price	Torx Wrench
9.5-11	3/8-27/64	J07Y0010	**£15.58**	J05Y0070
11.5-12.5	7/16-1/2	J07Z0110	**£16.16**	
13-17.5	33/64-11/16	J0800210	**£16.29**	J0500080
15.5-17.5	39/64-11/16	J0805310	**£15.74**	
18-24	45/64-15/16	J0910410	**£11.28**	J0510090
22-24	55/64-15/16	J0915510	**£15.94**	
25-35	31/32-1-3/8	J1520610	**£13.59**	J0520150
30-35	1-3/16-1-3/8	J1525710	**£16.67**	
36-65	1-13/32-2-9/16	J2030810	**£16.66**	J0530200
64-114	2-1/2-4-1/2	J2550910	**£9.82**	J0550250

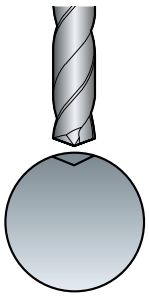
SPADE DRILL MACHINING GUIDELINES

- All inserts are self centering. Do not spot drill or center drill
- For new jobs it is recommended cutting data is lowered by 10-20% as a starting point
- Through coolant must be used on all holes greater than 1xD max drill depth
- Please follow cutting data guidelines. Premature wear or tool failure can occur if incorrect data is used

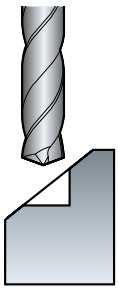
PIERCING STAGE



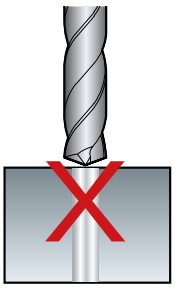
CIRCULAR SURFACE



INCLINED SURFACE



BORING



HSS 5% COBALT (TIAIN)

T15

CUTTING DATA

Drilling

Workpiece					Surface Speed Vc (m/min)		Feed (mm/rev)						
ISO	VDI 3323	Material	Hardness										
			HB	HRc	TiN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	125	-	54	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		190	13	49	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		250	25	45	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4		270	28	45	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	180	10	45	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		275	29	41	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		300	32	39	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		350	38	36	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	200	15	25	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		325	35	19	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
M	12	Ferritic / Martensitic	200	15	20	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	13		240	23	20	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	14	Austenitic	180	10	24	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
K	15	Grey cast iron	180	10	48	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		260	26	29	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	160	3	48	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		250	25	35	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
	19	Malleable cast iron	130	-	52	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		230	21	35	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	60	-	187	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		100	-	92	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	90	-	95	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
S	31	Fe Based	200	15	9	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		280	30	8	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33	Ni or Co Based	250	25	8	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		350	38	8	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	35		32	34	8	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
H	38	Hardened Steel	550	55	20	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

*When using extended, super and mega long holders a pilot drilled MUST be used to 1xD depth. The pilot hole must be the same diameter and drill point angle.

We recommend using a shorter length spade drill holder for pilot drilling. Failure to follow this advice could result in premature tool failure.

*The speeds and feeds presented in this chart are recommendations and should be considered only as good starting points

RPM = revolution per minute (rev/min)
M/min = surface meter per minute(M/min)
DIA. = diameter of drill (mm)
mm/rev = feed rate(mm/rev)
HB = Brinell Hardness
HRc = Rockwell Hardness

FORMULAS:

$$M/min = \frac{(RPM) \times (\pi) \times (DIA.)}{1000}$$

$$mm/min = (RPM) \times (mm/rev)$$

$$RPM = \frac{(M/min) \times (1000)}{(\pi) \bullet (DIA.)}$$

► The recommendations for speeds, feeds and other parameters presented in this table are nominal recommendations and should be considered only as good starting points.

HSS 5% COBALT (TIAIN)

M4

CUTTING DATA

Drilling

Workpiece					Surface Speed Vc (m/min)	Feed (mm/rev)					
ISO	VDI 3323	Material	Hardness								
			HB	HRc	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	125	-	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		190	13	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		250	25	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4		270	28	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	180	10	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		275	29	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
M	12	Ferritic / Martensitic	200	15	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	13		240	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	14	Austenitic	18	10	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
K	15	Grey cast iron	180	10	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		260	26	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	160	3	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		250	25	52	0.13	0.17	0.23	0.3	0.35	0.43	0.50
	19	Malleable cast iron	130	-	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		230	21	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminium-wrought alloy	60	-	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		100	-	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and copper allloys (Brass/ Bronze)	90	-	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79

POWDER METAL (TIAIN)

M48

CUTTING DATA

Drilling

Workpiece					Surface Speed Vc (m/min)	Feed (mm/rev)						
ISO	VDI 3323	Material	Hardness									
			HB	HRc	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	125	-	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		190	13	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		250	25	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4		270	28	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	180	10	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		275	29	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		300	32	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		350	38	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	200	15	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		325	35	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
M	12	Ferritic / Martensitic	200	15	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	13		240	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
	14	Austenitic	180	10	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
K	15	Grey cast iron	180	10	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		260	26	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	160	3	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		250	25	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
	19	Malleable cast iron	130	-	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		230	21	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
N	21	Aluminum-wrought alloy	60	-	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		100	-	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	90	-	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
S	31	Fe Based	200	15	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		280	30	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33	Ni or Co Based	250	25	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		350	38	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	35		32	34	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
H	38	Hardened Steel	550	55	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

CARBIDE (TIAIN)

P40

CUTTING DATA

Drilling

Workpiece					Surface Speed Vc (m/min)	Feed (mm/rev)				
ISO	VDI 3323	Material	Hardness							
			HB	HRc	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
P	1	Non-alloy steel	125	-	119	0.20	0.24	0.31	0.42	0.46
	2		190	13	96	0.15	0.22	0.29	0.36	0.40
	3		250	25	84	0.15	0.22	0.28	0.36	0.40
	4		270	28	84	0.15	0.22	0.28	0.36	0.40
	6	Low alloy steel	180	10	88	0.15	0.23	0.29	0.38	0.42
	7		275	29	81	0.15	0.21	0.28	0.37	0.41
	8		300	32	78	0.12	0.20	0.27	0.33	0.40
	9		350	38	64	0.10	0.18	0.23	0.30	0.38
	10	High alloyed steel, and tool steel	200	15	67	0.09	0.18	0.22	0.28	0.31
	11		325	35	50	0.09	0.18	0.22	0.28	0.31
M	12	Ferritic / Martensitic	200	15	47	0.10	0.18	0.20	0.24	0.30
	13		240	23	47	0.10	0.18	0.20	0.24	0.30
	14	Austenitic	180	10	55	0.12	0.20	0.23	0.27	0.35
K	15	Grey cast iron	180	10	125	0.17	0.26	0.32	0.42	0.53
	16		260	26	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	160	3	125	0.17	0.26	0.32	0.42	0.53
	18		250	25	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	130	-	137	0.18	0.30	0.37	0.46	0.56
	20		230	21	93	0.13	0.15	0.28	0.33	0.37
N	21	Aluminum-wrought alloy	60	-	427	0.24	0.38	0.45	0.50	0.53
	22		100	-	291	0.22	0.33	0.40	0.45	0.48
	27	Copper and Copper Alloys (Bronze / Brass)	90	-	193	0.15	0.24	0.29	0.39	0.47
S	31	Fe Based	200	15	62	0.19	0.19	0.21	0.24	0.30
	32		280	30	46	0.15	0.17	0.20	0.21	0.25
	33	Ni or Co Based	250	25	46	0.15	0.17	0.20	0.21	0.25
	34		350	38	46	0.15	0.17	0.20	0.21	0.25
	35		32	34	46	0.15	0.17	0.20	0.21	0.25
H	38	Hardened Steel	550	55	47	0.10	0.18	0.20	0.24	0.30

CARBIDE (TIAIN)

K20

CUTTING DATA

Drilling

Workpiece					Surface Speed Vc (m/min)	Feed (mm/rev)				
ISO	VDI 3323	Material	Hardness							
			HB	HRc	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
P	1	Non-alloy steel	125	-	119	0.20	0.24	0.31	0.42	0.46
	2		190	13	96	0.15	0.22	0.29	0.36	0.40
	3		250	25	84	0.15	0.22	0.28	0.36	0.40
	4		270	28	84	0.15	0.22	0.28	0.36	0.40
	6	Low alloy steel	180	10	88	0.15	0.23	0.29	0.38	0.42
	7		275	29	81	0.15	0.21	0.28	0.37	0.41
	8		300	32	78	0.12	0.20	0.27	0.33	0.40
	9		350	38	64	0.10	0.18	0.23	0.30	0.38
	10	High alloyed steel, and tool steel	200	15	67	0.09	0.18	0.22	0.28	0.31
	11		325	35	50	0.09	0.18	0.22	0.28	0.31
M	12	Ferritic / Martensitic	200	15	47	0.10	0.18	0.20	0.24	0.30
	13		240	23	47	0.10	0.18	0.20	0.24	0.30
	14	Austenitic	180	10	55	0.12	0.20	0.23	0.27	0.35
K	15	Grey cast iron	180	10	125	0.17	0.26	0.32	0.42	0.53
	16		260	26	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	160	3	125	0.17	0.26	0.32	0.42	0.53
	18		250	25	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	130	-	137	0.18	0.30	0.37	0.46	0.56
	20		230	21	93	0.13	0.15	0.28	0.33	0.37
N	21	Aluminum-wrought alloy	60	-	427	0.24	0.38	0.45	0.50	0.53
	22		100	-	291	0.22	0.33	0.40	0.45	0.48
	27	Copper and Copper Alloys (Bronze / Brass)	90	-	193	0.15	0.24	0.29	0.39	0.47
S	31	Fe Based	200	15	62	0.19	0.19	0.21	0.24	0.30
	32		280	30	46	0.15	0.17	0.20	0.21	0.25
	33	Ni or Co Based	250	25	46	0.15	0.17	0.20	0.21	0.25
	34		350	38	46	0.15	0.17	0.20	0.21	0.25
	35		32	34	46	0.15	0.17	0.20	0.21	0.25
H	38	Hardened Steel	550	55	47	0.10	0.18	0.20	0.24	0.30

HSS (TIAIN)
Flat Bottom

CUTTING DATA
Drilling

Workpiece					Surface Speed Vc (m/min)	Feed (mm/rev)			
ISO	VDI 3323	Material	Hardness						
			HB	HRc	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35
P	1	Non-alloy steel	125	-	60	0.12	0.18	0.22	0.30
	2		190	13	55	0.10	0.15	0.19	0.27
	3		250	25	50	0.10	0.15	0.18	0.27
	4		270	28	46	0.08	0.14	0.17	0.22
	6	Low alloy steel	180	10	46	0.10	0.16	0.19	0.29
	7		275	29	45	0.10	0.13	0.18	0.28
	8		300	32	42	0.07	0.12	0.18	0.22
	9		350	38	37	0.06	0.12	0.17	0.22
	10	High alloyed steel, and tool steel	200	15	29	0.07	0.12	0.15	0.20
	11		325	35	23	0.07	0.12	0.15	0.20
M	12	Ferritic / Martensitic	200	15	25	0.13	0.15	0.18	0.22
	13		240	23	25	0.13	0.15	0.18	0.22
	14	Austenitic	180	10	29	0.17	0.18	0.20	0.23
K	15	Grey cast iron	180	10	60	0.12	0.21	0.29	0.40
	16		260	26	48	0.10	0.14	0.20	0.25
	17	Nodular cast iron	160	3	60	0.12	0.21	0.29	0.40
	18		250	25	48	0.10	0.14	0.20	0.25
	19	Malleable cast iron	130	-	66	0.13	0.25	0.35	0.41
	20		230	21	48	0.10	0.14	0.20	0.25
N	21	Aluminum-wrought alloy	60	-	213	0.17	0.28	0.36	0.43
	22		100	-	121	0.17	0.28	0.36	0.41
	27	Copper and Copper Alloys (Bronze / Brass)	90	-	70	0.15	0.26	0.37	0.45
S	31	Fe Based	200	15	10	0.06	0.14	0.16	0.19
	32		280	30	9	0.06	0.11	0.14	0.15
	33	Ni or Co Based	250	25	9	0.06	0.11	0.14	0.15
	34		350	38	9	0.06	0.11	0.14	0.15
	35		32	34	9	0.06	0.11	0.14	0.15
H	38	Hardened Steel	550	55	25	0.13	0.15	0.18	0.22

Modular Boring Systems



Precision boring at any depth

The Dinox modular tooling system allows for precision deep hole boring at any depth. With boring from Ø6mm-540mm, the Dinox system is a highly accurate, easy to assemble and flexible tooling system.

Teknik Boring systems include a wide range of rough and finish boring heads and also our hugely popular THB boring kit for finish boring between 9-130mm diameter.

Advantages

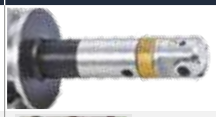
- DINOX Modular precision boring from 6-172mm diameter
- Modular boring to various depths with the use of extensions bars.
- Teknik boring systems from 9-350mm diameter.

Features

- Wide range of applications including rough boring, finish boring, back boring and micro boring.
- High accuracy & high performance.
- Available for BT, SK and HSK tapers.

TEKNIK DINE

Tool Selection

Description		Range	Series	Page
FBH/B BORING & BACK BORING SYSTEM		Ø 20-150mm (<Ø172mm Back Boring)	FBH/B	**778**
THB FINISH BORING KITS		Ø 9-130mm	THB	**783**
THB WIDE RANGE FINISH BORING HEAD		Ø 120-300mm	THB	**783**
THKB ROUGH BORING HEAD		Ø 25-80mm	THKB	**783**
DBCA NEW BALANCE CUT BORING SYSTEM		Ø 28-136mm	DBCA	**784**
SMB BORING SYSTEM		Ø 7-37mm	SMB	**790**
KMB BORING SYSTEM		Ø 7-165mm	KMB	**791**
SMH BORING SYSTEM & BORING SETS		Ø 5.5-33mm	SMH	**792**
MODULAR BORING ARBORS		-	MD	**795**
EXTENSION & REDUCTION BARS		-	EXT RDC	**796**
TKB WIDE ROUGH BORING HEAD		Ø 120-350mm	TKB	**797**
TKB ROUGH BORING HEAD		Ø 16-130mm	TKB	**797**

FBH/B SERIES FINISH FRONT & BACK BORING SYSTEM

DINE

PERFORMANCE
★★★★★



- High speed finish front and back boring
- Fully modular, various lengths achievable with extensions
- Ranges from 20-150mm diameter boring as standard (up to 172mm for back boring)
- High precision balanced to G6.3
- Minimum adjustment range of just 2 microns

Back Boring Range Calculations



- A : Boring range (Ø)
- B : FBH/B BODY Size(Ø)
- C : Diameter for pass (Ø)

Head Model	Min. diameter for pass(Ø)'C'
FBH1920B	≥Ø24
FBH2526B	≥Ø30.5
FBH3233B	≥Ø35
FBH4042B	≥Ø44
FBH5053B	≥Ø54
FBH6368B	≥Ø71.5
FBH6398B	≥Ø100
FBH8098B	≥Ø100

A	Max. range of back boring (Ø)	A Max. value = (2xC)-B
B	Max. FBH body size (Ø)	B Max. value = (2xC)-A
C	Min. diameter for pass (Ø)	C Min. value = (A+B)/2

Adjustable Boring Direction



Boring

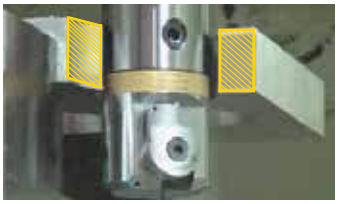


Back Boring

Boring direction can be easily shifted simply by changing the bite direction

Back Boring Machining Example

Before machining



After machining



2µm Fine Adjustment

Fine adjustment : 2µm boring range

Can be adjusted at a rate of 2µm by using the main scale and vernier scale



Initial Position



0.002
Adjustment Location



0.004
Adjustment Location



0.006
Adjustment Location



0.008
Adjustment Location



0.010
Adjustment Location

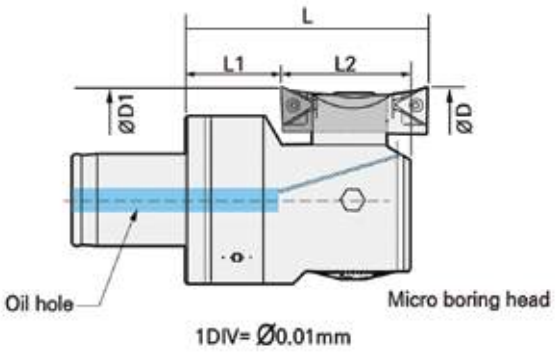
FINISH MICRO BORING HEAD (DINOX)

FBH/B Finish Micro Boring and Back Boring System

PERFORMANCE ★★★★★

- High speed boring and back boring
- Ranges from 26-150mm diameter boring as standard (up to 172mm for back boring)
- High precision balanced to G6.3
- 2 microns fine adjustment





NOTE: Max boring range in brackets can be achieved with extended type bites for back boring (FBB_ _N-1 type)

DINE

Boring Range			Back Boring Range				Bite	Connect Code	Order Code	Price
Min Ø	Max Ø	L	Min Ø	Max Ø	L1	L2				
20	26(30)	35.3	29	30	13.1	18.6	FBB20N-_-_ _	MD19	FBH1920B	**£420.10**
26	34(40)	40.9	36	40	15.1	21.9	FBB26N-_-_ _	MD25	FBH2526B	**£449.66**
33	43(50)	40.9	38	43(50)	13.1	24.9	FBB33N-_-_ _	MD32	FBH3233B	**£477.97**
42	54(62)	50.4	48	54(62)	15.2	31.4	FBB42N-_-_ _	MD40	FBH4042B	**£516.16**
53	70(82)	58.4	58	70(82)	15.7	38.4	FBB53N-_-_ _	MD50	FBH5053B	**£691.82**
68	100(122)	80.6	78	100(122)	27.4	48.6	FBB68N-_-_ _	MD63	FBH6368B	**£625.78**
98	150(172)	100.6	106	150(172)	47.4	48.6	FBB68N-_-_ _	MD63	FBH6398B	**£830.27**
98	150(172)	100.6	106	150(172)	47.4	48.6	FBB68N-_-_ _	MD80	FBH8098B	**£955.09**

FBB BORING BITES (DINOX)

FBH/B Finish Micro Boring and Back Boring System



DINE

Boring Range	Boring Head	Type	Insert	Insert Screw	Clamp Bolt	Order Code	Price
20-26	FBH2526B	Standard (front boring)	TPG_0802_ _L	BFTX0204A	BXC0304	FBB20N	**£64.65**
		Standard (front boring)	CC_ _0401_ _L	FTNA0238		FBB20N-C	**£84.04**
24-30		Extended (back boring)	TPG_0802_ _L	BFTX0204A		FBB20N-1	**£72.12**
		Extended (back boring)	CC_ _0401_ _L	FTNA0238		FBB20N-1-C	**£93.29**
26-34	FBH2526B	Standard (front boring)	TPG_0802_ _L	BFTX0204A	BXC0405	FBB26N	**£84.04**
		Standard (front boring)	CC_ _0401_ _L	FTNA0238		FBB26N-C	**£84.04**
32-40		Extended (back boring)	TPG_0802_ _L	BFTX0204A		FBB26N-1	**£64.35**
		Extended (back boring)	CC_ _0401_ _L	FTNA0238		FBB26N-1-C	**£93.29**
33-43	FBH3233B	Standard (front boring)	TPG_0802_ _L	BFTX0204A	BXC0506	FBB33N	**£64.65**
		Standard (front boring)	CC_ _0602_ _	BFTX02506N		FBB33N-C	**£84.04**
41-50		Extended (back boring)	TPG_0802_ _L	BFTX0204A		FBB33N-1	**£72.12**
		Extended (back boring)	CC_ _0602_ _	BFTX02506N		FBB33N-1-C	**£93.29**
42-54	FBH4042B	Standard (front boring)	TPG_0802_ _L	BFTX0204A	BXC0610	FBB42N	**£75.96**
		Standard (front boring)	CC_ _0602_ _	BFTX02506N		FBB42N-C	**£93.17**
		Extended (back boring)	TPGT1103_ _L	BFTX0307A		FBB42N-11	**£75.96**
50-62		Extended (back boring)	TPG_0802_ _L	BFTX0204A		FBB42N-1	**£81.91**
		Extended (back boring)	CC_ _0602_ _	BFTX02506N		FBB42N-1-C	**£101.66**
		Standard (front boring)	TPGT1103_ _L	BFTX0307A		FBB42N-1-T11	**£82.98**
53-70	FBH5053B	Standard (front boring)	TPG_0802_ _L	BFTX0204A		FBB53N	**£75.96**
		Standard (front boring)	CC_ _0602_ _	BFTX02506N		FBB53N-C	**£93.17**
		Standard (front boring)	TPGT1103_ _L	BFTX0307A		FBB53N-11	**£75.96**
65-82		Extended (back boring)	TPG_0802_ _L	BFTX0204A		FBB53N-1	**£81.91**
		Extended (back boring)	CC_ _0602_ _	BFTX02506N		FBB53N-1-C	**£92.42**
		Extended (back boring)	CC_ _09T3_ _	BFTX0409N		FBB53N-1-C09	**£92.42**
		Extended (back boring)	TPGT1103_ _L	BFTX0307A		FBB53N-1-T11	**£82.98**
68-100 98-150	FBH6398B	Standard (front boring)	TPG_0802_ _L	BFTX0204A	BXC0810	FBB68N	**£81.91**
		Standard (front boring)	CC_ _09T3_ _	BFTX0409N		FBB68N-C	**£106.49**
		Standard (front boring)	TPGT1103_ _L	BFTX0307A		FBB68N-11	**£81.91**
90-122 120-172	FBH8098B	Extended (back boring)	TPG_0802_ _L	BFTX0204A		FBB68N-1	**£103.81**
		Extended (back boring)	CC_ _09T3_ _	BFTX0409N		FBB68N-1-C09	**£116.33**
		Extended (back boring)	TPGT1103_ _L	BFTX0307A		FBB68N-1-T11	**£85.76**

FINISH MICRO BORING HEAD (DINOX)

FBH/B Finish Micro Boring and Back Boring System

- High speed boring and back boring
- Ranges from 20-150mm diameter boring as standard (up to 172mm for back boring)
- High precision balanced to G6.3
- 2 microns fine adjustment

PERFORMANCE ★★★★★



Fig. 1

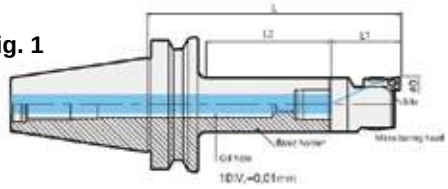
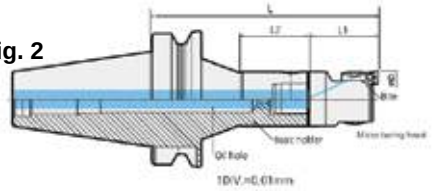


Fig. 2



*Boring head, bite and arbor sold seperately

DINE

Taper	Boring Range		L	L1	L2	ØD	ØD1	Fig	Boring Head*	Price	Bite*	Arbor*	Connect Code
	Min Ø	Max Ø											
	20(24)	26(30)	105.2	35.2	45	19	11	1	FBH1920B	**£420.10**	FBB20N-_-_ _	BT30-MD19F-70	MD19
	26(32)	34(40)	131	41	63	25	14	1	FBH2526B	**£449.66**	FBB26N-_-_ _	BT30-MD25F-90	MD25
	33(40)	43(50)	121	41	55	32	18	1	FBH3233B	**£477.97**	FBB33N-_-_ _	BT30-MD32F-80	MD32
BT30	42(50)	54(62)	95.5	50.5	22	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	BT30-MD40F-45	MD40
	42(50)	54(62)	110.5	50.5	36	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	BT30-MD40F-60	MD40
	42(50)	54(62)	130.5	50.5	56	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	BT30-MD40F-80	MD40
	53(65)	70(82)	128.4	58.5	48	50	28	1	FBH5053B	**£698.47**	FBB53N-_-_ _	BT30-MD50F-70	MD50
	20(24)	26(30)	105.4	35.2	40	19	11	1	FBH1920B	**£420.10**	FBB20N-_-_ _	BT40-MD19F-70	MD19
	26(32)	34(40)	135.9	41	63	25	14	1	FBH2526B	**£449.66**	FBB26N-_-_ _	BT40-MD25F-95	MD25
	26(32)	34(40)	146	41	40	25	14	2	FBH2526B	**£449.66**	FBB26N-_-_ _	BT40-MD25F-105R	MD25
	33(40)	43(50)	140.9	41	70	32	18	1	FBH3233B	**£477.97**	FBB33N-_-_ _	BT40-MD32F-100	MD32
	33(40)	43(50)	156	41	45	32	18	2	FBH3233B	**£477.97**	FBB33N-_-_ _	BT40-MD32F-115R	MD32
	42(50)	54(62)	165.5	50.5	31	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	BT40-MD40F-60	MD40
BT40	42(50)	54(62)	160.5	50.5	60	40	22	2	FBH4042B	**£516.16**	FBB42N-_-_ _	BT40-MD40F-110R	MD40
	42(50)	54(62)	165.5	50.5	83	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	BT40-MD40F-115	MD40
	53(65)	70(82)	163.4	58.5	73	50	28	1	FBH5053B	**£698.47**	FBB53N-_-_ _	BT40-MD50F-105	MD50
	53(65)	70(82)	122.5	58.5	37	50	28	1	FBH5053B	**£698.47**	FBB53N-_-_ _	BT40-MD63F-64	MD50
	68(90)	100(122)	190.6	80.6	83	63	36	1	FBH6368B	**£625.78**	FBB68N-_-_ _	BT40-MD63F-110	MD50
	98(120)	150(172)	235.6	100.6	108	63	36	1	FBH6398B	**£830.27**	FBB68N-_-_ _	BT40-MD63F-135	MD63
	98(120)	150(172)	200.6	100.6	73	80	45	1	FBH8098B	**£955.09**	FBB68N-_-_ _	BT40-MD80F-100	MD63
	20(24)	26(30)	120.2	35.2	44	19	11	1	FBH1920B	**£420.10**	FBB20N-_-_ _	BT50-MD19F-85	MD19
	26(32)	34(40)	146	41	62	25	14	1	FBH2526B	**£449.66**	FBB26N-_-_ _	BT50-MD25F-105	MD25
	26(32)	34(40)	161	41	40	25	14	2	FBH2526B	**£449.66**	FBB26N-_-_ _	BT50-MD25F-120R	MD25
	33(40)	43(50)	151	41	67	32	18	1	FBH3233B	**£477.97**	FBB33N-_-_ _	BT50-MD32F-110	MD32
	33(40)	43(50)	156	41	45	32	18	2	FBH3233B	**£477.97**	FBB33N-_-_ _	BT50-MD32F-115R	MD32
	33(40)	43(50)	276	41	115	32	18	2	FBH3233B	**£477.97**	FBB33N-_-_ _	BT50-MD32F-235R	MD32
	42(50)	54(62)	110.5	50.5	22	32	18	1	FBH4042B	**£516.16**	FBB42N-_-_ _	BT50-MD40F-60	MD40
	42(50)	54(62)	245.5	50.5	152	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	BT50-MD40F-195	MD40
	42(50)	54(62)	280.5	50.5	180	40	22	2	FBH4042B	**£516.16**	FBB42N-_-_ _	BT50-MD40F-230R	MD40
	53(65)	70(82)	183.5	58.5	82	40	22	1	FBH5053B	**£698.47**	FBB53N-_-_ _	BT50-MD50F-125	MD50
	53(65)	70(82)	283.5	58.5	182	50	28	1	FBH5053B	**£698.47**	FBB53N-_-_ _	BT50-MD50F-225	MD50
BT50	53(65)	70(82)	263.5	58.5	81	50	28	2	FBH5053B	**£698.47**	FBB53N-_-_ _	BT50-MD50F-205R	MD50
	68(90)	100(122)	145.6	80.6	35	63	36	1	FBH6368B	**£625.78**	FBB68N-_-_ _	BT50-MD63F-75	MD63
	68(90)	100(122)	200.6	80.6	87	63	36	1	FBH6368B	**£625.78**	FBB68N-_-_ _	BT50-MD63F-130	MD63
	68(90)	100(122)	310.6	80.6	152	63	36	1	FBH6368B	**£625.78**	FBB68N-_-_ _	BT50-MD63F-195	MD63
	68(90)	100(122)	265.6	265.6	187	63	36	1	FBH6368B	**£625.78**	FBB68N-_-_ _	BT50-MD63F-230	MD63
	98(120)	150(172)	175.6	100.6	35	63	36	1	FBH6398B	**£830.27**	FBB68N-_-_ _	BT50-MD63F-75	MD63
	98(120)	150(172)	230.6	100.6	87	63	36	1	FBH6398B	**£830.27**	FBB68N-_-_ _	BT50-MD63F-130	MD63
	98(120)	150(172)	295.6	100.6	152	63	36	1	FBH6398B	**£830.27**	FBB68N-_-_ _	BT50-MD63F-195	MD63
	98(120)	150(172)	330.6	100.6	187	63	36	1	FBH6398B	**£830.27**	FBB68N-_-_ _	BT50-MD63F-230	MD63
	98(120)	150(172)	175.6	100.6	36	80	45	1	FBH8098B	**£955.09**	FBB68N-_-_ _	BT50-MD80F-75	MD80
	98(120)	150(172)	215.6	100.6	69	80	45	1	FBH8098B	**£955.09**	FBB68N-_-_ _	BT50-MD80F-110	MD80
	98(120)	150(172)	275.6	100.6	134	80	45	1	FBH8098B	**£955.09**	FBB68N-_-_ _	BT50-MD80F-175	MD80

In the above table, the Arbor Model No. is an example. Various lengths are available with a combination of different arbors and extension bars.

NOTE: Max boring range in brackets can be achieved with extended type bites for back boring (FBB_ _N-1 type)

BITES



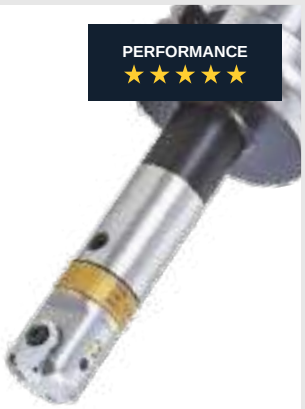
P779

Bite	Applicable Insert
FBB_ _N, FBB_ _N-1	TPGT, TPGW0802_ _L
FBB_ _N-_-C	CCMT, CCGT0602_ _L
FBB_ _N-_-C09	CCMT, CCGT09T3_ _L
FBB_ _N-_-T11	TPGT1103_ _L

DIN69871 FINISH MICRO BORING - BALANCED TYPE (DINOX)

FBH/B Finish Micro Boring and Back Boring System

PERFORMANCE ★★★★★



- High speed boring and back boring
- Ranges from 20-150mm diameter boring as standard (up to 172mm for back boring)
- High precision balanced to G6.3
- 2 microns fine adjustment

Fig. 1

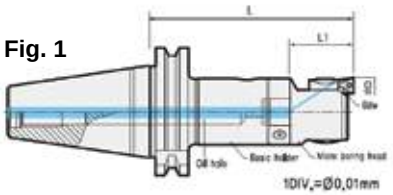


Fig. 2

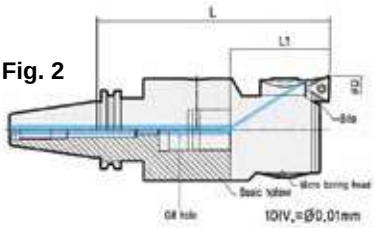
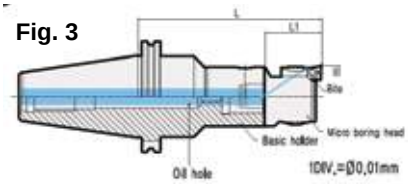


Fig. 3



*Boring head, bite and arbor sold seperately

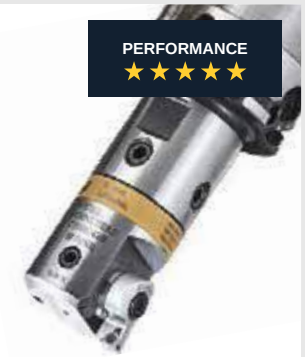
DIN

Taper	Boring Range		L	L1	L2	ØD	ØD1	Fig	Boring Head*	Price	Bite*	Arbor*	Connect Code
	Min Ø	Max Ø											
SK40	26(32)	34(40)	121	41	22	25	14	3	FBH2526B	**£449.66**	FBB26N-_-_ _	SK40-MD25F-80R	MD25
	33(40)	43(50)	156	41	36	32	18	3	FBH3233B	**£477.97**	FBB33N-_-_ _	SK40-MD32F-115R	MD32
	42(50)	54(62)	150.5	50.5	80	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	SK40-MD40F-100	MD40
	53(65)	70(82)	158.5	58.5	80	50	28	1	FBH5053B	**£698.47**	FBB53N-_-_ _	SK40-MD50F-100	MD50
	68(90)	100(122)	150.6	80.6	50	63	36	2	FBH6368B	**£625.78**	FBB68N-_-_ _	SK40-MD63F-70	MD63
	98(120)	150(172)	170.6	100.6	50	63	36	2	FBH6398B	**£830.27**	FBB68N-_-_ _	SK40-MD63F-70	MD63
SK50	26(32)	34(40)	146	41	22	25	14	3	FBH2526B	**£449.66**	FBB26N-_-_ _	SK50-MD25F-105R	MD25
	33(40)	43(50)	151	41	87	32	18	1	FBH3233B	**£477.97**	FBB33N-_-_ _	SK50-MD32F-110	MD32
	42(50)	54(62)	195.5	50.5	120	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	SK50-MD40F-145	MD40
	53(65)	70(82)	298.5	58.5	125	50	28	3	FBH5053B	**£698.47**	FBB53N-_-_ _	SK50-MD50F-240R	MD50
	68(90)	100(122)	210.6	80.6	107	63	36	1	FBH6368B	**£625.78**	FBB68N-_-_ _	SK50-MD63F-130	MD63
	98(120)	150(172)	230.6	100.6	107	63	36	1	FBH6398B	**£830.27**	FBB68N-_-_ _	SK50-MD63F-130	MD63
	98(120)	150(172)	250.6	100.6	130	80	45	1	FBH8098B	**£955.09**	FBB68N-_-_ _	SK50-MD80F-150	MD80

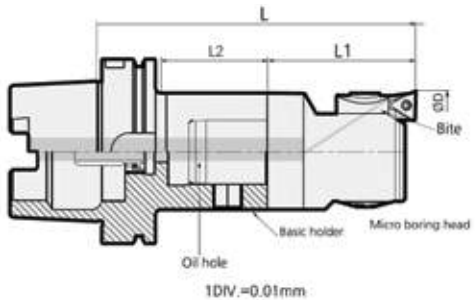
HSK FINISH MICRO BORING - BALANCED TYPE (DINOX)

FBH/B Finish Micro Boring and Back Boring System

PERFORMANCE ★★★★★



- High speed boring and back boring
- Ranges from 20-150mm diameter boring as standard (up to 172mm for back boring)
- High precision balanced to G6.3
- 2 microns fine adjustment



*Boring head, bite and arbor sold seperately

DIN

Taper	Boring Range		L	L1	L2	ØD	ØD1	Fig	Boring Head*	Price	Bite*	Arbor*	Connect Code
	Min Ø	Max Ø											
HSK63	20(24)	26(30)	95.2	35.2	31	19	11	1	FBH1920B	**£420.10**	FBB20N-_-_ _	HSK63A-MD19F-60	MD19
	26(32)	34(40)	101	41	31	25	14	1	FBH2526B	**£449.66**	FBB26N-_-_ _	HSK63A-MD25F-60	MD25
	33(40)	43(50)	106	41	36	32	18	1	FBH3233B	**£477.97**	FBB33N-_-_ _	HSK63A-MD32F-65	MD32
	42(50)	54(62)	120.5	50.5	41	40	22	1	FBH4042B	**£516.16**	FBB42N-_-_ _	HSK63A-MD40F-70	MD40
	53(65)	70(82)	143.5	58.5	58	50	28	1	FBH5053B	**£698.47**	FBB53N-_-_ _	HSK63A-MD50F-85	MD50
	68(90)	100(122)	175.6	80.6	69	63	36	1	FBH6368B	**£625.78**	FBB68N-_-_ _	HSK63A-MD63F-95	MD63
	98(120)	150(172)	195.6	100.6	69	63	36	1	FBH6398B	**£830.27**	FBB68N-_-_ _	HSK63A-MD63F-95	MD63

In the above table, the Arbor Model No. is an example. Various lengths are available with a combination of different arbors and extension bars.

NOTE: Max boring range in brackets can be achieved with extended type bites for back boring (FBB_ _N-1 type)

BITES



P779

Bite	Applicable Insert
FBB_ _N, FBB_ _N-1	TPGT, TPGW0802_ _L
FBB_ _N-_-C	CCMT, CCGT0602_ _L
FBB_ _N-_-C09	CCMT, CCGT09T3_ _L
FBB_ _N-_-T11	TPGT1103_ _L

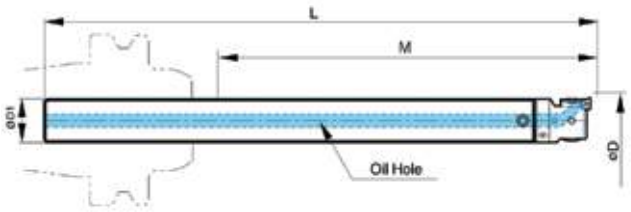
STRAIGHT SHANK FINISH MICRO BORING - BALANCED TYPE (DINOX)

FBH/B Micro Boring and Back Boring System

PERFORMANCE ★★★★★

- High speed boring and back boring
- Steel or carbide shank
- High precision balanced to G6.3
- 2 microns fine adjustment





*Supplied with shank and boring head. Bit must be purchased separately

DINE

Boring Range		L	ØD1	M	Shank Type	Main Components			Order Code*	Price
Min Ø	Max Ø					Shank	Boring Head	Bite		
15	18	110	14	40	Steel	S14-M6-78	FBH15	FBB15-C	S14-FBH15-40	£468.12
		155		85	Carbide	S14W-M6-123			S14W-FBH15-85	£544.49
		180		110	Carbide	S14W-M6-148			S14W-FBH15-110	£565.43
18	22	115	16	45	Steel	S16-M8-78	FBH18	FBB15-C	S16-FBH18-45	£468.12
		165		95	Carbide	S16W-M8-128			S16W-FBH18-95	£596.21
		195		125	Carbide	S16W-M8-158			S16W-FBH18-125	£627.02
20	26(30)	112.35	19	40	Steel	S19-MD19F-77	FBH1920B	FBB20N-_-_ _	S19-FBH20B-40	£511.24
		152.35		80	Steel	S19-MD19F-117			S19-FBH20B-80	£522.32
		192.35		120	Carbide	S19W-MD19F-157			S19W-FBH20B-120	£741.93
		212.35		140	Carbide	S19W-MD19F-177			S19W-FBH20B-140	£773.37
		232.35		160	Carbide	S19W-MD19F-197			S19W-FBH20B-160	£804.81
26	34(40)	138.35	25	50	Steel	S25-MD25F-97.5	FBH2526B	FBB26N-_-_ _	S25-FBH26B-50	£529.21
		188.35		100	Steel	S25-MD25F-147.5			S25-FBH26B-100	£539.67
		238.35		150	Carbide	S25W-MD25F-197.5			S25W-FBH26B-150	£972.48
		263.35		175	Carbide	S25W-MD25F-222.5			S25W-FBH26B-175	£1,004.96

FBB BORING BITES (DINOX)

FBH/B Finish Micro Boring and Back Boring System



DINE

Boring Ø Range	Boring Head	Type	Insert	Insert Screw	Clamp Bolt	Order Code	Price
15-18	FBH15	Standard (front boring)	CC_ _0301-L	BFTX01604N	BFTX02506N	FBB15-C	£71.67
18-22	FBH18	Standard (front boring)					
20-26	FBH2526B	Standard (front boring)	TPG_0802_ _L	BFTX0204A	BXC0304	FBB20N	£64.65
		Standard (front boring)	CC_ _0401_ _L	FTNA0238		FBB20N-C	£84.04
24-30		Extended (back boring)	TPG_0802_ _L	BFTX0204A		FBB20N-1	£72.12
		Extended (back boring)	CC_ _0401_ _L	FTNA0238		FBB20N-1-C	£93.29
26-34	FBH2526B	Standard (front boring)	TPG_0802_ _L	BFTX0204A	BXC0405	FBB26N	£84.04
		Standard (front boring)	CC_ _0401_ _L	FTNA0238		FBB26N-C	£84.04
32-40		Extended (back boring)	TPG_0802_ _L	BFTX0204A		FBB26N-1	£64.35
		Extended (back boring)	CC_ _0401_ _L	FTNA0238		FBB26N-1-C	£93.29

NOTE: Max boring range in brackets can be achieved with extended type bites for back boring (FBB_ _N-1 type)

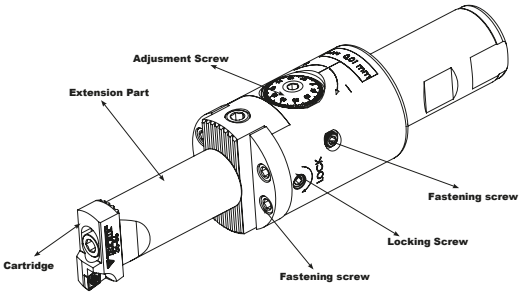
FINISH BORING KIT (9-130MM)

For Finish Boring From 9-130mm Diameter With a Fine Adjustment of +/-0.01mm

PERFORMANCE ★★★

- For finish boring applications 9-130mm
- Fine adjustment 0.01mm
- Ø32mm weldon shank





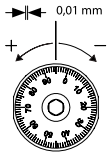
Cartridges	Insert Types	Order Code	Price
9-18mm, 14-24mm, 22-32mm, 28-44mm, 36-56mm, 50-82mm, 80-130mm	CCMT0602 & CCMT09T3	THB01	**£599.00**

WIDE RANGE FINISH BORING HEAD (120-300MM)

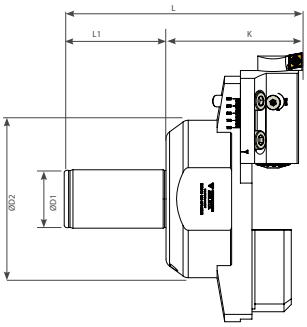
For Finish Boring Applications from 120mm up to 300mm

PERFORMANCE ★★★

- For finish boring applications 120-300mm
- Fine adjustment 0.01mm
- 40mm shank can be used with basic toolholder such as side lock arbor







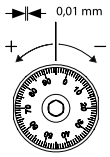
D Min	D Max	K	D1	L1	D2	L	Order Code	Price	Inserts	Adjustment
120	190	93	40	70	109.5	163	THB100	**£355.53**	CC -- 09T3	0.01
180	240	93	40	70	109.5	163	THB101	**£477.48**		
240	300	93	40	70	109.5	163	THB102	**£506.40**		

FINISH BORING HEAD (25-80MM)

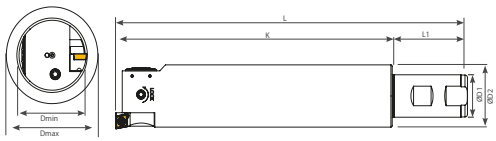
For Finish Boring Applications from 25mm up to 80mm

PERFORMANCE ★★★

- For finish boring applications 25-80mm
- Fine adjustment 0.01mm (except 25-32mm = 0.02mm)







D Min	D Max	K	D1	L1	D2	L	Order Code	Price	Inserts	Adjustment
25	32	50	25	56	23	106	THKB120	**£323.20**	CC -- 0602	0.02
25	32	100	25	56	23	156	THKB122	**£333.18**		
32	40	60	25	56	29	116	THKB126	**£333.18**	CC -- 0602	0.01
32	40	104	25	56	29	160	THKB128	**£345.17**		
40	50	69	25	56	36	125	THKB132	**£351.13**		
40	50	110	25	56	36	165	THKB134	**£355.14**		
40	50	190	25	56	36	245	THKB136	**£373.09**		
50	65	65	32	60	47	125	THKB138	**£349.13**	CC -- 09T3	0.01
50	65	130	32	60	47	190	THKB140	**£367.11**		
50	65	220	32	60	47	280	THKB142	**£389.06**		
65	80	85	32	60	60	145	THKB144	**£355.14**		
65	80	130	32	60	60	190	THKB146	**£377.08**		
65	80	220	32	60	60	280	THKB148	**£405.01**		

DBCA SERIES BALANCED ROUGH BORING SYSTEM

DINE

PERFORMANCE
★★★★★



- Twin cut system for rough boring
- Larger machining area compared to conventional boring systems
- Boring range of 28-136mm diameter
- Improved rigidity and minimised vibration
- Helical or straight flute boring heads
- Helical design for improved chip flow

Main Features

Helical Type



- Improved capacity to discharge chips from clogged and deep holes
- Minimised damage to tools and inserts due to chip clogging

Boring area optimisation

Coolant spray direct to cutting edge



- Max diameter expanded owing to reinforced rigidity

Extended head length	Deep hole machining implemented
Helical type	Improved capacity to discharge chips from holes

Coolant Hole
Direct spray to cutting edge

- Improved capacity to discharge chips
- Improved capacity of machining

Effect of Improved Rigidity for Cartridge by Cover

Clamps the top of the cartridge stably, minimizing the vibration of tools and improving the surface finish of the workpiece.

Small Contact Area



Non-Covered

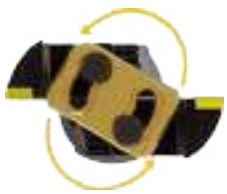
Large Contact Area



Covered



State of MIN machining dia.



State of MAX machining dia.

ROUGH BORING HEAD (DINOX)

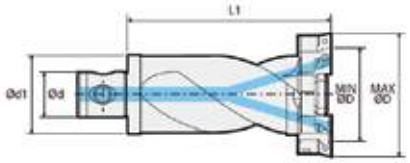
DBCA New Balance Cut Boring System for Boring 28-136mm

PERFORMANCE ★★★★★

- Helical type improves chip evacuation and delivers coolant direct to the cutting edge
- Straight type offers a lower cost option for short chipping materials or shorter hole depths
- Various boring lengths can be achieved with the use of extension bars

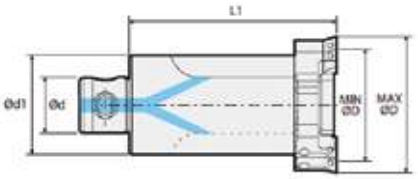


Helical Type





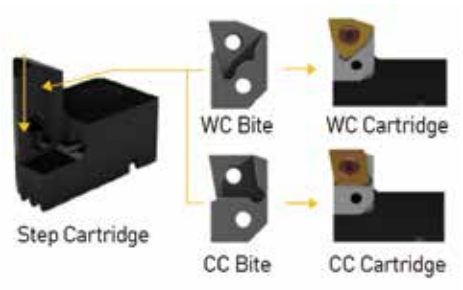
Straight Type



DINE

Boring Range		L1	Ød	Ød1	Insert	Connect Code	Order Code	Price
Min Ø	Max Ø							
Helical Flute								
28	38	103	14	25	CC_ _0602	MD25	DBCA2528S-H	**£486.27**
38	54	110	18	32	CC_ _0602	MD32	DBCA3238S-H	**£521.01**
54	74	145	28	50	CC_ _09T3	MD50	DBCA5054S-H	**£553.34**
74	100	180	36	63	CC_ _1204	MD63	DBCA6374S-H	**£686.84**
100	136	215	45	80	CC_ _1204	MD80	DBCA80100S-H	**£1,098.53**
Straight Flute								
28	38	103	14	25	CC_ _0602	MD25	DBCA2528S	**£363.81**
38	54	110	18	32	CC_ _0602	MD32	DBCA3238S	**£379.09**
54	74	145	28	50	CC_ _09T3	MD50	DBCA5054S	**£426.98**
74	100	180	36	63	CC_ _1204	MD63	DBCA6374S	**£482.02**
100	136	215	45	80	CC_ _1204	MD80	DBCA80100S	**£560.49**

Detailed Specifications



Boring Head	Cartridge	Step Cartridge	Step Cartridge Bite	
			CC Type	WC Type
DBCA2528S-_	BCC28-EC	BCC28SB	SBB28-CC	SBB28-WC
DBCA3238S-_	BCC38-EC	BCC38SB	SBB28-CC	SBB28-WC
DBCA5054S-_	BCC54-EC	BCC54SB	SBB54-CC	SBB54-WC
DBCA6374S-_	BCC74-EC	BCC74SB	SBB74-CC	SBB74-WC
DBCA80100S-_	BCC100-EC	BCC100SB	SBB74-CC	SBB74-WC

BT MAS BALANCED ROUGH BORING SYSTEM - HELICAL FLUTE (DINOX)

DBCA Boring System for Rough Boring Ø28-136mm

PERFORMANCE ★★★★★

- Helical type improves chip evacuation and delivers coolant direct to the cutting edge
- Various boring lengths can be achieved with the use of extension bars

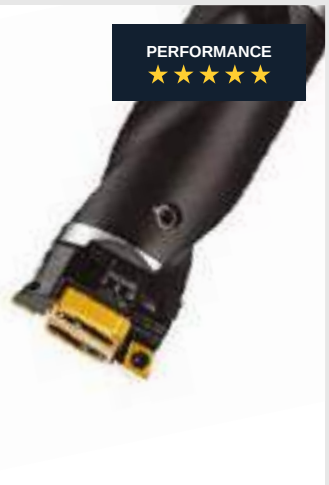


Fig. 1

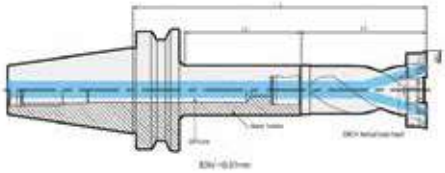
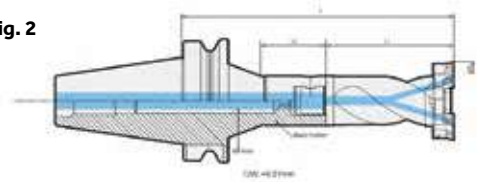


Fig. 2



*Boring head, bite and arbor sold seperately

DINE

Taper	Boring Range		L	L1	L2	ØD	ØD1	Fig	Boring Head*	Price	Arbor*	Insert	Connect Code
	Min Ø	Max Ø											
	28	38	193	103	63	14	25	1	DBCA2528S-H	**£486.27**	BT30-MD25F-90	CC_ _0602	MD25
BT30	38	54	190	110	55	18	32	1	DBCA3238S-H	**£521.01**	BT30-MD32F-80	CC_ _0602	MD32
	54	74	215	145	48	28	50	1	DBCA5054S-H	**£553.34**	BT30-MD50F-70	CC_ _09T3	MD50
	28	38	198	103	63	14	25	1	DBCA2528S-H	**£486.27**	BT40-MD25F-95	CC_ _0602	MD25
	28	38	208	103	40	14	25	2	DBCA2528S-H	**£486.27**	BT40-MD25F-105R	CC_ _0602	MD25
	38	54	210	110	70	18	32	1	DBCA3238S-H	**£521.01**	BT40-MD32F-100	CC_ _0602	MD32
	38	54	225	110	45	18	32	2	DBCA3238S-H	**£521.01**	BT40-MD32F-115R	CC_ _0602	MD32
BT40	54	74	250	145	73	28	50	1	DBCA5054S-H	**£553.34**	BT40-MD50F-105	CC_ _09T3	MD50
	74	100	244	180	37	36	63	1	DBCA6374S-H	**£686.84**	BT40-MD63F-64	CC_ _1204	MD63
	74	100	290	180	83	36	63	1	DBCA6374S-H	**£686.84**	BT40-MD63F-110	CC_ _1204	MD63
	74	100	315	180	108	36	63	1	DBCA6374S-H	**£686.84**	BT40-MD63F-135	CC_ _1204	MD63
	100	136	315	215	73	45	80	1	DBCA80100S-H	**£1,098.53**	BT40-MD80F-100	CC_ _1204	MD80
	28	38	208	103	62	14	25	1	DBCA2528S-H	**£486.27**	BT50-MD25F-105	CC_ _0602	MD25
	28	38	223	103	40	14	25	2	DBCA2528S-H	**£486.27**	BT50-MD25F-120R	CC_ _0602	MD25
	38	54	220	110	67	18	32	1	DBCA3238S-H	**£521.01**	BT50-MD32F-110	CC_ _0602	MD32
	38	54	225	110	45	18	32	2	DBCA3238S-H	**£521.01**	BT50-MD32F-115R	CC_ _0602	MD32
	38	54	345	110	115	18	32	2	DBCA3238S-H	**£521.01**	BT50-MD32F-235R	CC_ _0602	MD32
	54	74	270	145	82	28	50	1	DBCA5054S-H	**£553.34**	BT50-MD50F-125	CC_ _09T3	MD50
	54	74	370	145	182	28	50	1	DBCA5054S-H	**£553.34**	BT50-MD50F-225	CC_ _09T3	MD50
	54	74	395	145	81	28	50	2	DBCA5054S-H	**£553.34**	BT50-MD50F-250R	CC_ _09T3	MD50
	74	100	255	180	35	36	63	1	DBCA6374S-H	**£686.84**	BT50-MD63F-75	CC_ _1204	MD63
	74	100	280	180	87	36	63	1	DBCA6374S-H	**£686.84**	BT50-MD63F-130	CC_ _1204	MD63
	74	100	375	180	152	36	63	1	DBCA6374S-H	**£686.84**	BT50-MD63F-195	CC_ _1204	MD63
	74	100	410	180	187	36	63	1	DBCA6374S-H	**£686.84**	BT50-MD63F-230	CC_ _1204	MD63
	100	136	290	215	36	45	80	1	DBCA80100S-H	**£1,098.53**	BT50-MD80F-75	CC_ _1204	MD80
	100	136	325	215	69	45	80	1	DBCA80100S-H	**£1,098.53**	BT50-MD80F-110	CC_ _1204	MD80
BT50	28	38	208	103	62	14	25	1	DBCA2528S-H	**£486.27**	BT50-MD25F-105	CC_ _0602	MD25
	28	38	223	103	40	14	25	2	DBCA2528S-H	**£486.27**	BT50-MD25F-120R	CC_ _0602	MD25
	38	54	220	110	67	18	32	1	DBCA3238S-H	**£521.01**	BT50-MD32F-110	CC_ _0602	MD32
	38	54	225	110	45	18	32	2	DBCA3238S-H	**£521.01**	BT50-MD32F-115R	CC_ _0602	MD32
	38	54	345	110	115	18	32	2	DBCA3238S-H	**£521.01**	BT50-MD32F-235R	CC_ _0602	MD32
	54	74	270	145	82	28	50	1	DBCA5054S-H	**£553.34**	BT50-MD50F-125	CC_ _09T3	MD32
	54	74	370	145	182	28	50	1	DBCA5054S-H	**£553.34**	BT50-MD50F-225	CC_ _09T3	MD50
	54	74	395	145	81	28	50	2	DBCA5054S-H	**£553.34**	BT50-MD50F-250R	CC_ _09T3	MD50
	74	100	255	180	35	36	63	1	DBCA6374S-H	**£686.84**	BT50-MD63F-75	CC_ _1204	MD63
	74	100	280	180	87	36	63	1	DBCA6374S-H	**£686.84**	BT50-MD63F-130	CC_ _1204	MD63
	74	100	375	180	152	36	63	1	DBCA6374S-H	**£686.84**	BT50-MD63F-195	CC_ _1204	MD63
	74	100	410	180	187	36	63	1	DBCA6374S-H	**£686.84**	BT50-MD63F-230	CC_ _1204	MD63
	100	136	290	215	36	45	80	1	DBCA80100S-H	**£1,098.53**	BT50-MD80F-75	CC_ _1204	MD80
	100	136	325	215	69	45	80	1	DBCA80100S-H	**£1,098.53**	BT50-MD80F-110	CC_ _1204	MD80
	100	136	390	215	134	45	80	1	DBCA80100S-H	**£1,098.53**	BT50-MD80F-175	CC_ _1204	MD80

In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars.
For more details, see the MD arbor page.

BT MAS BALANCED ROUGH BORING SYSTEM - STRAIGHT FLUTE (DINOX)

For Finish Boring From 9-130mm Diameter With a Fine Adjustment of +/-0.01mm

PERFORMANCE ★★★★★

- Straight type offers a lower cost option for short chipping materials or shorter hole depths
- Various boring lengths can be achieved with the use of extension bars

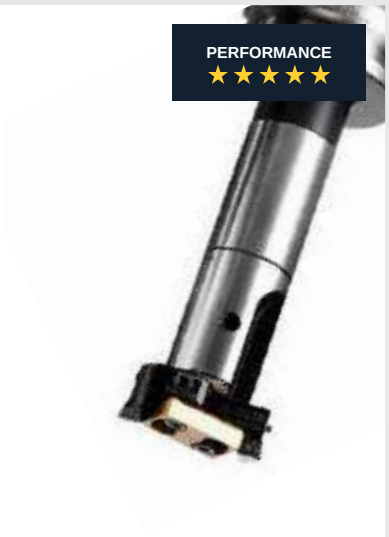


Fig. 1

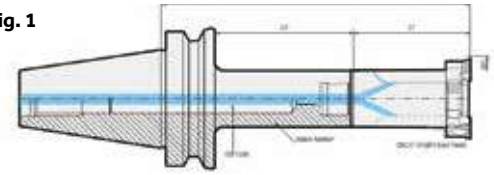
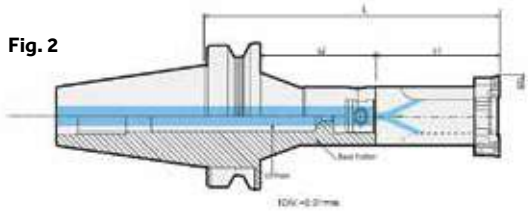


Fig. 2



*Boring head, bite and arbor sold seperately

DINE

Taper	Boring Range		L	L1	L2	ØD	ØD1	Fig	Boring Head*	Price	Arbor*	Insert	Connect Code
	Min Ø	Max Ø											
	28	38	193	103	63	14	25	1	DBCA2528S	**£363.81**	BT30-MD25F-90	CC_ _0602	MD25
BT30	38	54	190	110	55	18	32	1	DBCA3238S	**£379.09**	BT30-MD32F-80	CC_ _0602	MD32
	54	74	215	145	48	28	50	1	DBCA5054S	**£426.98**	BT30-MD50F-70	CC_ _09T3	MD50
	28	38	198	103	63	14	25	1	DBCA2528S	**£363.81**	BT40-MD25F-95	CC_ _0602	MD25
	28	38	208	103	40	14	25	2	DBCA2528S	**£363.81**	BT40-MD25F-105R	CC_ _0602	MD25
	38	54	210	110	70	18	32	1	DBCA3238S	**£379.09**	BT40-MD32F-100	CC_ _0602	MD32
	38	54	225	110	45	18	32	2	DBCA3238S	**£379.09**	BT40-MD32F-115R	CC_ _0602	MD32
BT40	54	74	205	145	73	28	50	1	DBCA5054S	**£426.98**	BT40-MD50F-105	CC_ _09T3	MD50
	74	100	244	180	37	36	63	1	DBCA6374S	**£482.02**	BT40-MD63F-64	CC_ _1204	MD63
	74	100	315	180	83	36	63	1	DBCA6374S	**£482.02**	BT40-MD63F-135	CC_ _1204	MD63
	74	100	280	180	108	36	63	1	DBCA6374S	**£482.02**	BT40-MD80F-100	CC_ _1204	MD80
	100	136	315	215	73	45	80	1	DBCA80100S	**£560.49**	BT40-MD80F-100	CC_ _1204	MD80
	28	38	208	103	62	14	25	1	DBCA2528S	**£363.81**	BT50-MD25F-105	CC_ _0602	MD25
	28	38	223	103	40	14	25	2	DBCA2528S	**£363.81**	BT50-MD25F-120R	CC_ _0602	MD25
	38	54	220	110	67	18	32	1	DBCA3238S	**£379.09**	BT50-MD32F-110	CC_ _0602	MD32
	38	54	225	110	45	18	32	2	DBCA3238S	**£379.09**	BT50-MD32F-115R	CC_ _0602	MD32
	38	54	345	110	115	18	32	2	DBCA3238S	**£379.09**	BT50-MD32F-235R	CC_ _0602	MD32
	54	74	270	145	82	28	50	1	DBCA5054S	**£426.98**	BT50-MD50F-125	CC_ _09T3	MD50
	54	74	370	145	182	28	50	1	DBCA5054S	**£426.98**	BT50-MD50F-225	CC_ _09T3	MD50
BT50	54	74	395	145	81	28	50	2	DBCA5054S	**£426.98**	BT50-MD50F-250R	CC_ _09T3	MD50
	74	100	255	180	35	36	63	1	DBCA6374S	**£482.02**	BT50-MD63F-75	CC_ _1204	MD63
	74	100	310	180	87	36	63	1	DBCA6374S	**£482.02**	BT50-MD63F-130	CC_ _1204	MD63
	74	100	375	180	152	36	63	1	DBCA6374S	**£482.02**	BT50-MD63F-195	CC_ _1204	MD63
	74	100	410	180	187	36	63	1	DBCA6374S	**£482.02**	BT50-MD63F-230	CC_ _1204	MD63
	100	136	290	215	36	45	80	1	DBCA80100S	**£560.49**	BT50-MD80F-75	CC_ _1204	MD80
	100	136	325	215	69	45	80	1	DBCA80100S	**£560.49**	BT50-MD80F-110	CC_ _1204	MD80
	100	136	390	215	134	45	80	1	DBCA80100S	**£560.49**	BT50-MD80F-175	CC_ _1204	MD80

In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars.
For more details, see the MD arbor page.

DIN6971 BALANCED ROUGH BORING SYSTEM - HELICAL TYPE (DINOX)

DBCA New Balance Cut Boring System for Boring 28-136mm

- Helical type improves chip evacuation and delivers coolant direct to the cutting edge
- Various boring lengths can be achieved with the use of extensions

PERFORMANCE ★★★★★

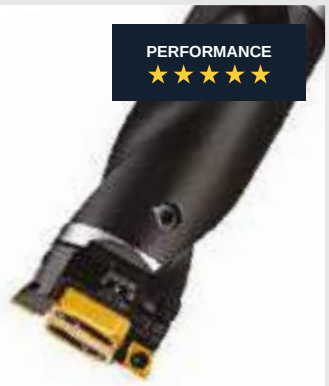


Fig. 1

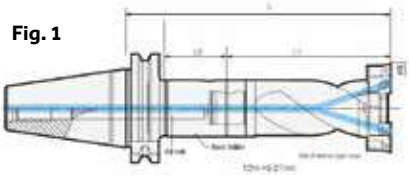


Fig. 3

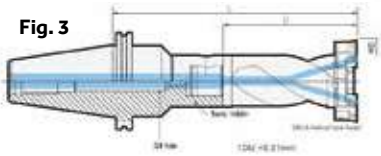
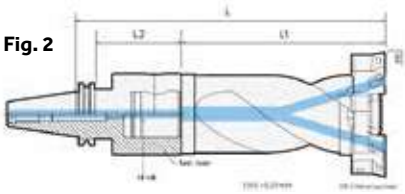


Fig. 2



*Boring head, bite and arbor sold seperately

DINE

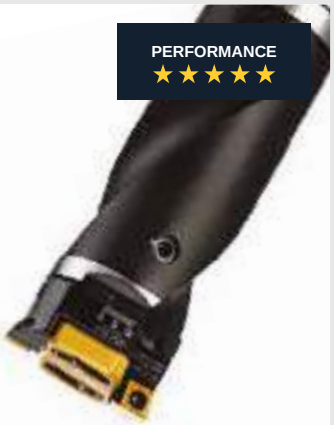
Taper	Boring Range		L	L1	L2	ØD	ØD1	Fig	Boring Head*	Price	Arbor*	Insert	Connect Code
	Min Ø	Max Ø											
SK40	38	54	183	103	22	14	25	3	DBCA2528S-H	**£486.27**	SK40-MD25F-80R	CC_ _0602	MD25
	38	54	225	110	36	18	32	3	DBCA3238S-H	**£521.01**	SK40-MD32F-115R	CC_ _0602	MD32
	54	74	220	145	55	28	50	1	DBCA5054S-H	**£553.34**	SK40-MD50F-75	CC_ _09T3	MD50
	54	74	145	145	80	28	50	1	DBCA5054S-H	**£553.34**	SK40-MD50F-100	CC_ _09T3	MD50
	74	100	250	180	50	36	63	2	DBCA6374S-H	**£686.84**	SK40-MD63F-70	CC_ _1204	MD63
SK50	28	38	183	103	22	14	25	3	DBCA2528S-H	**£486.27**	SK50-MD25F-80R	CC_ _0602	MD25
	28	38	208	103	22	14	25	3	DBCA2528S-H	**£486.27**	SK50-MD25F-105R	CC_ _0602	MD25
	38	54	220	110	87	18	32	1	DBCA3238S-H	**£521.01**	SK50-MD32F-110	CC_ _0602	MD32
	38	54	220	110	36	18	32	3	DBCA3238S-H	**£521.01**	SK50-MD32F-110R	CC_ _0602	MD32
	54	74	270	145	60	28	50	3	DBCA5054S-H	**£553.34**	SK50-MD50F-125R	CC_ _09T3	MD50
	54	74	385	145	125	28	50	3	DBCA5054S-H	**£553.34**	SK50-MD50F-240R	CC_ _09T3	MD50
	74	100	255	180	52	36	63	1	DBCA6374S-H	**£686.84**	SK50-MD63F-75	CC_ _1204	MD63
	74	100	310	180	107	36	63	1	DBCA6374S-H	**£686.84**	SK50-MD63F-130	CC_ _1204	MD63
	74	100	410	180	149	36	63	3	DBCA6374S-H	**£686.84**	SK50-MD63F-230R	CC_ _1204	MD63
	100	136	310	215	75	45	80	1	DBCA80100S-H	**£1,098.53**	SK50-MD80F-95	CC_ _1204	MD80
	100	136	365	215	130	45	80	1	DBCA80100S-H	**£1,098.53**	SK50-MD80F-150	CC_ _1204	MD80

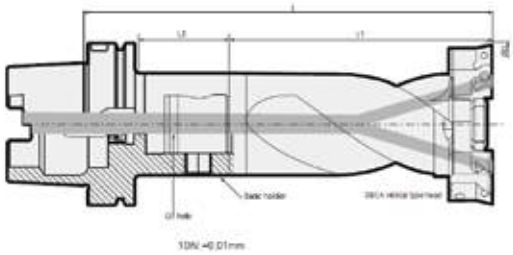
HSK BALANCED ROUGH BORING SYSTEM - HELICAL TYPE (DINOX)

DBCA New Balance Cut Boring System for Boring 38-100mm

- Helical type improves chip evacuation and delivers coolant direct to the cutting edge
- Various boring lengths can be achieved with the use of extensions

PERFORMANCE ★★★★★





*Boring head, bite and arbor sold seperately

DINE

Taper	Boring Range		L	L1	L2	ØD	ØD1	Boring Head*	Price	Arbor*	Insert	Connect Code
	Min Ø	Max Ø										
HSK63A	38	54	163	103	31	14	25	DBCA2528S-H	**£486.27**	HSK63A-MD25F-60	CC_ _0602	MD25
	38	54	175	110	36	18	32	DBCA3238S-H	**£521.01**	HSK63A-MD32F-65	CC_ _0602	MD32
	54	74	230	145	58	28	50	DBCA5054S-H	**£553.34**	HSK63A-MD50F-85	CC_ _09T3	MD50
	74	100	275	180	69	45	80	DBCA6374S-H	**£686.84**	HSK63A-MD63F-95	CC_ _1204	MD63

In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

DIN6971 BALANCED ROUGH BORING SYSTEM - STRAIGHT TYPE (DINOX)

DBCA New Balance Cut Boring System for Boring 38-136mm

PERFORMANCE ★★★★★

- Straight type offers a lower cost option for short chipping materials or shorter hole depths
- Various boring lengths can be achieved with the use of extensions

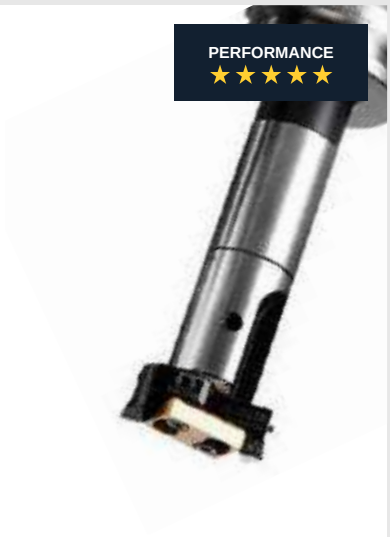


Fig. 1

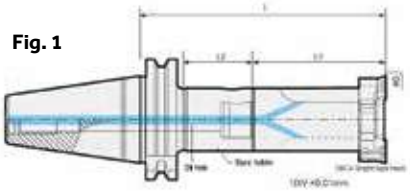


Fig. 3

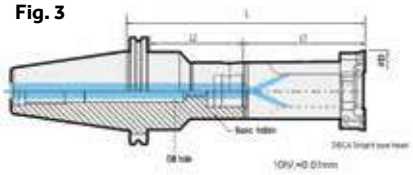
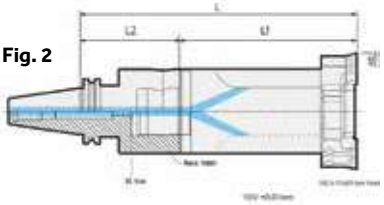


Fig. 2



*Boring head, bite and arbor sold seperately

DINE

Taper	Boring Range		L	L1	L2	ØD	ØD1	Fig	Boring Head*	Price	Arbor*	Insert	Connect Code
	Min Ø	Max Ø											
SK40	38	54	183	103	22	14	25	3	DBCA2528S-H	**£486.27**	SK40-MD25F-80R	CC_ _0602	MD25
	38	54	225	110	36	18	32	3	DBCA3238S-H	**£521.01**	SK40-MD32F-115R	CC_ _0602	MD32
	54	74	220	145	55	28	50	1	DBCA5054S-H	**£553.34**	SK40-MD50F-75	CC_ _09T3	MD50
	54	74	145	145	80	28	50	1	DBCA5054S-H	**£553.34**	SK40-MD50F-100	CC_ _09T3	MD50
	74	100	250	180	50	36	63	2	DBCA6374S-H	**£686.84**	SK40-MD63F-70	CC_ _1204	MD63
SK50	28	38	183	103	22	14	25	3	DBCA2528S-H	**£486.27**	SK50-MD25F-80R	CC_ _0602	MD25
	28	38	208	103	22	14	25	3	DBCA2528S-H	**£486.27**	SK50-MD25F-105R	CC_ _0602	MD25
	38	54	220	110	87	18	32	1	DBCA3238S-H	**£521.01**	SK50-MD32F-110	CC_ _0602	MD32
	38	54	220	110	36	18	32	3	DBCA3238S-H	**£521.01**	SK50-MD32F-110R	CC_ _0602	MD32
	54	74	270	145	60	28	50	3	DBCA5054S-H	**£553.34**	SK50-MD50F-125R	CC_ _09T3	MD50
	54	74	385	145	125	28	50	3	DBCA5054S-H	**£553.34**	SK50-MD50F-240R	CC_ _09T3	MD50
	74	100	255	180	52	36	63	1	DBCA6374S-H	**£686.84**	SK50-MD63F-75	CC_ _09T3	MD63
	74	100	310	180	107	36	63	1	DBCA6374S-H	**£686.84**	SK50-MD63F-130	CC_ _09T3	MD63
	74	100	410	180	149	36	63	3	DBCA6374S-H	**£686.84**	SK50-MD63F-230R	CC_ _09T3	MD63
	100	136	310	215	75	45	80	1	DBCA80100S-H	**£1,098.53**	SK50-MD80F-95	CC_ _1204	MD80
	100	136	365	215	130	45	80	1	DBCA80100S-H	**£1,098.53**	SK50-MD80F-150	CC_ _1204	MD80

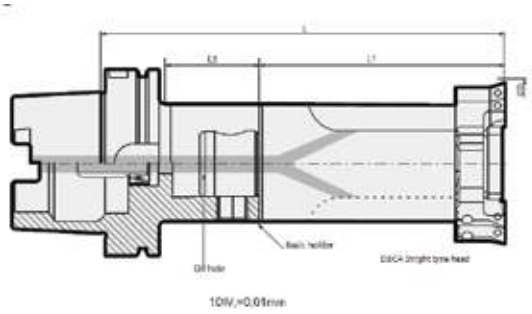
HSK BALANCED ROUGH BORING SYSTEM - STRAIGHT TYPE (DINOX)

DBCA New Balance Cut Boring System for Boring 38-100mm

PERFORMANCE ★★★★★

- Straight type offers a lower cost option for short chipping materials or shorter hole depths
- Various boring lengths can be achieved with the use of extensions





*Boring head, bite and arbor sold seperately

DINE

Taper	Boring Range		L	L1	L2	ØD	ØD1	Boring Head*	Price	Arbor*	Insert	Connect Code
	Min Ø	Max Ø										
HSK63	38	54	122	62	31	14	25	DBCA2528S	**£363.81**	HSK63A-MD25F-60	CC_ _0602	MD25
	38	54	134.5	69.5	36	18	32	DBCA3238S	**£379.09**	HSK63A-MD32F-65	CC_ _0602	MD32
	54	74	179	94	58	28	50	DBCA5054S	**£426.98**	HSK63A-MD50F-85	CC_ _09T3	MD50
	74	100	206.5	106.5	69	45	80	DBCA6374S	**£482.02**	HSK63A-MD63F-95	CC_ _1204	MD63

In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

SMB SMALL FINISH BORING SYSTEM (DINOX)

For 7-37mm Micro Boring - Available in BT MAS, DIN69871 and HSK Connections

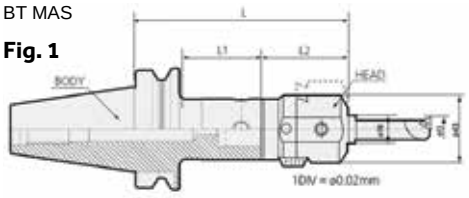
PERFORMANCE ★★★★★

- 0.02mm fine adjustment
- Micro-finish boring system for small diameters
- Suitable for shallow depth boring from Ø7-37mm



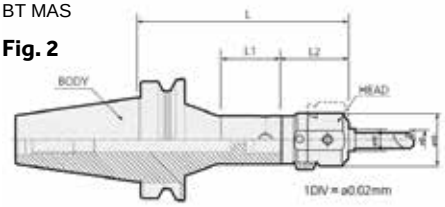
BT MAS

Fig. 1



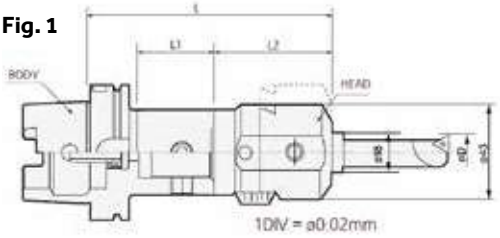
BT MAS

Fig. 2



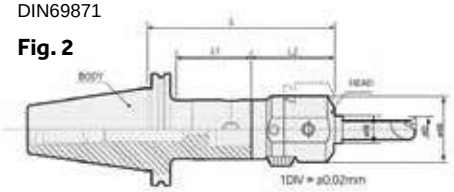
HSK

Fig. 1



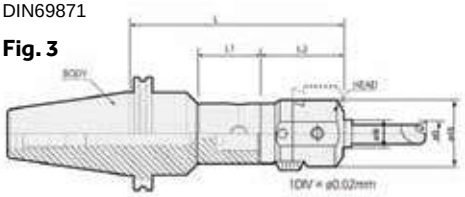
DIN69871

Fig. 2



DIN69871

Fig. 3



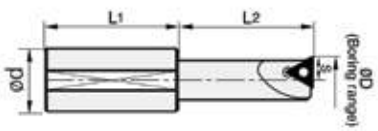
*Boring head, bite and arbor sold seperately

DIN

Taper	Arbor*	L	L1	L2	Fig	Boring Range Ø	Bite	Order Code	Price
BT MAS						7-37	BB18-_(S)	SMB4022	**£546.75**
BT30	BT30-MD40F-45	107.5	22	62.5	1				
	BT30-MD40F-60	122.5	36	62.5	1				
	BT30-MD40F-80	142.5	56	62.5	1				
BT40	BT40-MD40F-60	122.5	31	62.5	1				
	BT40-MD40F-110R	172.5	60	62.5	2				
	BT40-MD40F-115	177.5	83	62.5	1				
BT50	BT50-MD40F-60	122.5	22	62.5	1				
	BT50-MD40F-195	257.5	152	62.5	1				
	BT50-MD40F-230R	292.5	180	62.5	2				
DIN 69871									
SK40	SK40-MD40F-60	122.5	40	62.5	2				
	SK40-MD40F-100	162.5	80	62.5	2				
SK50	SK50-MD40F-145	207.5	120	62.5	2				
	SK50-MD40F-220R	282.5	83	62.5	3				
HSK-A									
HSK63	HSK63A-MD40F-70	132.5	41	62.5	1				

SMB BORING BITES (DINOX)





DIN

Boring Range		L1	L2	Insert	Insert Screw	Order Code	Price
Min Ø	Max Ø						
7	27	30	30	TBGT0601_ _ L	BFTX0204A	BB18-7(S)	**£74.85**
9	29	40	30	TBGT0802_ _ L	BFTX0204A	BB18-9(S)	**£74.85**
11	31	45	30	TBGT1103_ _ L	BFTX0307A	BB18-11(S)	**£74.85**
13	33	45	40	TBGT1103_ _ L	BFTX0307A	BB18-13(S)	**£74.85**
15	35	50	40	TBGT1103_ _ L	BFTX0307A	BB18-15(S)	**£74.85**
17	37	50	40	TBGT1103_ _ L	BFTX0307A	BB18-17(S)	**£74.85**

KMB MEDIUM FINISH BORING SYSTEM (DINOX)

For 7-165mm Micro Boring - Available in BT MAS, DIN69871 and HSK Connections

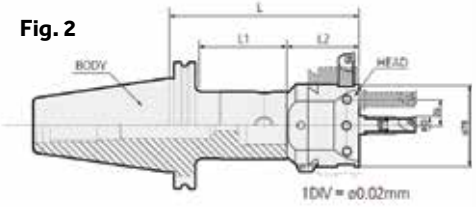
PERFORMANCE ★★★★★

- 0.02mm fine adjustment
- Universal finish boring system for small to large diameters
- Features 3 holes for boring bites: centre (Ø7-37mm), eccentric (Ø41-101) and side (Ø<165)



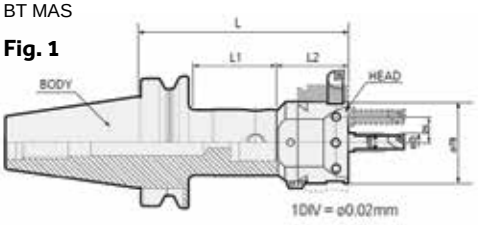
DIN69871

Fig. 2



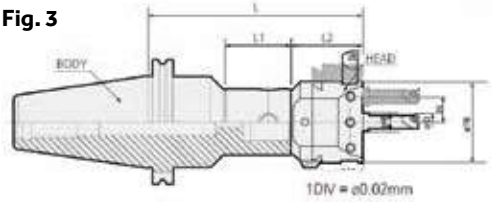
BT MAS

Fig. 1



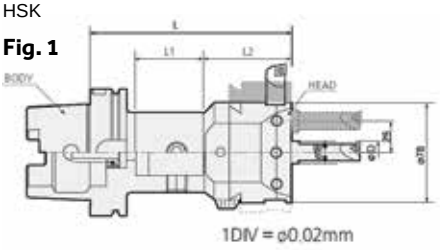
DIN69871

Fig. 3



HSK

Fig. 1



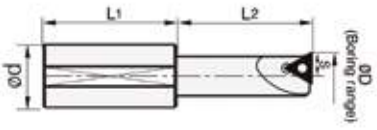
*Boring head, bite and arbor sold seperately

DIN

Taper	Arbor	L	L1	L2	Fig	Boring Range		Bite	Order Code	Price
						Bite Position	Range			
BT MAS										
BT40	BT40-MD63F-64	141	37	77	1	Centre Hole Eccentric Hole Side Hole	7-50 43-101 <165	BB18-_(S)	KMB6336	**£834.91**
	BT40-MD63F-110	187	83	77	1					
	BT40-MD63F-135	212	108	77	1					
BT50	BT50-MD63F-75	152	35	77	1					
	BT50-MD63F-130	207	87	77	1					
	BT50-MD63F-195	272	152	77	1					
DIN 69871										
SK40	SK40-MD63F-70	147	50	77	2					
SK50	SK50-MD63F-130	207	107	77	2					
	SK50-MD63F-230R	307	149	77	3					
HSK-A										
HSK63	HSK63A-MD63F-95	172	69	77	1					

KMB BORING BITES (DINOX)





NOTE: For size reference on centre hole use the bite dimensions below. For eccentric and side hole use the largest bite

DIN

Boring Range				S	L1	L2	Insert	Insert Screw	Order Code	Price
Centre		Eccentric								
Min Ø	Max Ø	Min Ø	Max Ø							
7	40	43	91	3.5	30	30	TBGT0601_ _ L	BFTX0204A	BB18-7(S)	**£74.85**
9	42	45	93	4.5	40	30	TBGT0802_ _ L	BFTX0204A	BB18-9(S)	**£74.85**
11	44	47	95	5.5	45	30	TBGT1103_ _ L	BFTX0307A	BB18-11(S)	**£74.85**
13	49	49	97	6.5	45	40	TBGT1103_ _ L	BFTX0307A	BB18-13(S)	**£74.85**
15	48	51	99	7.5	50	40	TBGT1103_ _ L	BFTX0307A	BB18-15(S)	**£74.85**
17	50	53	101	8.5	50	40	TBGT1103_ _ L	BFTX0307A	BB18-17(S)	**£74.85**

SMH SMALL MICRO BORING SYSTEM (DINOX)

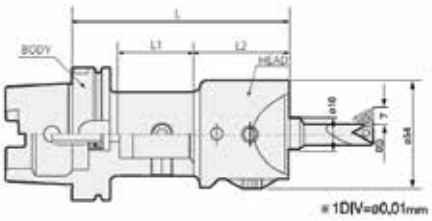
For Ø7-29mm Micro Boring - Available in BT MAS, DIN69871 and HSK Connections

- 0.01mm fine adjustment
- Micro-finish boring system for small diameters
- Suitable for shallow depth boring from Ø5-34mm



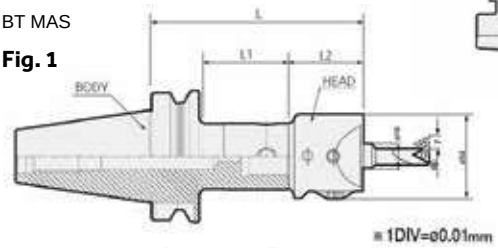
HSK

Fig. 1



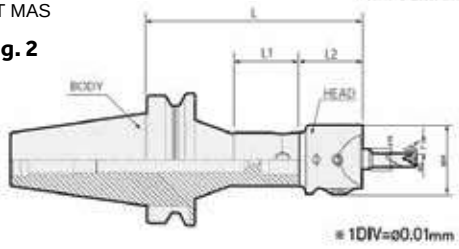
BT MAS

Fig. 1



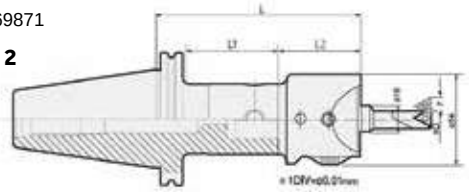
BT MAS

Fig. 2



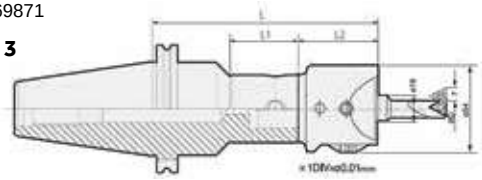
DIN69871

Fig. 2



DIN69871

Fig. 3



*Boring head, bite and arbor sold seperately

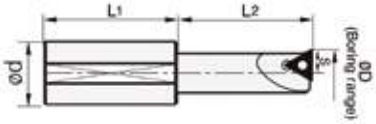
DINE

Taper	Arbor	L	L1	L2	Fig	Boring Range Ø	Bite	Order Code	Price
BT MAS									
BT30	BT30-MD40F-45	94	22	49	1	5.5-33	BB16-_(S)	SMH4022	**£611.06**
	BT30-MD40F-60	109	36	49	1				
	BT30-MD40F-80	129	56	49	1				
BT40	BT40-MD40F-60	109	31	49	1				
	BT40-MD40F-110R	159	60	49	2				
	BT40-MD40F-115	164	83	49	1				
BT50	BT50-MD40F-60	109	22	49	1				
	BT50-MD40F-195	244	152	49	1				
	BT50-MD40F-230R	279	180	49	2				
DIN 69871									
SK40	SK40-MD40F-60	122.5	40	49	2				
	SK40-MD40F-100	162.5	80	49	2				
SK50	SK50-MD40F-145	207.5	120	49	2				
	SK50-MD40F-220R	282.5	83	49	3				
HSK-A									
HSK63	HSK63A-MD40F-70	132.5	41	49	1				

SMH BORING BITES (DINOX)

For Ø5-34mm Micro Boring





DINE

Boring Range		S	Ød	L1	L2	Insert	Insert Screw	Order Code	Price
Min Ø	Max Ø								
7	21	3.5			30	TBGT0601	BTX0204A	BB16-7(S)	**£74.85**
9	23	4.5			40	TPGT0802	BTX0204A	BB16-9(S)	**£74.85**
11	25	5.5			45	TPGT1103	BFTX0307A	BB16-11(S)	**£76.85**
15	29	7.5			50	TPGT1604	BFTX0307A	BB16-15(S)	**£74.85**

BT MAS SMH SMALL MICRO BORING SETS (DINOX)

For 6-34mm Micro Boring - Supplied with BT40 or BT50 Arbor

PERFORMANCE ★★★★★

Contents:

- 1x SMH4022 Boring Head
- 1x BT40 or BT50 Modular Arbor
- 1x BB16-0624(S) Boring Bite
- 1x BB16-0832(S) Boring Bite
- 1x BB16-1040(S) Boring Bite
- 1x BB16-1253(S) Boring Bite
- 1x BB16-1668(S) Boring Bite
- 1x BB16-2083(S) Boring Bite
- 1x BB16-2590(S) Boring Bite
- 1x BB16-3090(S) Boring Bite
- 2x BFTX0203A Screw
- 2x BFTX0204A Screw
- 2x BFTX0207A Screw
- 1x LW-3 Wrench
- 1x LW-5 Wrench
- 1x TRX06 Wrench
- 1x TRX10 Wrench



SMH Set 1
BT40



SMH Set 2
BT50

DINE

Taper	Included Arbor	Boring Range		Order Code	Price
		Min Ø	Max Ø		
BT40	BT40-MD40F-60	6	34	SMH(SET1)	**£1,250.00**
BT50	BT50-MD40F-60	6	34	SMH(SET2)	**£1,119.00**

BT MAS MODULAR BORING ARBORS (DINOX)

Modular Arbors for DINOX Boring Systems

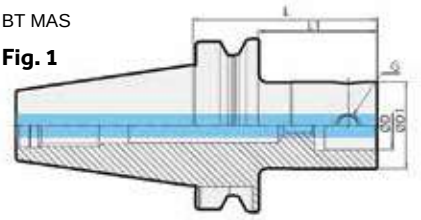
- High precision balanced modular arbors for Dinox boring heads
- Various lengths can be achieved with the use of modular extensions
- Boring heads can be changed on the machine without removing the arbor through the quick change locking screw on the side of the arbor

PERFORMANCE ★★★★★



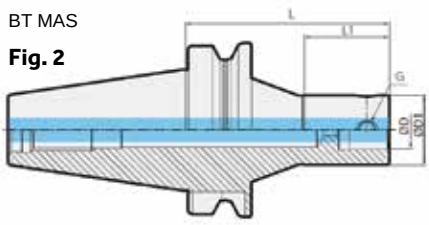
BT MAS

Fig. 1



BT MAS

Fig. 2



DIN

Taper	ØD	ØD1	L	L1	G	Fig.	Connect Code	Order Code	Price
BT30	11	19	70	45	M5	1	MD19	BT30-MD19F-70	**£124.89**
	14	25	90	63	M6	1	MD25	BT30-MD25F-90	**£130.36**
	18	32	80	55	M8	1	MD32	BT30-MD32F-80	**£137.23**
	22	40	45	22	M10	1	MD40	BT30-MD40F-45	**£155.05**
	22	40	60	36	M10	1	MD40	BT30-MD40F-60	**£155.05**
BT40	11	19	70	40	M5	1	MD19	BT40-MD19F-70	**£134.47**
	14	25	95	63	M6	1	MD25	BT40-MD25F-95	**£134.47**
	14	25	105	40	M6	2	MD25	BT40-MD25F-105R	**£134.47**
	18	32	100	70	M8	1	MD32	BT40-MD32F-100	**£139.96**
	18	32	115	45	M8	2	MD32	BT40-MD32F-115R	**£139.96**
	22	40	60	31	M10	1	MD40	BT40-MD40F-60	**£139.96**
	22	40	110	60	M10	2	MD40	BT40-MD40F-110R	**£159.17**
	22	40	115	83	M10	1	Md40	BT40-MD40F-115	**£164.67**
	28	50	105	73	M12	1	MD50	BT40-MD50F-105	**£164.67**
	36	63	64	37	M16	1	MD63	BT40-MD63F-64	**£192.12**
	36	63	110	83	M16	1	MD63	BT40-MD63F-110	**£192.12**
	36	63	135	108	M16	1	MD63	BT40-MD63F-135	**£192.12**
	45	80	100	73	M16	1	MD80	BT40-MD80F-100	**£197.61**
BT50	11	19	85	44	M5	1	MD19	BT50-MD19F-85	**£137.23**
	14	25	105	62	M6	1	MD25	BT50-MD25F-105	**£150.97**
	14	25	120	40	M6	2	MD25	BT50-MD25F-120R	**£153.70**
	18	32	110	67	M8	1	MD32	BT50-MD32F-110	**£159.17**
	18	32	115	45	M8	2	MD32	BT50-MD32F-115R	**£159.17**
	18	32	235	115	M8	2	MD32	BT50-MD32F-235R	**£205.84**
	22	40	60	22	M10	1	MD40	BT50-MD40F-60	**£178.39**
	22	40	195	152	M10	1	MD40	BT50-MD40F-195	**£205.84**
	22	40	230	180	M10	2	MD40	BT50-MD40F-230R	**£219.54**
	28	50	125	82	M12	1	MD50	BT50-MD50F-125	**£186.62**
	28	50	225	182	M12	1	MD50	BT50-MD50F-225	**£219.54**
	28	50	250	81	M12	2	MD50	BT50-MD50F-250R	**£233.28**
	36	63	75	35	M16	1	MD63	BT50-MD63F-75	**£194.85**
	36	63	130	87	M16	1	MD63	BT50-MD63F-130	**£205.84**
	36	63	195	152	M16	1	MD63	BT50-MD63F-195	**£233.28**
	36	63	230	187	M16	1	MD63	BT50-MD63F-230	**£246.99**
	45	80	75	36	M16	1	MD80	BT50-MD80F-75	**£207.21**
	45	80	110	69	M16	1	MD80	BT50-MD80F-110	**£218.19**
	45	80	175	134	M16	1	MD80	BT50-MD80F-175	**£246.99**
	45	90	75	34	M16	1	MD90	BT50-MD90F-75	**£219.54**
	45	90	145	104	M16	1	MD90	BT50-MD90F-145	**£240.13**
	45	90	195	154	M16	1	MD90	BT50-MD90F-195	**£260.72**

DIN69871 MODULAR BORING ARBORS (DINOX)

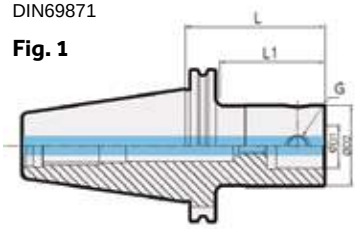
Modular Arbors for DINOX Boring Systems

- High precision balanced modular arbors for Dinox boring heads
- Various lengths can be achieved with the use of modular extensions
- Boring heads can be changed on the machine without removing the arbor through the quick change locking screw on the side of the arbor

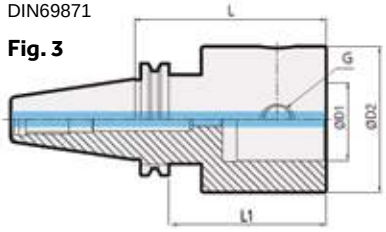
PERFORMANCE ★★★★★



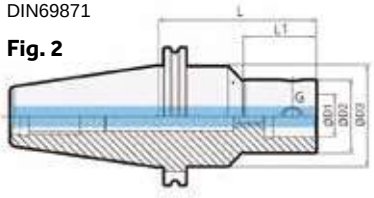
DIN69871 **Fig. 1**



DIN69871 **Fig. 3**



DIN69871 **Fig. 2**



DIN

Taper	ØD1	L	ØD2	ØD3	L1	G	Fig.	Connect Code	Order Code	Price
SK40	14	80	25	35	22	M6	3	MD25	SK40-MD25F-80R	**£133.12**
	18	115	32	42	36	M8	3	MD32	SK40-MD32F-115R	**£137.23**
	22	60	40	-	40	M10	1	MD40	SK40-MD40F-60	**£139.96**
	22	100	40	-	80	M10	1	MD40	SK40-MD40F-100	**£159.17**
	28	75	50	-	55	M10	1	MD50	SK40-MD50F-75	**£161.93**
	28	100	50	-	80	M12	1	MD50	SK40-MD50F-100	**£164.67**
	36	70	63	-	50	M16	2	MD63	SK40-MD63F-70	**£185.23**
SK50	11	85	19	40	12	M5	3	MD19	SK50-MD19F-85R	**£137.23**
	14	80	25	44	22	M6	3	MD25	SK50-MD25F-80R	**£148.21**
	14	105	25	44	22	M6	3	MD25	SK50-MD25F-105R	**£150.97**
	18	110	32	-	87	M8	1	MD32	SK50-MD32F-110	**£159.17**
	18	110	32	50	36	M8	3	MD32	SK50-MD32F-110R	**£159.17**
	22	100	40	-	75	M10	1	MD40	SK50-MD40F-100	**£182.51**
	22	145	40	-	120	M10	1	MD40	SK50-MD40F-145	**£192.12**
	22	220	40	60	83	M10	3	MD40	SK50-MD40F-220R	**£215.45**
	28	125	50	65	60	M12	3	MD50	SK50-MD50F-125R	**£188.41**
	28	240	50	65	125	M12	3	MD50	SK50-MD50F-240R	**£229.15**
	36	75	63	-	52	M16	1	MD50	SK50-MD63F-75	**£194.85**
	36	130	63	-	107	M16	1	MD63	SK50-MD63F-130	**£205.84**
	36	230	63	80	149	M16	3	MD63	SK50-MD63F-230R	**£246.99**
	45	95	80	-	75	M16	1	MD80	SK50-MD80F-95	**£214.07**
	45	150	80	-	130	M16	1	MD80	SK50-MD80F-150	**£241.51**
	45	115	90	-	95	M16	2	MD90	SK50-MD90F-115	**£236.02**
	45	165	90	-	145	M16	2	MD90	SK50-MD90F-165	**£255.24**

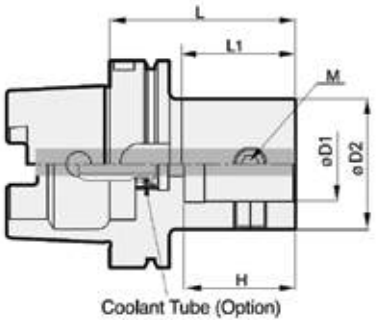
HSK MODULAR BORING ARBORS (DINOX)

Modular Arbors for DINOX Boring Systems

- High precision balanced modular arbors for Dinox boring heads
- Various lengths can be achieved with the use of modular extensions
- Boring heads can be changed on the machine without removing the arbor through the quick change locking screw on the side of the arbor

PERFORMANCE ★★★★★





DIN

Taper	ØD1	L	ØD2	L1	H	M	G	Fig.	Connect Code	Order Code	Price
HSK63A	11	60	19	31	15.5	M5	0.7	0.9	MD19	HSK63A-MD19F-60	**£222.30**
	14	60	25	31	18.5	M6	0.7	0.9	MD25	HSK63A-MD25F-60	**£222.30**
	18	65	32	36	23.5	M8	0.8	1	MD32	HSK63A-MD32F-65	**£223.66**
	22	70	40	41	29	M10	0.9	1.1	MD40	HSK63A-MD40F-70	**£227.80**
	28	85	50	58	36	M12	1.3	1.5	MD50	HSK63A-MD50F-85	**£242.88**
	36	95	63	69	46	M16	1.7	1.9	MD63	HSK63A-MD63F-95	**£249.75**

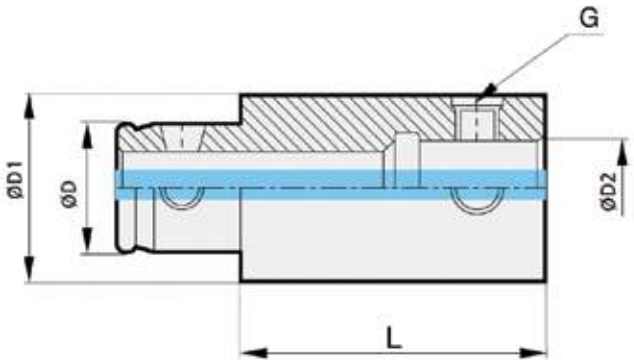
EXTENSION BARS (DINOX)

Extension Bars for DINOX Boring Systems

- Modular bars compatible with DINOX boring system for increasing length

PERFORMANCE ★★★★★





DINE

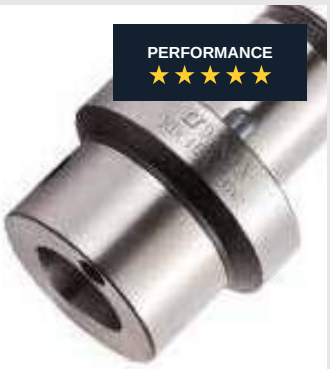
ØD	ØD1	L	ØD2	G	Connect Code	Order Code	Price
11	19	30	11	M5	MD19	EXT1930F	**£64.49**
11	19	50	11	M5	MD19	EXT1950F	**£64.49**
14	25	30	14	M6	MD25	EXT2530F	**£68.61**
14	25	50	14	M6	MD25	EXT2550F	**£76.85**
18	32	35	18	M8	MD32	EXT3235F	**£76.85**
18	32	60	18	M8	MD32	EXT3260F	**£76.85**
22	40	40	22	M10	MD40	EXT4040F	**£76.85**
22	40	90	22	M10	MD40	EXT4090F	**£82.33**
28	50	50	28	M12	MD50	EXT5050F	**£82.33**
28	50	100	28	M12	MD50	EXT50100F	**£90.57**
36	63	60	36	M16	MD63	EXT6360F	**£82.33**
36	63	120	36	M16	MD63	EXT63120F	**£90.57**
45	80	70	45	M16	MD80	EXT8070F	**£116.65**
45	80	120	45	M16	MD80	EXT80120F	**£124.89**
45	90	80	45	M16	MD90	EXT9080F	**£138.59**
45	90	130	45	M16	MD90	EXT90130F	**£163.31**

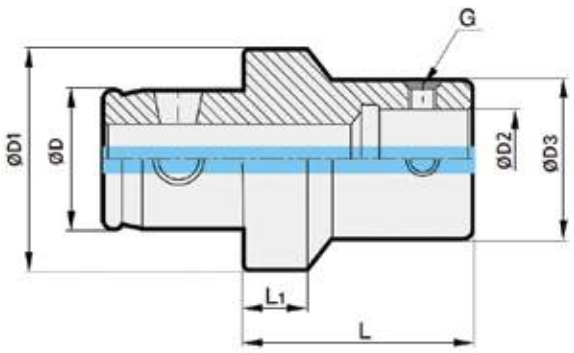
REDUCER BARS (DINOX)

Extension Bars for DINOX Boring Systems

- Reducer bars enable a smaller boring head to be used with a larger arbor
- They are ideal for use in extremely long assemblies where rigidity can be improved by using larger diameter arbors

PERFORMANCE ★★★★★





DINE

ØD	ØD1	L	ØD2	ØD3	L1	G	Connect Code	Order Code	Price
18	32	30	14	25	9	M6	MD32 to MD25	RDC3225F	**£97.44**
22	40	30	14	25	9	M6	MD40 to MD25	RDC4025F	**£97.44**
22	40	30	18	32	9	M8	MD40 to MD32	RDC4032F	**£97.44**
28	50	30	14	25	9	M6	MD50 to MD25	RDC5025F	**£97.44**
28	50	40	18	32	9	M8	MD50 to MD32	RDC5032F	**£97.44**
28	50	40	22	40	10	M10	MD50 to MD40	RDC5040F	**£97.44**
36	63	30	14	25	9	M6	MD63 to MD25	RDC6325F	**£113.89**
36	63	40	18	32	9	M8	MD63 to MD32	RDC6332F	**£113.89**
36	63	40	22	40	10	M10	MD63 to MD40	RDC6340F	**£113.89**
36	63	45	28	50	10	M12	MD63 to MD50	RDC6350F	**£113.89**
45	80	40	22	40	10	M10	MD80 to MD40	RDC8040F	**£131.72**
45	80	45	28	50	10	M12	MD80 to MD50	RDC8050F	**£131.72**
45	80	50	36	63	13	M16	MD80 to MD63	RDC8063F	**£131.72**

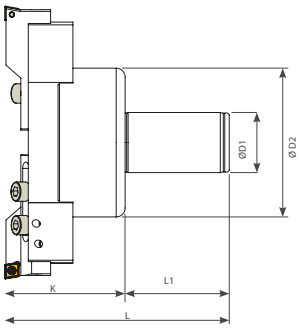
WIDE RANGE ROUGH BORING HEAD

For Rough Boring Applications from 120mm up to 350mm

PERFORMANCE ★★★

- For rough boring applications 120-300mm
- Plain shank





TEKNIK Cutting Tools

D Min	D Max	K	D1	L1	D2	L	Inserts	Order Code	Price
120	170	69	40	70	115.5	139	CC -- 1204	TKB148	**£258.64**
170	250	84	40	70	99.5	154		TKB150	**£368.95**
240	350	84	40	70	149.5	154		TKB152	**£419.62**

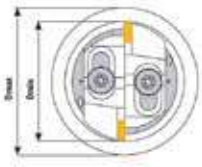
ROUGH BORING HEAD (16-130MM)

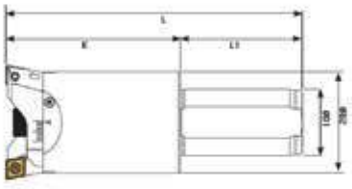
For Rough Boring Applications from 16mm up to 130mm

PERFORMANCE ★★★

- For rough boring applications 16-130mm
- Plain shank







TEKNIK Cutting Tools

D Min	D Max	K	D1	L1	D2	L	Inserts	Order Code	Price
16	20	52	16	48	15.7	100	WC-- 0302	TKB088	**£127.79**
16	20	102	16	48	15.7	150		TKB090	**£137.62**
16	20	152	16	48	15.7	200		TKB092	**£169.08**
19	23	52	16	48	17.7	100	CC -- 0602	TKB094	**£127.79**
19	23	102	16	48	17.7	150		TKB096	**£135.64**
19	23	152	16	48	17.7	200		TKB098	**£169.08**
23	28	50	20	50	21.2	100		TKB100	**£127.79**
23	28	100	20	50	21.2	150		TKB102	**£135.64**
23	28	185	20	50	21.2	235		TKB104	**£169.08**
28	38	55	20	50	25.7	105	CC -- 09T3	TKB106	**£133.69**
28	38	105	20	50	25.7	155		TKB108	**£145.49**
28	38	174	25	56	25.7	230		TKB110	**£174.99**
28	38	274	25	56	25.7	330		TKB111	**£180.86**
37	48	64	25	56	32	120		TKB112	**£135.64**
37	48	114	25	56	33	170		TKB114	**£155.32**
37	48	204	25	56	33	260		TKB116	**£188.73**
45	56	70	32	60	39.5	130		TKB118	**£139.58**
45	56	120	32	60	40	180		TKB120	**£157.28**
45	56	200	32	60	40	260		TKB122	**£194.63**
55	75	85	32	60	50	145		TKB124	**£155.32**
55	75	135	32	60	50	195		TKB126	**£161.23**
55	75	220	32	60	50	280		TKB128	**£200.54**
70	90	85	32	60	64	145		TKB130	**£157.28**
70	90	135	32	60	64	195		TKB132	**£171.02**
70	90	220	40	70	64	290		TKB134	**£210.35**
90	130	115	32	60	74	175		TKB136	**£182.84**
90	130	165	32	60	74	225		TKB138	**£200.54**

NC Spot & Centre Drills

P M S K N



High accuracy and excellent tool life

NC spot drills are suitable for spotting various materials prior to using non self centring drills, they are available in 90°, 120° or 142° and can also be used for chamfering applications. Centre drills create an accurate centre hole prior to drilling or provide a location hole for live and dead centres.

Advantages

- Available in HSS or solid carbide.
- NC spot drills available in 90°, 120° or 142°.
- Available in coated or uncoated.

Features

- High quality substrate and coatings offer excellent tool life.
- Wide choice of tools for optimal application.
- High accuracy.

YG CUTWEL PRO ATORN®

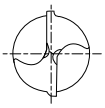
NC SPOT DRILLS CARBIDE - 90° & 120°

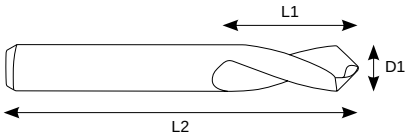
For Precise Centering Work on CNC Machines

- Carbide NC spot drill in 90° or 120°
- Plain shank

Series		Cutting Data
D8306/7 Cutwel Pro	D8506/7 Cutwel Pro	P803







MG SC | DIN 6535HB | h6 | 90° | 120° | TiAlN COATED

CUTWEL PRO

D1	L1	L2	Order Code							
			Uncoated - 90°	Price	TiAlN Coated - 90°	Price	Uncoated - 120°	Price	TiAlN Coated - 120°	Price
3	12	40	D8306030	£10.92	D8506030	£15.91	D8307030	£11.24	D8507030	£15.91
4	12	40	D8306040	£12.94	D8506040	£18.11	D8307040	£13.31	D8507040	£18.11
5	16	50	D8306050	£15.02	D8506050	£21.19	D8307050	£15.46	D8507050	£21.19
6	16	50	D8306060	£15.65	D8506060	£21.88	D8307060	£16.12	D8507060	£21.88
8	20	60	D8306080	£27.28	D8506080	£36.19	D8307080	£28.10	D8507080	£36.19
10	22	70	D8306100	£30.68	D8506100	£43.33	D8307100	£31.61	D8507100	£43.33
12	22	70	D8306120	£52.25	D8506120	£47.68	D8307120	£53.79	D8507120	£47.68
16	28	80	D8306160	£59.03	D8506160	£76.25	D8307160	£60.81	D8507160	£76.25
20	30	100	D8306200	£107.21	D8506200	£130.98	D8307200	£110.42	D8507200	£130.98

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●	●	○		●	○	○	○	●		○	

NC SPOT DRILLS - HSS 8% COBALT, 90°, 120 & 142°

For Precise Centering Work on CNC & Conventional Machines

- HSS 8% Cobalt NC spot drill
- Standard or long length
- Plain shank

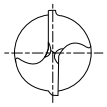
Series			Cutting Data
D2306/7 YG-1	D2321/2/3 YG-1	D4306 YG-1	P803

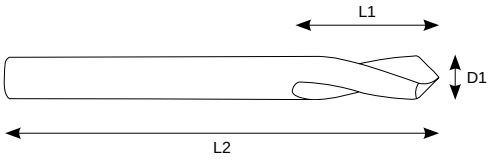
Uncoated



TiN Coated







HSS Co8 | h6 | h6 | 90° | 120° | 142° | TiN COATED

YG

D1	L1	L2	Order Code							
			Uncoated - 90°	Price	TIN Coated - 90°	Price	Uncoated - 120°	Price	Uncoated - 142°	Price
3	12	46	D2306030	£5.73	D4306030	£9.45	D2307030	£5.73	-	-
		80	D2321030	£13.62	-	-	-	-	-	-
4	12	55	D2306040	£5.86	D4306040	£9.64	D2307040	£5.86	-	-
		100	D2321040	£13.62	-	-	-	-	-	-
5	15	60	D2306050	£6.10	D4306050	£10.06	D2307050	£6.10	-	-
		120	D2321050	£14.79	-	-	-	-	-	-
6	20	66	D2306060	£6.57	D4306060	£10.77	D2307060	£6.57	-	-
		140	D2321060	£16.60	-	-	D2322060	£16.60	D2323060	£16.60
8	25	79	D2306080	£7.67	D4306080	£13.04	D2307080	£7.67	-	-
		140	D2321080	£19.27	-	-	D2322080	£19.27	D2323080	£19.27
10	25	89	D2306100	£9.91	D4306100	£16.65	D2307100	£9.91	-	-
		170	D2321100	£23.52	-	-	D2322100	£23.52	D2323100	£23.52
12	30	102	D2306120	£13.98	D4306120	£23.16	D2307120	£13.98	-	-
		170	D2321120	£30.10	-	-	D2322120	£30.10	D2323120	£30.10
16	35	115	D2306160	£24.50	D4306160	£39.03	D2307160	£24.50	-	-
		200	D2321160	£61.50	-	-	-	-	-	-
20	40	131	D2306200	£40.62	D4306200	£63.12	D2307200	£40.62	-	-
		200	D2321200	£82.56	-	-	-	-	-	-

Material Applications

● Excellent ○ Good

Carbon Steels ~HB225	Alloy Steels HB225~325	Pre Hard. Steels HRC30~40	Hardened Steels HRC40~45	Hardened Steels HRC45~55	Stainless Steel	Titanium	Cast Iron	Copper	Aluminium	Graphite	Bronze	Composites CFRP/GFRP
●	●				○				○		○	

HSS BRITISH STANDARD 60° CENTRE DRILL

For Centre Drilling Steel, Stainless Steel, Cast Iron, Aluminium, Plastic & Brass

- British standard 60° centre drills
- Plain shank

Series		Cutting Data
D1311 YG-1	7000 Presto	P803



HSS h6 k12 120°

PRESTO YG

Pilot Diameter	Shank Diameter	Pilot Length	Overall Length	Order Code			
				YG-1	Price	Presto	Price
BS1	3/64	1/8"	1 1/2	D1311008	**£3.72**	070001	**£3.88**
BS2	1/16	3/16"	1 3/4	D1311012	**£3.63**	070002	**£4.13**
BS3	3/32	1/4"	2	D1311016	**£4.47**	070003	**£5.02**
BS4	1/8	5/16"	2 1/4	D1311020	**£5.54**	070004	**£6.35**
BS5	3/16	7/16"	2 1/2	D1311028	**£10.26**	070005	**£11.03**

HSS-EX METRIC FORM A 60° CENTRE DRILL

For Centre Drilling Steels, Stainless Steel, Cast Iron, Aluminium, Plastic & Brass

- Metric 60° centre drills
- Plain or flat shank

Series	Cutting Data
DV303/33 YG-1	P803



HSS EX DIN 333 h8 k12 120°

YG

Pilot Diameter	Shank Diameter	Pilot Length	Overall Length	Order Code	Price
Plain Shank					
1	3.15	1.3	31.5	DV303010	**£6.44**
1.25	3.15	1.6	31.5	DV303912	**£6.44**
1.6	4	2	35.5	DV303016	**£6.44**
2	5	2.5	40	DV303020	**£6.85**
2.5	6.3	3.1	45	DV303025	**£7.68**
3.15	8	3.9	50	DV303931	**£8.32**
4	10	5	56	DV303040	**£10.85**
5	12.5	6.3	63	DV303050	**£18.22**
Flat Shank					
1.6	4	2	35.5	DV333016	**£7.11**
2	5	2.5	40	DV333020	**£7.57**
2.5	6.3	3.1	45	DV333025	**£8.84**
3.15	8	3.9	50	DV333931	**£10.57**
4	10	5	56	DV333040	**£13.88**
5	12.5	6.3	63	DV333050	**£18.90**
6.3	16	8	71	DV333063	**£34.80**

CARBIDE METRIC 60° CENTRE DRILL

For Precise Centring Work on CNC Machines

- Metric 60° centre drills
- Plain shank
- Only for use on stable machines

Series	Cutting Data
DV503 Cutwel Pro	P803



MG SC | DIN 6535HA | 120°

CUTWEL PRO

Pilot Diameter	Body Diameter	Pilot Length	Overall Length	Order Code	Price
2	5	2.9	40	DV503020	£24.80
2.5	6.3	3.6	50	DV503025	£28.68
3.15	8	4.4	60	DV503931	£36.40
4	10	5.6	70	DV503040	£44.18
5	12.5	6.9	70	DV503050	£62.01
6.3	16	8.8	80	DV503063	£85.29

CENTRE DRILL - HSS-EX METRIC LONG BODY FORM A 60°

For Steel, Stainless Steel, Cast Iron, Aluminium, Plastic & Brass on NC/CNC & Conventional Machine Tools

- Metric 60° long body centre drills
- Plain shank

Series	Cutting Data
DV334 YG-1	P803



HSS EX | h8 | k12 | 120°

YG

Pilot Diameter	Shank Diameter	Pilot Length	Overall Length	Order Code	Price
1	4	1.3	120	DV334010	£13.34
1.6	5	2		DV334016	£13.08
2	6	2.5		DV334020	£13.08
2.5	8	3.1		DV334025	£16.10
3.15	10	3.9		DV334931	£19.33
4	12	5		DV334040	£27.02
5	14	6.3		DV334050	£40.12

HSS-EX METRIC FORM A 60° CENTRE DRILL

For Centre Drilling Steel, Stainless Steel, Cast Iron, Aluminium, Plastic & Brass

- Metric 60° centre drills
- Plain shank
- Uncoated or TiN coated

Series	Cutting Data
11001/004 Atorn	P803





ATORN®

Pilot Dia.	Body Dia.	Overall Length	Order Code			
			Uncoated	Price	Coated	Price
0.5	3.15	25	11001005	£4.00	11004005	£11.62
0.8	3.15	25	11001008	£4.00	11004008	£11.62
1	3.15	31	11001010	£4.00	11004010	£11.59
1.25	3.15	31.5	11001012	£4.00	11004012	£11.59
1.6	4	35	11001016	£4.03	11004016	£11.59
2	5	40	11001020	£4.45	11004020	£12.12
2.5	6.3	45	11001025	£4.83	11004025	£13.31
3.15	8	50	11001031	£5.80	11004031	£16.41
4	10	56	11001040	£7.14	11004040	£21.21
5	12.5	63	11001050	£12.29	11004050	£33.46
6.3	16	71	11001063	£19.98	11004063	£51.65
8	20	80	11001080	£40.49	-	-
10	25	100	11001100	£65.75	-	-
12.5	31.5	125	11001125	£194.98	-	-

HSS-EX METRIC FORM A 60° CENTRE DRILL SET

Series
D1101 Atorn

- For Steel, stainless steel, cast iron, aluminium, plastic & brass

Contains:
- 1 each of diameter 1.0, 1.6, 5mm
- 2 each of diameter 2.0, 2.5, 4mm
- 3 each of diameter 3.15mm





ATORN®

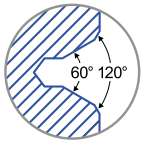
Pcs	Order Code	Price
12	11001900	**£77.70**

HSS METRIC FORM B 60° & 120° CENTRE DRILL

Series	Cutting Data
D1313 YG-1	**P803**

- Metric form B (60°/120°) centre drills
- Plain shank
- Form B produces a protected centre depth due to chamfer





HSS DIN 333 h8 k12 120°

YG

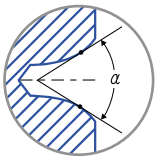
Pilot Dia.	Body Dia.	Pilot Length	Overall Length	Order Code	Price
1	4	1.3	35.5	D1313010	**£5.88**
1.25	5	1.6	40	D1313912	**£5.96**
1.6	6.3	2	45	D1313016	**£6.53**
2	8	2.5	50	D1313020	**£6.91**
2.5	10	3.1	55	D1313025	**£9.57**
3.15	11.2	3.9	60	D1313931	**£14.56**
4	14	5	67	D1313040	**£21.61**
5	18	6.3	75	D1313050	**£30.78**
6.3	20	8	80	D1313063	**£35.13**

HSS METRIC LONG PILOT RADIUS FORM R 60° CENTRE DRILL

Series	Cutting Data
D1363 YG-1	**P803**

- Metric form R (60° with long pilot) centre drills
- Plain shank
- Form R produces a centre with a radius





HSS DIN 333 h8 k12 120°

YG

Pilot Dia.	Body Dia.	Pilot Length	Overall Length	Radius	Order Code	Price
1	3.15	3	31.5	2.5	D1363010	**£4.57**
1.25	31.5	3.35	31.5	3.15	D1363912	**£4.57**
1.6	4	4.25	35.5	4	D1363016	**£4.57**
2	5	5.3	40	5	D1363020	**£4.71**
2.5	6.3	6.7	45	6.3	D1363025	**£5.38**
3.15	8	8.5	50	8	D1363931	**£5.54**
4	10	10.6	56	10	D1363040	**£7.50**
5	12.5	13.2	63	12.5	D1363050	**£12.24**
6.3	16	17	71	16	D1363063	**£22.31**
8	20	21.2	80	20	D1363080	**£36.31**

HSS 60° CENTRE DRILL WITH LEFT HAND HELIX

Series
D1343 YG-1

- Metric 60° centre drills
- Plain shank
- Left hand helix



HSS DIN 333 h8 k12 120°

YG

Pilot Dia.	Body Dia.	Pilot Length	Overall Length	Order Code	Price
1	3.15	1.3	31.5	D1343010	**£6.46**
1.25	31.5	1.6	31.5	D1343912	**£7.00**
1.6	4	2	35.5	D1343016	**£7.00**
2	5	2.5	40	D1343025	**£7.44**
2.5	6.3	3.1	45	D1343020	**£7.00**
3.15	8	3.9	50	D1343931	**£7.98**
4	10	5	56	D1343040	**£10.94**
5	12.5	6.3	63	D1343050	**£15.68**
6.3	16	8	71	D1343063	**£25.80**
8	20	10.1	80	D1343080	**£41.56**

CENTRE DRILLS

DV503, D1311, DV334, DV303, DV333, D1313, D1363 & D1343 Series

CUTTING DATA

DRILLING

MATERIAL	MILD STEEL		ALLOY STEELS				STAINLESS STEEL	
Hardness	< 700 N/mm²		~ HRC23		~ HRC32		-	
Diameter	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)
2	30 ~ 45	0.02~0.05	25 ~ 30	0.02~0.05	15 ~ 25	0.01~0.03	6 ~ 10	0.01~0.03
3		0.06		0.06		0.04		0.04
6		0.08		0.08		0.06		0.06
10		0.15		0.15		0.10		0.10

NC SPOT DRILLS CARBIDE

D8306, D8506, D8307 & D8507 Series

CUTTING DATA

DRILLING

MATERIAL	NON-ALLOY STEELS		ALLOY STEELS		STAINLESS STEEL		Ti, Ni ALLOY STEELS		SOFT GREY CAST IRON		HARD GREY CAST IRON		Al-Si ALLOYS, Si<10%		Al-Si ALLOYS, Si>10%	
Strength	< 700 N/mm²		< 1000 N/mm²		-		-		< HB240, GG25		< HB300, GG40		-		-	
Drilling Speed	65 ~ 75 m/min		45 ~ 55 m/min		35 ~ 40 m/min		35 ~ 40 m/min		90 ~ 100 m/min		65 ~ 75 m/min		145 ~ 165 m/min		115 ~ 135 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
6	3900	0.08	2850	0.08	2000	0.07	1950	0.07	5200	0.09	3800	0.09	8800	0.11	7100	0.11
8	2900	0.1	2150	0.1	1500	0.09	1450	0.09	3900	0.12	2850	0.12	6600	0.15	5350	0.15
10	2350	0.12	1700	0.12	1200	0.11	1200	0.11	3100	0.16	2300	0.16	5300	0.19	4250	0.19
12	1950	0.14	1450	0.14	1000	0.13	980	0.13	2600	0.2	1900	0.2	4450	0.23	3550	0.23
16	1450	0.17	1100	0.17	755	0.17	735	0.17	1950	0.24	1450	0.24	3300	0.27	2650	0.27
20	1150	0.19	850	0.19	590	0.2	590	0.2	1550	0.28	1150	0.28	2650	0.31	2150	0.31

NC SPOT DRILLS HSS 8% COBALT

D2306, D2321, D4306, D2307, D2322, D4307, D2320 & D2323 Series

CUTTING DATA

DRILLING

MATERIAL	CARBON STEEL		ALLOY STEELS		ALLOY STEELS, TOOL STEEL & HARDENED STEEL		STAINLESS STEEL		ALUMINIUM & ALUMINIUM ALLOYS	
Drilling Speed	18 ~ 23 m/min		15 ~ 20 m/min		8 ~ 12 m/min		8 ~ 12 m/min		55 ~ 65 m/min	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	2460	0.06	2110	0.06	1080	0.06	940	0.06	7040	0.14
4	1850	0.07	1580	0.07	800	0.07	700	0.07	5280	0.15
5	1510	0.08	1300	0.08	670	0.08	580	0.08	4400	0.17
6	1170	0.09	1030	0.09	540	0.09	460	0.09	3520	0.19
8	880	0.11	790	0.11	400	0.11	350	0.11	2640	0.22
10	700	0.12	630	0.12	320	0.12	290	0.12	2110	0.25
12	590	0.14	530	0.14	260	0.14	240	0.14	1760	0.28
16	460	0.2	400	0.2	200	0.2	180	0.2	1320	0.33
20	350	0.24	320	0.24	150	0.24	140	0.24	1060	0.45

***Feed = mm/rev**

Countersinks

P H M S K N



HSS, powder metal & carbide countersinks for a variety of materials.

Countersinks are available in a range of geometries to suit different application and materials, including CNC machining, manual machining or hand held deburring.

Advantages

- Ultra high feed rates with 4-5 flute carbide countersinks.
- Blue-Tec coated countersinks ideal for alloy steel, stainless steels and HRSA's.
- No vibration with RAPID CUT countersinks.

Features

- Available in RAPID CUT anti-chatter design.
- Straight shank carbide countersinks suitable for hydraulic chucks or shrink chucks.
- Coated & uncoated available.

YG CUTWEL PRO Karnasch BECK

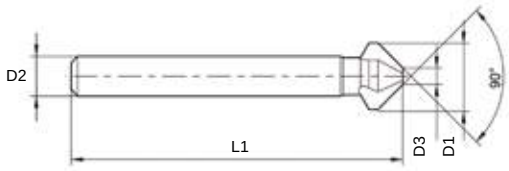
EUC SPEED HSS COATED 3 FLUTE HIGH PRECISION COUNTERSINKS

Excellent on Steel, Stainless Steel, Cast Iron and Exotics

Series
30662 Beck

- Uneven flute spacing prevents chatter
- Exceptional surface finish
- Cutting forces reduced by up-to 50%
- Excellent on steel, stainless steel, cast iron and exotics
- Special coating increase tool life





HSS h9 DIN 335C 90°

BECK MAPAL GROUP

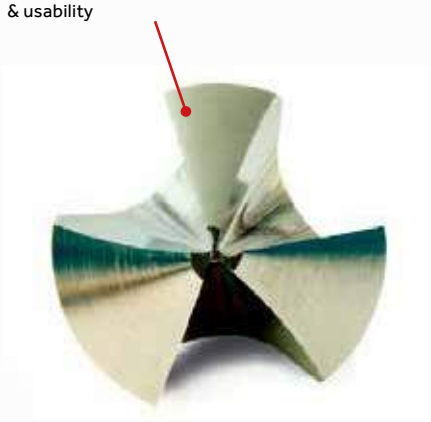
D1	D2	L1	D3	Order Code	Price
4.3	1.3	40	4	30662977	**£29.36**
6	1.5	45	5	30662978	**£28.85**
6.3	1.5	45	5	30602669	**£31.50**
8	2	50	6	30662979	**£30.24**
8.3	2	50	6	30662980	**£30.24**
10	2.5	50	6	30662982	**£32.88**
10.4	2.5	50	6	30602672	**£35.78**
11.5	2.8	56	8	30662984	**£41.08**
12.4	2.8	56	8	30662985	**£37.79**
15	3.2	60	10	30662986	**£48.26**
16.5	3.2	60	10	30602673	**£49.39**
19	3.5	63	10	30662987	**£50.27**
20.5	3.5	63	10	30602674	**£61.62**
23	3.8	67	10	30662988	**£67.42**
25	3.8	67	10	30602675	**£74.21**
31	4.2	71	12	30662989	**£90.72**

COUNTERSINK SETS

Included In Set	Pcs	Order Code	Price
1pc each Ø mm: 6.3, 10.4, 16.5, 20.5, 25	5	30602967	**£147.33**

EXTREMELY UNEQUAL FLUTE SPACING

Reduces vibration and improves surface finish, tool life & usability



SUPREME SURFACE FINISH

Standard geometry countersinks can generate a lot of vibration which creates poor surface finish. EUC-Speed countersinks produce a vastly superior finish.



EUC-SPEED



STANDARD COUNTERSINK

3 FLUTE COUNTERSINK - HSS-XE, 90°

- Made of high-alloyed special steel “XE“ for considerably longer tool life than HSS
- 3-flats shank to prevent slippage in drill chucks
- Suitable for Steel, Stainless Steel, Cast Iron, Aluminium, Copper & Brass
- Blue-Tec coating improves tool life especially when dry machining

Series
20.1740/45
Karnasch





HSS XE | 3 FLATS | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	Order Code			
				Uncoated	Price	Blue-Tec Coated	Price
4.3	4	1.3	40	201740010	**£9.53**	201745010	**£17.51**
6.3	5	1.5	45	201740050	**£9.89**	201745050	**£17.89**
7.3	6	1.8	50	201740070	**£12.22**	201745070	**£22.14**
8.3	6	2	50	201740090	**£10.40**	201745090	**£18.40**
10	6	2.5	50	201740110	**£10.92**	201745110	**£18.91**
10.4	6	2.5	50	201740120	**£11.58**	201745120	**£19.60**
12.4	8	2.8	56	201740140	**£12.93**	201745140	**£21.90**
13.4	8	2.9	56	201740150	**£12.93**	201745150	**£21.90**
15	10	3.2	60	201740160	**£16.41**	201745160	**£25.36**
16.5	10	3.2	60	201740170	**£16.41**	201745170	**£25.36**
19	10	3.5	63	201740180	**£18.71**	201745180	**£27.69**
20.5	10	3.5	63	201740190	**£18.71**	201745190	**£27.69**
23	10	3.8	67	201740200	**£23.63**	201745200	**£33.56**
25	10	3.8	67	201740210	**£23.63**	201745210	**£33.56**
26	12	3.9	71	201740220	**£28.74**	201745220	**£38.67**
28	12	4	71	201740230	**£28.74**	201745230	**£38.67**
30	12	4.1	71	201740240	**£32.45**	201745240	**£42.38**
31	12	4.2	71	201740250	**£32.45**	201745250	**£42.38**

3 FLUTE COUNTERSINK SETS - HSS-XE, 90°

- OfferS excellent chip clearance, chatter-free machining and a smooth surface finish



3 FLATS | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

HSS XE	Included in Set	Pcs	Order Code			
			Uncoated	Price	Blue-Tec Coated	Price
	1pc each Ø mm: 6.3 - 10.4 - 16.5 - 20.5 - 25	5	201642	**£70.24**	201644	**£105.25**
	1pc each Ø mm: 6.3 - 8.3 - 10.4 - 12.4 - 16.5 - 20.5	6	201641	**£70.13**	201643	**£115.21**

3 FLUTE HIGH PRECISION COUNTERSINK - CARBIDE, 90°

Suitable for use in Hydraulic Chucks or Shrink Chucks

- 3 flutes for the highest performance
- Blue-Tec coated carbide for excellent performance in difficult materials including: Stainless steel, HRSA's, hardened steels <HRC60 & cast iron
- Right hand cut, CBN ground with axial and radial relief provides chatter free machining

Series
20.1755 Karnasch



MG SC | PLAIN | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	Order Code	Price
6.3	5	1.5	45	201755050	**£54.25**
8.3	6	2.8	50	201755090	**£59.99**
10.4	8	4.0	50	201755120	**£66.27**
12.4	8	4.0	57	201755140	**£78.30**
16.5	10	4.5	60	201755170	**£103.68**
20.5	10	5.0	64	201755190	**£119.53**
25	10	5.5	68	201755210	**£163.07**
31.0	12	6.0	72	201755250	**£208.52**

3 FLUTE HIGH PRECISION COUNTERSINK SETS - CARBIDE, 90°

Suitable for use in Hydraulic Chucks or Shrink Chucks



MG SC | PLAIN | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

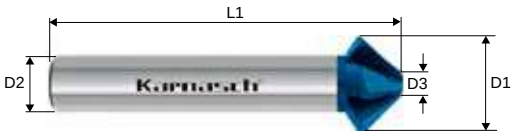
Included in Set	Pcs	Order Code	Price
1pc each Ø mm: 6.3, 10.4, 16.5, 20.5, 25	5	201648	**£489.53**
1pc each Ø mm: 6.3, 8.3, 10.4, 12.4, 16.5, 20.5	6	201647	**£465.88**

4 & 5 FLUTE HIGH PRECISION COUNTERSINK - CARBIDE, 90°

Suitable for use in Hydraulic Chucks or Shrink Chucks

- 4-5 flutes for the highest performance
- Blue-Tec coated carbide for excellent performance in difficult materials including: Stainless steel, HRSA's, hardened steels <HRC60 & cast iron
- Ø10.4 mm solid carbide, Ø12.4-31.0mm brazed shank

Series
40.3045 Karnasch



MG SC | PLAIN | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	No. Flutes	Order Code	Price
10.4	8	4.0	50	4	4030450104	**£68.20**
12.4	8	4.0	57	5	4030450124	**£73.52**
16.5	10	4.5	60	5	4030450165	**£97.54**
20.5	10	5.0	64	5	4030450205	**£112.69**
25	10	5.5	68	5	4030450250	**£153.91**
31.0	12	6.0	72	5	4030450310	**£197.11**

4 & 5 FLUTE HIGH PRECISION COUNTERSINK SETS - CARBIDE, 90°

Suitable for use in Hydraulic Chucks or Shrink Chucks



MG SC | PLAIN | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

Included in Set	Pcs	Order Code	Price
1pc each Ø mm: 10,4, 12,4, 16,5, 20,5, 25,0mm	5	201649	**£602.56**

3 FLUTE HIGH PRECISION COUNTERSINK - POWDER METAL, 90°

3 Flats on Shank Prevents Slippage in Drill Chuck

- Blue-Tec coated powder metal especially suitable for stainless steel machining
- Increased tool life compared to HSS/HSS-XE

Series
20.1750
Karnasch



HSS PM | 3 FLATS | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	Order Code	Price
6.3	5	1.5	45	201750050	**£32.09**
8.3	6	2.	50	201750090	**£34.43**
10.4	6	2.5	50	201750120	**£35.79**
12.4	8	2.8	56	201750140	**£45.77**
16.5	10	3.2	60	201750170	**£57.64**
20.5	10	3.5	63	201750190	**£62.85**
25.0	10	3.8	67	201750210	**£94.12**
31.0	12	4.2	71	201750250	**£119.12**

3 FLUTE HIGH PRECISION COUNTERSINK SETS - POWDER METAL, 90°

3 Flats on Shank Prevents Slippage in Drill Chuck



Karnasch PROFESSIONAL TOOLS

Included in Set	Pcs	Order Code	Price
1pc each Ø mm: 6.3, 10.4, 16.5, 20.5, 25	5	201646	**£276.46**
1pc each Ø mm: 6.3, 8.3, 10.4, 12.4, 16.5, 20.5	6	201645	**£263.09**

3 FLUTE RAPID CUT HIGH PRECISION COUNTERSINK - HSS-XE, 90°

3 Flats on Shank Prevents Slippage in Drill Chuck

- Blue-Tec coated HSS-XE for excellent performance in difficult materials including: Stainless steel & cast iron
- Rapid cut geometry specially developed for automatic and quick feed, up to 30% faster sinking than conventional countersinks
- Up to 40% more tool life than standard countersinks

Series
20.1765
Karnasch



HSS XE | 3 FLATS | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

D1	D2	D3	L1	Order Code	Price
6.3	5.0	1.5	45	201765010	**£21.38**
8.3	6.0	2.0	50	201765020	**£22.14**
10.4	6.0	2.5	50	201765030	**£23.54**
12.4	8.0	2.8	56	201765040	**£26.42**
15.0	10.0	3.2	60	201765050	**£30.76**
16.5	10.0	3.2	60	201765060	**£30.76**
19.0	10.0	3.5	63	201765070	**£33.69**
20.5	10.0	3.5	63	201765080	**£33.69**
23.0	10.0	3.8	67	201765090	**£41.13**
25.0	10.0	3.8	67	201765100	**£41.13**
31.0	12.0	4.2	71	201765110	**£52.39**

3 FLUTE RAPID CUT HIGH PRECISION COUNTERSINK SETS - HSS-XE, 90°

3 Flats on Shank Prevents Slippage In Drill Chuck



HSS XE | 3 FLATS | 90° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

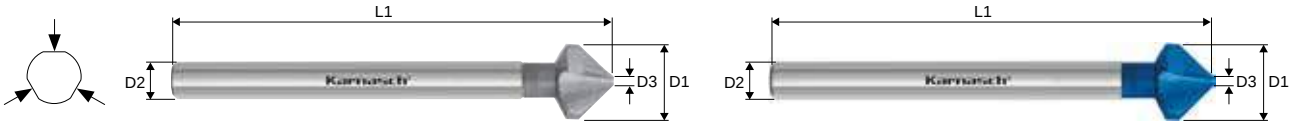
Included in Set	Pcs	Order Code	Price
1pc each Ø mm: 6.3, 10.4, 16.5, 20.5, 25mm	5	201654	**£125.83**
1pc each Ø mm: 6.3, 8.3, 10.4, 12.4, 16.5, 20.5mm	6	201653	**£131.69**

3 FLUTE LONG SHANK COUNTERSINK - HSS-XE, 90°

HSS-XE Countersink for Long Reach Applications

- Uncoated for general machining of steel, non-ferrous materials, cast iron
- Blue-Tec coating for increased tool life, especially in alloy steel, cast iron, stainless steel & HRSA's

Series
20.1720/75
Karnasch



HSS XE | 3 FLATS | 90° | BLUE COATED

D1	D2	D3	L1	Order Code			
				Uncoated	Price	Blue-Tec Coated	Price
6.3	5	1.5	85	201720010	**£17.20**	201775010	**£35.27**
8.3	6	2.0	85	201720020	**£18.19**	201775020	**£36.70**
10.4	6	2.5	88	201720030	**£21.02**	201775030	**£41.19**
12.4	8	2.8	108	201720040	**£23.49**	201775040	**£44.82**
15.0	10	3.2	110	201720050	**£30.11**	201775050	**£53.96**
16.5	10	3.2	112	201720060	**£30.11**	201775060	**£53.96**
20.5	10	3.5	115	201720080	**£45.02**	201775080	**£84.40**

3 FLUTE TAPER SHANK COUNTERSINK - HSS-XE, 90°

Self Centring HSS-XE Countersink

- Morse taper shank
- Uncoated for general machining of steels, non-ferrous materials, cast iron
- Blue-Tec coating for increased tool life, especially in alloy steels, cast iron & stainless steel

Series
20.1790/95
Karnasch



HSS XE | 2~4 | 90° | BLUE COATED

D1	MT	D3	L1	Order Code			
				Uncoated	Price	Blue-Tec Coated	Price
20.5	MT2	3.5	100	201790010	**£37.62**	201795010	**£48.33**
25	MT2	3.8	106	201790020	**£42.10**	201795020	**£54.02**
31	MT2	4.2	112	201790030	**£50.51**	201795030	**£62.33**
37	MT2	4.8	118	201790040	**£65.74**	201795040	**£95.74**
40	MT3	10	140	201790050	**£75.38**	201795050	**£105.43**
50	MT3	14	150	201790060	**£110.30**	201795060	**£140.31**
63	MT4	16	180	201790070	**£176.79**	201795070	**£233.78**
80	MT4	22	190	201790080	**£298.01**	201795080	**£397.88**

3 FLUTE COUNTERSINK - HSS 8% COBALT, 60°, 90° & 120°

For General Machining of Steel, Stainless Steel, Cast Iron & Non-Ferrous Material

Series	Cutting Data
C1136/39/32 YG-1	View Online

- Self centering
- For deburring, chamfering and countersinking
- Series C1139 is designed for 90° capscrew countersinking
- For general machining of steel, stainless steel, cast iron & non-ferrous materials
- Plain shank
- Uncoated

C1136 Series • 60°

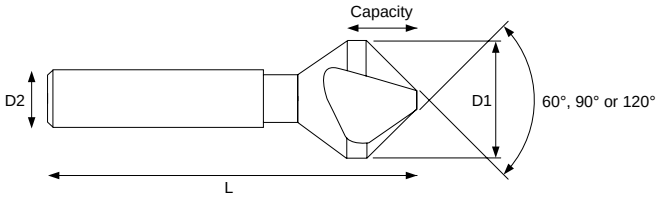


C1139 Series • 90°



C1132 Series • 120°





C1136 Series: HSS Co8 | DIN 334C | h9 | 60°
C1139 Series: DIN 335C | h9 | 90°
C1132 Series: h9 | 120°

TOLERANCE	
Nominal Dia.	Shank Dia.
±0.05mm	h9

D1	D2	L (±1)	Capacity min/max	Order Code	Price
60°					
6.3	5	45	1.6 ~ 6.3	C1136063	**£12.28**
8	6	50	2 ~ 8	C1136080	**£14.16**
10			2.5 ~ 10	C1136100	**£16.90**
12.5	8	56	3.2 ~ 12.5	C1136125	**£19.63**
16	10	63	4 ~ 16	C1136160	**£22.56**
20		67	5 ~ 20	C1136200	**£30.99**
25		71	6.3 ~ 25	C1136250	**£43.76**
90°					
4.3	4	40	1.3 ~ 4.3	C1139043	**£9.86**
5			1.5 ~ 5	C1139050	**£9.86**
6	5	45	1.5 ~ 6	C1139060	**£9.86**
6.3			1.5 ~ 6.3	C1139063	**£9.86**
7	6	50	1.8 ~ 7	C1139070	**£11.32**
8			2 ~ 8	C1139080	**£11.32**
8.3			2 ~ 8.3	C1139083	**£11.32**
10			2.5 ~ 10	C1139100	**£13.41**
10.4			2.5 ~ 10.4	C1139104	**£13.41**
11.5	8	56	2.8 ~ 11.5	C1139115	**£15.54**
12.4			2.8 ~ 12.4	C1139124	**£15.54**
15	10	60	3.2 ~ 15	C1139150	**£17.40**
16.5			3.2 ~ 16.5	C1139165	**£17.40**
19		63	3.5 ~ 19	C1139190	**£25.76**
20.5			3.5 ~ 20.5	C1139205	**£25.76**
23		67	3.8 ~ 23	C1139230	**£37.19**
25			3.8 ~ 25	C1139250	**£37.19**
30	12	71	4.2 ~ 30	C1139300	**£52.24**
31			4.2 ~ 31	C1139310	**£52.24**
120°					
8	6	49	2 ~ 8	C1132080	**£21.51**
12.5	8	54	2.8 ~ 12.5	C1132125	**£29.91**
16	10	57	3.2 ~ 16	C1132160	**£33.48**
20		59	3.5 ~ 20	C1132200	**£39.00**
25		65	3.8 ~ 25	C1132250	**£55.31**

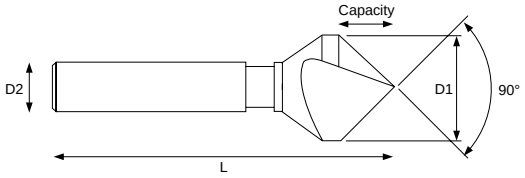
CHAMFER TOOL COUNTERSINK - HSS 8% COBALT, 90°

For Wood and Hard Plastic

- Can drill in sheet materials
- Easy to resharpen
- Works without vibration

Series	Cutting Data
C1119 YG-1	View Online





HSS Co8 | h9 | 90°

TOLERANCE	
Nominal Dia.	Shank Dia.
+0.3mm	h9

D1	D2	L (±1)	Capacity min/max	Order Code	Price
10	6	45	1 ~ 10	C1119100	**£10.92**
15	8	55	2 ~ 15	C1119150	**£14.63**
20	10	65	2 ~ 20	C1119200	**£22.75**
25	12	78	3 ~ 25	C1119250	**£38.03**
30	12	88	3 ~ 30	C1119300	**£56.54**
35	16	110	4 ~ 35	C1119350	**£87.48**
40	16	115	5 ~ 40	C1119400	**£115.16**
45	16	120	10 ~ 45	C1119450	**£148.01**
50	16	130	12 ~ 50	C1119500	**£193.09**

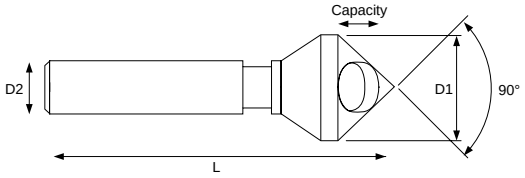
DEBURRING TOOL COUNTERSINK - HSS 8% COBALT, 90° WITH HOLE

For Light Metals, Plastic and Wood

- Can drill in sheet materials
- For deburring and chamfering
- Works without vibration

Series	Cutting Data
C1109 YG-1	View Online





HSS Co8 | h9 | 90°

TOLERANCE	
Nominal Dia.	Shank Dia.
+0.3mm	h9

D1	D2	L (±1)	Capacity min/max	Order Code	Price
10	6	45	2 ~ 5	C1109100	**£9.30**
15	8	55	6 ~ 14	C1109150	**£12.98**
20	10	65	8 ~ 18	C1109200	**£20.61**
25	12	78	10 ~ 23	C1109250	**£35.29**
30		88	12 ~ 28	C1109300	**£53.15**
35	16	110	14 ~ 33	C1109350	**£84.59**
40		115	16 ~ 38	C1109400	**£112.60**
45		120	18 ~ 43	C1109450	**£145.99**
50		130	20 ~ 48	C1109500	**£191.98**

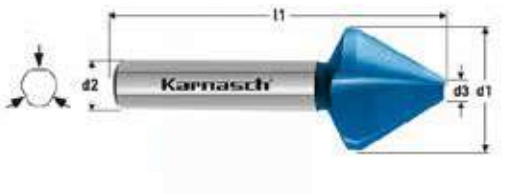
3 FLUTE COUNTERSINK - HSS-XE, 60°

For General Machining of Steel, Stainless Steel, Cast Iron & Non-Ferrous Material

Series
40.403/303 Karnasch

- Made of high-alloyed special steel "XE" for considerably longer tool life than HSS
- Optional Blue-Tec coated carbide for excellent performance in difficult materials including: Stainless steel, hardened steel <HRC60 & cast iron
- 3 flats shank to prevent slippage in drill chucks





HSS XE | 3 FLATS | 60° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

D1	D3	D2	L1	Order Code			
				Uncoated	Price	Blue-Tec Coated	Price
6.3	1.6	5	45	4040300063	**£9.83**	4030300063	**£20.06**
8	2	6	50	4040300080	**£10.39**	4030300080	**£20.66**
10	2.5	6	53	4040300100	**£10.87**	4030300100	**£22.58**
12.5	3.2	8	56	4040300125	**£12.93**	4030300125	**£24.50**
16	4	10	63	4040300160	**£16.43**	4030300160	**£27.72**
20	5	10	67	4040300200	**£18.70**	4030300200	**£30.95**
25	6.3	10	71	4040300250	**£23.59**	4030300250	**£37.48**
31.5	10	12	76	4040300315	**£32.38**	4030300315	**£47.24**

COUNTERSINK SETS - HSS-XE, 60°

For General Machining of Steel, Stainless Steel, Cast Iron & Non-Ferrous Material





HSS XE | 3 FLATS | 60° | BLUE COATED

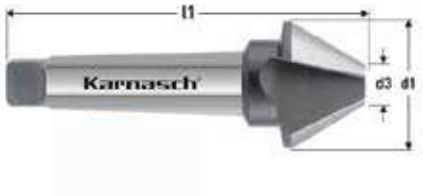
Karnasch PROFESSIONAL TOOLS

Included in Set	Qty	Order Code			
		Uncoated	Price	Blue-Tec Coated	Price
1pc each Ø mm: 6.3, 8, 10, 12.5, 16, 20mm	6	404090030	**£89.32**	403090030	**£157.71**
1pc each Ø mm: 6.3, 10, 16, 20, 25mm	5	404090040	**£89.57**	403090040	**£150.04**

3 FLUTE COUNTERSINK - HSS-XE, 60° MORSE TAPER SHANK

Series
40.4035/3035 Karnasch

- Made of high-alloyed special steel "XE" for considerably longer tool life than HSS
- Taper shank





HSS XE | 3 FLATS | 60° | BLUE COATED

Karnasch PROFESSIONAL TOOLS

D1	D3	MT	L1	Order Code			
				Uncoated	Price	Blue-Tec Coated	Price
20	5	3	106	4040350200	**£19.61**	4030350200	**£23.54**
25	6.3	3	112	4040350250	**£17.74**	4030350250	**£26.38**
31.5	10	3	118	4040350315	**£43.53**	4030350315	**£65.13**
40	12.5	3	150	4040350400	**£64.97**	4030350400	**£104.96**
50	16	3	160	4040350500	**£95.00**	4030350500	**£144.33**
63	20	3	190	4040350630	**£125.47**	4030350630	**£233.48**
80	25	3	200	4040350800	**£211.52**	4030350800	**£397.09**

Sheet Metal & Step Drills

2 FLUTE BLUE COATED SPIRAL FLUTE STEP DRILL

With Split Point

- 1mm Increments with 5mm cutting depth
- BLUE-Coated for exceptional tool life
- CBN Ground
- Spiral flute geometry for a smoother drilling process & high performance machining



Range mm	Step cutting depth	Shank	Length	Order Code	Price
4-12	5	6	80	201447	**£26.09**
4-20	4	8	70	201448	**£34.55**
6-30	4	10	98	201449	**£61.65**
6-36	4	10	92	201450	**£78.29**
6-38	4.5	10	100	201470	**£101.33**
7-40.5	4-6	12	115	201451	**£104.42**
7-32.5	3-6	12	100	201471	**£82.36**

3PCS 2 FLUTE BLUE-DUR COATED STEP DRILL SET

Contains:

- Diameter 4-12mm
- Diameter 4-20mm
- Diameter 6-30mm



Order Code	Price
201466	**£131.29**

2 FLUTE UNCOATED SPIRAL FLUTE STEP DRILL

With Split Point

- 1mm increments with 4mm cutting depth
- Uncoated, more suitable for non-ferrous materials
- CBN Ground
- Spiral flute geometry for a smoother drilling process and high performance machining



Range mm	Step cutting depth	Shank	Length	Order Code	Price
4-12	5	6	80	201447U	**£18.64**
4-12	4	8	70	201448U	**£26.80**
6-30	4	10	98	201449U	**£50.65**
6-36	4	10	92	201450U	**£62.36**
6-38	4.5	10	100	201470U	**£79.17**
7-40.5	4-6	12	115	201451U	**£87.46**
7-32.5	3-6	12	100	201471U	**£66.57**

3PCS 2 FLUTE UNCOATED STEP DRILL SET

With Split Point

Contains:

- Diameter 4-12mm
- Diameter 4-20mm
- Diameter 6-30mm



Order Code	Price
201492	**£99.24**

3 FLUTE GOLD COATED SPIRAL FLUTE STEP DRILL

- 1mm Increments with 4mm cutting depth
- TiN-Coated for increased tool life
- CBN ground
- Spiral flute geometry for a smoother drilling process and high performance machining



Range mm	Step cutting depth	Shank	Length	Order Code	Price
4-12	4	6	65	213001	**£21.85**
4-20		8	75	213002	**£35.93**
6-30		10	100	213003	**£71.64**

3PCS 3 FLUTE GOLD COATED STEP DRILL SET

Contains:

- Diameter 4-12mm
- Diameter 4-20mm
- Diameter 6-30mm



Order Code	Price
213007	**£115.90**

3 FLUTE HSS-XE STEEL SPIRAL FLUTE STEP DRILL

- 1mm increments with 4mm cutting depth
- Uncoated, suitable for non-ferrous materials
- CBN ground
- Spiral flute geometry for a smoother drilling process and high performance machining



Range mm	Step Cutting Depth	Shank	Length	Order Code	Price
4-12	4	6	65	213004	**£17.71**
4-20		8	75	213005	**£29.17**
6-30		10	100	213006	**£61.58**

3PCS 3 FLUTE GOLD COATED STEP DRILL SET

Contains:
- Diameter 4-12mm
- Diameter 4-20mm
- Diameter 6-30mm



Order Code	Price
213008	**£97.52**

2 FLUTE GOLD COATED STRAIGHT FLUTE STEP DRILL

- 1mm increments with 4mm cutting depth
- TiN-Coated for increased tool life
- CBN ground
- Straight flute geometry ideal for handheld drilling



Range mm	Step Cutting Depth	Shank	Length	Order Code	Price
4-12	4	6	65	213033	**£19.11**
4-20		8	75	213034	**£26.68**
4-32		10	100	213035	**£50.35**

3PCS GOLD COATED STRAIGHT FLUTE STEP DRILL SET

Contains:
- Diameter 4-12mm
- Diameter 4-20mm
- Diameter 6-32mm



Order Code	Price
213092	**£99.30**

2 FLUTE UNCOATED STRAIGHT FLUTE STEP DRILL

With Split Point

- 2mm Increments with 4mm cutting depth
- Uncoated, suitable for non-ferrous materials
- CBN Ground
- Straight flute geometry ideal for handheld drilling



Range	Step Cutting Depth	Shank	Length	Order Code	Price
4-12	4	6	65	213030	**£13.84**
4-20		8	75	213031	**£21.30**
6-32		10	98	213032	**£42.72**

3PCS 2 FLUTE UNCOATED STRAIGHT FLUTE STEP DRILL SET

Contains:
- Diameter 4-12mm
- Diameter 4-20mm
- Diameter 6-32mm



Order Code	Price
213082	**£82.03**

2 FLUTE GOLD COATED STRAIGHT FLUTE TUBE & SHEET DRILLS

- TiN-Coated for increased tool life
- CBN ground
- Straight flute geometry ideal for handheld drilling



Karnasch PROFESSIONAL TOOLS

Range mm	Step Cutting Depth	Shank	Length	Order Code	Price
4-14	4	6	60	213019	**£21.02**
8-20		8	62	210037	**£27.69**
16-30.5		10	72	210038	**£43.15**
26-40		12	83	213017	**£75.51**
4-30.5		10	100	213015	**£51.24**

2 FLUTE UNCOATED STRAIGHT FLUTE TUBE & SHEET DRILLS

- Uncoated, more suitable for non-ferrous materials
- CBN Ground
- Straight flute geometry ideal for handheld drilling



Karnasch PROFESSIONAL TOOLS

Range mm	Step Cutting Depth	Shank	Length	Order Code	Price
4-14	4	6	60	213022	**£15.93**
8-20		8	62	210040	**£21.11**
16-30.5		10	72	210039	**£33.38**
26-40		12	83	213018	**£63.43**
4-30.5		10	100	213016	**£44.03**

2 FLUTE GOLD COATED SPIRAL FLUTE TUBE & SHEET DRILLS

With Split Point

- TiN-Coated for increased tool life
- CBN ground
- Spiral flute geometry for a smoother drilling process and high performance machining



Karnasch PROFESSIONAL TOOLS

Range mm	Step Cutting Depth	Shank	Length	Order Code	Price
4-20	4	8	71	201472	**£45.20**
5-31		10	103	201473	**£82.36**

2 FLUTE UNCOATED SPIRAL FLUTE TUBE & SHEET DRILLS

With Split Point

- Uncoated, more suitable for non-ferrous materials
- CBN Ground
- Spiral flute geometry for a smoother drilling process and high performance machining



Karnasch PROFESSIONAL TOOLS

Range mm	Step Cutting Depth	Shank	Length	Order Code	Price
4-20	4	8	71	201472U	**£32.79**
5-31		10	103	201473U	**£61.31**

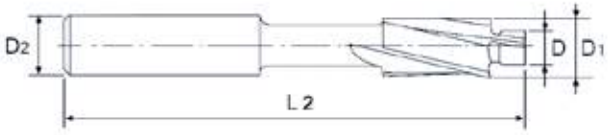
Counterboring Tools

3 FLUTE HSSE COUNTERBORES

- Ideal for making counterbore holes (180° capscrew)
- Solid pilot designed for machining as fillister screw caps or ejector caps in moulds
- HSS-E substrate
- Plain shank

Series
EL950 YG-1





HSS-E

Screw Size	D	D1	D2	L2	Order Code	Price
Medium						
M3	3.4	6	5	71	EL950003	**£16.77**
M3.5	3.9	6.5	5	71	EL950035	**£16.77**
M4	4.5	8	5	71	EL950004	**£13.42**
M5	5.5	10	8	80	EL950005	**£14.50**
M6	6.6	11	8	80	EL950006	**£15.74**
M8	9	15	12.5	100	EL950008	**£25.26**
M10	11	18	12.5	100	EL950010	**£30.09**
M12	14	20	12.5	100	EL950012	**£32.26**
Fine						
M3	3.2	6	5	71	EL950901	**£16.77**
M3.5	3.7	6.5	5	71	EL950902	**£16.77**
M4	4.3	8	5	71	EL950903	**£13.42**
M5	5.3	10	8	80	EL950904	**£14.50**
M6	6.4	11	8	80	EL950905	**£15.74**
M8	8.4	15	12.5	100	EL950906	**£25.26**
M10	10.5	18	12.5	100	EL950907	**£30.09**
M12	13	20	12.5	100	EL950908	**£32.26**
Before Threading						
M3	2.5	6	5	71	EL950909	**£16.77**
M3.5	2.9	6.5	5	71	EL950910	**£16.77**
M4	3.3	8	5	71	EL950911	**£13.42**
M5	4.2	10	8	80	EL950912	**£14.50**
M6	5	11	8	80	EL950913	**£15.74**
M8	6.8	15	12.5	100	EL950914	**£25.26**
M10	8.5	18	12.5	100	EL950915	**£30.09**
M12	10.2	20	12.5	100	EL950916	**£32.26**

180° 3 FLUTE HSS-XE COUNTERBORE SETS

- General purpose counterbores
- Made of high-alloyed special steel XE“ for considerably longer service life than HSS-steel
- Excellent torque transmission
- Contains M3/M4/M5/M6/M8/M10
- Superior cutting output

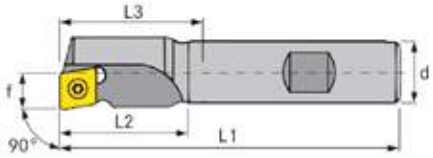


Type	Order Code	Price
Medium	401797	**£107.04**
Fine	401794	**£111.36**
Before Threading	401798	**£111.36**

180° SINGLE FLUTE INDEXABLE COUNTERBORING TOOL

- For counterboring / boring
- Single tooth models
- Universal use in all material groups
- Uses standard CCMT/CCGT ISO indexable inserts
- Ø10-Ø16 take CC06 inserts
- Ø17-Ø33 take CC09 inserts







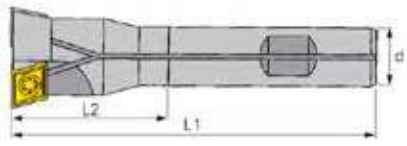
ATORN®

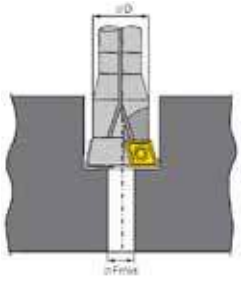
ØD	d	L1	ØFmin	L2	Order Code	Price
10	12	85	4	15	11240400	**£71.82**
11	12	85	4	15	11240410	**£71.82**
12	12	85	4	18	11240420	**£71.82**
13	12	85	4	23	11240430	**£71.82**
14	12	85	5	23	11240440	**£71.82**
15	12	85	5	30	11240450	**£71.82**
16	12	85	5	30	11240460	**£71.82**
17	16	95	6	30	11240470	**£81.12**
18	16	95	6	40	11240480	**£92.77**
19	16	95	6	40	11240490	**£92.77**
20	16	95	5	40	11240500	**£99.28**
22	16	95	6	42	11240520	**£106.34**
23	16	95	6	42	11240530	**£106.34**
24	16	95	6	42	11240540	**£112.25**
25	16	95	8	42	11240550	**£106.34**
26	20	120	8	56	11240560	**£112.25**
27	20	120	8	56	11240570	**£112.25**
28	20	120	10	56	11240580	**£112.25**
29	20	120	10	56	11240590	**£116.99**
30	20	120	10	56	11240600	**£116.99**
31	20	120	12	56	11240610	**£116.99**
32	20	120	12	56	11240620	**£116.99**
33	20	120	12	56	11240630	**£116.99**

180° INDEXABLE COUNTERBORING TOOL (TWO TOOTH)

- For counterboring / boring
- Two tooth models
- Universal use in all material groups
- Uses standard CCMT09/CCGT09 ISO indexable inserts







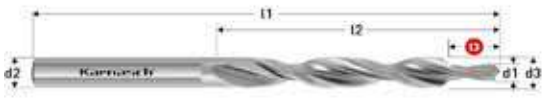
ATORN®

ØD	d	L1	ØFmin	L2	Order Code	Price
34	25	140	16	60	11243340	**£202.16**
35			17		11243350	**£202.16**
36			18		11243360	**£202.16**
37			19		11243370	**£202.16**
38			20		11243380	**£202.16**
39			21		11243390	**£220.60**
40			22		11243400	**£220.60**
41			23		11243410	**£220.60**
42			24		11243420	**£220.60**

2 FLUTE HSS-XE FINE GRADE SUBLAND DRILL, 90° COUNTERSINK

Fine Grade for Through Holes

- Drill & countersink in 1 hit
- Suitable for high-alloyed chromium steel such as stainless (V2A), steel, cast iron & non-ferrous
- Drill and countersink each with its own chip flutes and guide chamfers. This means it can be reground many times



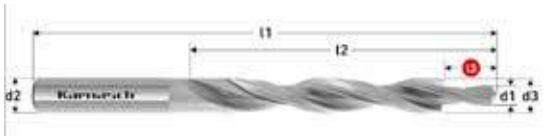
Karnasch PROFESSIONAL TOOLS

d1 h9	d2 h8	d3 h8	L1	L2	L3	For Thread	Order Code			
							Uncoated	Price	TITAN-TEC	Price
3.2	6	6	93	57	9	M3	401010030	**£30.32**	402010030	**£36.86**
4.3	8	8	117	75	11	M4	401010040	**£34.52**	402010040	**£41.99**
5.3	10	10	133	87	13	M5	401010050	**£43.67**	402010050	**£45.98**
6.4	11.5	11.5	142	94	15	M6	401010060	**£48.93**	402010060	**£59.37**
8.4	15	15	169	114	19	M8	401010080	**£81.22**	402010080	**£98.74**
10.5	19	19	198	135	23	M10	401010100	**£124.67**	402010100	**£151.47**

2 FLUTE HSS-XE MEDIUM GRADE SUBLAND DRILL, 180° COUNTERBORE

Medium Grade for Through Holes

- Drill & counterbore in 1 hit
- Suitable for high-alloyed chromium steel such as stainless (V2A), steel, cast iron & non-ferrous
- Drill and counterbore each with its own chip flutes and guide chamfers. This means it can be reground many times



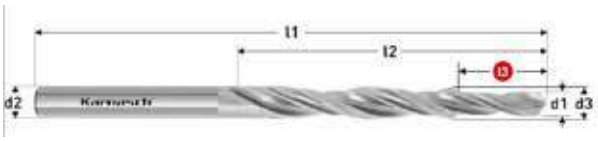
Karnasch PROFESSIONAL TOOLS

d1 h9	d2 h8	d3 h8	L1	L2	L3	For Thread	Order Code			
							Uncoated	Price	TITAN-TEC	Price
3.4	6.5	6.5	101	63	9	M3	401020030	**£32.19**	402020030	**£39.10**
4.5	8	8	117	75	11	M4	401020040	**£34.28**	402020040	**£41.72**
5.5	10	10	133	87	13	M5	401020050	**£41.22**	402020050	**£50.01**
6.6	11	11	142	94	15	M6	401020060	**£47.52**	402020060	**£57.82**
9	15	15	169	114	19	M8	401020080	**£50.84**	402020080	**£73.38**
11	18	18	191	130	23	M10	401020100	**£124.08**	402020100	**£150.89**

2 FLUTE HSS-XE BEFORE THREADING SUBLAND DRILL, 90° COUNTERSINK

For Through Holes

- Drill & countersink in 1 hit
- Suitable for high-alloyed chromium steel such as stainless (V2A), steel, cast iron & non-ferrous
- Drill and countersink each with its own chip flutes and guide chamfers. This means it can be reground many times



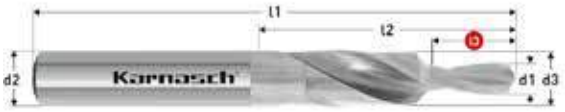
Karnasch PROFESSIONAL TOOLS

d1 h9	d2 h8	d3 h8	L1	L2	L3	For Thread	Order Code			
							Uncoated	Price	TITAN-TEC	Price
2.5	3.4	3.4	70	39	8.8	M3	401030030	**£25.20**	402030030	**£30.64**
3.3	4.5	4.5	80	47	11.4	M4	401030040	**£27.28**	402030040	**£33.22**
4.2	5.5	5.5	93	57	13.6	M5	401030050	**£28.05**	402030050	**£34.12**
5	6.6	6.6	101	63	16.5	M6	401030060	**£31.78**	402030060	**£38.62**
6.8	9	9	125	81	21	M8	401030080	**£36.38**	402030080	**£44.18**
8.5	11	11	142	94	25.5	M10	401030100	**£46.64**	402030100	**£56.81**
10.2	13.5	13.5	160	108	30	M12	-	-	402030120	**£72.58**

2 FLUTE HSS-XE SUBLAND DRILL, 90° COUNTERSINK

For Through Holes

- Drill & countersink in 1 hit
- Particularly suitable for CNC machines due to high positional accuracy
- Excellent centering properties and great sturdiness



Karnasch PROFESSIONAL TOOLS

d1 h8	d2 h8	d3 h8	L1	L2	L3	For Thread	Order Code			
							Uncoated	Price	TITAN-TEC	Price
3.2	6	6	66	28	9	M3	401040030	**£19.53**	402040030	**£24.34**
4.3	8	8	79	37	11	M4	401040040	**£19.35**	402040040	**£27.87**
5.3	10	10	89	43	13	M5	401040050	**£24.03**	402040050	**£34.66**
6.4	11.5	11.5	95	47	15	M6	401040060	**£32.63**	402040060	**£40.76**
8.4	15	15	111	56	19	M8	401040080	**£38.09**	402040080	**£47.60**
10.5	19	19	127	64	23	M10	401040100	**£56.91**	402040100	**£71.14**

2 FLUTE HSS-XE SUBLAND DRILL, 180° COUNTERBORE

For Through Holes

- Drill & counterbore in 1 hit
- Sturdy and tight concentricity tolerances between drill and counterbore guarantee exact alignment
- Particularly suitable for CNC machines due to high positional accuracy



Karnasch PROFESSIONAL TOOLS

d1 h8	d2 h8	d3 h8	L1	L2	L3	For Thread	Order Code			
							Uncoated	Price	TITAN-TEC	Price
3.4	6	6	66	28	9	M3	401050030	**£19.09**	402050030	**£19.44**
4.5	8	8	79	37	11	M4	401050040	**£21.67**	402050040	**£22.06**
5.5	10	10	89	43	13	M5	401050050	**£26.58**	402050050	**£27.02**
6.6	11	11	95	47	15	M6	401050060	**£30.87**	402050060	**£31.50**
9	15	15	111	56	19	M8	401050080	**£38.88**	402050080	**£39.55**
11	18	18	123	62	23	M10	401050100	**£59.21**	402050100	**£60.32**

2 FLUTE HSS-XE SUBLAND DRILL, 90° COUNTERSINK

For Tapping Holes

- Drill & countersink in 1 hit
- Particularly suitable for CNC machines due to high positional accuracy
- Sturdy and tight concentricity tolerances



Karnasch PROFESSIONAL TOOLS

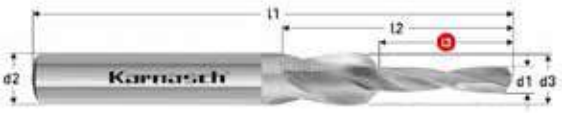
d1 h8	d2 h8	d3 h8	L1	L2	L3	For Thread	Order Code			
							Uncoated	Price	TITAN-TEC	Price
2.5	3.4	3.4	52	20	8.8	M3	401060030	**£17.23**	402060030	**£21.02**
3.3	4.5	4.5	58	24	11.4	M4	401060040	**£17.60**	402060040	**£21.50**
4.2	5.5	5.5	66	28	13.6	M5	401060050	**£18.77**	402060050	**£23.00**
5	6.6	6.6	70	31	16.5	M6	401060060	**£19.58**	402060060	**£23.91**
6.8	9	9	84	40	21	M8	401060080	**£23.06**	402060080	**£28.34**
8.5	11	11	95	47	25.5	M10	401060100	**£29.63**	402060100	**£36.42**
10.2	13.5	13.5	107	54	30	M12	401060120	**£38.03**	402060120	**£46.96**

2 FLUTE HSS-XE 90° SUBLAND DRILL, LONG DRILLING STEP

For Through Holes

- Drill & countersink in 1 hit
- Especially suitable for holes with simultaneous countersinking in profile material





Karnasch PROFESSIONAL TOOLS

d1 (+/- 0.05mm)	d2 h8	d3 h9	L1	L2	L3	For Thread	Order Code			
							Uncoated	Price	TITAN-TEC	Price
4.3	8.6	8.6	110	55	30	M4	401070040	**£39.10**	402070040	**£46.85**
5.3	10.4	10.4	110	55	30	M5	401070050	**£42.04**	402070050	**£50.43**
6.4	12.4	12.4	110	55	30	M6	401070060	**£45.68**	402070060	**£54.77**
8.4	12.5	12.5	110	70	30	M8	401070080	**£70.98**	402070080	**£84.99**
10.5	12.5	12.5	110	70	30	M10	401070100	**£89.27**	402070100	**£107.08**

Hole Saws

BI-METAL FCH FASTCUT HOLE SAWS

Positive rake tooth design with a smoother and faster cut

- Extra cobalt HSS tooth material
- 5.5 TPI positive rake tooth design
- Designed for cutting stainless steel, metals, and mild steel sheet
- Ideal for 3mm stainless steel, mild steel sheet, tubes, and other materials with a thickness of up to 13mm (1/2")
- Recommended cutting depth - up to 13mm (1/2") in softer materials



Diameter mm	Diameter inch	Suitable Arbor	Order Code	Price
14	9/16"		FCH0096	£6.91
16	5/8"		FCH0058	£5.48
17	11/16"	A1	FCH1016	£5.48
19	3/4"		FCH0034	£5.48
20	25/32"	A4	FCH2532	£5.48
21	13/16"		FCH1036	£5.48
22	7/8"	A1-1 (SDS plus)	FCH0078	£5.48
24	15/16"		FCH1056	£6.14
25	1"	A3 & A3-3 (Ulti-Mate)	FCH0100	£7.04
27	1.1/16"		FCH0116	£7.29
29	1.1/8"	A6 & A6-2 (Kwik Change)	FCH0118	£7.79
30	1.3/16"		FCH0136	£8.18
32	1.1/4"		FCH0114	£8.18
33	1.5/16"		FCH0156	£8.19
35	1.3/8"		FCH0138	£8.95
37	1.7/16"		FCH0176	£8.95
38	1.1/2"		FCH0112	£8.95
40	1.9/16"		FCH0196	£9.65
41	1.5/8"		FCH0158	£9.72
43	1.11/16"		FCH1116	£10.09
44	1.3/4"		FCH0134	£10.09
46	1.13/16"		FCH1136	£10.09
48	1.7/8"		FCH0178	£10.09
51	2"	A2	FCH0200	£10.09
52	2.1/16"		FCH0216	£10.48
54	2.1/8"	A10	FCH0218	£10.82
56	2.3/16"		FCH056M	£11.12
57	2.1/4"	A17-38 (Locking Arbor)	FCH0214	£11.26
59	2.5/16"		FCH0256	£11.51
60	2.3/8"	A2-1 (SDS plus)	FCH0238	£11.57
64	2.1/2"		FCH0212	£11.57
65	2.9/16"	A3 & A3-4 (Ulti-Mate)	FCH0296	£11.63
67	2.5/8"		FCH0258	£11.84
68	2.11/16"	A6 & A6-3 (Kwik-Change)	FCH068M	£11.84
70	2.3/4"		FCH0234	£11.87
73	2.7/8"		FCH0278	£12.12
76	3"		FCH0300	£12.36
79	3.1/8"		FCH0318	£12.61
83	3.1/4"		FCH0314	£13.07
86	3.3/8"		FCH0338	£13.51
89	3.1/2"		FCH0312	£13.98
92	3.5/8"		FCH0358	£14.35
95	3.3/4"		FCH0334	£15.65
98	3.7/8"		FCH0378	£16.66
102	4"	A2	FCH0400	£17.58
105	4.1/8"		FCH0418	£18.39
108	4.1/4"	A10	FCH0414	£22.74
111	4.3/8"		FCH0438	£24.98
114	4.1/2"	A17-38	FCH0412	£25.70
121	4.3/4"		FCH0434	£29.81
127	5"	A2-1	FCH0500	£33.78
133	5.1/4"		FCH0514	£36.14
140	5.1/2"	A3 & A3-5	FCH0512	£38.15
152	6"		FCH0600	£43.46
160	6.5/16"	A6 & A6-3	FCH160M	£72.89
168	5.5/8"		FCH168M	£80.09
177	6.31/32"	A2 or A10 A17-38 A2-1 A3 & A3-5	FCH177M	£81.59
210	8.9/32"		FCH210M	£90.14

BI-METAL FCH FASTCUT HOLE SAW KIT

Positive Rake Tooth Design with a Smoother & Faster Cut

- Kits include hole saws and arbors
- Extra cobalt HSS tooth material
- 5.5 TPI positive rake tooth design
- Designed for cutting stainless steel, metals, and mild steel sheet
- Ideal for 3mm stainless steel, mild steel sheet, tubes, and other materials with a thickness of up to 13mm (1/2")
- Recommended cutting depth - up to 13mm (1/2") in softer materials



Sizes Included	Arbors	Order Code	Price
16, 20, 25, 32, 40, 51	A1 & A10	KFC06021	£67.43
16, 20, 25, 29, 44, 51	A1 & A10	KFC06022	£67.48
16, 20, 22, 25, 29, 35, 44, 51, 64, 68, 76	A1 & A2	KFC11021	£117.67

BI-METAL CSC CORDLESS SMOOTH CUT HOLE SAWS

Designed for use with battery-operated power tools

- Ideal for steel, stainless steel and sheet metal
- Comes with arbor, pilot drill and ejector spring
- Recommended cutting depth 3mm
- Safety stop at the base of the hole saw prevents the saw travel beyond the hole saw the depth of 13mm (1/2")



Diameter mm	Diameter inch	Order Code	Price
16	5/8"	CSC16	£14.14
19	3/4"	CSC19	£14.14
20	25/32"	CSC20	£14.14
22	7/8"	CSC22	£14.44
25	1"	CSC25	£14.44
27	1.1/16"	CSC27	£14.44
29	1.1/8"	CSC29	£15.34
30	1.3/16"	CSC30	£16.13
32	1.1/4"	CSC32	£16.13
35	1.3/8"	CSC35	£17.36
38	1.1/2"	CSC38	£17.96
40	1.9/16"	CSC40	£18.59
51	2"	CSC51	£19.98

HOLE SAW ARBORS

For Bi-Metal FCH Fast Cut Hole Saws

- Standard length arbor for FCH series hole saws
- Suitable for use with standard HSS pilot drills



Type	Hole Saw Diameter	Order Code	Price
A1	14-30	A1	**£7.01**
A2	32-210	A2	**£14.08**

HOLE SAW PILOT DRILLS

High Speed Steel Arbor Pilot Drills

- For use with all FCH fastcut hole saws



Hole Saw Arbor	Order Code	Price
All Arbors (excepts A3)	A014C	**£3.11**

HOLE SAW ARBOR EXTENSIONS

For Extending the Reach of Hole Saws

- 300mm (12") extension bar



For Arbor Type	Fits Chuck Size	Order Code	Price
A1	9.5mm / 3/8"	A15	**£20.42**
A2	13mm / 1/2"	A5	**£11.15**

HOLE SAW CORE EJECTOR

Quick & Easy Way of Ejecting Cores After Use

- A simple but highly effective method of ejecting the core from a hole saw after completion of the cut
- Please note the max cut depth is reduced to 7mm for all FCH hole saws when using core ejectors



For Use With Hole Saw Diameters mm	Order Code	Price
20-24	KA8-1	**£1.76**
25-38	KA8-2	**£1.88**
40-60	KA8-3	**£2.13**
64-86	KA8-4	**£2.54**

HOLE ENLARGEMENT ARBOR

For Enlarging Diameters of Pre-Existing Holes

- Allows diameter to be enlarged further by using a smaller hole saw as the pilot drill
- Quck and easy to fit
- Replaces the pilot drill in any A1, A2 or A10 type arbor
- Compatible holesaws are FCH, DCH, TCT multi purpose, CT & Diamond
- Minimum hole enlargement is 4.7mm





Min Hole Enlargement	Order Code	Price
4.7	KA19	**£10.98**

Annular Cutters

M2AL RAPTOR ANNULAR CUTTERS

HSS Rotabroach Raptor Series

- High performance with specially designed tooth geometry
- Made from M2AL for greater cutter hardness, optimum performance, increased speed of cut and maximum tool life
- Ideal on steel up to a maximum tensile strength of 900N/mm²
- Suitable for aluminium (<10% si), copper, brass, cast iron & plastic
- We recommend you use a pilot pin with all annular cutters



Rotabroach

Diameter	Order Code			
	25mm DOC	Price	50mm DOC	Price
12	RAP120	£9.32	RAPL120	£12.72
13	RAP130	£9.32	RAPL130	£14.84
14	RAP140	£9.32	RAPL140	£15.56
15	RAP150	£9.66	RAPL150	£16.97
16	RAP160	£9.98	RAPL160	£18.36
17	RAP170	£9.98	RAPL170	£19.12
18	RAP180	£10.66	RAPL180	£19.12
19	RAP190	£11.08	RAPL190	£19.12
20	RAP200	£11.40	RAPL200	£19.44
21	RAP210	£12.12	RAPL210	£21.24
22	RAP220	£12.44	RAPL220	£22.22
23	RAP230	£13.20	RAPL230	£22.94
24	RAP240	£13.20	RAPL240	£23.69
25	RAP250	£13.92	RAPL250	£24.36
26	RAP260	£14.26	RAPL260	£25.07
27	RAP270	£15.00	RAPL270	£26.16
28	RAP280	£15.34	RAPL280	£27.22
29	RAP290	£15.66	RAPL290	£28.62
30	RAP300	£16.06	RAPL300	£29.66
31	RAP310	£21.47	RAPL310	£30.48
32	RAP320	£23.20	RAPL320	£31.56
33	RAP330	£24.26	RAPL330	£33.62
34	RAP340	£28.40	RAPL340	£34.92
35	RAP350	£31.91	RAPL350	£36.00
36	RAP360	£33.22	RAPL360	£37.38
37	RAP370	£33.88	RAPL370	£38.78
38	RAP380	£34.26	RAPL380	£39.84
39	RAP390	£35.34	RAPL390	£42.96
40	RAP400	£37.04	RAPL400	£46.40
41	RAP410	£38.46	RAPL410	£47.48
42	RAP420	£40.50	RAPL420	£49.19
43	RAP430	£48.86	RAPL430	£58.20
44	RAP440	£50.50	RAPL440	£59.94
45	RAP450	£52.62	RAPL450	£61.34
46	RAP460	£54.36	RAPL460	£64.04
47	RAP470	£55.76	RAPL470	£66.18
48	RAP480	£57.16	RAPL480	£68.54
49	RAP490	£58.86	RAPL490	£71.66
50	RAP500	£62.06	RAPL500	£73.50
51	RAP510	£66.83	RAPL510	£79.30
52	RAP520	£74.76	RAPL520	£89.72
53	-	-	RAPL530	£91.46
54	-	-	RAPL540	£93.18
55	-	-	RAPL550	£94.90
56	-	-	RAPL560	£96.62
57	-	-	RAPL570	£98.32
58	-	-	RAPL580	£100.08
59	-	-	RAPL590	£101.80
60	-	-	RAPL600	£103.54
61	-	-	RAPL610	£105.17
62	-	-	RAPL620	£106.88
63	-	-	RAPL630	£108.62
64	-	-	RAPL640	£110.34
65	-	-	RAPL650	£112.06

TCT RAPTOR ANNULAR CUTTERS

Tungsten Carbide Tipped Rotabroach Raptor Series

- Harder and able to resist higher temperatures, resulting in less wear
- Super micro-grain carbide tips for the toughest of materials
- Unique flute design for fast material flow
- 3 tooth geometry for even tooth loading for a smooth & vibration-free cut
- Ideal on steel <1400N, stainless steel, aluminium & cast iron
- Also suitable for use on copper and brass
- We recommend you use a pilot pin with all annular cutters
- Up to 100mm diameter available online at cutwel.co.uk



Rotabroach

Diameter	Order Code							
	35mm DOC	Price	50mm DOC	Price	75mm DOC	Price	100mm DOC	Price
12	CWC12	£29.00	CWCL12	£30.78	-	-	-	-
13	CWC13	£29.00	CWCL13	£30.78	-	-	-	-
14	CWC14	£29.00	CWCL14	£30.78	CWCT14	£31.46	CWCX14	£47.18
15	CWC15	£29.00	CWCL15	£30.78	CWCT15	£32.02	CWCX15	£48.62
16	CWC16	£29.00	CWCL16	£30.78	CWCT16	£32.60	CWCX16	£50.04
17	CWC17	£29.00	CWCL17	£30.78	CWCT17	£33.17	CWCX17	£50.90
18	CWC18	£29.38	CWCL18	£30.78	CWCT18	£33.90	CWCX18	£52.06
19	CWC19	£29.38	CWCL19	£30.78	CWCT19	£33.90	CWCX19	£53.48
20	CWC20	£29.38	CWCL20	£30.78	CWCT20	£33.90	CWCX20	£54.88
21	CWC21	£30.76	CWCL21	£30.78	CWCT21	£33.90	CWCX21	£61.12
22	CWC22	£30.76	CWCL22	£30.78	CWCT22	£33.90	CWCX22	£63.22
23	CWC23	£30.76	CWCL23	£30.78	CWCT23	£33.90	CWCX23	£65.30
24	CWC24	£30.76	CWCL24	£30.78	CWCT24	£33.90	CWCX24	£67.76
25	CWC25	£30.76	CWCL25	£30.78	CWCT25	£33.90	CWCX25	£69.44
26	CWC26	£32.54	CWCL26	£32.56	CWCT26	£36.72	CWCX26	£77.14
27	CWC27	£32.54	CWCL27	£32.54	CWCT27	£36.72	CWCX27	£77.14
28	CWC28	£32.54	CWCL28	£32.56	CWCT28	£36.72	CWCX28	£78.17
29	CWC29	£32.54	CWCL29	£32.56	CWCT29	£36.72	CWCX29	£81.95
30	CWC30	£32.54	CWCL30	£32.56	CWCT30	£36.72	CWCX30	£84.72
31	CWC31	£34.36	CWCL31	£32.56	CWCT31	£39.11	CWCX31	£85.08
32	CWC32	£34.36	CWCL32	£35.84	CWCT32	£40.74	CWCX32	£86.12
33	CWC33	£34.36	CWCL33	£35.84	CWCT33	£40.74	CWCX33	£90.28
34	CWC34	£34.36	CWCL34	£35.84	CWCT34	£40.74	CWCX34	£94.16
35	CWC35	£34.36	CWCL35	£35.84	CWCT35	£40.74	CWCX35	£94.16
36	CWC36	£40.00	CWCL36	£40.01	CWCT36	£46.34	CWCX36	£100.68
37	CWC37	£40.00	CWCL37	£40.01	CWCT37	£46.34	CWCX37	£104.56
38	CWC38	£40.00	CWCL38	£40.01	CWCT38	£46.34	CWCX38	£107.68
39	CWC39	£40.00	CWCL39	£40.01	CWCT39	£46.34	CWCX39	£115.66
40	CWC40	£40.00	CWCL40	£40.01	CWCT40	£46.34	CWCX40	£123.60
41	CWC41	£45.30	CWCL41	£50.64	CWCT41	£57.50	CWCX41	£125.69
42	CWC42	£45.30	CWCL42	£50.64	CWCT42	£57.50	CWCX42	£129.20
43	CWC43	£45.30	CWCL43	£50.64	CWCT43	£57.50	CWCX43	£134.10
44	CWC44	£45.30	CWCL44	£50.64	CWCT44	£57.50	CWCX44	£137.22
45	CWC45	£45.30	CWCL45	£50.64	CWCT45	£57.50	CWCX45	£140.64
46	CWC46	£49.54	CWCL46	£54.28	CWCT46	£61.12	CWCX46	£144.14
47	CWC47	£49.54	CWCL47	£54.28	CWCT47	£61.12	CWCX47	£149.72
48	CWC48	£49.54	CWCL48	£54.28	CWCT48	£61.12	CWCX48	£161.48
49	CWC49	£49.54	CWCL49	£54.28	CWCT49	£61.12	CWCX49	£161.48
50	CWC50	£49.54	CWCL50	£58.38	CWCT50	£64.34	CWCX50	£161.48
51	CWC51	£49.54	CWCL51	£58.38	CWCT51	£64.34	CWCX51	£163.92
52	CWC52	£49.54	CWCL52	£58.38	CWCT52	£64.34	CWCX52	£179.92
53	-		CWCL53	£63.00	CWCT53	£69.44	CWCX53	£187.22
54	-		CWCL54	£63.00	CWCT54	£69.44	CWCX54	£196.18
55	-		CWCL55	£63.00	CWCT55	£69.44	CWCX55	£203.18
56	-		CWCL56	£65.14	CWCT56	£71.88	CWCX56	£205.66
57	-		CWCL57	£66.20	CWCT57	£73.12	CWCX57	£212.94
58	-		CWCL58	£66.20	CWCT58	£73.12	CWCX58	£221.27
59	-		CWCL59	£66.20	CWCT59	£73.12	CWCX59	£229.22
60	-		CWCL60	£70.50	CWCT60	£78.32	CWCX60	£232.72
61	-		CWCL61	£73.62	CWCT61	£81.50	CWCX61	£233.38
62	-		CWCL62	£73.62	CWCT62	£81.50	CWCX62	£234.06
63	-		CWCL63	£75.70	CWCT63	£83.92	CWCX63	£234.42
64	-		CWCL64	£75.70	CWCT64	£83.88	CWCX64	£235.48
65	-		CWCL65	£75.70	CWCT65	£83.88	CWCX65	£235.48

ANNULAR CUTTER PILOT PINS

Essential for Accurate Positioning of Annular Cutters

- When using annular cutters we always recommend using a pilot pin



Rotabroach

Annular Cutter Type	For Sizes		For Series	Order Code	Price
	DOC	Dia			
M2AL (HSS)	25	11-12	RAP110-120	SRA3057	**£3.34**
		13-60	RAP130-600	SRA25	**£3.34**
	50	12	RAPL120	RA3013	**£3.90**
		13-65	RAPL130-650	SRA50	**£3.34**
TCT	35	12-17	CWC12-17	SRA90	**£3.34**
		18-52	CWC18-52	RA3089	**£3.90**
	50	12-17	CWCL12-17	SRA50	**£3.34**
		18-65	CWCL18-65	RA356	**£3.90**
		66-100	CWCL66-100	RA3094	**£3.90**
	75	12-17	CWCT12-17	SRA130	**£4.78**
		18-65	CWCT18-65	RA3120	**£9.12**
		66-100	CWCT66+	RA3121	**£9.12**
	100	12-17	CWCX12-17	20ZAXL400P	**£9.77**
		18-75	CWCX18-65	RA3122	**£12.43**
		65-100	CWCX66+	RA3123	**£12.43**

ANNULAR CUTTER MORSE TAPER ADAPTER

For Raptor Annular cutters

- To clamp annular cutters in morse taper mag drills
- Comes with coolant feed



Rotabroach

Morse Taper	Shank	Depth	Order Code	Price
MT2	19.05	50	CA120	**£110.70**
MT3	19.05		CA130	**£110.70**
MT3	32		CA130X	**£129.20**

ANNULAR CUTTER EXTENSION ARBOR

- Designed to extend the reach of Raptor Annular Cutters, whilst maintaining concentricity over various lengths



Rotabroach

Length	Order Code	Price
25	RD2090	**£127.50**
50	RD2091	**£108.54**
75	RD2092	**£154.94**
100	RD2102	**£177.98**
150	RD2103	**£187.86**
200	RD2104	**£258.35**
250	RD2105	**£292.86**

ANNULAR CUTTER ADAPTER

For Using Rotabroach Cutters with Other Quick Fit Systems

- For the adaptation of using Rotabroach cutters in competitor machines fitted with a quick fit system, our quick fit adaptors can be used



Rotabroach

Adapter Type	Order Code	Price
Fein Quick-In Shank	RB-CQA01	**£17.74**
One-Touch Shank	RB-CQA02	
Nitto Threaded Adaptor	RB-CQA03	

Mag Drills

ELEMENT50 MAG DRILL

Large Capacity MT2 Magnetic Drilling System

- Fitted with 2 gears and 12 forward and reverse speeds
- Perfect for drilling, countersinking and threading
- Weighing just 15kg, versatile in both workshop and site use
- Fitted with CutSmart technology to enhance tool life, speed of cut and user safety
- Improved accessibility with quick release interchangeable handle
- No Load speed: 100-500RPM
- Stroke: 140mm



KEY FEATURES

- Cutter capacity: 50mm
- Depth of cut: 50mm
- Twist drill capacity: 20mm
- Countersink: 30mm
- Weight: 15kg
- Magnet size: 200x98mm
- Motor: 1500w

INCLUDED

- Carry case
- Internal coolant system
- Safety strap
- Stationary ring
- Arbor assembly
- 3mm and 6mm hex keys
- 13mm chuck
- Drill chuck, adapter, key & drift
- Safety glasses

Rotabroach

Voltage	Order Code	Price
110V	ELEMENT-50/1	£726.37
230V	ELEMENT-50/3	

ELEMENT40 MAG DRILL

Increased Functionality Magnetic Drilling System

- Capable of countersinking and large diameter drilling
- 2 speed gearbox, the user is able to select the right speed for the drilling diameter
- Fitted with CutSmart technology to enhance tool life, speed of cut and user safety
- Improved accessibility with quick release interchangeable handle
- No Load speed: 300-600RPM
- Stroke: 80mm



KEY FEATURES

- Cutter capacity: 40mm
- Depth of cut: 50mm
- Twist drill capacity: 13mm
- Countersink: 30mm
- Weight: 13kg
- Magnet size: 180x90mm
- Motor: 1200W

INCLUDED

- Carry case
- Internal coolant system
- Safety strap
- 4mm A/F tee handled hex key
- 3mm and 6mm hex keys
- Drill chuck adapter
- Drill chuck and key
- Safety glasses

Rotabroach

Voltage	Order Code	Price
110V	ELEMENT-40/1	£476.81
230V	ELEMENT-40/3	

View Full Rotabroach Range Online

ELEMENT30 MAG DRILL

Single Speed Lightweight Powerful & Portable Magnetic Drilling System

- Perfect for site installations and workshops
- Fitted with CutSmart technology to enhance tool life, speed of cut and user safety
- Improved accessibility with quick release interchangeable handle
- No Load speed: 600RPM
- Stroke: 65mm



KEY FEATURES

- Cutter capacity: 32mm
- Depth of cut: 35mm
- Twist drill capacity: 13mm
- Weight: 12kg
- Magnet size: 90x180mm

INCLUDED

- Carry case
- Safety strap
- 4mm A/F tee handled hex key
- Internal coolant system
- 6mm hex keys
- Drill chuck adapter
- Drill chuck and key
- Safety glasses

Rotabroach

Voltage	Order Code	Price
110V	ELEMENT-30/1	**£337.01**
230V	ELEMENT-30/3	**£409.89**

View Full Rotabroach Range Online

COMMANDO40 MAG DRILL

Powerful Motor & Flexible 6 Speed Magnetic Drilling System

- Ideal for countersinking and using twist drills
- Great all round tool for workshops and sites
- No Load speed: 270-610RPM
- Stroke: 85mm



KEY FEATURES

- Cutter capacity: 40mm
- Depth of cut: 50mm
- Twist drill capacity: 13mm
- Countersink: 30mm
- Weight: 14kg
- Magnet size: 165x80mm
- Motor: 1100w

INCLUDED

- Carry case
- Allen keys
- Safety strap
- 13mm drill chuck
- Internal coolant system

Rotabroach

Voltage	Order Code	Price
110V	COMMANDO-40/1	£386.07
230V	COMMANDO-40/3	

COMMANDO35 MAG DRILL

Unbeatable Value Magnetic Drilling System

- Fitted with thermal overload protection
- Great all round tool for workshops and sites
- No Load speed: 850RPM
- Stroke: 105mm



KEY FEATURES

- Cutter capacity: 35mm
- Depth of cut: 50mm
- Weight: 12kg
- Magnet size: 160x80mm
- Motor: 1050w

INCLUDED

- Carry case
- Allen keys
- Safety strap
- Guard
- Internal coolant system

Rotabroach

Voltage	Order Code	Price
110V	COMMANDO-35/1	£341.44
230V	COMMANDO-35/3	

View Full Rotabroach Range Online

cutwel.co.uk

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- Save shopping baskets for easy repeat ordering
- Order online 24/7 at your own convenience

How to get set up:

1. Please send us the email address you wish to login with
2. We will send a password reset email for you to setup your account
3. Once you have reset your password then you will be good to go!

To set up your online account, please contact us directly on the details below:

Email sales@cutwel.net or Call 01924 869610

Taps & Dies



Machine Taps, Hand Taps, Circular Dies, Die Nuts & Thread Repair Tools

Huge range of machine taps for a wide range of thread forms, materials & performance levels from general purpose to ultra-high performance. Also a wide range of hand taps, dies & sets are available.



General Purpose & Performance Universal Machine Taps 834
Universal machine taps designed for multi-purpose general tapping applications across a wide range of materials



Machine Taps for High Resistance Materials 860
For alloy & hardened steel <HRC52, grey cast iron, high-si aluminium, high strength bronze, brass & copper alloy



Machine Taps for Stainless Steel 866
High performance & general purpose machine taps for stainless steel



Machine Taps for Nickel, Titanium & HRSA's 876
High performance machine taps for tapping titanium/titanium alloy, nickel, nickel alloy & high strength bronze



Machine Taps for Cast Iron 882
For tapping cast iron, high strength bronze & high silicon aluminium



Machine Taps for Non-Ferrous 892
Special geometries for aluminium alloy, copper, copper alloys, brass, plastic, titanium & long chipping soft steel



Synchro Rigid Taps for High Speed Tapping 896
Synchro-rigid high speed tapping with surface speeds up to 4 times greater than standard HSSE taps



Cold Forming Roll Taps 902
HSSE & powder metal cold forming roll taps for a wide range of materials



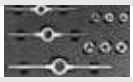
Thread Repair Taps, Inserts & Kits 908
HSSE thread repair taps for steel, cast iron & aluminium - Also includes thread repair inserts & kits



Hand Taps 914
Available in sets or individually for a wide range of thread forms



Split Dies, Solid Dies & Die Nuts 930
For economic machining of carbon steel, alloy steel up to HRC40, copper, brass, aluminium & cast iron



Tap & Die Sets 944
Wide range of assorted tap & die sets with a variety of arrangements

Taps & Dies

Machine Taps Universal

P H M S K N

General purpose & performance machine taps designed for multi-purpose tapping applications across a wide range of materials.



PAGE 834

★★★★ Performance

Machine Taps for High Resistance

P H M K N

For alloy and hardened steel <HRC52, grey cast iron, high-si aluminium, high strength bronze, brass & copper alloy.



PAGE 860

★★★★★ Performance

Machine Taps for Stainless Steel

P M S N

Range includes powder metal substrates for ultra reliable & wear resistance tapping of stainless steel.



PAGE 866

★★★★★ Performance

Machine Taps for Nickel, Titanium & HRSA's

P H M S K N

High performance machine taps for tapping titanium/titanium alloy, nickel, nickel alloy & high strength bronze.



PAGE 876

★★★★★ Performance

Machine Taps for Cast Iron

P H K N

For tapping cast iron, high strength bronze & high silicon aluminium.



PAGE 882

★★★★★ Performance

Machine Taps for Non-Ferrous

P S N

Special geometries for aluminium alloy, copper, copper alloy, brass, plastic, titanium & long chipping soft steel.



PAGE 892

★★★★★ Performance

YG UAS

P H M S K N

Synchro Rigid Taps for High Speed Tapping

Synchro-rigid high speed tapping with surface speeds up to 4 times greater than standard HSSE taps.



PAGE 896

★★★★★ Performance

YG UAS

P H M S N

Cold Forming Roll Taps

HSSE & powder metal cold forming roll taps for a wide range of materials



PAGE 902

★★★★★ Performance

YG UAS RECOIL

P S N

Thread Repair Taps, Inserts & Kits

HSSE thread repair taps for steel, cast iron & aluminium.

Also includes thread repair kits & inserts.



PAGE 908

★★★ Performance

YG UAS PRESTO

P M K N

Hand Taps

Available in sets or individually for a wide range of thread forms.



PAGE 914

★★★ Performance

PRESTO JBO

P M N

Split Dies, Solid Dies & Die Nuts

HSS circular split dies, solid dies & hexagon die nuts.



PAGE 930

★★★ Performance

PRESTO ORION ATORN

Tap & Die Sets

A range of tap & die sets with a selection of various assortments.



PAGE 944

Taps & Dies

COATINGS & SURFACE TREATMENTS

BRIGHT FINISH (Uncoated)

Uncoated bright finish taps are ideal for unabrasive materials with low hardness. Bright finish prevents built-up edge, great for stickier materials

VAP FINISH (Steam Tempered)

Fe3O4 surface treatment hardens the flutes and reduces friction & prevents cold welding. For harder wearing materials such as stainless steel.

NI TREATED (Nitrided)

Special surface treatment recommended for abrasive materials such as grey cast iron or high silicon aluminium.

TiN COATED

General purpose coating most suited to tapping steels and materials with low heat resistance.

TiALN COATED

Coating with high heat resistance and excellent lubrication qualities. Ideal for tapping materials with high heat resistance or abrasive properties.

TiN-XP COATED

TiN-X Plus coating designed for tapping medium-low resistance steel and for tapping with axial compensation.

TiALN +C COATED

Tinalox plus carbon coating with high lubricity designed for tapping stainless steels or high silicon aluminium.

TiCN COATED

Coating with higher hardness and toughness than TiN.
Ideal for demanding steel tapping applications.

TXS COATED

Specially developed, highly wear resistant coating for cast iron & abrasive materials.

CrN COATED

Chromium nitride coating provides improved tool life with medium to low resistance steel and is also particularly suitable for copper, brass & bronze.

WE DO NOT RECOMMEND TO USE A STANDARD ER COLLET CHUCK FOR RIGID TAPPING.
Tool life and tapping loads can be affected by errors in the synchronisation cycle.

ER COLLET CHUCK TAPPING SYSTEMS



TENSION & COMPRESSION ER COLLET CHUCKS

Page 1160

- For rigid or conventional tapping applications
- +/-15mm tension/compensation
- Compensation prevents broken taps & oversized threads



SYNCHRO ER COLLET CHUCKS

Page 1154

- For CNC rigid tapping
- +/-0.5mm compensation
- 1st choice for all rigid tapping applications



SQUARE DRIVE ER COLLETS

Page 1160

- ER collets specific for tapping
- Square drive prevents tap from slipping in the collet

QUICK CHANGE TAPPING SYSTEMS



TENSION & COMPRESSION QC TAP CHUCKS

Page 1160

- For rigid or conventional tapping applications
- Quick change
- +/-15mm tension/compensation
- Compensation prevents broken taps & oversized threads



FIXED DRIVE QC ADAPTER

Page 1160

- For low strength materials or low cost applications
- Anti-pull out mechanism



CLUTCH DRIVE QC ADAPTER

Page 1160

- For high strength materials or high value applications
- Anti-pull out mechanism

METRIC ACCESSORIES: **ER TAP COLLETS WITH SQUARE DRIVE & QUICK CHANGE TAP ADAPTERS**



Tap Dia. ØD1	Shank ØD2	Square K	ER TAP COLLETS WITH SQUARE					QC TAP ADAPTER FIXED		QC TAP ADAPTER CLUTCH	
			ER16	ER20	ER25	ER32	ER40	SIZE 1	SIZE 2	SIZE 1	SIZE 2
M2/M2.5	2.8	2.1	-	-	-	-	-	IBC1-2.8X2.1	-	IBS1-2.8X2.1	-
M3	3.5	2.7	ER16MD03.5	ER20MD03.5	ER25MD03.5	ER32MD03.5	-	IBC1-3.5X2.7	-	IBS1-3.5X2.7	-
M4	4.5	3.4	ER16MD04.5	ER20MD04.5	ER25MD04.5	ER32MD04.5	-	IBC1-4.5X3.4	-	IBS1-4.5X3.4	-
M4.5/M5/M6	6	4.9	ER16MD06	ER20MD06	ER25MD06	ER32MD06	ER40MD06	IBC1-6X4.9	IBC2-6X4.9	IBS1-6X4.9	IBS2-6X4.9
M8	8	6.2	ER16MD08	ER20MD08	ER25MD08	ER32MD08	ER40MD08	IBC1-8X6.2	IBC2-8X6.2	IBS1-8X6.2	IBS2-8X6.2
M10	10	8	-	ER20MD10	ER25MD10	ER32MD10	ER40MD10	IBC1-10X8	IBC2-10X8	IBS1-10X8	IBS2-10X8
M12	9	7	-	ER20MD09	ER25MD09	ER32MD09	ER40MD09	IBC1-9X7	IBC2-9X7	IBS1-9X7	IBS2-9X7
M14	11	9	-	-	ER25MD11	ER32MD11	ER40MD11	IBC1-11X9	IBC2-11X9	IBS1-11X9	IBS2-11X9
M16	12	9	-	-	ER25MD12	ER32MD12	ER40MD12	-	IBC2-12X9	-	IBS2-12X9
M20	16	12	-	-	-	ER32MD16	ER40MD16	-	IBC2-16X12	-	IBS2-16X12
M22-M26	18	14.5	-	-	-	-	ER40MD18	-	IBC2-18X14.5	-	IBS2-18X14.5
M27	20	16	-	-	-	-	ER40MD20	-	IBC2-20X16	-	IBCS-20X16

UNC & UNF ACCESSORIES: **ER TAP COLLETS WITH SQUARE DRIVE & QUICK CHANGE TAP ADAPTERS**



Tap Dia. UNC	Shank ØD2	Square K	ER TAP COLLETS WITH SQUARE					QC TAP ADAPTER FIXED		QC TAP ADAPTER CLUTCH	
			ER16	ER20	ER25	ER32	ER40	SIZE 1	SIZE 2	SIZE 1	SIZE 2
No.4, No.5	3.5	2.7	ER16MD03.5	ER20MD03.5	ER25MD03.5	ER32MD03.5	-	IBC1-3.5X2.7	-	IBS1-3.5X2.7	-
No.6	4	3	ER16MD04	ER20MD04	ER25MD04	ER32MD04	-	IBC1-4X3	-	IBS1-4X3	-
No.8	4.5	3.4	ER16MD04.5	ER20MD04.5	ER25MD04.5	ER32MD04.5	-	IBC1-4.5X3.4	-	IBS1-4.5X3.4	-
No.10, No.12	6	4.9	ER16MD06	ER20MD06	ER25MD06	ER32MD06	ER40MD06	IBC1-6X4.9	IBC2-6X4.9	IBS1-6X4.9	IBS2-6X4.9
1/4	7	5.5	ER16MD07	ER20MD07	ER25MD07	ER32MD07	ER40MD07	IBC1-7X5.5	IBC2-7X5.5	IBS1-7X5.5	IBS2-7X5.5
5/16, 7/16	8	6.2	ER16MD08	ER20MD08	ER25MD08	ER32MD08	ER40MD08	IBC1-8X6.2	IBC2-8X6.2	IBS1-8X6.2	IBS2-8X6.2
3/8, 1/2	9	7	-	ER20MD09	ER25MD09	ER32MD09	ER40MD09	IBC1-9X7	IBC2-9X7	IBS1-9X7	IBS2-9X7
9/16	11	9	-	-	ER25MD11	ER32MD11	ER40MD11	IBC1-11X9	IBC2-11X9	IBS1-11X9	IBS2-11X9
5/8	12	9	-	-	ER25MD12	ER32MD12	ER40MD12	-	IBC2-12X9	-	IBS2-12X9
3/4	14	11	-	-	-	ER32MD14	ER40MD14	-	IBC2-14X11	-	IBS2-14X11
7/8	18	14.5	-	-	-	-	ER40MD18	-	IBC2-18X14.5	-	IBS2-18X14.5
1	20	16	-	-	-	-	ER40MD20	-	IBC2-20X16	-	IBS2-20X16

UNEF ACCESSORIES: **ER TAP COLLETS WITH SQUARE DRIVE & QUICK CHANGE TAP ADAPTERS**



Tap Dia. UNEF	Shank ØD2	Square K	ER TAP COLLETS WITH SQUARE					QC TAP ADAPTER FIXED		QC TAP ADAPTER CLUTCH	
			ER16	ER20	ER25	ER32	ER40	SIZE 1	SIZE 2	SIZE 1	SIZE 2
1/4	4.5	3.4	ER16MD04.5	ER20MD04.5	ER25MD04.5	ER32MD04.5	-	IBC1-4.5X3.4	-	IBS1-4.5X3.4	-
5/16	6	4.9	ER16MD06	ER20MD06	ER25MD06	ER32MD06	ER40MD06	IBC1-6X4.9	IBC2-6X4.9	IBS1-6X4.9	IBS2-6X4.9
3/8	7	5.5	ER16MD07	ER20MD07	ER25MD07	ER32MD07	ER40MD07	IBC1-7X5.5	IBC2-7X5.5	IBS1-7X5.5	IBS2-7X5.5
7/16	8	6.2	ER16MD08	ER20MD08	ER25MD08	ER32MD08	ER40MD08	IBC1-8X6.2	IBC2-8X6.2	IBS1-8X6.2	IBS2-8X6.2
1/2	9	7	-	ER20MD09	ER25MD09	ER32MD09	ER40MD09	IBC1-9X7	IBC2-9X7	IBS1-9X7	IBS2-9X7
9/16	11	9	-	-	ER25MD11	ER32MD11	ER40MD11	IBC1-11X9	IBC2-11X9	IBS1-11X9	IBS2-11X9
5/8	12	9	-	-	ER25MD12	ER32MD12	ER40MD12	-	IBC2-12X9	-	IBS2-12X9
11/16, 3/4	14	11	-	-	-	ER32MD14	ER40MD14	-	IBC2-14X11	-	IBS2-14X11
13/16, 7/8	18	14.5	-	-	-	-	ER40MD18	-	IBC2-18X14.5	-	IBS2-18X14.5
1" 1/16	20	16	-	-	-	-	ER40MD20	-	IBC2-20X16	-	IBS2-20X16

Machine Taps Universal

P M S K N

YG-1 Prime X-Coated Taps

SUBSTRATE
Premium powder metal substrate with tough-chipping resistant cutting edge

RING COLOUR
Black ring identifies YG taps are for universal materials

COATING
New YG-1 X-Coating provides high heat and wear resistance in performance tapping



SPECIAL THREAD STRUCTURE
For reduction of torque, wear and risks of overfeeding

YG-1 Combo Universal Taps

ECONOMIC
Ideal for economic or short batch jobs which require a low cost reliable tap

SUBSTRATE
HSS 5% cobalt for good wear resistance & excellent toughness

RING COLOUR
Black ring identifies YG taps are for universal materials



PATENTED THREAD DESIGN
Prevents overfeeding, thread thinning and oversized threads

Economy, general & performance

Universal machine taps from YG-1 (South Korea) and UFS (Italy) are designed for multi-purpose tapping applications across a wide range of materials including carbon and low alloy steel, stainless steel, cast iron, aluminium, copper, brass and titanium.

Thread Form Selection

M METRIC COARSE	835	UNS UNIFIED NATIONAL SPECIAL	851	NPT NATIONAL PIPE TAPER	857
MF METRIC FINE	843	8/12/16UN UNIFIED NATIONAL	852	NPTF NATIONAL PIPE TAPER FUEL	857
UNC UNIFIED NATIONAL COARSE	845	BSW BRITISH STANDARD WHITWORTH	853	PG CONDUIT THREAD	858
UNF UNIFIED NATIONAL FINE	848	BSP(G) BRITISH STANDARD GAS	854	TR TRAPEZOIDAL THREAD	858
UNEF UNIFIED NATIONAL EXTRA FINE	850	BSPT BRITISH STANDARD TAPER	856		

M ISO METRIC COARSE DIN 13 PRIME X-COATED HSS-PM TAP

Number 1 Choice for All-round High Performance Tapping a Wide Range of Materials

Series	
TRJ15 YG-1	TRE30 YG-1

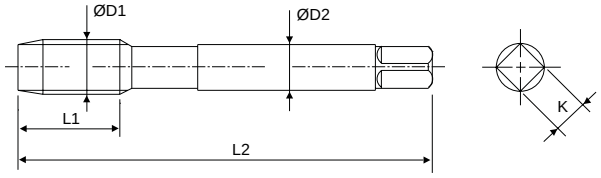
- Up to 50% higher cutting speeds & 100% more tool life than HSSE taps
- Ideal for performance machine tapping steel, stainless steel, cast iron and non-ferrous metals
- X-Coated HSS-PM (powder metal)
- Patented design prevents over feeding & premature tap failure
- For full sets - see page 859

Spiral Point



Spiral Flute





Up to M10 | Over M10 | Spiral Point | Spiral Flute

HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | B 4-5 | C 2-3 | 45° | X Coated | Spiral Point 2.5xD | Spiral Flute 3xD

YG | TAP PRIMEX COATED

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code		Price
								Spiral Point	Spiral Flute	
M2	0.4	8	45	2.8	2.1	2	1.6	TRJ15136GS	TRE30136GS	**£19.72**
M2.5	0.45	9	50	2.8	2.1	2	2.1	TRJ15176GS	TRE30176GS	**£16.72**
M3	0.5	11	56	3.5	2.7	3	2.5	TRJ15206GS	TRE30206GS	**£13.70**
M4	0.7	13	63	4.5	3.4	3	3.3	TRJ15246GS	TRE30246GS	**£13.93**
M5	0.8	15	70	6	4.9	3	4.2	TRJ15286GS	TRE30286GS	**£14.49**
M6	1	17	80	6	4.9	3	5	TRJ15316GS	TRE30316GS	**£14.81**
M8	1.25	20	90	8	6.2	3	6.8	TRJ15366GS	TRE30366GS	**£20.35**
M10	1.5	22	100	10	8	3	8.5	TRJ15426GS	TRE30426GS	**£25.02**
M12	1.75	24	110	9	7	3	10.2	TRJ15506GS	TRE30506GS	**£32.86**
M14	2	26	110	11	9	3	12	TRJ15546GS	TRE30546GS	**£39.31**
M16	2	27	110	12	9	3	14	TRJ15606GS	TRE30606GS	**£48.32**
M18	2.5	30	125	14	11	3	15.5	TRJ15656GS	TRE30656GS	**£64.89**
M20	2.5	32	140	16	12	3	17.5	TRJ15706GS	TRE30706GS	**£81.57**
M22	2.5	32	140	18	14.5	3	19.5	TRJ15746GS	TRE30746GS	**£100.19**
M24	3	34	160	18	14.5	3	21	TRJ15786GS	TRE30786GS	**£114.14**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	○		●	●	●			●	●		
20-30	20-30	20-25	15-20	5-12		10-15	8-10	6-8			15-20	10-15		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium			Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
						○			○	○				
						20-25			25-30	20-25				

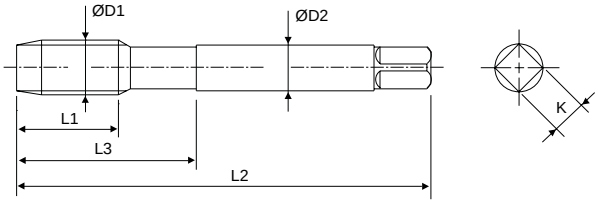
ISO METRIC COARSE DIN 13 COMBO TAP, 6H TOLERANCE

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series	
TC/B/D814 YG-1	TC/B/D804 YG-1

- Patented design prevents over feeding and premature tap failure
- BRIGHT finish prevents swarf sticking to the tap flutes
- VAP surface treatment reduces friction & excellent for stickier materials such as 316 stainless or soft steel
- TiN coating provides improved tool life and is best suited for tapping steel
- 6H tolerance
- For full sets - see page 944





HSS Co5 | DIN 371 (Up to M10) | DIN 376 (Over M10) | 6H | 60° | Spiral Point B 4-5 | Spiral Flute C 2-3 | R40 | VAP FINISH | TiN COATED | BRIGHT FINISH | Spiral Point 2.5xD | Spiral Flute 3xD | YG | Combo TAP

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance								
									Order Code								
									Bright Finish			VAP Finish			TIN Coated		
									Spiral Point	Spiral Flute	Price	Spiral Point	Spiral Flute	Price	Spiral Point	Spiral Flute	Price
M2	0.4	8	45	13	2.8	2.1	3	1.6	TC814136	TC804136	£13.33	TB814136	TB804136	£13.33	TD814136	TD804136	£15.67
M2.5	0.45	9	50	15	2.8	2.1	3	2.05	TC814176	TC804176	£11.10	TB814176	TB804176	£11.10	TD814176	TD804176	£13.52
M3	0.5	11	56	18	3.5	2.7	3	2.5	TC814206	TC804206	£8.78	TB814206	TB804206	£8.78	TD814206	TD804206	£11.15
M3.5	0.6	12	56	20	4	3	3	2.9	TC814226	TC804226	£9.99	TB814226	TB804226	£9.99	TD814226	TD804226	£12.36
M4	0.7	13	63	21	4.5	3.4	3	3.3	TC814246	TC804246	£8.78	TB814246	TB804246	£8.78	TD814246	TD804246	£11.33
M4.5	0.75	14	70	25	6	4.9	3	3.7	TC814266	TC804266	£9.10	TB814266	TB804266	£9.10	TD814266	TD804266	£11.73
M5	0.8	15	70	25	6	4.9	3	4.2	TC814286	TC804286	£9.10	TB814286	TB804286	£9.10	TD814286	TD804286	£11.73
M6	1	17	80	30	6	4.9	3	5	TC814316	TC804316	£9.10	TB814316	TB804316	£9.10	TD814316	TD804316	£11.73
M7	1	17	80	30	7	5.5	3	6	TC814346	TC804346	£10.62	TB814346	TB804346	£10.62	TD814346	TD804346	£13.88
M8	1.25	20	90	35	8	6.2	3	6.8	TC814366	TC804366	£11.81	TB814366	TB804366	£11.81	TD814366	TD804366	£16.01
M10	1.5	22	100	39	10	8	3	8.5	TC814426	TC804426	£14.28	TB814426	TB804426	£14.28	TD814426	TD804426	£19.14
M12	1.75	24	110	44	9	7	3	10.2	TC814506	TC804506	£19.06	TB814506	TB804506	£19.06	TD814506	TD804506	£25.53
M14	2	26	110	44	11	9	3	12	TC814546	TC804546	£23.14	TB814546	TB804546	£23.14	TD814546	TD804546	£30.69
M16	2	27	110	44	12	9	3	14	TC814606	TC804606	£29.08	TB814606	TB804606	£29.08	TD814606	TD804606	£37.02
M18	2.5	30	125	50	14	11	4	15.5	TC814656	TC804656	£37.94	TB814656	TB804656	£37.94	TD814656	TD804656	£48.23
M20	2.5	32	140	54	16	12	4	17.5	TC814706	TC804706	£45.20	TB814706	TB804706	£45.20	TD814706	TD804706	£57.69
M22	2.5	32	140	54	18	14.5	4	19.5	TC814746	TC804746	£58.24	TB814746	TB804746	£58.24	TD814746	TD804746	£72.84
M24	3	34	160	60	18	14.5	4	21	TC814786	TC804786	£61.37	TB814786	TB804786	£61.37	TD814786	TD804786	£78.44
M27	3	36	160	60	20	16	4	24	TC814866	TC804866	£98.06	TB814866	TB804866	£98.06	TD814866	TD804866	£118.96
M30	3.5	40	180	70	22	18	4	26.5	TC814946	TC804946	£118.72	TB814946	TB804946	£118.72	TD814946	TD804946	£145.47
M33	3.5	34	160	60	18	14.5	4	21	TC814A46	TC804A46	£151.47	-	-	-	TD814A46	TD804A46	£372.40
M36	4.0	36	160	60	20	16	4	24	TC814B36	TC804B36	£185.86	-	-	-	TD814B36	TD804B36	£175.21
M39	4.0	40	180	70	22	18	4	26.5	TC814C06	TC804C06	£288.28	-	-	-	TD814C06	TD804C06	£219.24
M42	4.5	40	180	70	25	20	4	29.5	TC814C86	TC804C86	£305.51	-	-	-	TD814C86	TD804C86	£331.71
M45	4.5	50	200	80	28	22	4	32.0	TC814D56	TC804D56	£352.83	-	-	-	TD814D56	TD804D56	£358.58
M48	5.0	50	200	80	32	24	4	35.0	TC814E26	TC804E26	£391.57	-	-	-	TD814E26	TD804E26	£467.26
M52	5.0	56	200	85	32	24	4	37.5	TC814F36	TC804F36	£399.56	-	-	-	TD814F36	TD804F36	£565.43

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○	○		○	○	○	○	○	○	○	○	
15-20	15-20	12-18	10-15	6-10		7-10	5-8	4-6	10-15	5-8	10-15	5-8	10-15	

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			●	●	○			○	○	○			
	8-12			8-12	25-35	15-20			25-35	15-20	10-15			

M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Powder Metal Machine Taps for High Performance Tapping of a Wide Range of Materials

Series	
K24M-XP UFS	K82M-XP UFS

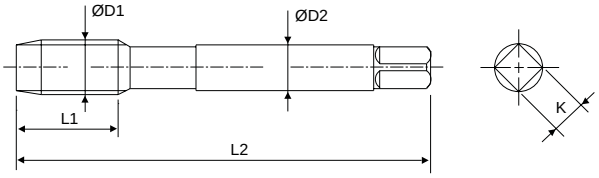
- Powder metal substrate for increased tool life over HSS 5% Cobalt
- TiN XP coating for high performance tapping of medium-low resistance steel
- Excellent performance tapping stainless steel, cast iron and copper
- 6HX tolerance

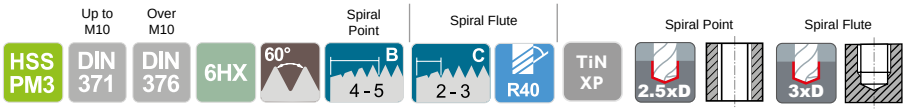
Spiral Point



Spiral Flute







ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Spiral Point									
M3	0.5	10	56	3.5	2.7	3	2.5	K24M3XP	**£25.16**
M4	0.7	13	63	4.5	3.4	3	3.3	K24M4XP	**£25.16**
M5	0.8	13	70	6	4.9	3	4.2	K24M5XP	**£25.16**
M6	1	16	80	6	4.9	3	5	K24M6XP	**£25.16**
M8	1.25	18	90	8	6.2	3	6.8	K24M8XP	**£31.32**
M10	1.5	20	100	10	8	3	8.5	K24M10XP	**£37.71**
M12	1.75	25	110	9	7	4	10.3	K25M12XP	**£43.23**
M14	2	28	110	11	9	4	12	K25M14XP	**£56.09**
M16	2	28	110	12	9	4	14	K25M16XP	**£69.34**
Spiral Flute									
M3	0.5	5	56	3.5	2.7	3	2.5	K82M3XP	**£24.77**
M4	0.7	7	63	4.5	3.4	3	3.3	K82M4XP	**£24.77**
M5	0.8	8	70	6	4.9	3	4.2	K82M5XP	**£24.77**
M6	1	10	80	6	4.9	3	5	K82M6XP	**£24.77**
M8	1.25	13	90	8	6.2	3	6.8	K82M8XP	**£30.92**
M10	1.5	15	100	10	8	3	8.5	K82M10XP	**£37.31**
M12	1.75	18	110	9	7	3	10.2	K83M12XP	**£42.68**
M14	2	20	110	11	9	3	12	K83M14XP	**£59.24**
M16	2	20	110	12	9	3	14	K83M16XP	**£66.42**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	●		●	●	●			●	●		
20-30	20-30	20-25	15-20	5-12		10-15	8-10	6-8			15-20	10-15		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium			Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
						○			○	○				
						20-25			25-30	20-25				

ISO METRIC COARSE COMBO TAP THROUGH COOLANT

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series	
TC814-IC YG-1	TC804-IC YG-1

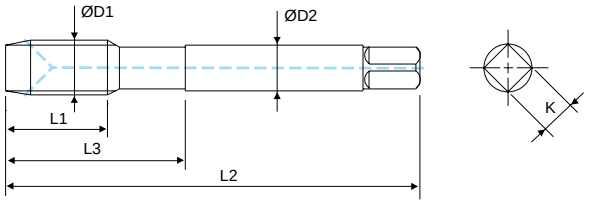
- Patented design prevents over feeding and premature tap failure
- BRIGHT finish prevents swarf sticking to the tap flutes
- Through coolant extends tool life
- 6H tolerance
- For full sets - see page 944

Spiral Point



Spiral Flute





Up to M10 | Over M10 | Spiral Point | Spiral Flute

HSS Co5 | DIN 371 | DIN 376 | 6H | 60° | B 4-5 | C 2-3 | R40 | BRIGHT FINISH | Spiral Point 3xD | Spiral Flute 2.5xD

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
Spiral Point										
M6	1	17	80	30	6	4.9	3	5	TC814316IC	**£22.30**
M8	1.25	20	90	35	8	6.2	3	6.8	TC814366IC	**£25.85**
M10	1.5	22	100	39	10	8	3	8.5	TC814426IC	**£28.69**
M12	1.75	24	110	44	9	7	3	10.2	TC814506IC	**£37.21**
M14	2	26	110	44	11	9	3	12	TC814546IC	**£44.97**
M16	2	27	110	44	12	9	3	14	TC814606IC	**£48.78**
M18	2.5	30	125	50	14	11	4	15.5	TC814656IC	**£63.90**
M20	2.5	32	140	54	16	12	4	17.5	TC814706IC	**£76.05**
Spiral Flute										
M6	1	10	80	30	6	4.9	3	5	TC804316IC	**£15.46**
M8	1.25	13	90	35	8	6.2	3	6.8	TC804366IC	**£18.93**
M10	1.5	15	100	39	10	8	3	8.5	TC804426IC	**£21.48**
M12	1.75	18	110	44	9	7	3	10.2	TC804506IC	**£29.11**
M14	2	20	110	44	11	9	3	12	TC804546IC	**£35.24**
M16	2	20	110	44	12	9	3	14	TC804606IC	**£40.15**
M18	2.5	25	125	50	14	11	4	15.5	TC804656IC	**£53.22**
M20	2.5	25	140	54	16	12	4	17.5	TC804706IC	**£63.50**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○	○		○	○	○	○	○	○	○	○	
15-20	15-20	12-18	10-15	6-10		7-10	5-8	4-6	10-15	5-8	10-15	5-8	10-15	

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			●	●	○			○	○	○			
	8-12			8-12	25-35	15-20			25-35	15-20	10-15			

ISO METRIC COARSE DIN 13 COMBO TAP, 4H & 6H+0.1 TOLERANCE

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

- Patented design prevents over feeding and premature tap failure
- BRIGHT finish prevents swarf sticking to the tap flutes
- 4H tolerance (tight fit), 6H+0.1 tolerance (oversized)

Series	
TCJ05/06 YG-1	TCE05/06 YG-1

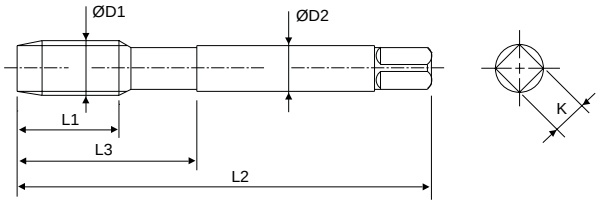
SPECIAL TOLERANCE

Spiral Point



Spiral Flute





Up to M10 | Over M10 | Spiral Point | Spiral Flute

HSS Co5 | DIN 371 | DIN 376 | 4H | 6H+0.1 | 60° | B 4-5 | C 2-3 | R40 | BRIGHT FINISH | Spiral Point | Spiral Flute

YG Combo TAP

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code		Price
									Spiral Point	Spiral Flute	
4H Tolerance											
M2	0.4	8	45	13	2.8	2.1	3	1.6	TCJ05136	TCE05136	**£20.59**
M3	0.5	11	56	18	3.5	2.7	3	2.5	TCJ05206	TCE05206	**£13.64**
M4	0.7	13	63	21	4.5	3.4	3	3.3	TCJ05246	TCE05246	**£13.64**
M5	0.8	15	70	25	6	4.9	3	4.2	TCJ05286	TCE05286	**£14.10**
M6	1	17	80	30	6	4.9	3	5	TCJ05316	TCE05316	**£14.10**
M8	1.25	20	90	35	8	6.2	3	6.8	TCJ05366	TCE05366	**£18.22**
M10	1.5	22	100	39	10	8	3	8.5	TCJ05426	TCE05426	**£22.01**
M12	1.75	24	110	44	9	7	3	10.2	TCJ05506	TCE05506	**£29.57**
M14	2	26	110	44	11	9	3	12	TCJ05546	TCE05546	**£35.83**
M16	2	27	110	44	12	9	3	14	TCJ05606	TCE05606	**£44.96**
M20	2.5	32	140	54	16	12	4	17.5	TCJ05706	TCE05706	**£67.98**
6H+0.1 Tolerance											
M3	0.5	11	56	18	3.5	2.7	3	2.6	TCJ06206	TCE06206	**£13.64**
M4	0.7	13	63	21	4.5	3.4	3	3.4	TCJ06246	TCE06246	**£13.64**
M5	0.8	15	70	25	6	4.9	3	4.3	TCJ06286	TCE06286	**£14.10**
M6	1	17	80	30	6	4.9	3	5.1	TCJ06316	TCE06316	**£14.10**
M8	1.25	20	90	35	8	6.2	3	6.9	TCJ06366	TCE06366	**£18.22**
M10	1.5	22	100	39	10	8	3	8.6	TCJ06426	TCE06426	**£22.01**
M12	1.75	24	110	44	9	7	3	10.3	TCJ06506	TCE06506	**£29.57**
M14	2	26	110	44	11	9	3	12.1	TCJ06546	TCE06546	**£35.83**
M16	2	27	110	44	12	9	3	14.1	TCJ06606	TCE06606	**£44.96**
M20	2.5	32	140	54	16	12	4	17.6	TCJ06706	TCE06706	**£70.01**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○	○		○	○	○	○	○	○	○	○	
15-20	15-20	12-18	10-15	6-10		7-10	5-8	4-6	10-15	5-8	10-15	5-8	10-15	

6.5	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			●	●	○			○	○	○			
	8-12			8-12	25-35	15-20			25-35	15-20	10-15			

ISO METRIC COARSE DIN 13 COMBO TAP, 6G & 7G TOLERANCE

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

- Patented design prevents over feeding and premature tap failure
- BRIGHT finish prevents swarf sticking to the tap flutes
- 6G tolerance (loose fit), 7G tolerance (loose fit for following treatment or coating)
- For full sets - see page 944

Series	
TCE07/08 YG-1	TCJ07/08 YG-1

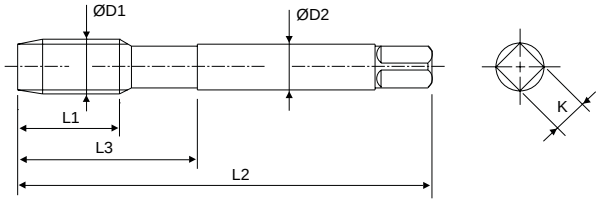
SPECIAL TOLERANCE

Spiral Point



Spiral Flute







YG Combo TAP

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code		Price
									Spiral Point	Spiral Flute	
6G Tolerance											
M2	0.4	8	45	13	2.8	2.1	3	1.6	TCJ07136	TCE07136	**£19.59**
M3	0.5	11	56	18	3.5	2.7	3	2.5	TCJ07206	TCE07206	**£12.89**
M4	0.7	13	63	21	4.5	3.4	3	3.3	TCJ07246	TCE07246	**£12.89**
M5	0.8	15	70	25	6	4.9	3	4.2	TCJ07286	TCE07286	**£13.26**
M6	1	17	80	30	6	4.9	3	5	TCJ07316	TCE07316	**£13.26**
M8	1.25	20	90	35	8	6.2	3	6.8	TCJ07366	TCE07366	**£17.29**
M10	1.5	22	100	39	10	8	3	8.5	TCJ07426	TCE07426	**£20.72**
M12	1.75	24	110	44	9	7	3	10.2	TCJ07506	TCE07506	**£27.99**
M14	2	26	110	44	11	9	3	12	TCJ07546	TCE07546	**£33.84**
M16	2	27	110	44	12	9	3	14	TCJ07606	TCE07606	**£42.45**
M20	2.5	32	140	54	16	12	4	17.5	TCJ07706	TCE07706	**£66.28**
7G Tolerance											
M2	0.4	8	45	13	2.8	2.1	3	1.6	TCJ08136	TCE08136	**£21.70**
M3	0.5	6	56	18	3.5	2.7	3	2.5	TCJ08206	TCE08206	**£14.26**
M4	0.7	7	63	21	4.5	3.4	3	3.3	TCJ08246	TCE08246	**£14.26**
M5	0.8	8	70	25	6	4.9	3	4.2	TCJ08286	TCE08286	**£14.73**
M6	1	10	80	30	6	4.9	3	5	TCJ08316	TCE08316	**£14.73**
M8	1.25	13	90	35	8	6.2	3	6.8	TCJ08366	TCE08366	**£19.19**
M10	1.5	15	100	39	10	8	3	8.5	TCJ08426	TCE08426	**£22.97**
M12	1.75	18	110	44	9	7	3	10.2	TCJ08506	TCE08506	**£30.87**
M14	2	20	110	44	11	9	3	12	TCJ08546	TCE08546	**£37.42**
M16	2	20	110	44	12	9	3	14	TCJ08606	TCE08606	**£47.05**
M20	2.5	25	140	54	16	12	4	17.5	TCJ08706	TCE08706	**£73.24**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○	○		○	○	○	○	○	○	○	○	
15-20	15-20	12-18	10-15	6-10		7-10	5-8	4-6	10-15	5-8	10-15	5-8	10-15	

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			●	●	○			○	○	○			
	8-12			8-12	25-35	15-20			25-35	15-20	10-15			

ISO METRIC COARSE COMBO TAP LONG SHANK & SHORT CHAMFER

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series	
TC445 YG-1	TC807 YG-1

- Patented design prevents over feeding and premature tap failure
- BRIGHT finish prevents swarf sticking to the tap flutes
- Long shank for reaching into deep holes
- Short E Form Chamfer, 1.5-2 thread lead for machining short holes or thin plate materials
- 6H tolerance
- For full sets - see page 944

Spiral Point

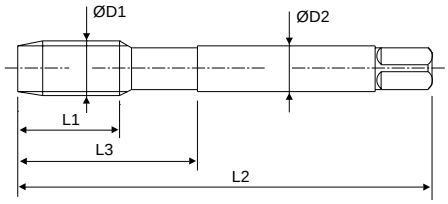
LONG SHANK

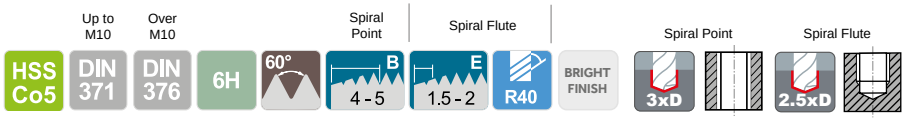


Spiral Flute

E FORM LEAD







ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
Spiral Point - Long Shank										
M3	0.5	11	100	18	3.5	2.7	3	2.5	TC445206	**£20.52**
M4	0.7	13	125	21	4.5	3.4	3	3.3	TC445246	**£20.52**
M5	0.8	15	140	25	6	4.9	3	4.2	TC445286	**£21.41**
M6	1	17	160	30	6	4.9	3	5	TC445316	**£22.03**
M8	1.25	20	180	35	6	4.9	3	6.8	TC445366	**£36.56**
M10	1.5	22	200	39	7	5.5	3	8.5	TC445426	**£36.82**
M12	1.75	24	220	44	9	7	3	10.2	TC445506	**£61.02**
M14	2	26	220	44	11	9	3	12	TC445546	**£70.28**
M16	2	27	220	44	12	9	3	14	TC445606	**£95.40**
M20	2.5	32	280	54	16	12	4	17.5	TC445706	**£134.22**
Spiral Flute - Short E Form Chamfer										
M2	0.4	8	45	13	2.8	2.1	3	1.6	TC807136	**£18.76**
M3	0.5	6	56	18	3.5	2.7	3	2.5	TC807206	**£12.40**
M4	0.7	7	63	21	4.5	3.4	3	3.3	TC807246	**£12.40**
M5	0.8	8	70	25	6	4.9	3	4.2	TC807286	**£12.83**
M6	1	10	80	30	6	4.9	3	5	TC807316	**£12.83**
M8	1.25	13	90	35	8	6.2	3	6.8	TC807366	**£16.65**
M10	1.5	15	100	39	10	8	3	8.5	TC807426	**£19.92**
M12	1.75	18	110	44	9	7	3	10.2	TC807506	**£26.92**
M14	2	20	110	44	11	9	3	12	TC807546	**£32.58**
M16	2	20	110	44	12	9	3	14	TC807606	**£40.94**
M20	2.5	25	140	54	16	12	4	17.5	TC807706	**£64.45**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○	○		○	○	○	○	○	○	○	○	
15-20	15-20	12-18	10-15	6-10		7-10	5-8	4-6	10-15	5-8	10-15	5-8	10-15	

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			●	●	○			○	○	○			
	8-12			8-12	25-35	15-20			25-35	15-20	10-15			

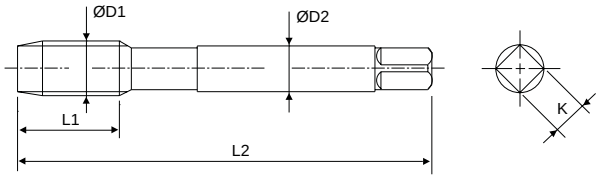
M ISO METRIC COARSE DIN 13 VARIABLE HELIX TAP

Exceptional Performance in Deep Hole Tapping

Series	
E92M-V UFS	E93M-V UFS

- HSS 5% cobalt
- Variable helix design and back taper geometry prevents tap breakage and oversized threads
- 6H tolerance





Up to M10 Over M10 Spiral Flute



ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
M3	0.5	5	56	3.5	2.7	3	2.5	E92M3V	**£17.67**
M4	0.7	7	63	4.5	3.4	3	3.3	E92M4V	**£17.67**
M5	0.8	8	70	6	4.9	3	4.2	E92M5V	**£17.67**
M6	1	10	80	6	4.9	3	5	E92M6V	**£17.67**
M8	1.25	13	90	8	6.2	3	6.8	E92M8V	**£19.72**
M10	1.5	15	100	10	8	3	8.5	E92M10V	**£24.61**
M12	1.75	18	110	9	7	3	10.3	E93M12V	**£30.13**
M14	2	20	110	11	9	3	12	E93M14V	**£39.36**
M16	2	20	110	12	9	4	14	E93M16V	**£44.57**
M20	2.5	25	140	16	12	4	17.5	E93M20V	**£68.95**
M24	3	30	160	18	14.5	4	21	E93M24V	**£97.35**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	○		●	●	●						
20-30	20-30	20-25	15-20	5-12		10-15	8-10	6-8						

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
						○			○	○				
						20-25			25-30	20-25				

MF METRIC FINE DIN 13 PRIME X-COATED HSS-PM TAP

Number 1 Choice for All-round High Performance Tapping a Wide Range of Materials

Series	
TRJ16 YG-1	TRE31 YG-1

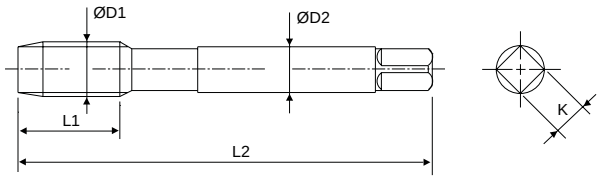
- Up to 50% higher cutting speeds & 100% more tool life than HSSE taps
- Ideal for performance machine tapping steel, stainless steel, cast iron and non-ferrous metals
- X-Coated HSS-PM (powder metal)
- Patented design prevents over feeding & premature tap failure
- 2BX tolerance
- For full sets - see page 944

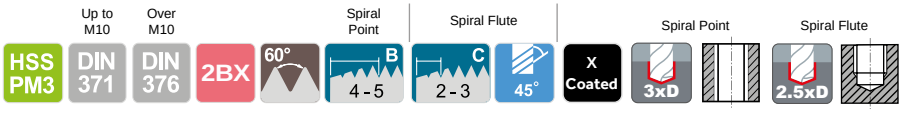
Spiral Point



Spiral Flute







ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code		Price
								Spiral Point	Spiral Flute	
M4	0.5	10	63	2.8	2.1	3	3.5	TRJ16256GS	TRE31256GS	**£22.43**
M5	0.5	11	70	3.5	2.7	3	4.5	TRJ16296GS	TRE31296GS	**£22.92**
M6	0.75	13	80	4.5	3.4	3	5.3	TRJ16326GS	TRE31326GS	**£23.22**
M6	0.5	13	80	4.5	3.4	3	5.5	TRJ16336GS	TRE31336GS	**£23.46**
M8	1	17	90	6	4.9	3	7	TRJ16376GS	TRE31376GS	**£27.27**
M8	0.75	14	80	6	4.9	3	7.3	TRJ16386GS	TRE31386GS	**£28.11**
M10	1.25	22	100	7	5.5	3	8.8	TRJ16436GS	TRE31436GS	**£33.43**
M10	1	18	90	7	5.5	3	9	TRJ16446GS	TRE31446GS	**£31.76**
M10	0.75	18	90	7	5.5	3	9.3	TRJ16456GS	TRE31456GS	**£38.56**
M12	1.5	22	100	9	7	3	10.5	TRJ16516GS	TRE31516GS	**£36.02**
M12	1.25	22	100	9	7	3	10.8	TRJ16526GS	TRE31526GS	**£38.72**
M12	1	18	100	9	7	3	11	TRJ16536GS	TRE31536GS	**£37.39**
M14	1.5	22	100	11	9	3	12.5	TRJ16556GS	TRE31556GS	**£44.33**
M14	1.25	22	100	11	9	3	12.8	TRJ16566GS	TRE31566GS	**£47.24**
M14	1	18	100	11	9	3	13	TRJ16576GS	TRE31576GS	**£46.12**
M16	1.5	22	100	12	9	3	14.5	TRJ16616GS	TRE31616GS	**£55.29**
M16	1	18	100	12	9	3	15	TRJ16626GS	TRE31626GS	**£59.17**
M18	1.5	25	110	14	11	3	16.5	TRJ16676GS	TRE31676GS	**£71.40**
M18	1	20	110	14	11	3	17	TRJ16686GS	TRE31686GS	**£77.24**
M20	1.5	25	125	16	12	3	18.5	TRJ16726GS	TRE31726GS	**£84.59**
M20	1	20	125	16	12	3	19	TRJ16736GS	TRE31736GS	**£89.57**
M22	1.5	25	125	18	14.5	3	20.5	TRJ16766GS	TRE31766GS	**£96.08**
M22	1	20	125	18	14.5	3	21	TRJ16776GS	TRE31776GS	**£114.93**
M24	2	27	140	18	14.5	3	22	TRJ16796GS	TRE31796GS	**£121.08**
M24	1.5	27	140	18	14.5	3	22.5	TRJ16806GS	TRE31806GS	**£113.85**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	○		●	●	●			●	●		
20-30	20-30	20-25	15-20	5-12		10-15	8-10	6-8			15-20	10-15		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium			Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
						○			○	○				
						20-25			25-30	20-25				

MF ISO METRIC FINE DIN 13 COMBO TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

- Patented design prevents over feeding and premature tap failure
- BRIGHT finish prevents swarf sticking to the tap flutes
- TiN coating provides improved tool life and is best suited for tapping steel
- 6H tolerance

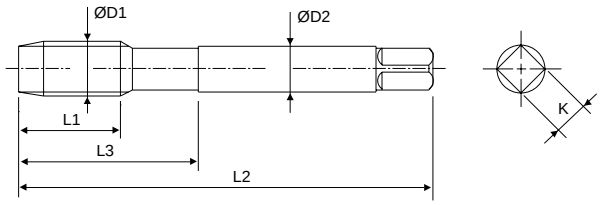
Series	
TC/D854 YG-1	TC/D844 YG-1

Spiral Point



Spiral Flute





Spiral Point | Spiral Flute

HSS Co5 | DIN 374 | 6H | 60° | B 4-5 | C 2-3 | R40 | TiN COATED | BRIGHT FINISH | Spiral Point 3xD | Spiral Flute 2.5xD

YG Combo TAP

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance					
									Bright Finish			TIN Coated		
									Spiral Point	Spiral Flute	Price	Spiral Point	Spiral Flute	Price
M4	0.5	10	63	21	2.8	2.1	3	3.5	TC854256	TC844256	**£18.15**	TD854256	TD844256	**£17.85**
M5	0.5	11	70	25	3.5	2.7	3	4.5	TC854296	TC844296	**£18.44**	TD854296	TD844296	**£18.07**
M6	0.75	13	80	30	4.5	3.4	3	5.2	TC854326	TC844326	**£18.15**	TD854326	TD844326	**£17.85**
M6	0.5	13	80	30	4.5	3.4	3	5.5	TC854336	TC844336	**£18.44**	TD854336	TD844336	**£18.07**
M7	0.75	14	80	30	5.5	4.3	3	6.2	TC854356	TC844356	**£26.91**	TD854356	TD844356	**£25.66**
M8	1	17	90	36	6	4.9	3	7	TC854376	TC844376	**£19.81**	TD854376	TD844376	**£20.72**
M8	0.75	14	80	36	6	4.9	3	7.2	TC854386	TC844386	**£21.11**	TD854386	TD844386	**£21.12**
M10	1.25	22	100	40	7	5.5	3	8.8	TC854436	TC844436	**£24.10**	TD854436	TD844436	**£25.11**
M10	1	18	90	40	7	5.5	3	9	TC854446	TC844446	**£23.21**	TD854446	TD844446	**£23.88**
M10	0.75	18	90	40	7	5.5	3	9.2	TC854456	TC844456	**£29.31**	TD854456	TD844456	**£28.95**
M12	1.5	22	100	40	9	7	3	10.5	TC854516	TC844516	**£25.87**	TD854516	TD844516	**£27.45**
M12	1.25	22	100	40	9	7	3	10.8	TC854526	TC844526	**£28.33**	TD854526	TD844526	**£29.42**
M12	1	18	100	40	9	7	3	11	TC854536	TC844536	**£26.93**	TD854536	TD844536	**£28.29**
M14	1.5	22	100	40	11	9	3	12.5	TC854556	TC844556	**£31.76**	TD854556	TD844556	**£32.82**
M14	1.25	22	100	40	11	9	3	12.8	TC854566	TC844566	**£34.28**	TD854566	TD844566	**£34.97**
M14	1	22	100	40	11	9	3	13	TC854576	TC844576	**£33.32**	TD854576	TD844576	**£34.03**
M16	1.5	22	100	40	12	9	3	14.5	TC854616	TC844616	**£40.31**	TD854616	TD844616	**£41.52**
M16	1	18	100	40	12	9	3	15	TC854626	TC844626	**£43.68**	TD854626	TD844626	**£44.28**
M18	1.5	25	110	44	14	11	4	16.5	TC854676	TC844676	**£52.45**	TD854676	TD844676	**£53.06**
M18	1	20	110	44	14	11	4	17	TC854686	TC844686	**£57.65**	TD854686	TD844686	**£57.40**
M20	1.5	25	125	50	16	12	4	18.5	TC854726	TC844726	**£58.08**	TD854726	TD844726	**£59.88**
M20	1	20	125	50	16	12	4	19	TC854736	TC844736	**£62.55**	TD854736	TD844736	**£63.66**
M22	1.5	25	125	50	18	14.5	4	20.5	TC854766	TC844766	**£67.00**	TD854766	TD844766	**£69.34**
M22	1	20	125	50	18	14.5	4	21	TC854776	TC844776	**£83.79**	TD854776	TD844776	**£83.38**
M24	2	27	140	54	18	14.5	4	22	TC854796	TC844796	**£82.35**	TD854796	TD844796	**£84.38**
M24	1.5	27	140	54	18	14.5	4	22.5	TC854806	TC844806	**£78.20**	TD854806	TD844806	**£80.86**
M26	1.5	28	140	54	18	14.5	4	24.5	TC854856	TC844856	**£100.51**	TD854856	TD844856	**£101.66**
M27	2	28	140	54	20	16	4	25	TC854876	TC844876	**£112.36**	TD854876	TD844876	**£112.28**
M27	1.5	28	140	54	20	16	4	25.5	TC854886	TC844886	**£111.51**	TD854886	TD844886	**£111.65**
M28	1.5	28	140	54	20	16	4	26.5	TC854916	TC844916	**£113.78**	TD854916	TD844916	**£114.75**
M30	2	30	150	57	22	18	4	28	TC854966	TC844966	**£132.14**	TD854966	TD844966	**£134.63**
M30	1.5	30	150	57	22	18	4	28.5	TC854976	TC844976	**£128.31**	TD854976	TD844976	**£131.37**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○	○		○	○	○	○	○	○	○	○	
15-20	15-20	12-18	10-15	6-10		7-10	5-8	4-6	10-15	5-8	10-15	5-8	10-15	

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			●	●	○			○	○	○			
	8-12			8-12	25-35	15-20			25-35	15-20	10-15			

UNC UNIFIED COARSE ANSI B1.1 PRIME X-COATED HSS-PM TAP

Number 1 Choice for All-round High Performance Tapping a Wide Range of Materials

- Up to 50% higher cutting speeds & 100% more tool life than HSSE taps
- Ideal for performance machine tapping steel, stainless steel, cast iron and non-ferrous metals
- X-Coated HSS-PM (powder metal)
- Patented design prevents over feeding & premature tap failure
- 2BX tolerance

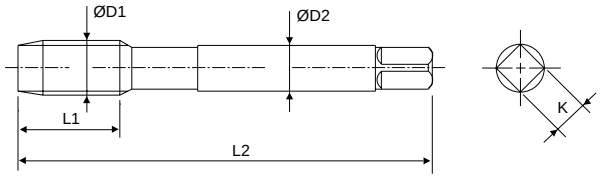
Series	
TRJ17 YG-1	TRE32 YG-1

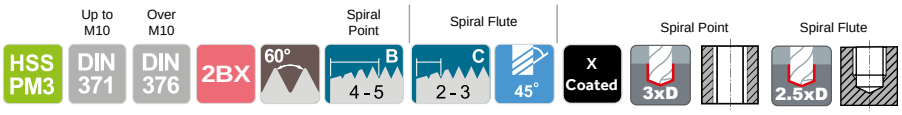
Spiral Point



Spiral Flute







ØD1 UNC	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code		Price
								Spiral Point	Spiral Flute	
No.4	40	11	56	3.5	2.7	2	2.3	TRJ17162GS	TRE32162GS	**£19.16**
No.5	40	11	56	3.5	2.7	3	2.6	TRJ17202GS	TRE32202GS	**£15.87**
No.6	32	12	56	4	3	3	2.85	TRJ17242GS	TRE32242GS	**£15.87**
No.8	32	13	63	4.5	3.4	3	3.5	TRJ17282GS	TRE32282GS	**£15.87**
No.10	24	15	70	6	4.9	3	3.9	TRJ17322GS	TRE32322GS	**£16.84**
No.12	24	16	80	6	4.9	3	4.5	TRJ17362GS	TRE32362GS	**£17.13**
1/4	20	17	80	7	5.5	3	5.2	TRJ17402GS	TRE32402GS	**£18.37**
5/16	18	20	90	8	6.2	3	6.6	TRJ17442GS	TRE32442GS	**£23.03**
3/8	16	22	100	9	7	3	8	TRJ17482GS	TRE32482GS	**£27.75**
7/16	14	22	100	8	6.2	3	9.4	TRJ17522GS	TRE32522GS	**£36.96**
1/2	13	25	110	9	7	3	10.75	TRJ17562GS	TRE32562GS	**£37.39**
9/16	12	26	110	11	9	3	12.25	TRJ17602GS	TRE32602GS	**£48.48**
5/8	11	27	110	12	9	3	13.5	TRJ17642GS	TRE32642GS	**£54.73**
3/4	10	30	125	14	11	3	16.5	TRJ17702GS	TRE32702GS	**£94.93**
7/8	9	32	140	18	14.5	3	19.5	TRJ17742GS	TRE32742GS	**£121.35**
1"	8	36	160	20	16	3	22.25	TRJ17782GS	TRE32782GS	**£164.45**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	○		●	●	●			●	●		
20-30	20-30	20-25	15-20	5-12		10-15	8-10	6-8			15-20	10-15		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium			Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
						○			○	○				
						20-25			25-30	20-25				

UNC UNIFIED COARSE ANSI B1.1 COMBO TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series	
TC/D834 YG-1	TC/D824 YG-1

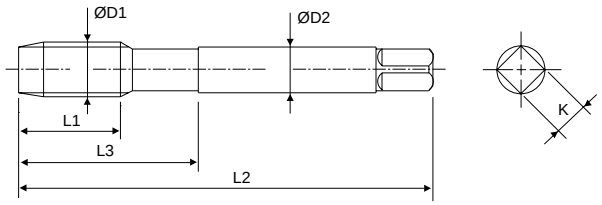
- Patented design prevents over feeding and premature tap failure
- BRIGHT finish prevents swarf sticking to the tap flutes
- TiN coating provides improved tool life and is best suited for tapping steel
- 2B tolerance

Spiral Point



Spiral Flute





Up to 3/8 | Over 3/8 | Spiral Point | Spiral Flute

HSS Co5 | DIN 371 | DIN 376 | 2B | 60° | B 4-5 | C 2-3 | R40 | TiN COATED | BRIGHT FINISH | Spiral Point 3xD | Spiral Flute 2.5xD

YG Combo TAP

ØD1 UNC	TPI	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance					
									Bright Finish			TIN Coated		
									Spiral Point	Spiral Flute	Price	Spiral Point	Spiral Flute	Price
No.4	40	11	56	18	3.5	2.7	3	2.3	TC834162	TC824162	**£19.70**	TD834162	TD824162	**£15.20**
No.5	40	11	56	18	3.5	2.7	3	2.6	TC834202	TC824202	**£15.54**	TD834202	TD824202	**£12.52**
No.6	32	12	56	20	4	3	3	2.85	TC834242	TC824242	**£17.64**	TD834242	TD824242	**£13.86**
No.8	32	13	63	21	4.5	3.4	3	3.5	TC834282	TC824282	**£15.54**	TD834282	TD824282	**£12.65**
No.10	24	15	70	25	6	4.9	3	3.9	TC834322	TC824322	**£16.09**	TD834322	TD824322	**£13.02**
No.12	24	16	80	30	6	4.9	3	4.5	TC834362	TC824362	**£16.09**	TD834362	TD824362	**£13.02**
1/4	20	17	80	30	7	5.5	3	5.2	TC834402	TC824402	**£16.09**	TD834402	TD824402	**£13.02**
5/16	18	20	90	35	8	6.2	3	6.6	TC834442	TC824442	**£20.91**	TD834442	TD824442	**£17.09**
3/8	16	22	100	39	9	7	3	8	TC834482	TC824482	**£25.07**	TD834482	TD824482	**£20.96**
7/16	14	22	100	40	8	6.2	3	9.4	TC834522	TC824522	**£33.78**	TD834522	TD824522	**£27.45**
1/2	13	25	110	44	9	7	3	10.75	TC834562	TC824562	**£33.78**	TD834562	TD824562	**£28.37**
9/16	12	26	110	44	11	9	3	12.25	TC834602	TC824602	**£40.81**	TD834602	TD824602	**£34.11**
5/8	11	27	110	44	12	9	3	13.5	TC834642	TC824642	**£51.30**	TD834642	TD824642	**£41.44**
3/4	10	30	125	50	14	11	4	16.5	TC834702	TC824702	**£79.88**	TD834702	TD824702	**£62.90**
7/8	9	32	140	54	18	14.5	4	19.5	TC834742	TC824742	**£99.09**	TD834742	TD824742	**£78.99**
1"	8	36	160	60	20	16	4	22.25	TC834782	TC824782	**£138.23**	TD834782	TD824782	**£108.13**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○	○		○	○	○	○	○	○	○	○	
15-20	15-20	12-18	10-15	6-10		7-10	5-8	4-6	10-15	5-8	10-15	5-8	10-15	

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			●	●	○			○	○	○			
	8-12			8-12	25-35	15-20			25-35	15-20	10-15			

UNC UNIFIED COARSE ANSI B1.1 TOP-LINE TAP

Powder Metal Machine Taps for High Performance Tapping of a Wide Range of Materials

Series	
K24/25UNC UFS	K82/832UNC UFS

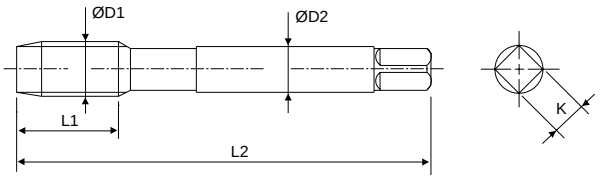
- Powder metal substrate for increased tool life over HSS 5% Cobalt
- TiN XP coating for high performance tapping of medium-low resistance steel
- Excellent performance tapping of stainless steel, cast iron and copper
- 2BX tolerance

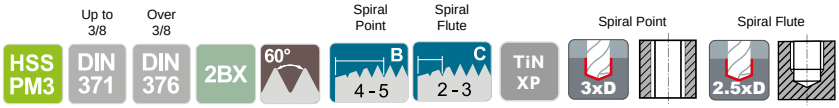
Spiral Point



Spiral Flute







ØD1 UNC	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Spiral Point									
No.10	24	13	70	6	4.9	3	3.9	K24UNC10-24XP	**£26.90**
1/4	20	16	80	7	5.5	3	5.1	K24UNC1/4XP	**£26.90**
5/16	18	18	90	8	6.2	3	6.6	K24UNC5/16XP	**£36.13**
3/8	16	20	100	10	8	3	8	K24UNC3/8XP	**£39.60**
1/2	13	25	110	9	7	4	10.8	K25UNC1/2XP	**£49.70**
9/16	12	28	110	11	9	4	12.2	K25UNC9/16XP	**£61.85**
5/8	11	28	110	12	9	4	13.5	K25UNC5/8XP	**£73.52**
3/4	10	32	125	14	11	4	16.5	K25UNC3/4XP	**£103.42**
7/8	9	32	140	18	14.5	4	19.5	K25UNC7/8XP	**£118.96**
1"	8	36	160	18	14.5	4	22.25	K25UNC1"XP	**£163.30**
Spiral Flute									
1/4	20	10	80	7	5.5	3	5.1	K82UNC1/4XP	**£32.82**
5/16	18	13	90	8	6.2	3	6.6	K82UNC5/16XP	**£38.10**
3/8	16	15	100	10	8	3	8	K82UNC3/8XP	**£42.44**
1/2	13	18	110	9	7	4	10.8	K83UNC1/2XP	**£57.43**
9/16	12	20	110	11	9	4	12.2	K83UNC9/16XP	**£70.68**
5/8	11	20	110	12	9	4	13.5	K83UNC5/8XP	**£74.47**
3/4	10	25	125	14	11	4	16.5	K83UNC3/4XP	**£103.82**
7/8	9	25	140	18	14.5	4	19.5	K83UNC7/8XP	**£124.56**
1"	8	30	160	18	14.5	4	22.25	K83UNC1"XP	**£176.39**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	●		●	●	●			●	●		
20-30	20-30	20-25	15-20	5-12		10-15	8-10	6-8			15-20	10-15		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium			Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
						○			○	○				
						20-25			25-30	20-25				

UNF UNIFIED FINE ANSI B1.1 PRIME X-COATED HSS-PM TAP

Number 1 Choice for All-round High Performance Tapping a Wide Range of Materials

Series	
TRJ18 YG-1	TRE33 YG-1

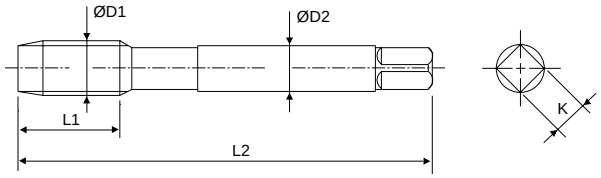
- Up to 50% higher cutting speeds & 100% more tool life than HSSE taps
- Ideal for performance machine tapping steel, stainless steel, cast iron and non-ferrous metals
- X-Coated HSS-PM (powder metal)
- Patented design prevents over feeding & premature tap failure
- 2BX tolerance

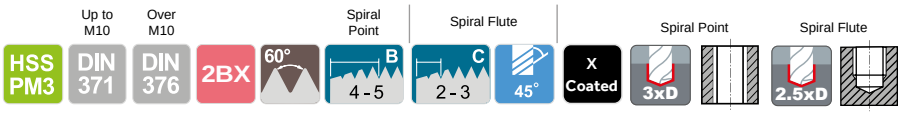
Spiral Point



Spiral Flute







ØD1 UNF	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code		Price
								Spiral Point	Spiral Flute	
No.4	48	11	56	3.5	2.7	2	2.4	TRJ18182GS	TRE33182GS	**£36.69**
No.5	44	11	56	3.5	2.7	3	2.7	TRJ18222GS	TRE33222GS	**£29.84**
No.6	40	12	56	4	3	3	3	TRJ18262GS	TRE33262GS	**£29.84**
No.8	36	13	63	4.5	3.4	3	3.5	TRJ18302GS	TRE33302GS	**£29.95**
No.10	32	15	70	6	4.9	3	4.1	TRJ18342GS	TRE33342GS	**£30.56**
No.12	28	16	80	6	4.9	3	4.7	TRJ18382GS	TRE33382GS	**£30.74**
1/4	28	17	80	7	5.5	3	5.5	TRJ18422GS	TRE33422GS	**£31.98**
5/16	24	17	90	8	6.2	3	6.9	TRJ18462GS	TRE33462GS	**£35.09**
3/8	24	18	100	9	7	3	8.5	TRJ18502GS	TRE33502GS	**£41.22**
7/16	20	22	100	8	6.2	3	9.9	TRJ18542GS	TRE33542GS	**£50.28**
1/2	20	22	100	9	7	3	11.5	TRJ18582GS	TRE33582GS	**£50.28**
9/16	18	22	100	11	9	3	12.9	TRJ18622GS	TRE33622GS	**£57.02**
5/8	18	22	100	12	9	3	14.5	TRJ18662GS	TRE33662GS	**£71.02**
3/4	16	25	110	14	11	3	17.5	TRJ18722GS	TRE33722GS	**£103.75**
7/8	14	26	125	18	14.5	4	20.5	TRJ18762GS	TRE33762GS	**£123.27**
1"	12	28	140	20	16	4	23.25	TRJ18802GS	TRE33802GS	**£161.56**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	○		●	●	●			●	●		
20-30	20-30	20-25	15-20	5-12		10-15	8-10	6-8			15-20	10-15		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium			Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
						○			○	○				
						20-25			25-30	20-25				

UNF UNIFIED FINE ANSI B1.1 COMBO TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series	
TC/D874 YG-1	TC/D864 YG-1

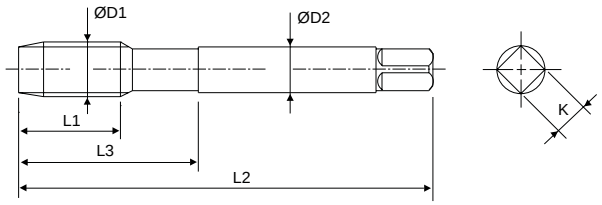
- Patented design prevents over feeding and premature tap failure
- BRIGHT finish prevents swarf sticking to the tap flutes
- TiN coating provides improved tool life and is best suited for tapping steel
- 2B tolerance

Spiral Point



Spiral Flute





Up to 3/8 | Over 3/8 | Spiral Point | Spiral Flute

HSS Co5 | DIN 371 | DIN 376 | 2B | 60° | B 4-5 | C 2-3 | R40 | TiN COATED | BRIGHT FINISH | Spiral Point 3xD | Spiral Flute 2.5xD

YG Combo TAP

ØD1 UNF	TPI	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance					
									Bright Finish			TIN Coated		
									Spiral Point	Spiral Flute	Price	Spiral Point	Spiral Flute	Price
No.4	48	11	56	18	3.5	2.7	3	2.4	TC874182	TC864182	**£35.65**	TD874182	TD864182	**£27.48**
No.5	44	11	56	18	3.5	2.7	3	2.7	TC874222	TC864222	**£28.46**	TD874222	TD864222	**£22.48**
No.6	40	12	56	20	4	3	3	3	TC874262	TC864262	**£28.46**	TD874262	TD864262	**£22.48**
No.8	36	13	63	21	4.5	3.4	3	3.5	TC874302	TC864302	**£28.46**	TD874302	TD864302	**£22.64**
No.10	32	15	70	25	6	4.9	3	4.1	TC874342	TC864342	**£29.04**	TD874342	TD864342	**£22.98**
No.12	28	16	80	30	6	4.9	3	4.7	TC874382	TC864382	**£28.46**	TD874382	TD864382	**£22.64**
1/4	28	17	80	30	7	5.5	3	5.5	TC874422	TC864422	**£28.46**	TD874422	TD864422	**£22.64**
5/16	24	17	90	35	8	6.2	3	6.9	TC874462	TC864462	**£31.17**	TD874462	TD864462	**£25.53**
3/8	24	18	100	39	9	7	3	8.5	TC874502	TC864502	**£36.54**	TD874502	TD864502	**£30.32**
7/16	20	22	100	40	8	6.2	3	9.9	TC874542	TC864542	**£44.38**	TD874542	TD864542	**£36.71**
1/2	20	22	100	40	9	7	3	11.5	TC874582	TC864582	**£44.38**	TD874582	TD864582	**£37.02**
9/16	18	22	100	40	11	9	3	12.9	TC874622	TC864622	**£49.84**	TD874622	TD864622	**£41.31**
5/8	18	22	100	40	12	9	3	14.5	TC874662	TC864662	**£63.46**	TD874662	TD864662	**£51.54**
3/4	16	25	110	44	14	11	4	17.5	TC874722	TC864722	**£91.12**	TD874722	TD864722	**£74.34**
7/8	14	26	125	50	18	14.5	4	20.5	TC874762	TC864762	**£105.27**	TD874762	TD864762	**£87.43**
1"	12	28	140	54	20	16	4	23.25	TC874802	TC864802	**£135.19**	TD874802	TD864802	**£111.76**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○	○		○	○	○	○	○	○	○	○	
15-20	15-20	12-18	10-15	6-10		7-10	5-8	4-6	10-15	5-8	10-15	5-8	10-15	

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			●	●	○			○	○	○			
	8-12			8-12	25-35	15-20			25-35	15-20	10-15			

UNEF EXTRA FINE ANSI B1.1 TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series	
E25UNEF UFS	E61UNEF UFS

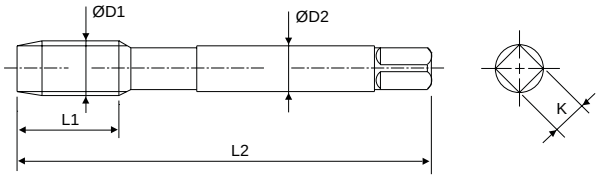
- Designed for everyday tapping of a wide range of materials including: Low to medium hardness steels, aluminium, copper & brass
- BRIGHT finish prevents swarf sticking to the tap flutes
- 2B tolerance

Spiral Point



Spiral Flute





Spiral Point | Spiral Flute



ØD1 UNEF	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
Spiral Point									
1/4	32	16	80	4.5	3.4	3	5.55	E25UNEF1/4	**£35.75**
5/16	32	18	90	6	4.9	3	7.15	E25UNEF5/16	**£44.55**
3/8	32	15	90	7	5.5	3	8.7	E25UNEF3/8	**£50.85**
7/16	28	20	100	8	6.2	3	10.2	E25UNEF7/16	**£56.70**
1/2	28	20	100	9	7	3	11.8	E25UNEF1/2	**£59.66**
9/16	24	22	100	11	9	4	13.2	E25UNEF9/16	**£73.00**
5/8	24	22	100	12	9	4	14.8	E25UNEF5/8	**£86.48**
11/16	24	25	110	14	11	4	16.4	E25UNEF11/16	**£94.33**
3/4	20	25	110	14	11	4	17.8	E25UNEF3/4	**£100.35**
13/16	20	25	125	18	14.5	4	19.4	E25UNEF13/16	**£107.81**
7/8	20	25	125	18	14.5	4	20.95	E25UNEF7/8	**£113.41**
Spiral Flute									
1/4	32	10	80	4.5	3.4	3	5.55	E61UNEF1/4	**£39.10**
5/16	32	13	90	6	4.9	3	7.15	E61UNEF5/16	**£49.78**
3/8	32	15	90	7	5.5	3	8.7	E61UNEF3/8	**£56.99**
7/16	28	15	100	8	6.2	3	10.2	E61UNEF7/16	**£62.30**
1/2	28	13	100	9	7	3	11.8	E61UNEF1/2	**£65.92**
9/16	24	15	100	11	9	4	13.2	E61UNEF9/16	**£80.07**
5/8	24	15	100	12	9	4	14.8	E61UNEF5/8	**£96.06**
11/16	24	17	110	14	11	4	16.4	E61UNEF11/16	**£102.88**
3/4	20	17	110	14	11	4	17.8	E61UNEF3/4	**£110.62**
13/16	20	18	125	18	14.5	4	19.4	E61UNEF13/16	**£117.68**
7/8	20	18	125	18	14.5	4	20.95	E61UNEF7/8	**£123.94**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
○	●	●	○											
10-15	10-15	10-12	8-10											

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
				○		○		○		○				
				8-12		10-15		10-15		15-20				

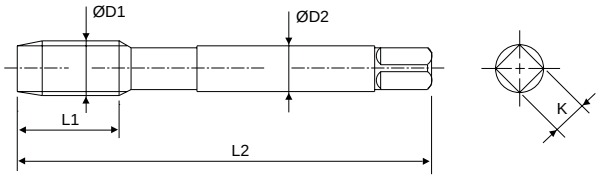
UNS UNIFIED NATIONAL SPECIAL ANSI B1.1 TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

- Designed for everyday tapping of a wide range of materials including:
  Low to medium hardness steel, cast iron, aluminium, copper, brass & short chipping plastic
- BRIGHT finish prevents swarf sticking to the tap flutes
- 2B tolerance

Series	
E20-UNS UFS	E21-UNS UFS







ØD1 UNS	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
No.10	48	13	70	6	4.9	3	4.3	E20-48UNS10	**£36.42**
No.10	40	13	70	6	4.9	3	4.2	E20-40UNS10	**£36.42**
No.12	36	16	80	6	4.9	3	4.8	E20-36UNS12	**£36.42**
1/4	24	16	80	7	5.5	3	5.3	E20-24UNS1/4	**£34.03**
1/4	36	16	80	7	5.5	3	5.6	E20-36UNS1/4	**£35.89**
1/4	40	16	80	7	5.5	3	5.7	E20-40UNS1/4	**£41.23**
5/16	40	18	90	6	4.9	3	7.3	E21-40UNS5/16	**£40.29**
3/8	18	20	100	7	5.5	3	8.1	E21-18UNS3/8	**£44.69**
3/8	27	15	90	7	5.5	3	8.6	E21-27UNS3/8	**£46.98**
3/8	40	15	90	7	5.5	3	8.9	E21-40UNS3/8	**£51.65**
7/16	24	20	100	8	6.2	3	10.05	E21-24UNS7/16	**£48.31**
7/16	27	20	100	8	6.2	3	10.2	E21-27UNS7/16	**£50.85**
1/2	24	20	100	9	7	3	11.6	E21-24UNS1/2	**£57.63**
1/2	27	20	100	9	7	3	11.75	E21-27UNS1/2	**£60.44**
5/8	27	22	100	12	9	4	14.9	E21-27UNS5/8	**£69.38**
11/16	18	25	110	14	11	4	16.05	E21-18UNS11/16	**£76.19**
3/4	18	25	110	14	11	4	17.6	E21-18UNS3/4	**£102.36**
7/8	18	25	125	18	14.5	4	20.8	E21-18UNS7/8	**£121.57**
7/8	24	25	125	18	14.5	4	21.2	E21-24UNS7/8	**£127.56**
15/16	18	25	140	18	14.5	4	22.4	E21-18UNS15/16	**£115.42**
1"	14	28	140	18	14.5	4	23.6	E21-14UNS1"	**£159.86**
1"	18	28	140	18	14.5	4	24	E21-18UNS1"	**£167.84**
1"	24	28	140	18	14.5	4	24.3	E21-24UNS1"	**£181.47**
1" 1/4	14	28	150	22	18	5	29.9	E21-14UNS1"1/4	**£252.83**
1" 5/16	14	30	170	28	22	5	31.5	E21-14UNS1"5/16	**£266.58**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
○	●	●	○											
10-15	10-15	10-12	8-10											

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
				○		○		○		○				
				8-12		10-15		10-15		15-20				

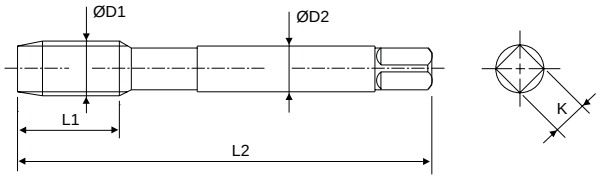
8-UN, 12-UN & 16-UN UNIFIED NATIONAL ANSI B1.1 TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series
E21-UN
UFS

- Designed for everyday tapping of a wide range of materials including:
  Low to medium hardness steels, cast iron, aluminium, copper, brass & short chipping plastics
- BRIGHT finish prevents swarf sticking to the tap flutes
- Straight flute - 2B tolerance







ØD1	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
8-UN									
1"1/8	8	40	180	22	18	4	25.4	E21-8UN1"1/8	**£114.23**
1"1/4	8	40	180	22	18	4	28.6	E21-8UN1"1/4	**£144.48**
1"3/8	8	50	200	28	22	4	31.75	E21-8UN1"3/8	**£192.32**
1"1/2	8	50	200	28	22	4	34.9	E21-8UN1"1/2	**£217.61**
1"5/8	8	50	200	32	24	5	38.1	E21-8UN1"5/8	**£269.99**
1"3/4	8	50	200	36	29	5	41.3	E21-8UN1"3/4	**£325.06**
1"7/8	8	60	225	36	29	6	44.45	E21-8UN1"7/8	**£388.26**
2"	8	60	225	40	32	6	47.6	E21-8UN2"	**£446.94**
2"1/4	8	65	250	45	35	6	54	E21-8UN2"1/4	**£483.04**
2"1/2	8	70	275	50	39	6	60.3	E21-8UN2"1/2	**£659.14**
12-UN									
7/8	12	25	125	18	14.5	4	20.1	E21-12UN7/8	**£69.06**
1"1/16	12	25	140	20	16	4	24.9	E21-12UN1"1/16	**£104.28**
1"3/16	12	28	150	22	18	4	28	E21-12UN1"3/16	**£123.71**
1"5/16	12	30	170	28	22	5	31.2	E21-12UN1"5/16	**£181.94**
1"7/16	12	30	170	28	22	6	34.4	E21-12UN1"7/16	**£206.50**
1"5/8	12	30	170	32	24	6	39.2	E21-12UN1"5/8	**£268.88**
1"3/4	12	32	180	36	29	6	42.3	E21-12UN1"3/4	**£329.57**
2"	12	32	190	40	32	6	48.7	E21-12UN2"	**£421.39**
16-UN									
1"	16	28	140	18	14.5	4	23.8	E21-16UN1"	**£99.87**
1" 1/8	16	28	150	22	18	4	27	E21-16UN1"1/8	**£126.69**
1" 1/4	16	28	150	22	18	5	30.15	E21-16UN1"1/4	**£162.70**
1" 1/2	16	30	170	28	22	6	36.5	E21-16UN1"1/2	**£256.78**
2"	16	32	190	40	32	6	49.2	E21-16UN2"	**£421.39**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
○	●	●	○								○			
10-15	10-15	10-12	8-10								8-10			

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
				○		○		○					○	
				8-12		10-15		10-15					8-10	

BSW BRITISH STANDARD WHITWORTH BS 84 TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

- Designed for everyday tapping of a wide range of materials including: Low to medium hardness steels, cast iron, aluminium, copper & brass
- BRIGHT finish prevents swarf sticking to the tap flutes

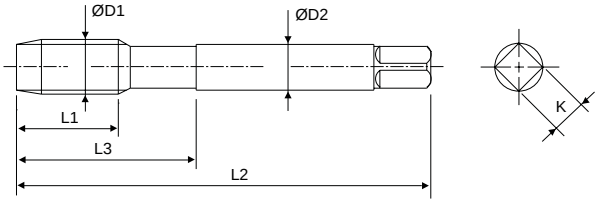
Series	
TC224 YG-1	TC134 YG-1

Spiral Point



Spiral Flute





Up to 3/8 | 7/16 to 1" 1/8 | Spiral Point | Spiral Flute

HSS Co5 | 55° | DIN 2182 | DIN 2183 | B 4-5 | C 2-3 | R40 | BRIGHT FINISH | Spiral Point 3xD | Spiral Flute 2.5xD

ØD1 BSW	TPI	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
Spiral Point										
1/8	40	11	56	18	3.5	2.7	3	2.5	TC224200	**£12.80**
5/32	32	13	63	21	4.5	3.4	3	3.1	TC224280	**£12.80**
3/16	24	15	70	25	6	4.9	3	3.6	TC224320	**£13.21**
7/32	24	16	80	30	6	4.9	3	4.4	TC224360	**£13.21**
1/4	20	17	80	30	7	5.5	3	5.1	TC224400	**£13.21**
5/16	18	20	90	35	8	6.2	3	6.5	TC224440	**£17.13**
3/8	16	22	100	39	9	7	3	7.9	TC224480	**£20.58**
7/16	14	22	100	40	8	6.2	3	9.3	TC224520	**£27.80**
1/2	12	25	110	44	9	7	3	10.5	TC224560	**£27.80**
9/16	12	26	110	44	11	9	3	12	TC224600	**£33.54**
5/8	11	27	110	44	12	9	3	13.5	TC224640	**£42.16**
3/4	10	30	125	50	14	11	4	16.5	TC224700	**£65.57**
7/8	9	32	140	54	18	14.5	4	19.25	TC224740	**£81.35**
1"	8	36	160	60	20	16	4	22	TC224780	**£113.49**
1" 1/8	7	40	180	65	22	18	4	24.75	TC224820	**£158.72**
Spiral Flute										
1/8	40	7	56	18	3.5	2.7	3	2.5	TC134200	**£11.48**
5/32	32	7	63	21	4.5	3.4	3	3.1	TC134280	**£13.15**
3/16	24	10	70	25	6	4.9	3	3.6	TC134320	**£13.43**
7/32	24	10	80	30	6	4.9	3	4.4	TC134360	**£13.43**
1/4	20	13	80	30	7	5.5	3	5.1	TC134400	**£12.10**
5/16	18	14	90	35	8	6.2	3	6.5	TC134440	**£15.67**
3/8	16	16	100	39	9	7	3	7.9	TC134480	**£20.99**
7/16	14	17	100	40	8	6.2	3	9.3	TC134520	**£25.41**
1/2	12	20	110	44	9	7	3	10.5	TC134560	**£25.41**
9/16	12	20	110	44	11	9	3	12	TC134600	**£37.92**
5/8	11	22	110	40	12	9	3	13.5	TC134640	**£38.72**
3/4	10	25	125	50	14	11	4	16.5	TC134700	**£67.95**
7/8	9	27	140	54	18	14.5	4	19.25	TC134740	**£84.26**
1"	8	30	160	60	20	16	4	22	TC134780	**£106.84**
1" 1/8	7	35	180	65	22	18	4	24.75	TC134820	**£166.10**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
○	●	●	○								○	○		
10-15	10-15	10-12	8-10								10-15	5-8		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	○			○		○		○	○				○	
	8-12			8-12		10-15		10-15	25-35				8-12	

BSP(G) BRITISH STANDARD GAS ISO 228 TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series	
E25G UFS	E61G UFS

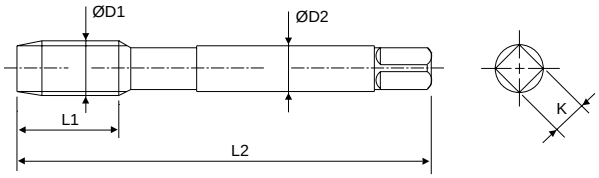
- Designed for everyday tapping of a wide range of materials including: Low to medium hardness steels, aluminium, copper & brass
- BRIGHT finish prevents swarf sticking to the tap flutes
- Whitworth pipe thread DIN EN ISO 228

Spiral Point



Spiral Flute





Spiral Point | Spiral Flute

HSS Co5 | DIN 5156 | 55° | B 4 - 5 | C 2 - 3 | R40 | BRIGHT FINISH

Spiral Point: 3xD

Spiral Flute: 2.5xD

ØD1 GAS	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
Spiral Point									
1/8	28	15	90	7	5.5	3	8.8	E25G1/8	**£21.41**
1/4	19	22	100	11	9	3	11.8	E25G1/4	**£29.83**
3/8	19	22	100	12	9	4	15.25	E25G3/8	**£41.35**
1/2	14	25	125	16	12	4	19	E25G1/2	**£54.31**
5/8	14	25	125	18	14.5	4	21	E25G5/8	**£66.76**
3/4	14	25	140	20	16	4	24.5	E25G3/4	**£91.33**
7/8	14	28	150	22	18	4	28.25	E25G7/8	**£118.71**
1"	11	30	160	25	20	5	30.75	E25G1"	**£164.50**
1" 1/8	11	30	170	28	22	6	35.5	E25G1"1/8	**£214.37**
1" 1/4	11	30	170	32	24	6	39.5	E25G1"1/4	**£267.32**
1" 1/2	11	32	190	36	29	6	45.25	E25G1"1/2	**£391.38**
1" 3/4	11	32	190	40	32	6	51.10	E25G1"3/4	**£524.75**
2"	11	40	220	45	35	6	57.2	E25G2"	**£735.49**
Spiral Flute									
1/8	28	15	90	7	5.5	3	8.8	E61G1/8	**£21.41**
1/4	19	15	100	11	9	3	11.8	E61G1/4	**£29.83**
3/8	19	15	100	12	9	4	15.25	E61G3/8	**£41.35**
1/2	14	18	125	16	12	4	19	E61G1/2	**£54.31**
5/8	14	18	125	18	14.5	4	21	E61G5/8	**£66.76**
3/4	14	20	140	20	16	4	24.5	E61G3/4	**£91.33**
7/8	14	22	150	22	18	4	28.25	E61G7/8	**£118.71**
1"	11	24	160	25	20	5	30.75	E61G1"	**£164.50**
1" 1/8	11	24	170	28	22	6	35.5	E61G1"1/8	**£214.37**
1" 1/4	11	24	170	32	24	6	39.5	E61G1"1/4	**£267.32**
1" 1/2	11	27	190	36	29	6	45.25	E61G1"1/2	**£391.38**
1" 3/4	11	27	190	40	32	6	51.10	E61G1"3/4	**£524.75**
2"	11	32	220	45	35	6	57.2	E61G2"	**£735.49**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
○	●	●	○											
10-15	10-15	10-12	8-10											

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
				○		○		○	○					
				8-12		10-15		10-15	15-20					

BSP(G) BRITISH STANDARD GAS ISO 228 TOP-LINE TAP

Powder Metal Machine Taps for High Performance Tapping of a Wide Range of Materials

Series	
K25G UFS	K83G UFS

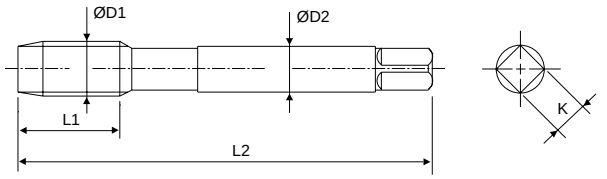
- Powder metal substrate for increased tool life over HSS 5% Cobalt
- TiN XP coating for medium-low resistance steel, recommended for tapping with axial compensation
- Excellent performance tapping of stainless steel, cast iron and copper
- Whitworth pipe thread DIN EN ISO 228X tolerance

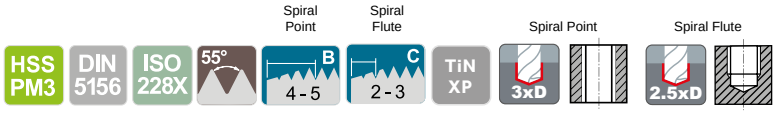
Spiral Point



Spiral Flute







ØD1 GAS	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code		Price
								Spiral Point	Spiral Flute	
1/8	28	15	90	7	5.5	3	8.8	K25G1/8XP	K83G1/8XP	**£37.31**
1/4	19	22	100	11	9	4	11.8	K25G1/4XP	K83G1/4XP	**£54.12**
3/8	19	22	100	12	9	4	15.25	K25G3/8XP	K83G3/8XP	**£67.61**
1/2	14	25	125	16	12	4	19	K25G1/2XP	K83G1/2XP	**£95.61**
3/4	14	25	140	20	16	4	24.5	K25G3/4XP	K83G3/4XP	**£160.77**

For accessories, please see page 883

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	●		●	●	●			●	●		
20-30	20-30	20-25	15-20	5-12		10-15	8-10	6-8			15-20	10-15		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium			Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
						○			○	○				
						20-25			25-30	20-25				

BSPT BRITISH STANDARD PIPE TAPER (RC) 1:16 TAPER ISO 7-1 TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series	
E21CRC UFS	E21LRC UFS

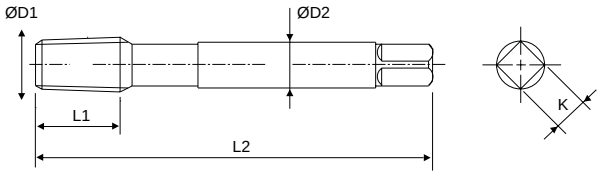
- Designed for everyday tapping of a wide range of materials including: Low to medium hardness steels, cast iron, aluminium, copper & brass
- BRIGHT finish prevents swarf sticking to the tap flutes
- Straight flute - tapered whitworth pipe thread

Standard Length



Long Shank







ØD1 BSPT	TPI	L1	L2	ØD2 h9	K h12	Drill Dia.*	★★★ Performance Order Code	Price
Standard Length								
1/8	28	13	63	7	5.5	8.2	E21CRC1/8	**£35.66**
1/4	19	20	63	11	9	11	E21CRC1/4	**£40.64**
3/8	19	20	70	12	9	14.5	E21CRC3/8	**£49.43**
1/2	14	26	80	16	12	18	E21CRC1/2	**£60.93**
3/4	14	28	100	20	16	23.5	E21CRC3/4	**£94.58**
1"	11	34	110	25	20	29.5	E21CRC1"	**£130.94**
1" 1/4	11	36	125	32	24	38	E21CRC1"1/4	**£239.22**
1" 1/2	11	36	140	36	29	44	E21CRC1"1/2	**£302.24**
2"	11	40	160	45	35	55.5	E21CRC2"	**£418.31**
Long Shank								
1/8	28	13	90	7	5.5	8.2	E21LRC1/8	**£36.92**
1/4	19	20	100	11	9	11	E21LRC1/4	**£42.68**
3/8	19	20	110	12	9	14.5	E21LRC3/8	**£52.54**
1/2	14	26	125	16	12	18	E21LRC1/2	**£67.29**
3/4	14	28	140	20	16	23.5	E21LRC3/4	**£107.44**
1"	11	34	160	25	20	29.5	E21LRC1"	**£147.68**
1" 1/4	11	36	160	32	24	38	E21LRC1"1/4	**£246.13**
1" 1/2	11	36	190	36	29	44	E21LRC1"1/2	**£314.25**
2"	11	40	200	45	35	55.5	E21LRC2"	**£451.23**

For accessories, please see page 883

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
○	●	●	○								○			
10-15	10-15	10-12	8-10								8-10			

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					○	○			○	○			○	
					15-20	10-15			15-20	10-15			8-10	

NPT NATIONAL PIPE TAPER / NPTF NATIONAL PIPE TAPER FUEL TAP

HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

- Designed for everyday tapping of a wide range of materials including: Low to medium hardness steels, cast iron, aluminium, copper & brass
- BRIGHT finish prevents swarf sticking to the tap flutes

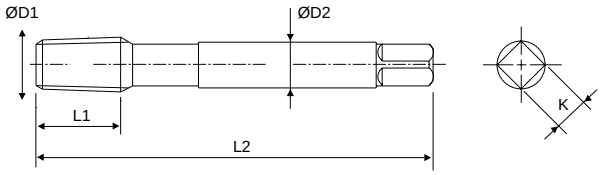
Series
E21-NPT
UFS

Standard Length



Long Length





HSS Co5 | 60° | C 2-3 | BRIGHT FINISH | Through & Blind Holes

UFS

ØD1 NPT	TPI	L1	L2	ØD2 h9	K h12	Drill Dia.*	★★★ Performance Order Code	Price
Standard Length - NPT								
1/16	27	13	63	6	4.9	6.2	E21CNPT1/16	**£40.75**
1/8	27	13	63	7	5.5	8.5	E21CNPT1/8	**£40.75**
1/4	18	20	63	11	9	11	E21CNPT1/4	**£46.44**
3/8	18	20	70	12	9	14.5	E21CNPT3/8	**£56.49**
1/2	14	26	80	16	12	17.9	E21CNPT1/2	**£69.64**
3/4	14	26	100	20	16	23.2	E21CNPT3/4	**£108.09**
1"	11.5	32	110	25	20	29	E21CNPT1"	**£149.64**
1" 1/4	11.5	32	125	32	24	37.8	E21CNPT1"1/4	**£273.40**
1" 1/2	11.5	32	140	36	29	44	E21CNPT1"1/2	**£345.41**
2"	11.5	36	160	45	35	56	E21CNPT2"	**£478.05**
Long Shank - NPT								
1/16	27	13	90	6	4.9	6.2	E21LNPT1/16	**£39.75**
1/8	27	13	90	7	5.5	8.5	E21LNPT1/8	**£39.75**
1/4	18	20	100	11	9	11	E21LNPT1/4	**£45.69**
3/8	18	20	110	12	9	14.5	E21LNPT3/8	**£57.09**
1/2	14	26	125	16	12	17.9	E21LNPT1/2	**£73.57**
3/4	14	26	140	20	16	23.2	E21LNPT3/4	**£115.92**
1"	11.5	32	160	25	20	29	E21LNPT1"	**£161.49**
1" 1/4	11.5	32	160	32	24	37.8	E21LNPT1"1/4	**£272.79**
1" 1/2	11.5	32	190	36	29	44	E21LNPT1"1/2	**£357.01**
2"	11.5	36	200	45	35	56	E21LNPT2"	**£484.60**
Standard Length - NPTF								
1/8	27	13	63	7	5.5	8.45	E21CNPTF1/8	**£40.75**
1/4	18	20	63	11	9	10.9	E21CNPTF1/4	**£46.44**
3/8	18	20	70	12	9	14.3	E21CNPTF3/8	**£56.49**
1/2	14	26	80	16	12	17.6	E21CNPTF1/2	**£69.64**
3/4	14	26	100	20	16	23	E21CNPTF3/4	**£108.09**
1"	11.5	32	110	25	20	28.75	E21CNPTF1"	**£149.64**
1" 1/4	11.5	32	125	32	24	37.5	E21CNPTF1"1/4	**£273.40**
1" 1/2	11.5	32	140	36	29	43.75	E21CNPTF1"1/2	**£345.41**
2"	11.5	36	160	45	35	55.75	E21CNPTF2"	**£478.05**
Long Shank - NPTF								
1/8	27	13	90	7	5.5	8.45	E21LNPTF1/8	**£39.75**
1/4	18	20	100	11	9	10.9	E21LNPTF1/4	**£45.69**
3/8	18	20	110	12	9	14.3	E21LNPTF3/8	**£57.09**
1/2	14	26	125	16	12	17.6	E21LNPTF1/2	**£105.95**
3/4	14	26	140	20	16	23	E21LNPTF3/4	**£115.92**
1"	11.5	32	160	25	20	28.75	E21LNPTF1"	**£232.54**
1" 1/4	11.5	32	160	32	24	37.5	E21LNPTF1"1/4	**£272.79**
1" 1/2	11.5	32	190	36	29	43.75	E21LNPTF1"1/2	**£357.01**
2"	11.5	36	200	45	35	55.75	E21LNPTF2"	**£484.60**

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
○	●	●	○								○	○		
3-5	3-5	5-7	4-6								3-5	5-7		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					○				○	○				
					8-12				10-15	10-15				

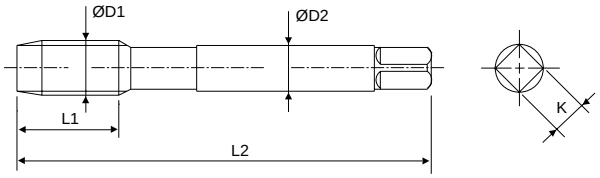
PG STEEL CONDUIT THREAD DIN 40432 TAP

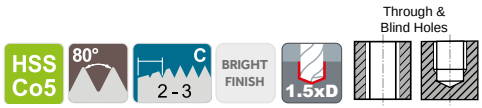
HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series
E21-PG
UFS

- Designed for everyday tapping of a wide range of materials including:
  Low to medium hardness steels, cast iron, aluminium, copper, brass & short chipping plastics
- BRIGHT finish prevents swarf sticking to the tap flutes
- Straight flute







PG	ØD1	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	Order Code	Price
7	12.5	20	20	70	9	7	3	11.4	E21PG7	**£49.52**
9	15.20	18	20	70	12	9	4	14	E21PG9	**£51.67**
11	18.60	18	22	80	14	11	4	17.25	E21PG11	**£49.52**
13.5	20.40	18	22	80	16	12	4	19	E21PG13.5	**£74.63**
16	22.50	18	22	80	18	14.5	4	21.25	E21PG16	**£86.70**
21	28.30	16	22	90	22	18	4	27	E21PG21	**£96.79**
29	37	16	25	100	28	22	6	35.5	E21PG29	**£171.50**
36	47	16	25	140	36	29	6	45.5	E21PG36	**£298.67**
42	54	16	28	140	40	32	6	52.5	E21PG42	**£369.19**
48	59.30	16	36	140	45	35	6	58	E21PG48	**£566.09**

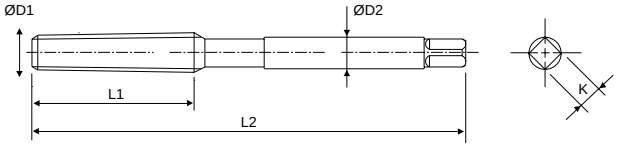
TR ISO METRIC TRAPEZOIDAL THREAD DIN 103 TAP

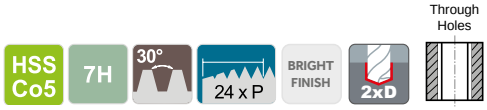
HSS 5% Cobalt Machine Taps for General Purpose Machine Tapping

Series
E21-TPN
UFS

- Designed for everyday tapping of a wide range of materials including: low to medium hardness steels, cast iron, aluminium, copper & brass
- BRIGHT finish prevents swarf sticking to the tap flutes
- Suitable for right hand and left hand threads
- Straight flute - 7H tolerance







ØD1 TR	Pitch mm	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	Order Code	Price
10	2	70	130	7	5.5	3	8.2	E21TPN10X2	**£166.83**
10	3	95	155	7	5.5	3	7.5	E21TPN10X3	**£188.70**
12	2	95	160	8	6.2	3	10.2	E21TPN12X2	**£209.21**
12	3	95	160	8	6.2	3	9.25	E21TPN12X3	**£209.21**
14	3	100	170	10	8	4	11.25	E21TPN14X3	**£221.51**
14	4	130	210	10	8	4	10.5	E21TPN14X4	**£270.74**
16	4	130	225	11	9	4	12.25	E21TPN16X4	**£283.05**
18	4	130	225	12	9	4	14.25	E21TPN18X4	**£293.65**
20	4	130	230	14	11	4	16.25	E21TPN20X4	**£348.68**
22	5	160	270	16	12	4	17.25	E21TPN22X5	**£384.26**
24	5	160	280	18	14.5	4	19.25	E21TPN24X5	**£398.69**
26	5	160	280	20	16	4	21.25	E21TPN26X5	**£409.98**
28	5	160	290	22	18	4	23.25	E21TPN28X5	**£430.41**
30	6	190	330	22	18	4	24.25	E21TPN30X6	**£533.28**
32	6	190	330	25	20	4	26.25	E21TPN32X6	**£553.79**
36	6	200	350	28	22	4	30.25	E21TPN36X6	**£605.93**

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
○	●	●	○								○			
10-15	10-15	10-12	8-10								8-10			

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					○	○			○	○			○	
					15-20	10-15			15-20	10-15			8-10	

13 PC UNCOATED COMBO TAP & GOLD-P DRILL SETS, SPIRAL POINT

Uncoated Combo Tap & DLGP 5% Cobalt TiN coated

- 5xD jobber length drills
- TC814SET7-GLP195 includes spiral point combo taps
- Drill sizes included: 2.5mm, 3.3mm, 4.2mm, 6.8mm, 8.5mm & 10.2mm
- Tap sizes included: M3, M4, M5, M6, M8, M10 & M12



Drill Range mm	Tap Range	Order Code	Price
2.5-10.2	M3-M12	TC814SET7-GPD	**£64.03**

13 PC TiN COATED COMBO TAP & GOLD-P DRILL SETS

Universal Use for High Flexibility

- 5xD jobber length drills
- TD814SET7-GLP195 includes spiral point combo taps
- TD804SET7-GLP195 includes spiral flute combo taps
- Drill sizes included: 2.5mm, 3.3mm, 4.2mm, 6.8mm, 8.5mm & 10.2mm
- Tap sizes included: M3, M4, M5, M6, M8, M10 & M12



Drill Range mm	Tap Range	Order Code		Price
		Spiral Point	Spiral Flute	
2.5-10.2	M3-M12	TD814SET7-GLP195	TD804SET7-GLP195	**£129.48**

7 PC INOX POWDER METAL STEAM TEMPERED COMBO TAP SET

High Performance Tapping of Stainless Steel

- TQ428SET7 includes spiral point combo taps
- Tap sizes included: M3, M4, M5, M6, M8, M10 & M12
- These taps are designed for general tapping of stainless steel, soft steel and structural steel



Tap Range	Order Code	Price
M3-M12	TQ428SET7	**£147.92**

7 PC BRIGHT FINISH COMBO TAP SET

General Purpose Tapping of all Materials

- The YG-1 COMBO TAP series is the bestselling machine tap for general purpose machining
- TD804SET7 includes spiral flute combo taps.
- TD814SET7 includes spiral point combo taps.
- Tap sizes included: M3, M4, M5, M6, M8, M10 & M12
- These taps are designed for general tapping of stainless steel, soft steel and structural steel



Tap Range	Order Code		Price
	Spiral Point	Spiral Flute	
M3-M12	TD814SET7	TC804SET7	**£103.79**

7 PC PRIME-X TAP SETS

Premium HSS-PM Machine Taps

- Tap set includes sizes: M3, M4, M5, M6, M8, M10, M12
- Metric coarse Prime-X universal plus machine tap
- New YG-1 X-coating provides high heat and wear resistance
- Premium powder metal substrate with tough-chipping resistant cutting edge
- For high performance purpose tapping on steel, stainless steel, cast iron & non-ferrous



Tap Range	Order Code		Price
	Spiral Point	Spiral Flute	
M3-M12	TRJ15GSSET7	TRE30GSSET7	**£99.00**

70 PC HSSE MEGA MACHINE TAP SET

Universal Use for High Flexibility

- Innovative cutting geometry for high process reliability
- Through and blind holes in steel, stainless steel, non-ferrous metals and cast iron
- Contains M3/M4/M5/M6/M8/M10/M12 taps; 5x spiral flute & 5x spiral point of each size



Tap Range	Order Code	Price
M3-M12	13400100	**£636.87**

Machine Taps for High Resistance Materials

P H K N



SUBSTRATE
HSS PM powder metal HSS with high content of vanadium & cobalt for high speed tapping and ultimate wear resistance

SYNCHRO RIGID TAPS
Up to 4 times faster than conventional rigid tapping

RING COLOUR
Red ring identifies UFS taps are for hardened steel, alloy steel & grey cast iron

COATING
TiAlN coating provides exceptional wear resistance when tapping hardened steel, alloy steel & grey cast iron

SHORT FLUTES
10 pitch flute design for extra strength tapping of alloys and high strength steel

High performance machine taps for tapping high resistance materials

The UFS HR-SERIES taps are made from ultra-high quality powder metal with high cobalt and vanadium content. They also feature a shortened flute design for added strength, whilst the spiral flute geometry has a 15° helix which increases the strength of the tap. Suitable for hardened steel, cast iron and other high resistance materials.

Thread Form Selection

M METRIC COARSE	861
MF METRIC FINE	865

Optional Through Coolant

RADIAL FLOW For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR THROUGH HOLES**	
AXIAL FLOW For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR BLIND HOLES**	

M ISO METRIC COARSE DIN 13 TOP-LINE TAP

For Alloy/Hardened Steel <HRC45, Malleable Cast Iron & Aluminium/Copper Alloy

Series	
K24/K25M UFS	K40/K41M UFS

- Powder metal substrate for increased tool life over HSSE
- TiAlN +C coating offers exceptional wear resistance
- Through coolant enables excellent chip evacuation & provides increased tool life
- Spiral point - 6HX tolerance

Spiral Point - Solid



Spiral Flute - Solid

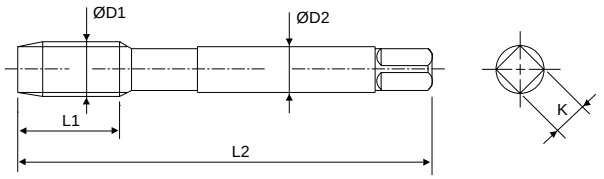


Spiral Point - Through Coolant



Spiral Flute - Through Coolant





Up to M10 | Over M10 | Spiral Point | Spiral Flute | Spiral Point Solid | Spiral Point TC | Spiral Flute Solid | Spiral Flute TC

HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | B 4-5 | C 2-3 | TiAlN +C | 3xD | 3.5xD | 1.5xD | 2.5xD

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code: Spiral Point	Spiral Flute	Price
Solid										
M3	0.5	10	56	3.5	2.7	3	2.5	K24M3TXC	K40M3TXC	**£25.40**
M4	0.7	13	63	4.5	3.4	3	3.3	K24M4TXC	K40M4TXC	**£25.40**
M5	0.8	13	70	6	4.9	3	4.2	K24M5TXC	K40M5TXC	**£25.40**
M6	1	16	80	6	4.9	3	5	K24M6TXC	K40M6TXC	**£25.40**
M8	1.25	18	90	8	6.2	3	6.8	K24M8TXC	K40M8TXC	**£32.82**
M10	1.5	20	100	10	8	3	8.5	K24M10TXC	K40M10TXC	**£35.58**
M12	1.75	25	110	9	7	4	10.3	K25M12TXC	K41M12TXC	**£44.41**
M14	2	28	110	11	9	4	12	K25M14TXC	K41M14TXC	**£57.67**
M16	2	28	110	12	9	4	14	K25M16TXC	K41M16TXC	**£68.95**
Through Coolant										
M6	1	16	80	6	4.9	3	5	K24M6FORY-TXC	K40M6FOR-TXC	**£43.47**
M8	1.25	18	90	8	6.2	3	6.8	K24M8FORY-TXC	K40M8FOR-TXC	**£53.33**
M10	1.5	20	100	10	8	3	8.5	K24M10FORY-TXC	K40M10FOR-TXC	**£59.40**
M12	1.75	25	110	9	7	4	10.3	K25M12FORY-TXC	K41M12FOR-TXC	**£70.60**
M14	2	28	110	11	9	4	12	K25M14FORY-TXC	K41M14FOR-TXC	**£86.38**
M16	2	28	110	12	9	4	14	K25M16FORY-TXC	K41M16FOR-TXC	**£94.66**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
				● 5-12	● 5-8						● 15-20	● 20-25		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 25-30						○ 25-30			

M ISO METRIC COARSE DIN 13 TAP

HSS 5% Cobalt Machine Taps for Alloy Steel & Hardened Steel

- TiAlN coating for alloy steels & hardened steels <300HB, hard stainless steel, phosphor bronze and thermoset plastics
- Thick web enables higher speed cutting (spiral point)
- 6H tolerance

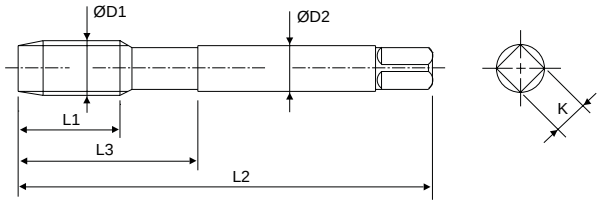
Series	
TY283 YG-1	TY313 YG-1

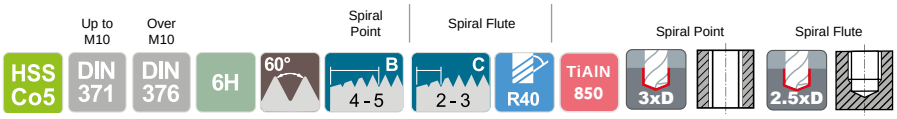
Spiral Point



Spiral Flute







ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code		Price
									Spiral Point	Spiral Flute	
M2	0.4	8	45	13	2.8	2.1	3	1.6	TY283136	TY313136	**£22.00**
M3	0.5	11	56	18	3.5	2.7	3	2.5	TY283206	TY313206	**£17.60**
M4	0.7	13	63	21	4.5	3.4	3	3.3	TY283246	TY313246	**£17.60**
M5	0.8	15	70	25	6	4.9	3	4.2	TY283286	TY313286	**£17.91**
M6	1	17	80	30	6	4.9	3	5	TY283316	TY313316	**£17.72**
M8	1.25	20	90	35	8	6.2	3	6.8	TY283366	TY313366	**£25.34**
M10	1.5	22	100	39	10	8	3	8.5	TY283426	TY313426	**£29.57**
M12	1.75	24	110	44	9	7	3	10.2	TY283506	TY313506	**£36.97**
M14	2	26	110	44	11	9	3	12	TY283546	TY313546	**£44.86**
M16	2	27	110	44	12	9	3	14	TY283606	TY313606	**£50.25**
M20	2.5	32	140	54	16	12	4	17.5	TY283706	TY313706	**£89.22**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
				○ 6-10	● 3-5			○ 4-6						

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					○ 25-35		● 3-5						○ 8-12	○ 5-7

M ISO METRIC COARSE DIN 13 TOP-LINE TAP

HSS 5% Cobalt Machine Taps for a Wide Range of Materials

Series	
K20/21-TXC UFS	K22/23-TXC UFS

- Powder metal substrate for increased tool life over HSSE
- TiAlN +C coating offers exceptional wear resistance
- Straight flute geometry ideal for steel <HRC45, abrasive aluminium alloys, high strength bronze, cast iron & copper alloy
- 6HX & ISO 2/6H tolerance

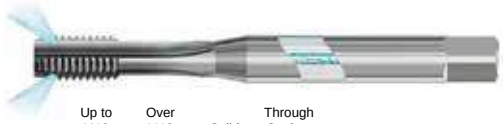
Solid

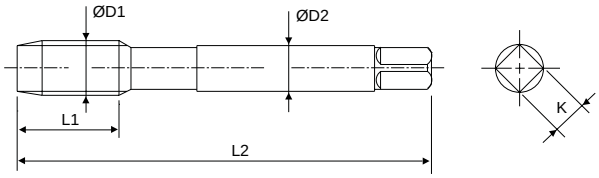


Through Coolant - Axial



Through Coolant - Radial





Up to M10 | Over M10 | Solid | Through Coolant

HSS PM3 | DIN 371 | DIN 376 | 6HX | ISO 2/6H | 60° | C 2-3 | TiAlN +C

Solid | Through Coolant | Through & Blind Holes

1.5xD | 3.5xD

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Straight Flute - Solid									
M3	0.5	10	56	3.5	2.7	3	2.5	K20M3TXC	**£24.85**
M4	0.7	13	63	4.5	3.4	3	3.3	K20M4TXC	**£24.85**
M5	0.8	13	70	6	4.9	3	4.2	K20M5TXC	**£24.85**
M6	1	16	80	6	4.9	4	5	K20M6TXC	**£24.85**
M8	1.25	18	90	8	6.2	4	6.8	K20M8TXC	**£31.24**
M10	1.5	20	100	10	8	4	8.5	K20M10TXC	**£33.61**
M12	1.75	25	110	9	7	4	10.3	K21M12TXC	**£43.07**
M14	2	28	110	11	9	4	12	K21M14TXC	**£55.93**
M16	2	28	110	12	9	4	14	K21M16TXC	**£65.63**
Straight Flute - Through Coolant - Axial for Blind Holes									
M6	1	16	80	6	4.9	3	5	K22M6FOR-TXC	**£42.91**
M8	1.25	18	90	8	6.2	3	6.8	K22M8FOR-TXC	**£51.75**
M10	1.5	20	100	10	8	3	8.5	K22M10FOR-TXC	**£61.53**
M12	1.75	25	110	9	7	3	10.3	K23M12FOR-TXC	**£69.34**
M14	2	28	110	11	9	3	12	K23M14FOR-TXC	**£84.65**
M16	2	28	110	12	9	3	14	K23M16FOR-TXC	**£94.35**
Straight Flute - Through Coolant - Radial for Through Holes									
M6	1	16	80	6	4.9	3	5	K22M6FORY-TXC	**£52.78**
M8	1.25	18	90	8	6.2	3	6.8	K22M8FORY-TXC	**£61.61**
M10	1.5	20	100	10	8	3	8.5	K22M10FORY-TXC	**£69.74**
M12	1.75	25	110	9	7	3	10.3	K23M12FORY-TXC	**£75.89**
M14	2	28	110	11	9	3	12	K23M14FORY-TXC	**£90.40**
M16	2	28	110	12	9	3	14	K23M16FORY-TXC	**£102.55**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
				○ 5-12	● 5-8				● 25-30	● 20-25	○ 20-25	○ 25-30		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze			Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 25-30		○ 5-8	● 20-30			● 25-30		○ 10-15	○ 6-10

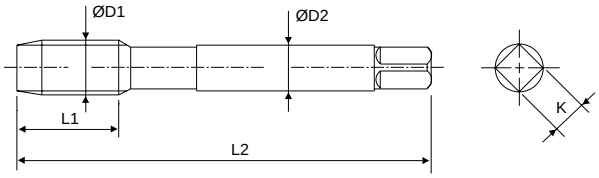
M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Powder Metal Machine Taps for Hardened Steel <HRC52 & Phosphorous Bronze

Series
XT20M-TX
UFS

- Powder metal substrate with higher cobalt content for tapping hardened steels <HRC52, ceramics and tungsten alloy
- TiAlN coating is highly wear resistant for tapping abrasive materials
- High strength straight flute design
- 6HX tolerance





Up to M10 | HSS PM1 | DIN 371 | 6HX | 60° | C 2-3 | TiAlN 900 | Solid 1.5xD | Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M6	1	18	80	6	4.9	4	5	XT20M6TX	**£28.56**
M8	1.25	25	90	8	6.2	5	6.8	XT20M8TX	**£33.76**
M10	1.5	30	100	10	8	5	8.5	XT20M10TX	**£38.58**
M12	1.75	30	110	12	9	5	10.3	XT20M12TX	**£53.33**

SYNCHRO ER TAP CHUCKS

The Perfect Partner for Synchro or Conventional Taps in Rigid Tapping

- ±0.5mm length compensation reduces synchronization errors
- Up to 4 times tool life compared to solid tapping heads
- Reduced torque
- Higher quality threads



BT MAS | HSK A | DIN 69871 | WELDON | S R

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
				○ 5-8	● 4-6									

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
							● 5-8							

MF ISO METRIC FINE DIN 13 TOP-LINE TAP

Powder Metal Machine Taps for a Wide Range of Materials

Series	
K25MF-TXC UFS	K81MF-TXC UFS

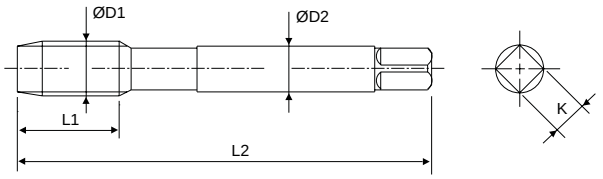
- Powder metal substrate for increased tool life over HSSE
- TiAlN +C coating offers exceptional wear resistance
- Short flute and 40° helix gives exceptional strength for tapping hard steels (spiral flute)
- 6HX tolerance

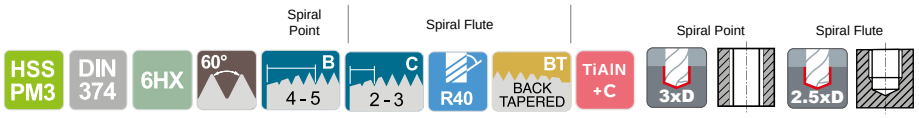
Spiral Point



Spiral Flute







ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Spiral Point									
M8	1	18	90	6	4.9	3	7	K25MF8X1TXC	**£37.00**
M10	1	15	90	7	5.5	3	9	K25MF10X1TXC	**£42.76**
M10	1.25	20	100	7	5.5	3	8.75	K25MF10X1.25TXC	**£42.76**
M12	1.25	22	100	9	7	4	10.75	K25MF12X1.25TXC	**£48.83**
M12	1.5	22	100	9	7	4	10.5	K25MF12X1.5TXC	**£48.83**
M14	1.5	22	100	11	9	4	12.5	K25MF14X1.5TXC	**£59.09**
M16	1.5	22	100	12	9	4	14.5	K25MF16X1.5TXC	**£74.15**
Spiral Flute									
M8	1	13	90	6	4.9	3	7	K81MF8X1TXC	**£37.71**
M10	1	15	90	7	5.5	3	9	K81MF10X1TXC	**£44.26**
M10	1.25	15	100	7	5.5	3	8.75	K81MF10X1.25TXC	**£44.26**
M12	1.25	13	100	9	7	4	10.75	K81MF12X1.25TXC	**£52.14**
M12	1.5	13	100	9	7	4	10.5	K81MF12X1.5TXC	**£52.14**
M14	1.5	15	100	11	9	4	12.5	K81MF14X1.5TXC	**£64.37**
M16	1.5	15	100	12	9	4	14.5	K81MF16X1.5TXC	**£71.00**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
			● 15-20	● 5-12	● 5-8						● 20-25	● 15-20		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 25-30						○ 20-25			

Machine Taps for Stainless Steel

P M S N

YG UFS TOP

INOX TAPS

SUBSTRATE

HSS & vanadium designed specifically for stainless steel with long tool life and excellent toughness

HSS PM3 powder metal with high content of vanadium & cobalt for high speed tapping and ultimate wear resistance



RING COLOUR
Blue ring identifies UFS taps are for stainless steel

48° HELIX
Spiral flute for better chip evacuation up to 3.5xD

COATING
TiAlN +C coating for exceptional wear resistance when tapping stainless steel, duplex & super duplex

INOX TAPERED
Horizontal back tapered flutes for ultimate reliability tapping stainless steels (synchro only)

High performance & general purpose machine taps for stainless steel

INOX series taps are designed primarily for machining stainless steel and are also excellent for machining soft sticky steels. The INOX range includes taps ranging from ultra-high performance geometries to general performance economical taps.

Thread Form Selection

M METRIC COARSE	867
MF METRIC FINE	870
UNC UNIFIED NATIONAL COARSE	871
UNF UNIFIED NATIONAL FINE	873
BSP(G) BRITISH GAS STANDARD	875

Optional Through Coolant

RADIAL FLOW For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR THROUGH HOLES**	
AXIAL FLOW For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR BLIND HOLES**	

YG UFS

M ISO METRIC COARSE DIN 13 TOP-LINE TAP

High Performance Machine Taps for Stainless Steel, Soft Steel & Structural Steel & Copper

Series
K24/25M-TXC UFS

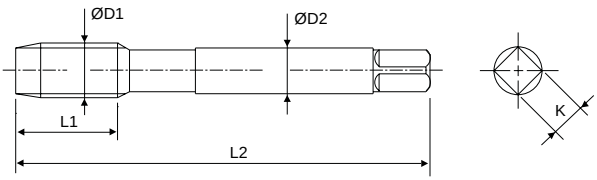
- Powder Metal substrate for maximum tool life
- TiAlN +C coating offers exceptional wear resistance
- Through coolant enables excellent chip evacuation & provides increased tool life
- 6HX tolerance

Solid



Through Coolant





Up to M10 / Over M10: HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | B 4-5 | TiAlN +C | Solid 3xD | Through Coolant 3.5xD | Through Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Solid									
M3	0.5	10	56	3.5	2.7	3	2.5	K24M3X-TXC	**£25.80**
M4	0.7	13	63	4.5	3.4	3	3.3	K24M4X-TXC	**£25.80**
M5	0.8	13	70	6	4.9	3	4.2	K24M5X-TXC	**£25.80**
M6	1	16	80	6	4.9	3	5	K24M6X-TXC	**£25.80**
M8	1.25	18	90	8	6.2	3	6.8	K24M8X-TXC	**£32.34**
M10	1.5	20	100	10	8	3	8.5	K24M10X-TXC	**£38.97**
M12	1.75	25	110	9	7	4	10.3	K25M12X-TXC	**£45.20**
M14	2	28	110	11	9	4	12	K25M14X-TXC	**£60.03**
M16	2	28	110	12	9	4	14	K25M16X-TXC	**£71.16**
Through Coolant									
M6	1	16	80	6	4.9	3	5	K24M6XFORY-TXC	**£54.51**
M8	1.25	18	90	8	6.2	3	6.8	K24M8XFORY-TXC	**£62.64**
M10	1.5	20	100	10	8	3	8.5	K24M10XFORY-TXC	**£71.00**
M12	1.75	25	110	9	7	4	10.3	K25M12XFORY-TXC	**£79.75**
M14	2	28	110	11	9	4	12	K25M14XFORY-TXC	**£98.61**
M16	2	28	110	12	9	4	14	K25M16XFORY-TXC	**£110.52**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
	○ 15-20		○ 10-15			● 7-10	● 5-8							

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
				○ 8-12										

M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Ultra High Performance Machine Taps for Stainless Steel, Soft Steel & Carbon Steel

Series	
K82M-TXC UFS	K82M-FOR-TXC UFS

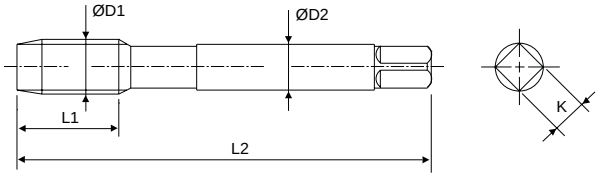
- Powder Metal substrate for maximum tool life
- TiAlN +C coating offers exceptional wear resistance
- Through coolant enables excellent chip evacuation & provides increased tool life
- Inox taper prevents oversized threads and premature tap failure
- Spiral flute geometry for blind holes
- 6HX tolerance

Solid



Through Coolant





Up to M10 | Over M10

HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | R48 | IT INOX TAPERED | TiAlN +C | 3.5xD | Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Solid									
M3	0.5	10	56	3.5	2.7	3	2.5	K82M3X-TXC	**£28.32**
M4	0.7	13	63	4.5	3.4	3	3.3	K82M4X-TXC	**£28.32**
M5	0.8	13	70	6	4.9	3	4.2	K82M5X-TXC	**£28.32**
M6	1	16	80	6	4.9	3	5	K82M6X-TXC	**£28.32**
M8	1.25	18	90	8	6.2	3	6.8	K82M8X-TXC	**£33.21**
M10	1.5	20	100	10	8	3	8.5	K82M10X-TXC	**£38.97**
M12	1.75	25	110	9	7	3	10.3	K83M12X-TXC	**£52.54**
M14	2	28	110	11	9	3	12	K83M14X-TXC	**£67.29**
M16	2	28	110	12	9	4	14	K83M16X-TXC	**£74.94**
Through Coolant									
M6	1	16	80	6	4.9	3	5	K82M6XFOR-TXC	**£46.39**
M8	1.25	18	90	8	6.2	3	6.8	K82M8XFOR-TXC	**£53.72**
M10	1.5	20	100	10	8	3	8.5	K82M10XFOR-TXC	**£62.79**
M12	1.75	25	110	9	7	3	10.3	K83M12XFOR-TXC	**£78.73**
M14	2	28	110	11	9	3	12	K83M14XFOR-TXC	**£96.01**
M16	2	28	110	12	9	4	14	K83M16XFOR-TXC	**£103.66**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
		● 20-25	● 15-20	○ 5-12		● 10-15	● 8-10	● 6-8						

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			

M ISO METRIC COARSE DIN 13 HSS-V3 TOP-LINE TAP

High Performance Machine Taps for Stainless Steel, Soft Steel & Structural Steel & Copper

- HSSE+3% Vanadium cobalt substrate ideal for reliable tapping of stainless steel
- TiAlN +C coating offers exceptional wear resistance
- Inox taper prevents oversized threads and premature tap failure (spiral flute)
- 6HX tolerance

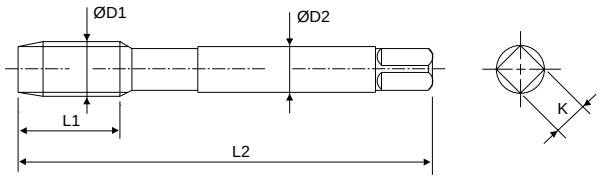
Series	
V24/25M-TXC UFS	V82/83M-TXC UFS

Spiral Point



Spiral Flute





Up to M10 | Over M10 | Spiral Point | Spiral Flute | Spiral Point | Spiral Flute

HSS V3 | DIN 371 | DIN 376 | 6HX | 60° | B 4-5 | C 2-3 | R48 | IT INOX TAPERED | TiAlN +C | 3xD | 2.5xD

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Spiral Point									
M3	0.5	10	56	3.5	2.7	3	2.5	V24M3TXC	**£22.40**
M4	0.7	13	63	4.5	3.4	3	3.3	V24M4TXC	**£22.40**
M5	0.8	13	70	6	4.9	3	4.2	V24M5TXC	**£22.40**
M6	1	16	80	6	4.9	3	5	V24M6TXC	**£22.40**
M8	1.25	18	90	8	6.2	3	6.8	V24M8TXC	**£27.77**
M10	1.5	20	100	10	8	3	8.5	V24M10TXC	**£31.32**
M12	1.75	25	110	9	7	4	10.3	V25M12TXC	**£38.18**
M14	2	28	110	11	9	4	12	V25M14TXC	**£50.09**
M16	2	28	110	12	9	4	14	V25M16TXC	**£53.80**
M20	2.5	33	140	16	12	4	17.5	V25M20TXC	**£83.30**
M24	3	39	160	18	14.5	4	21	V25M24TXC	**£121.01**
Spiral Flute									
M3	0.5	5	56	3.5	2.7	3	2.5	V82M3TXC	**£22.40**
M4	0.7	7	63	4.5	3.4	3	3.3	V82M4TXC	**£22.40**
M5	0.8	8	70	6	4.9	3	4.2	V82M5TXC	**£22.40**
M6	1	10	80	6	4.9	3	5	V82M6TXC	**£22.40**
M8	1.25	13	90	8	6.2	3	6.8	V82M8TXC	**£27.77**
M10	1.5	15	100	10	8	3	8.5	V82M10TXC	**£31.32**
M12	1.75	18	110	9	7	3	10.3	V83M12TXC	**£38.18**
M14	2	20	110	11	9	3	12	V83M14TXC	**£50.09**
M16	2	20	110	12	9	4	14	V83M16TXC	**£53.80**
M20	2.5	25	140	16	12	4	17.5	V83M20TXC	**£83.30**
M24	3	30	160	18	14.5	4	21	V83M24TXC	**£121.01**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
	○ 15-20		○ 10-15			● 7-10	● 5-8							

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
				○ 8-12										

MF ISO METRIC FINE DIN 13 COMBO TAP

High Performance Machine Taps for Stainless Steel, Soft Steel & Structural Steel & Copper

Series	
TQ438 YG-1	TQ754 YG-1

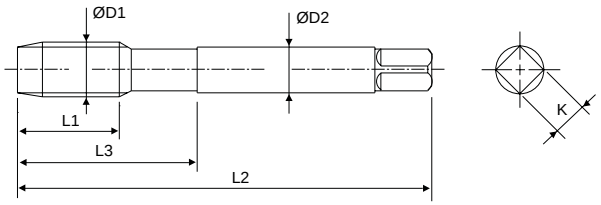
- High performance powder metal substrate
- Patented design prevents over feeding and premature tap failure
- VAP surface treatment reduces friction and is excellent for stickier materials such as 316 stainless or soft steel
- 6H tolerance

Spiral Point



Spiral Flute





Spiral Point | Spiral Flute



ØD1	Pitch	L1	L2	L3	ØD2	K	No. Flute	Drill Dia.	★★★★★ Performance Order Code	Price
Spiral Point										
M4	0.5	10	63	21	2.8	2.1	3	3.5	TQ438256	**£25.92**
M5	0.5	11	70	25	3.5	2.7	3	4.5	TQ438296	**£26.44**
M6	0.75	13	80	30	4.5	3.4	3	5.2	TQ438326	**£26.26**
M6	0.5	13	80	30	4.5	3.4	3	5.5	TQ438336	**£29.76**
M7	0.75	14	80	30	5.5	4.3	3	6.2	TQ438356	**£43.30**
M8	1	17	90	36	6	4.9	3	7	TQ438376	**£29.81**
M8	0.75	14	80	30	6	4.9	3	7.2	TQ438386	**£33.22**
M10	1.25	22	100	40	7	5.5	3	8.8	TQ438436	**£37.93**
M10	1	18	90	36	7	5.5	3	9	TQ438446	**£37.35**
M10	0.75	18	90	36	7	5.5	3	9.2	TQ438456	**£47.07**
M12	1.5	22	100	40	9	7	3	10.5	TQ438516	**£41.69**
M12	1.25	22	100	40	9	7	3	10.8	TQ438526	**£45.42**
M12	1	18	100	40	9	7	3	11	TQ438536	**£43.32**
Spiral Flute										
M4	0.5	5	63	21	2.8	2.1	3	3.5	TQ754256	**£19.89**
M5	0.5	5	70	25	3.5	2.7	3	4.5	TQ754296	**£20.31**
M6	0.75	8	80	30	4.5	3.4	3	5.2	TQ754326	**£20.29**
M6	0.5	5	80	30	4.5	3.4	3	5.5	TQ754336	**£22.89**
M7	0.75	10	80	30	5.5	4.3	3	6.2	TQ754356	**£33.25**
M8	1	10	90	36	6	4.9	3	7	TQ754376	**£23.08**
M8	0.75	8	80	30	6	4.9	3	7.2	TQ754386	**£25.54**
M10	1.25	16	100	40	7	5.5	3	8.8	TQ754436	**£29.56**
M10	1	10	90	36	7	5.5	3	9	TQ754446	**£29.02**
M10	0.75	10	90	36	7	5.5	3	9.2	TQ754456	**£36.58**
M12	1.5	15	100	40	9	7	3	10.5	TQ754516	**£32.12**
M12	1.25	15	100	40	9	7	3	10.8	TQ754526	**£35.08**
M12	1	11	100	40	9	7	3	11	TQ754536	**£33.69**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
		● 20-25	● 15-20	○ 5-12		● 10-15	● 8-10	● 6-8						

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			

UNC UNIFIED COARSE ANSI B1.1

Machine Taps for Stainless Steel, Soft Steel, Structural Steel & Titanium/Nickel Alloys

- Patented design prevents over feeding and premature tap failure
- VAP surface treatment reduces friction and is excellent for stickier materials such as 316 stainless or soft steel
- 2B tolerance

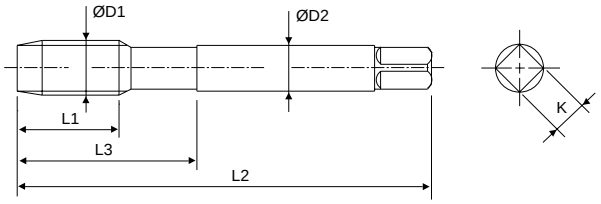
Series	
TB264 YG-1	TB904 YG-1

Spiral Point



Spiral Flute





Up to 3/8 | Over 3/8 | Spiral Point | Spiral Flute | Spiral Point | Spiral Flute

HSS Co5 | DIN 371 | DIN 376 | 2B | 60° | B 4-5 | C 2-3 | R40 | VAP FINISH | 3xD | 2.5xD

ØD1 UNC	TPI	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
Spiral Point										
No.10	24	15	70	25	6	4.9	3	3.9	TB264322	**£12.62**
No.12	24	16	80	30	6	4.9	3	4.5	TB264362	**£12.62**
1/4	20	17	80	30	7	5.5	3	5.2	TB264402	**£12.62**
5/16	18	20	90	35	8	6.2	3	6.6	TB264442	**£16.35**
3/8	16	22	100	39	9	7	3	8	TB264482	**£19.70**
7/16	14	22	100	44	8	6.2	3	9.4	TB264522	**£26.61**
1/2	13	25	110	44	9	7	3	10.75	TB264562	**£26.61**
9/16	12	26	110	44	11	9	3	12.25	TB264602	**£32.06**
5/8	11	27	110	44	12	9	3	13.5	TB264642	**£40.32**
3/4	10	30	125	50	14	11	4	16.5	TB264702	**£62.86**
7/8	9	32	140	54	18	14.5	4	19.5	TB264742	**£77.90**
Spiral Flute										
No.10	24	10	70	25	6	4.9	3	3.9	TB904322	**£12.48**
No.12	24	10	80	30	6	4.9	3	4.5	TB904362	**£12.48**
1/4	20	13	80	30	7	5.5	3	5.2	TB904402	**£12.48**
5/16	18	14	90	35	8	6.2	3	6.6	TB904442	**£16.25**
3/8	16	16	100	39	9	7	3	8	TB904482	**£19.55**
7/16	14	17	100	40	8	6.2	3	9.4	TB904522	**£26.19**
1/2	13	20	110	44	9	7	3	10.75	TB904562	**£26.19**
9/16	12	20	110	44	11	9	3	12.25	TB904602	**£35.14**
5/8	11	22	110	44	12	9	3	13.5	TB904642	**£39.92**
3/4	10	25	125	50	14	11	4	16.5	TB904702	**£70.25**
7/8	9	27	140	54	18	14.5	4	19.5	TB904742	**£87.03**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●					●	●	●						○
20-25	15-20					7-10	5-8	4-6						8-12

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
		○												
		10-15												

UNC UNIFIED COARSE ANSI B1.1 TOP-LINE TAP

High Performance Machine Taps for Stainless Steel, Soft Steel & Carbon Steel

- HSS+3% Vanadium cobalt substrate ideal for reliable tapping of stainless steel
- TiAlN +C coating offers exceptional wear resistance
- 2BX tolerance

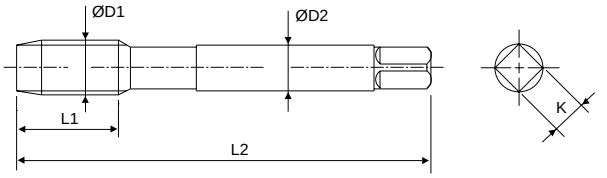
Series	
V24/25UNC-TXC UFS	V82/83UNC-TXC UFS

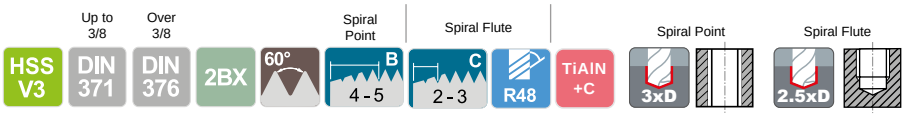
Spiral Point



Spiral Flute







ØD1 UNC	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★ Performance Order Code	Price
Spiral Point									
No.6	32	11	56	4	3	3	2.85	V24UNC6-32TXC	**£22.17**
No.8	32	13	63	4.5	3.4	3	3.5	V24UNC8-32TXC	**£22.17**
No.10	24	13	70	6	4.9	3	3.9	V24UNC10-24TXC	**£22.17**
1/4	20	16	80	7	5.5	3	5.1	V24UNC1/4TXC	**£27.06**
5/16	18	18	90	8	6.2	3	6.6	V24UNC5/16TXC	**£28.95**
3/8	16	20	100	10	8	3	8	V24UNC3/8TXC	**£31.48**
7/16	14	20	100	8	6.2	3	9.4	V25UNC7/16TXC	**£39.52**
1/2	13	25	110	9	7	4	10.8	V25UNC1/2TXC	**£46.31**
9/16	12	28	110	11	9	4	12.2	V25UNC9/16TXC	**£54.27**
5/8	11	28	110	12	9	4	13.5	V25UNC5/8TXC	**£60.43**
3/4	10	32	125	14	11	4	16.5	V25UNC3/4TXC	**£78.65**
Spiral Flute									
No.6	32	7	56	4	3	3	2.85	V82UNC6-32TXC	**£30.37**
No.8	32	7	63	4.5	3.4	3	3.5	V82UNC8-32TXC	**£30.37**
No.10	24	8	70	6	4.9	3	3.9	V82UNC10-24TXC	**£30.37**
1/4	20	10	80	7	5.5	3	5.1	V82UNC1/4TXC	**£30.37**
5/16	18	13	90	8	6.2	3	6.6	V82UNC5/16TXC	**£33.13**
3/8	16	15	100	10	8	3	8	V82UNC3/8TXC	**£36.92**
7/16	14	15	100	8	6.2	3	9.4	V83UNC7/16TXC	**£44.33**
1/2	13	18	110	9	7	3	10.8	V83UNC1/2TXC	**£50.49**
9/16	12	20	110	11	9	4	12.2	V83UNC9/16TXC	**£63.98**
5/8	11	20	110	12	9	4	13.5	V83UNC5/8TXC	**£71.08**
3/4	10	25	125	14	11	4	16.5	V83UNC3/4TXC	**£90.40**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
		●	●	○		●	●	●						
		20-25	15-20	5-12		10-15	8-10	6-8						

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			

UNF UNIFIED FINE ANSI B1.1

Taps for Stainless Steel, Soft Steel, Structural Steel & Titanium/Nickel Alloy

- Special design prevents over feeding and premature tap failure
- VAP surface treatment reduces friction and is excellent for stickier materials such as 316 stainless or soft steel
- 2B tolerance

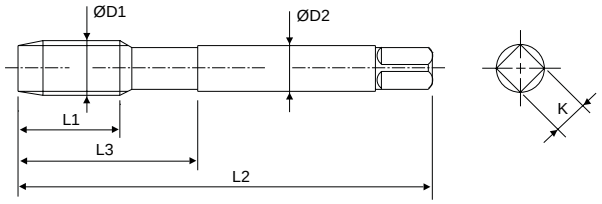
Series	
TB274 YG-1	TB924 YG-1

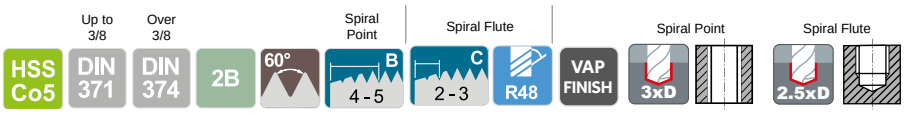
Spiral Point



Spiral Flute







ØD1 UNF	TPI	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
Spiral Point										
No.10	32	15	70	25	6	4.9	3	4.1	TB274342	**£22.37**
No.12	28	16	80	30	6	4.9	3	4.7	TB274382	**£22.00**
1/4	28	17	80	30	7	5.5	3	5.5	TB274422	**£21.32**
5/16	24	17	90	35	8	6.2	3	6.9	TB274462	**£23.70**
3/8	24	18	100	39	9	7	3	8.5	TB274502	**£27.28**
7/16	20	22	100	40	8	6.2	3	9.9	TB274542	**£33.93**
1/2	20	22	100	40	9	7	3	11.5	TB274582	**£33.78**
9/16	18	22	100	40	11	9	3	12.9	TB274622	**£38.02**
5/8	18	22	100	40	12	9	3	14.5	TB274662	**£48.22**
3/4	16	25	110	44	14	11	4	17.5	TB274722	**£69.70**
7/8	14	26	125	50	18	14.5	4	20.5	TB274762	**£80.21**
Spiral Flute										
No.10	32	10	70	25	6	4.9	3	4.1	TB924342	**£22.83**
No.12	28	10	80	30	6	4.9	3	4.7	TB924382	**£22.50**
1/4	28	10	80	30	7	5.5	3	5.5	TB924422	**£21.71**
5/16	24	10	90	35	8	6.2	3	6.9	TB924462	**£24.14**
3/8	24	10	100	39	9	7	3	8.5	TB924502	**£27.87**
7/16	20	13	100	40	8	6.2	3	9.9	TB924542	**£34.77**
1/2	20	13	100	40	9	7	3	11.5	TB924582	**£34.45**
9/16	18	15	100	40	11	9	3	12.9	TB924622	**£38.73**
5/8	18	15	100	40	12	9	3	14.5	TB924662	**£49.19**
3/4	16	17	110	44	14	11	4	17.5	TB924722	**£71.01**
7/8	14	17	125	50	18	14.5	4	20.5	TB924762	**£81.72**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●					●	●	●						○
20-25	15-20					7-10	5-8	4-6						8-12

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
		○												
		10-15												

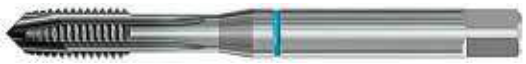
UNF UNIFIED FINE ANSI B1.1 TOP-LINE TAP

High Performance Machine Taps for Stainless Steel, Soft Steel & Carbon Steel

- HSS+3% Vanadium cobalt substrate ideal for reliable tapping of stainless steel
- TiAlN +C coating offers exceptional wear resistance
- 2BX tolerance

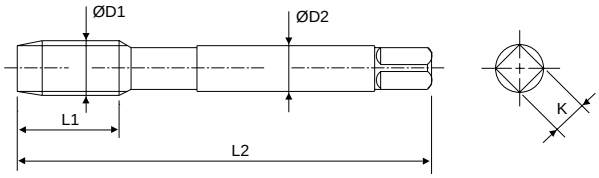
Series	
V24/25UNF-TXC UFS	V82/83UNF-TXC UFS

Spiral Point



Spiral Flute





Up to 1/4 | Over 1/4 | Spiral Point | Spiral Flute | Spiral Point | Spiral Flute

HSS V3 | DIN 371 | DIN 374 | 2BX | 60° | B 4-5 | C 2-3 | R48 | TiAlN +C | 3xD | 3.5xD

ØD1 UNF	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★ Performance Order Code	Price
Spiral Point									
No.6	40	11	56	4	3	3	2.95	V24UNF6-40TXC	**£22.96**
No.8	36	13	63	4.5	3.4	3	3.5	V24UNF8-36TXC	**£22.96**
No.10	32	13	70	6	4.9	3	4.1	V24UNF10-32TXC	**£22.96**
1/4	28	16	80	7	5.5	3	5.5	V24UNF1/4TXC	**£29.50**
5/16	24	18	90	6	4.9	3	6.9	V25UNF5/16TXC	**£32.42**
3/8	24	15	90	7	5.5	3	8.5	V25UNF3/8TXC	**£35.42**
7/16	20	20	100	8	6.2	3	9.9	V25UNF7/16TXC	**£44.02**
1/2	20	20	100	9	7	4	11.5	V25UNF1/2TXC	**£50.33**
9/16	18	22	100	11	9	4	12.9	V25UNF9/16TXC	**£59.24**
5/8	18	22	100	12	9	4	14.5	V25UNF5/8TXC	**£64.21**
3/4	16	25	110	14	11	4	17.5	V25UNF3/4TXC	**£89.14**
Spiral Flute									
No.6	40	7	56	4	3	3	2.95	V82UNF6-40TXC	**£28.71**
No.8	36	7	63	4.5	3.4	3	3.5	V82UNF8-36TXC	**£28.71**
No.10	32	8	70	6	4.9	3	4.1	V82UNF10-32TXC	**£32.11**
1/4	28	10	80	7	5.5	3	5.5	V82UNF1/4TXC	**£34.47**
5/16	24	13	90	6	4.9	3	6.9	V83UNF5/16TXC	**£37.71**
3/8	24	15	90	7	5.5	3	8.5	V83UNF3/8TXC	**£41.65**
7/16	20	15	100	8	6.2	3	9.9	V83UNF7/16TXC	**£48.75**
1/2	20	13	100	9	7	4	11.5	V83UNF1/2TXC	**£55.77**
9/16	18	15	100	11	9	4	12.9	V83UNF9/16TXC	**£70.84**
5/8	18	15	100	12	9	4	14.5	V83UNF5/8TXC	**£75.10**
3/4	16	17	110	14	11	4	17.5	V83UNF3/4TXC	**£115.17**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●					●	●	●						○
15-20	15-20					7-10	5-8	4-6						8-12

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
		○												
		10-15												

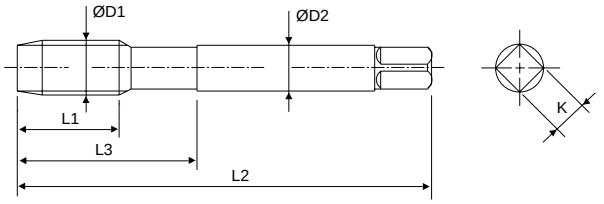
BSP(G) BRITISH STANDARD GAS ISO 228/1

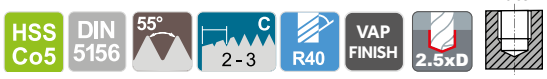
Machine Taps for Stainless Steel, Soft Steel, Structural Steel & Titanium/Nickel Alloy

Series
TB514
YG-1

- Special flute geometry provides excellent chip evacuation
- VAP surface treatment reduces friction and is excellent for stickier materials such as 316 stainless or soft steel
- Spiral flute for blind holes







ØD1 GAS	TPI	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
1/8	28	20	90	36	7	5.5	3	8.8	TB514200	**£26.87**
1/4	19	22	100	40	11	9	3	11.8	TB514400	**£35.89**
3/8	19	22	100	40	12	9	3	15.25	TB514480	**£49.60**
1/2	14	25	125	50	16	12	4	19	TB514560	**£59.14**
3/4	14	28	140	54	20	16	4	24.5	TB514700	**£110.57**
1"	11	30	160	60	25	20	4	30.75	TB514780	**£164.82**

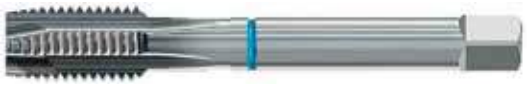
BSP(G) BRITISH STANDARD GAS ISO 228/1

High Performance Machine Taps for Stainless Steel, Soft Steel & Carbon Steel

Series	
V25G-TXC	V83G-TXC
UFS	UFS

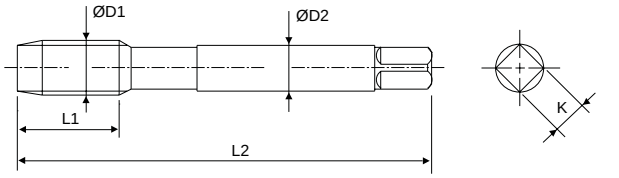
- HSS+3% Vanadium cobalt substrate ideal for reliable tapping of stainless steel
- TiAlN +C coating offers exceptional wear resistance
- Inox taper prevents oversized threads and premature tap failure (spiral flute)
- ISO 228X tolerance

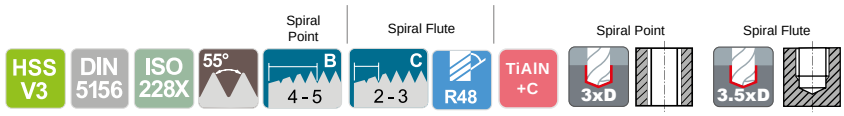
Spiral Point



Spiral Flute







ØD1 GAS	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★ Performance Order Code	Price
Spiral Point									
1/8	28	15	90	7	5.5	3	8.8	V25G1/8TXC	**£32.90**
1/4	19	22	100	11	9	4	11.8	V25G1/4TXC	**£45.75**
3/8	19	22	100	12	9	4	15.25	V25G3/8TXC	**£57.75**
1/2	14	25	125	16	12	4	19	V25G1/2TXC	**£80.39**
3/4	14	25	140	20	16	4	24.5	V25G3/4TXC	**£134.98**
Spiral Flute									
1/8	28	15	90	7	5.5	3	8.8	V83G1/8TXC	**£36.84**
1/4	19	15	100	11	9	3	11.8	V83G1/4TXC	**£50.88**
3/8	19	15	100	12	9	4	15.25	V83G3/8TXC	**£64.14**
1/2	14	18	125	16	12	4	19	V83G1/2TXC	**£88.20**
3/4	14	20	140	20	16	4	24.5	V83G3/4TXC	**£146.02**

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

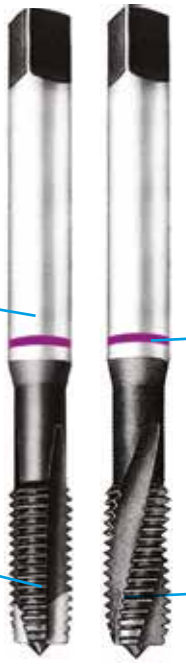
Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●					●	●	●						○
15-20	15-20					7-10	5-8	4-6						8-12

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
		○												
		10-15												

Machine Taps for Nickel, Titanium & HRSA's

P S K N

YG-1 Ti & Ni SERIES TAPS



SUBSTRATE
HSS PM powder metal with high content of vanadium & cobalt for high speed tapping and ultimate wear resistance

RING COLOUR
Pink ring identifies YG taps are for titanium, nickel or both

COATINGS
TiAlN coating for nickel, nickel alloy, titanium, titanium alloys & alloy steel

HELIX
40° Helix designed for tapping nickel alloys including inconel, hastelloy, waspaloy

25° Helix ideal for blind hole tapping of Titanium

UFS Ti & Ni SERIES TAPS



SUBSTRATE
HSS PM3 powder metal with high content of vanadium & cobalt for high speed tapping and ultimate wear resistance

RING COLOUR
Pink ring identifies UFS taps are for titanium

Orange ring identifies UFS taps are for nickel

COATINGS
TiCN Coating for nickel alloy <HB270 (inconel, hastelloy etc), phoshorous bronze & alloyed steel 38-45 HRC

HELIX
10° & 15° Helix optimal high strength design to prevent tap from breaking

High performance machine taps from YG-1 & UFS

Ti series taps are designed for tapping titanium/titanium alloy & feature a 15°, 25° or 40° helix for extra strength during tapping applications. Ni series taps are designed for tapping nickel, nickel alloy & high strength bronze. Ni series features geometries such as a 10° helix.

Thread Form Selection

M METRIC COARSE	872
MF METRIC FINE	880
UNC UNIFIED NATIONAL COARSE	881

Optional Through Coolant

RADIAL FLOW For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR THROUGH HOLES**	
AXIAL FLOW For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR BLIND HOLES**	

M ISO METRIC COARSE DIN 13, NICKEL ALLOYS

For Nickel Alloys (Inconel, Hastelloy etc) Titanium, Titanium Alloy & Alloy Steel

Series	
TZ923 YG-1	TZ933 YG-1

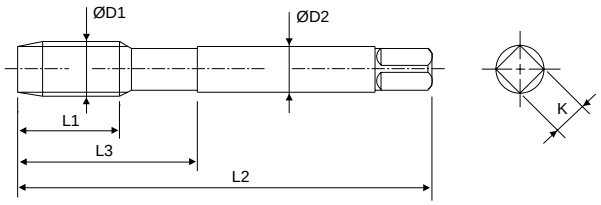
- Specially designed for tapping nickel alloys such as inconel, hastelloy, waspaloy
- Also suitable for heat resistant alloy steels
- TiAlN coating with powder metal substrate for long tool life
- 6H tolerance

Spiral Point



Spiral Flute





Up to M10 | Over M10 | Spiral Point | Spiral Flute | Through Holes | Blind Holes

HSS PM | DIN 371 | DIN 376 | 6H | 60° | B 4-5 | C 2-3 | R40 | TiAlN 850 | 3xD | 2.5xD

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★★ Performance Order Code	Price
Spiral Point										
M3	0.5	11	56	18	3.5	2.7		2.5	TZ923206	**£17.12**
M4	0.7	13	63	21	4.5	3.4		3.3	TZ923246	**£17.26**
M5	0.8	15	70	25	6	4.9		4.2	TZ923286	**£18.06**
M6	1	17	80	30	6	4.9	3	5	TZ923316	**£18.99**
M8	1.25	20	90	35	8	6.2		6.8	TZ923366	**£27.43**
M10	1.5	22	100	39	10	8		8.5	TZ923426	**£33.06**
M12	1.75	24	110	44	9	7		10.2	TZ923506	**£41.91**
Spiral Flute										
M3	0.5	6	56	18	3.5	2.7		2.5	TZ933206	**£18.45**
M4	0.7	7	63	21	4.5	3.4		3.3	TZ933246	**£18.81**
M5	0.8	8	70	25	6	4.9		4.2	TZ933286	**£19.47**
M6	1	10	80	30	6	4.9	3	5	TZ933316	**£20.46**
M8	1.25	13	90	35	8	6.2		6.8	TZ933366	**£29.16**
M10	1.5	15	100	39	10	8		8.5	TZ933426	**£35.08**
M12	1.75	18	110	44	9	7		10.2	TZ933506	**£44.35**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
		● 12-18	● 10-15											

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
○ 4-6		● 10-15	● 2-4				○ 3-5							

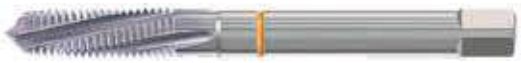
M ISO METRIC COARSE DIN 13, TOP-LINE NICKEL ALLOYS

Ultra High Performance Machine Taps for Nickel Alloy (Inconel, Hastelloy etc.)

- Specially designed for tapping nickel alloys such as inconel, hastelloy, waspaloy
- TiCN coating with powder metal substrate
- 10° helix for additional strength
- 6HX tolerance

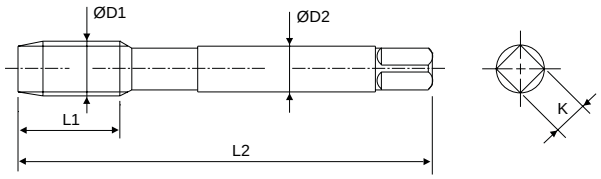
Series	
K42M-NI-CT UFS	K52M-NI-CT UFS

Spiral Point



Spiral Flute





Spiral Point | Spiral Flute | Through Holes | Blind Holes

HSS PM3 | 6HX | 60° | D 4-5 | L10 | C 2-3 | R10 | TiCN COATED | 3xD | 1.5xD | BT BACK TAPERED

ØD1	Pitch	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Spiral Point									
M3	0.5	10	56	3.5	2.7		2.5	K52M3NI-CT	**£25.95**
M4	0.7	13	63	4.5	3.4		3.3	K52M4NI-CT	**£25.95**
M5	0.8	15	70	6	4.9		4.2	K52M5NI-CT	**£25.95**
M6	1	18	80	6	4.9	3	5	K52M6NI-CT	**£25.95**
M8	1.25	25	90	8	6.2		6.8	K52M8NI-CT	**£31.87**
M10	1.5	30	100	10	8		8.5	K52M10NI-CT	**£35.50**
M12	1.75	30	110	12	9		10.3	K52M12NI-CT	**£42.84**
Spiral Flute									
M3	0.5	10	56	3.5	2.7	3	2.5	K42M3NI-CT	**£25.87**
M4	0.7	13	63	4.5	3.4	3	3.3	K42M4NI-CT	**£25.72**
M5	0.8	15	70	6	4.9	3	4.2	K42M5NI-CT	**£25.80**
M6	1	18	80	6	4.9	3	5	K42M6NI-CT	**£25.80**
M8	1.25	25	90	8	6.2	3	6.8	K42M8NI-CT	**£30.84**
M10	1.5	30	100	10	8	3	8.5	K42M10NI-CT	**£36.05**
M12	1.75	50	110	12	9	4	10.3	K42M12NI-CT	**£43.07**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
					● 5-8									

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
		● 2-4					○ 5-8							

M ISO METRIC COARSE DIN 13, TITANIUM & TI-ALLOYS

Powder Metal High Performance Machine Taps for Titanium & Titanium Alloys

Series	
TM/TZ293 YG-1	TM/Z903 YG-1

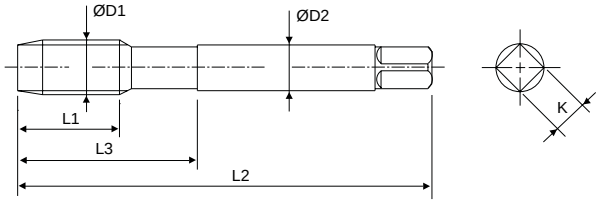
- BRIGHT finish prevents swarf sticking to the tap flutes, ideal for unalloyed titanium
- TiAlN coated for titanium alloys
- Powder metal substrate for long tool life
- Interrupted tap to reduce contact area, tapping torque and improve chip flow
- 6H tolerance

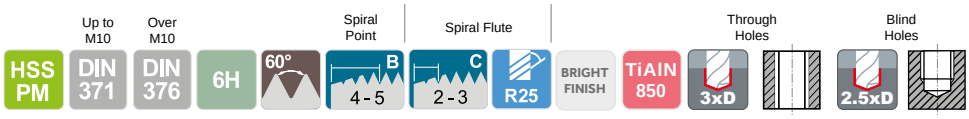
Spiral Point



Spiral Flute







ØD1	Pitch	L1	L2	L3	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★ Performance			
									Bright Finish		TiAlN Coated	
									Order Code	Price	Order Code	Price
Spiral Point												
M3	0.5	11	56	18	3.5	2.7		2.5	TM293206	**£12.55**	TZ293206	**£18.72**
M4	0.7	13	63	21	4.5	3.4		3.3	TM293246	**£12.71**	TZ293246	**£18.81**
M5	0.8	15	70	25	6	4.9		4.2	TM293286	**£13.51**	TZ293286	**£19.52**
M6	1	17	80	30	6	4.9	3	5	TM293316	**£13.56**	TZ293316	**£20.46**
M8	1.25	20	90	35	8	6.2		6.8	TM293366	**£18.02**	TZ293366	**£29.26**
M10	1.5	22	100	39	10	8		8.5	TM293426	**£22.35**	TZ293426	**£35.08**
M12	1.75	24	110	44	9	7		10.2	TM293506	**£30.66**	TZ293506	**£44.66**
Spiral Flute												
M3	0.5	11	56	18	3.5	2.7		2.5	TM903206	**£12.40**	TZ903206	**£18.45**
M4	0.7	13	63	21	4.5	3.4		3.3	TM903246	**£12.71**	TZ903246	**£18.81**
M5	0.8	15	70	25	6	4.9		4.2	TM903286	**£13.45**	TZ903286	**£19.47**
M6	1	17	80	30	6	4.9	3	5	TM903316	**£13.51**	TZ903316	**£20.46**
M8	1.25	20	90	35	8	6.2		6.8	TM903366	**£17.80**	TZ903366	**£29.16**
M10	1.5	22	100	39	10	8		8.5	TM903426	**£22.35**	TZ903426	**£35.08**
M12	1.75	24	110	44	9	7		10.2	TM903506	**£30.18**	TZ903506	**£44.35**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

	Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
	Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
	<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
BRIGHT					○									●	●
TiAlN					○									○	●
Speed					6-10									10-15	8-12

	Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
	Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
	≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
BRIGHT	○														
TiAlN	●														
Speed	4-6														

M ISO METRIC DIN 13 TOP-LINE TAP TITANIUM & TI-ALLOYS

Powder Metal High Performance Machine Taps for Titanium & Titanium Alloys

- VAP finish prevents swarf sticking to the tap flutes, ideal for unalloyed titanium
- TiCN coated for ti-alloys, high chrome stainless steel, cast iron & high strength bronze
- Powder metal substrate for long tool life
- 6HX tolerance

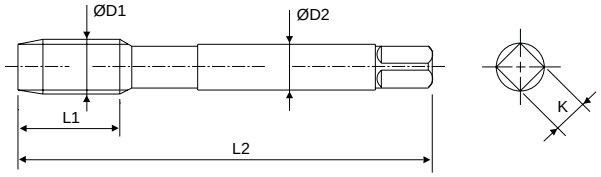
Series	
K52/53 UFS	K42/43 UFS

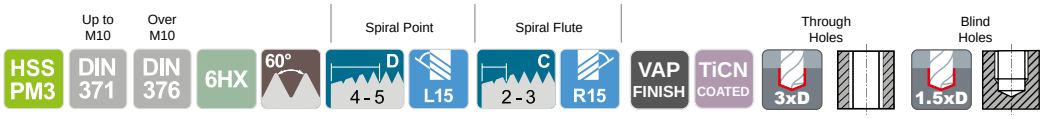
Spiral Point



Spiral Flute







ØD1	Pitch	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★ Performance			
								VAP Finish		TiCN Coated	
								Order Code	Price	Order Code	Price
Spiral Point - Metric Coarse											
M3	0.5	10	56	3.5	2.7	3	2.5	K52M3V	**£20.43**	K52M3CT	**£23.98**
M4	0.7	13	63	4.5	3.4		3.3	K52M4V	**£20.43**	K52M4CT	**£23.98**
M5	0.8	13	70	6	4.9		4.2	K52M5V	**£20.43**	K52M5CT	**£23.98**
M6	1	16	80	6	4.9		5	K52M6V	**£20.43**	K52M6CT	**£23.98**
M8	1.25	18	90	8	6.2		6.8	K52M8V	**£23.03**	K52M8CT	**£28.87**
M10	1.5	20	100	10	8		8.5	K52M10V	**£26.74**	K52M10CT	**£33.45**
M12	1.75	25	110	9	7		10.3	K53M12V	**£31.63**	K53M12CT	**£39.52**
M16	2	28	110	12	9		14	K53M16V	**£47.10**	K53M16CT	**£59.01**
Spiral Flute - Metric Coarse											
M3	0.5	10	56	3.5	2.7	3	2.5	K42M3V	**£19.41**	K42M3CT	**£22.96**
M4	0.7	13	63	4.5	3.4		3.3	K42M4V	**£19.41**	K42M4CT	**£22.96**
M5	0.8	13	70	6	4.9		4.2	K42M5V	**£19.41**	K42M5CT	**£22.96**
M6	1	16	80	6	4.9		5	K42M6V	**£19.41**	K42M6CT	**£22.96**
M8	1.25	18	90	8	6.2		6.8	K42M8V	**£23.74**	K42M8CT	**£29.50**
M10	1.5	20	100	10	8		8.5	K42M10V	**£25.95**	K42M10CT	**£32.11**
M12	1.75	25	110	9	7		10.3	K43M12V	**£35.42**	K43M12CT	**£43.31**
M16	2	28	110	12	9		14	K43M16V	**£49.54**	K43M16CT	**£61.45**

ØD1	Pitch	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★ Performance			
								VAP Finish		TiCN Coated	
								Order Code	Price	Order Code	Price
Spiral Point - Metric Fine											
M8	1	18	90	8	6.2	3	7	K52MF8X1V	**£27.45**	K52MF8X1CT	**£33.29**
M10	1	20	100	10	8		9	K52MF10X1V	**£27.06**	K52MF10X1CT	**£33.76**
M10	1.25	20	100	10	8		8.75	K52MF10X1.25V	**£27.06**	K52MF10X1.25CT	**£33.76**
M12	1.25	22	100	9	7		10.75	K53MF12X1.25V	**£32.90**	K53MF12X1.25CT	**£40.78**
M12	1.5	22	100	9	7		10.5	K53MF12X1.5V	**£32.90**	K53MF12X1.5CT	**£40.78**
M14	1.5	22	100	11	9		12.5	K53MF14X1.5V	**£37.00**	K53MF14X1.5CT	**£48.67**
M16	1.5	22	100	12	9		14.5	K53MF16X1.5V	**£42.91**	K53MF16X1.5CT	**£54.83**
Spiral Flute - Metric Fine											
M8	1	13	90	8	6.2	3	7	K42MF8X1V	**£27.06**	K42MF8X1CT	**£32.50**
M10	1	15	100	10	8	3	9	K42MF10X1V	**£26.82**	K42MF10X1CT	**£33.53**
M10	1.25	15	100	10	8	3	8.75	K42MF10X1.25V	**£26.82**	K42MF10X1.25CT	**£33.53**
M12	1.25	13	100	9	7	4	10.75	K43MF12X1.25V	**£32.90**	K43MF12X1.25CT	**£40.78**
M12	1.5	13	100	9	7	4	10.5	K43MF12X1.5V	**£32.90**	K43MF12X1.5CT	**£40.78**
M14	1.5	15	100	11	9	4	12.5	K43MF14X1.5V	**£40.55**	K43MF14X1.5CT	**£52.14**
M16	1.5	15	100	12	9	4	14.5	K43MF16X1.5V	**£44.49**	K43MF16X1.5CT	**£56.33**

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

	Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
	Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Austenitic	Fer/Marten.	Cr-Ni Alloys	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
	<400	<700	<850	<850	≤1200	>1200	<850	<1000	1100-1400	<500	<1000	<700	<1000	<700	<900
VAP														●	
TiCN						●			●			●	●		●
Speed						5-8			6-8			20-25	15-20	5-10	4-8

	Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
	Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
	≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
VAP															
TiCN	●		●			●		○				○			
Speed	2-4		2-4			25-30		5-8				25-30			

UNC UNIFIED COARSE ANSI B1.1 TOP-LINE TAP TITANIUM & TI-ALLOYS

Powder Metal Ultra High Performance Machine Taps for Titanium & Titanium Alloys

Series	
K52/53UNC UFS	K42/43UNC UFS

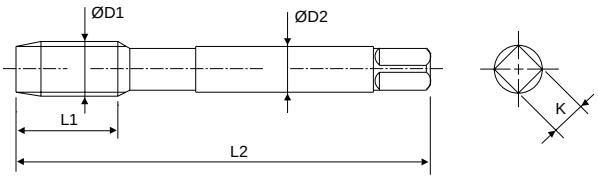
- VAP finish prevents swarf sticking to the tap flutes, ideal for unalloyed titanium
- TiCN coated for ti-alloys, high chrome stainless steel, cast iron & high strength bronze
- Powder metal substrate for long tool life
- 2BX tolerance

Spiral Point



Spiral Flute





Up to M10 | Over M10 | Spiral Point | Spiral Flute | Through Holes | Blind Holes

HSS PM3 | DIN 371 | DIN 376 | 2BX | 60° | D 4-5 | L15 | C 2-3 | R15 | VAP FINISH | TiCN COATED | 3xD | 1.5xD

ØD1 UNC	TPI	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance			
								VAP Finish		TiCN Coated	
								Order Code	Price	Order Code	Price
Spiral Point											
No.10	24	13	70	6	4.9	3	3.9	K52UNC10-24V	**£22.01**	K52UNC10-24CT	**£26.35**
1/4	20	16	80	7	5.5	3	5.1	K52UNC1/4V	**£24.06**	K52UNC1/4CT	**£30.69**
5/16	18	18	90	8	6.2	3	6.6	K52UNC5/16V	**£27.45**	K52UNC5/16CT	**£33.53**
3/8	16	20	100	10	8	3	8	K52UNC3/8V	**£28.24**	K52UNC3/8CT	**£34.95**
7/16	14	20	100	8	6.2	3	9.4	K53UNC7/16V	**£31.63**	K53UNC7/16CT	**£39.52**
1/2	13	25	110	9	7	3	10.8	K53UNC1/2V	**£38.50**	K53UNC1/2CT	**£46.39**
5/8	11	28	110	12	9	3	13.5	K53UNC5/8V	**£51.04**	K53UNC5/8CT	**£62.95**
3/4	10	32	125	14	11	4	16.5	K53UNC3/4V	**£66.58**	K53UNC3/4CT	**£82.59**
Spiral Flute											
No.10	24	8	70	6	4.9	3	3.9	K42UNC10-24V	**£22.17**	K42UNC10-24CT	**£25.72**
1/4	20	10	80	7	5.5	3	5.1	K42UNC1/4V	**£23.82**	K42UNC1/4CT	**£30.61**
5/16	18	13	90	8	6.2	3	6.6	K42UNC5/16V	**£26.90**	K42UNC5/16CT	**£32.82**
3/8	16	15	100	10	8	3	8	K42UNC3/8V	**£28.08**	K42UNC3/8CT	**£34.79**
7/16	14	15	100	8	6.2	4	9.4	K43UNC7/16V	**£31.63**	K43UNC7/16CT	**£40.86**
1/2	13	18	110	9	7	4	10.8	K43UNC1/2V	**£35.97**	K43UNC1/2CT	**£44.81**
5/8	11	20	110	12	9	4	13.5	K43UNC5/8V	**£51.04**	K43UNC5/8CT	**£62.48**
3/4	10	25	125	14	11	4	16.5	K43UNC3/4V	**£66.58**	K43UNC3/4CT	**£82.59**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

	Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
	Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Austenitic	Fer/Marten.	Cr-Ni Alloys	Grey Cast Iron		Malleable Cast Iron Graphite		Ti	Ti Alloy
	<400	<700	<850	<850	≤1200	>1200	<850	<1000	1100-1400	<500	<1000	<700	<1000	<700	<900
VAP														●	
TiCN						●			●			●	●		●
Speed						5-8			6-8			20-25	15-20	5-10	4-8

	Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
	Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
	≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
VAP															
TiCN	●		●			●		○				○			
Speed	2-4		2-4			25-30		5-8				25-30			

Machine Taps for Cast Iron

K N

YG-1 CAST IRON SERIES TAPS

SUBSTRATE
HSS-E HSS 5% Cobalt for good wear resistance & excellent toughness

RING COLOUR
White ring identifies YG taps are for cast iron



COATINGS
TiAlN Coating for high wear resistance with abrasive materials, the first choice for Grey Coat Iron

NI Finish highly wear resistant for tapping abrasive materials

UFS CAST IRON SERIES TAPS

SUBSTRATE
HSS PM3 powder metal HSS with high content of vanadium & cobalt for high speed tapping and ultimate wear resistance

COATINGS
TiAlN coating for high wear resistance with abrasive materials, the first choice for Cast Iron

TXS coating highly wear resistant, specially designed for cast iron & abrasive materials

TiCN coating optimal for machining malleable and nodular cast iron



RING COLOUR
White ring identifies YG taps are for cast iron

BACK TAPERED
Improves chip control and reduces the risk of damage of the last threads, especially in the inversion phase of tapping

Powder metal & HSS-E taps from YG-1 & UFS with special geometries

The YG and UFS ranges of machine taps for cast iron feature several geometries for different types of cast iron, including grey cast iron, malleable cast iron and nodular cast iron. Ranges include high strength taps & short lead taps for thin wall components. A number of coatings are available to suit specific types of cast iron.

Thread Form Selection

M METRIC COARSE	883
MF METRIC FINE	887
UNC UNIFIED NATIONAL COARSE	889
UNF UNIFIED NATIONAL FINE	890
BSP(G) BRITISH GAS STANDARD	891

Optional Through Coolant

RADIAL FLOW For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR THROUGH HOLES**	
AXIAL FLOW For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR BLIND HOLES**	

M ISO METRIC COARSE DIN 13 TAP

High Performance Machine Taps for Cast Iron, Short Chipping Copper Alloy & Composite Materials

Series	
TE821	TY821
YG-1	YG-1

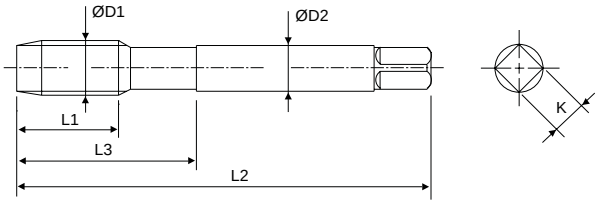
- Suitable for tapping grey cast iron, short chipping brass/bronze and GFRP/CFPR
- Available in NI (nitrided) finish or TiAlN coating for tapping abrasive materials
- Straight flute for blind and through holes
- 6HX tolerance

NI Treated



TiAlN Coated





Up to M10 | Over M10 | Through & Blind Holes

HSS-E | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | NI TREATED | TiAlN 900 | 2xD

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance			
									NI Treated		TiAlN Coated	
									Order Code	Price	Order Code	Price
M2	0.4	8	45	13	2.8	2.1	3	1.6	TE821136	**£16.81**	TY821136	**£22.85**
M2.5	0.45	9	50	15	2.8	2.1	3	2.05	TE821176	**£14.04**	TY821176	**£20.38**
M3	0.5	11	56	18	3.5	2.7	3	2.5	TE821206	**£10.98**	TY821206	**£17.70**
M4	0.7	13	63	21	4.5	3.4	3	3.3	TE821246	**£11.09**	TY821246	**£17.85**
M5	0.8	15	70	25	6	4.9	4	4.2	TE821286	**£11.48**	TY821286	**£18.14**
M6	1	17	80	30	6	4.9	4	5	TE821316	**£11.48**	TY821316	**£19.25**
M8	1.25	20	90	35	8	6.2	4	6.8	TE821366	**£14.83**	TY821366	**£27.87**
M10	1.5	22	100	39	10	8	4	8.5	TE821426	**£17.94**	TY821426	**£32.45**
M12	1.75	24	110	44	9	7	4	10.2	TE821506	**£23.81**	TY821506	**£39.50**
M14	2	26	110	44	11	9	4	12	TE821546	**£28.95**	TY821546	**£45.15**
M16	2	27	110	44	12	9	4	14	TE821606	**£36.76**	TY821606	**£52.89**
M18	2.5	30	125	50	14	11	4	15.5	TE821656	**£47.80**	TY821656	**£71.07**
M20	2.5	32	140	54	16	12	4	17.5	TE821706	**£56.89**	TY821706	**£92.99**
M22	2.5	32	140	54	18	14.5	4	19.5	TE821746	**£77.26**	TY821746	**£114.58**
M24	3	34	160	60	18	14.5	4	21	TE821786	**£87.97**	TY821786	**£142.63**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

	Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
	Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
	<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
TiAlN										●	●				
NI										●	●				
Speed										10-15	5-8				

	Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
	Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
	≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
TiAlN					●										●
NI					○										●
Speed					8-12										5-7

M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Ultra High Performance for Cast Iron, Short Chipping Copper Alloy, High Silicon Aluminium & Graphite

Series	
K26/27M-TX UFS	K26/27M-FORY-TX UFS

- Suitable for tapping grey, nodular and malleable cast iron, short chipping copper alloy, graphite, highly abrasive aluminium and magnesium alloy
- Axial through coolant for improved performance in blind holes, radial through coolant for through holes
- Powder metal high performance substrate
- 6HX tolerance

Solid

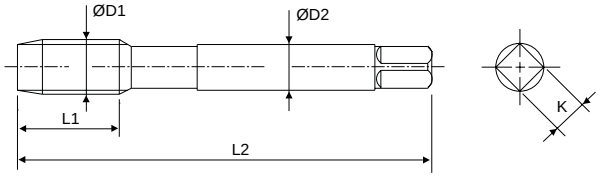


Axial Through Coolant



Radial Through Coolant





Up to M10 / Over M10

HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | TiAlN 900

Solid 3xD | Through Coolant 3.5xD | Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
Straight Flute - Solid									
M4	0.7	13	63	4.5	3.4	3	3.3	K26M4TX	**£23.82**
M5	0.8	13	70	6	4.9	3	4.2	K26M5TX	**£23.82**
M6	1	16	80	6	4.9	4	5	K26M6TX	**£23.82**
M8	1.25	18	90	8	6.2	4	6.8	K26M8TX	**£29.66**
M10	1.5	20	100	10	8	4	8.5	K26M10TX	**£31.87**
M12	1.75	25	110	9	7	4	10.3	K27M12TX	**£39.84**
M14	2	28	110	11	9	4	12	K27M14TX	**£54.12**
M16	2	28	110	12	9	4	14	K27M16TX	**£61.14**
Straight Flute - Axial Through Coolant									
M6	1	16	80	6	4.9	4	5	K26M6FOR-TX	**£41.81**
M8	1.25	18	90	8	6.2	4	6.8	K26M8FOR-TX	**£50.17**
M10	1.5	20	100	10	8	4	8.5	K26M10FOR-TX	**£55.62**
M12	1.75	25	110	9	7	4	10.3	K27M12FOR-TX	**£66.11**
M14	2	28	110	11	9	4	12	K27M14FOR-TX	**£82.83**
M16	2	28	110	12	9	4	14	K27M16FOR-TX	**£87.56**
Straight Flute - Radial Through Coolant									
M6	1	16	80	6	4.9	4	5	K26M6FORY-TX	**£54.98**
M8	1.25	18	90	8	6.2	4	6.8	K26M8FORY-TX	**£63.35**
M10	1.5	20	100	10	8	4	8.5	K26M10FORY-TX	**£65.48**
M12	1.75	25	110	9	7	4	10.3	K27M12FORY-TX	**£75.18**
M14	2	28	110	11	9	4	12	K27M14FORY-TX	**£92.69**
M16	2	28	110	12	9	4	14	K27M16FORY-TX	**£98.21**

For accessories, please see page 833

Material Applications N/mm² — Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
									● 25-30	● 20-25	○ 25-30	○ 20-25		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 25-30		○ 5-8				○ 25-30			

M ISO METRIC COARSE DIN 13 TOP-LINE E FORM CHAMFER TAP

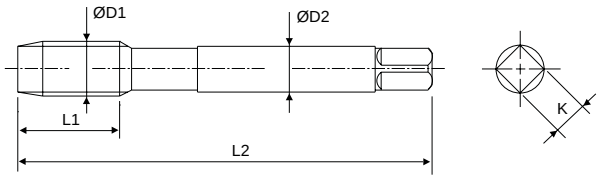
Ultra High Performance for Cast Iron, Short Chipping Copper Alloy, High Silicon Aluminium & Graphite

Series	
K26EM-TX UFS	K27EM-TX UFS

- Short E Form Chamfer, 1.5-2 thread lead for machining short holes or thin plate materials
- Suitable for tapping grey, nodular and malleable cast iron, short chipping copper alloys, graphite, highly abrasive aluminium & magnesium alloys
- Powder metal high performance substrate
- Straight flute for blind and through holes
- 6HX tolerance



E FORM LEAD



Up to M10 / Over M10: HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | E 1.5 - 2 | TiAlN 900 | 3xD | Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M6	1	16	80	6	4.9	4	5	K26EM6TX	£27.06
M8	1.25	18	90	8	6.2	4	6.8	K26EM8TX	£32.66
M10	1.5	20	100	10	8	4	8.5	K26EM10TX	£35.26
M12	1.75	25	110	9	7	4	10.3	K27EM12TX	£43.86
M14	2	28	110	11	9	4	12	K27EM14TX	£56.88
M16	2	28	110	12	9	4	14	K27EM16TX	£67.29

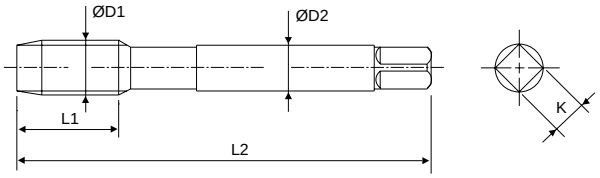
M ISO METRIC COARSE DIN 13 TOP-LINE ADI CAST IRON TAP

Ultra High Performance for Cast Iron, Short Chipping Copper Alloy, High Silicon Aluminium & Graphite

Series	
K26M-TXS UFS	K27M-TXS UFS

- TXS special coating is a highly wear resistant coating specially designed for ADI cast iron (Austempered ductile iron)
- Also suitable for tapping grey, nodular and malleable cast iron, short chipping copper alloys, graphite, highly abrasive aluminium and magnesium alloys
- Powder metal high performance substrate
- Straight flute for blind and through holes
- 6HX tolerance





Up to M10 / Over M10: HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | C 2 - 3 | TXS COATED | 3xD | Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M4	0.7	13	63	4.5	3.4	3	3.3	K26M4TXS	£24.61
M5	0.8	13	70	6	4.9	3	4.2	K26M5TXS	£24.61
M6	1	16	80	6	4.9	4	5	K26M6TXS	£24.61
M8	1.25	18	90	8	6.2	4	6.8	K26M8TXS	£31.16
M10	1.5	20	100	10	8	4	8.5	K26M10TXS	£33.45
M12	1.75	25	110	9	7	4	10.3	K27M12TXS	£44.33
M14	2	28	110	11	9	4	12	K27M14TXS	£56.88
M16	2	28	110	12	9	4	14	K27M16TXS	£64.14

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast Iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
									● 25-30	● 20-25	○ 15-20	○ 20-25		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	Cfrp/Gfrp
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 25-30		○ 5-8				○ 25-30			

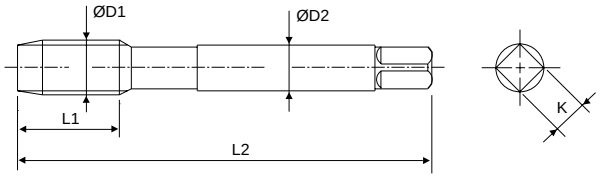
M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Ultra High Performance for Cast Iron, Short Chipping Copper Alloy, High Silicon Aluminium & Graphite

Series
K28/29M-CT
UFS

- Designed for tapping nodular and malleable cast iron & high strength alloy steels
- R25° geometry with TiCN coating
- Powder metal high performance substrate
- Spiral flute for blind holes
- 6HX tolerance





Up to M10 / Over M10

HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | R25 | BT BACK TAPERED | TiCN COATED | 2.5xD | Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M4	0.7	13	63	4.5	3.4	3	3.3	K28M4CT	**£22.48**
M5	0.8	13	70	6	4.9	3	4.2	K28M5CT	**£22.48**
M6	1	16	80	6	4.9	3	5	K28M6CT	**£22.48**
M8	1.25	18	90	8	6.2	3	6.8	K28M8CT	**£28.40**
M10	1.5	20	100	10	8	3	8.5	K28M10CT	**£31.95**
M12	1.75	25	110	9	7	4	10.3	K29M12CT	**£41.42**
M16	2	28	110	12	9	4	14	K29M16CT	**£60.27**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast Iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
			● 15-20	● 5-12							● 20-25	● 15-20		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	Cfrp/Gfrp
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
							○ 5-8							

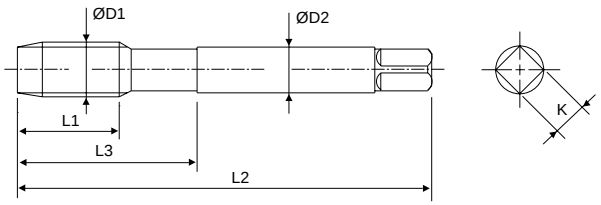
MF ISO METRIC FINE DIN 13 TAP

High Performance Machine Taps for Cast Iron, Short Chipping Copper Alloy & Composite Materials

- Suitable for tapping grey cast iron, short chipping brass/bronze and GFRP/CFPR
- NI (nitrided) finish for tapping abrasive materials
- Straight flute for blind and through holes
- 6HX tolerance

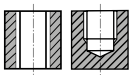
Series
TE403
UFS





HSS-E | DIN 374 | 6HX | 60° | C 2-3 | NI TREATED | 2xD

Through & Blind Holes



ØD1	Pitch	L1	L2	L3	ØD2 h9	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
M4	0.5	10	63	21	2.8	2.1	3	3.5	TE403256	**£14.46**
M5	0.5	11	70	25	3.5	2.7	4	4.5	TE403296	**£14.66**
M6	0.75	13	80	30	4.5	3.4	4	5.2	TE403326	**£14.46**
M6	0.5	13	80	30	4.5	3.4	4	5.5	TE403336	**£14.66**
M7	0.75	14	80	30	5.5	4.3	4	6.2	TE403356	**£21.34**
M8	1	17	90	36	6	4.9	4	7	TE403376	**£15.76**
M8	0.75	14	80	30	6	4.9	4	7.2	TE403386	**£16.75**
M10	1.25	22	100	40	7	5.5	4	8.8	TE403436	**£19.16**
M10	1	18	90	36	7	5.5	4	9	TE403446	**£18.45**
M10	0.75	18	90	36	7	5.5	4	9.2	TE403456	**£23.27**
M12	1.5	22	100	40	9	7	4	10.5	TE403516	**£20.53**
M12	1.25	22	100	40	9	7	4	10.8	TE403526	**£22.43**
M12	1	18	100	40	9	7	4	11	TE403536	**£21.36**
M14	1.5	22	100	40	11	9	4	12.5	TE403556	**£25.15**
M14	1.25	22	100	40	11	9	4	12.8	TE403566	**£27.30**
M16	1.5	22	100	40	12	9	4	14.5	TE403616	**£31.99**
M18	1.5	25	110	44	14	11	4	16.5	TE403676	**£40.46**
M20	1.5	25	125	50	16	12	4	18.5	TE403726	**£46.11**
M22	1.5	25	125	50	18	14.5	4	20.5	TE403766	**£53.15**
M24	1.5	27	140	54	18	14.5	4	22.5	TE403806	**£62.11**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
									● 10-15	● 5-8				

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					○ 25-30									● 5-7

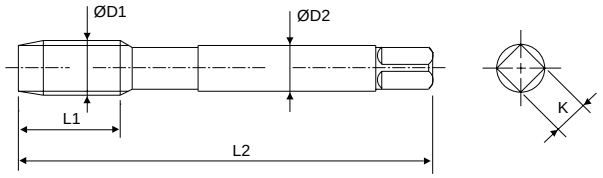
MF ISO METRIC FINE DIN 13 TOP-LINE TAP

Ultra High Performance for Cast Iron, Short Chipping Copper Alloy, High Silicon Aluminium & Graphite

Series
K27MF-TX
UFS

- Suitable for tapping grey, nodular and malleable cast iron, short chipping copper alloy, graphite, highly abrasive aluminium and magnesium alloy
- Powder metal high performance substrate
- Straight flute for blind and through holes
- 6HX tolerance





HSS PM3 | DIN 374 | 6HX | 60° | C 2-3 | TiAlN 900 | 3xD | Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M8	1	18	90	6	4.9	4	7	K27MF8X1TX	**£34.87**
M10	1	15	90	7	5.5	4	9	K27MF10X1TX	**£37.63**
M10	1.25	20	100	7	5.5	4	8.75	K27MF10X1.25TX	**£37.63**
M12	1.25	22	100	9	7	4	10.75	K27MF12X1.25TX	**£42.99**
M12	1.5	22	100	9	7	4	10.5	K27MF12X1.5TX	**£42.99**
M14	1.5	22	100	11	9	4	12.5	K27MF14X1.5TX	**£56.33**
M16	1.5	22	100	12	9	4	14.5	K27MF16X1.5TX	**£66.74**
M18	1.5	25	110	14	11	5	16.5	K27MF18X1.5TX	**£87.01**
M20	1.5	25	125	16	12	5	18.5	K27MF20X1.5TX	**£105.24**
M22	1.5	25	125	18	14.5	6	20.5	K27MF22X1.5TX	**£113.20**
M24	1.5	25	140	18	14.5	6	22.5	K27MF24X1.5TX	**£119.43**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
									● 25-30	● 20-25	○ 25-30	○ 20-25		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 25-30		○ 5-8				○ 25-30			

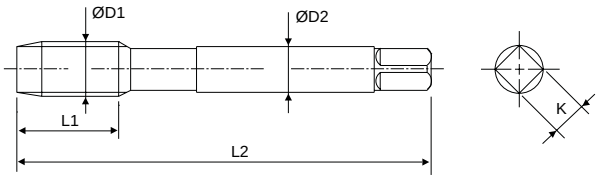
UNC UNIFIED COARSE ANSI B1.1 TOP-LINE TAP

Ultra High Performance for Cast Iron, Short Chipping Copper Alloy, High Silicon Aluminium & Graphite

- Suitable for tapping grey, nodular and malleable cast iron, short chipping copper alloy, graphite, highly abrasive aluminium and magnesium alloy
- Powder metal high performance substrate
- Straight flute for blind and through holes
- 2BX tolerance

Series	
K26UNC-TX UFS	K27UNC-TX UFS





Up to 3/8 | Over 3/8 | Through & Blind Holes

HSS PM3 | DIN 371 | DIN 376 | 2BX | 60° | C 2-3 | TiAlN 900 | 3xD

ØD1 UNC	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
1/4	20	16	80	7	5.5	4	5.1	K26UNC1/4TX	**£27.06**
5/16	18	18	90	8	6.2	4	6.6	K26UNC5/16TX	**£29.50**
3/8	16	20	100	10	8	4	8	K26UNC3/8TX	**£32.34**
7/16	14	20	100	8	6.2	4	9.4	K27UNC7/16TX	**£45.91**
1/2	13	25	110	9	7	4	10.8	K27UNC1/2TX	**£49.07**
9/16	12	28	110	11	9	4	12.2	K27UNC9/16TX	**£56.17**
5/8	11	28	110	12	9	4	13.5	K27UNC5/8TX	**£61.61**
3/4	10	32	125	14	11	5	16.5	K27UNC3/4TX	**£95.14**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
									● 25-30	● 20-25	○ 25-30	○ 20-25		

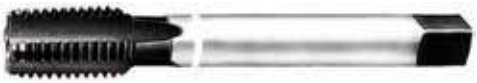
Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 25-30		○ 5-8				○ 25-30			

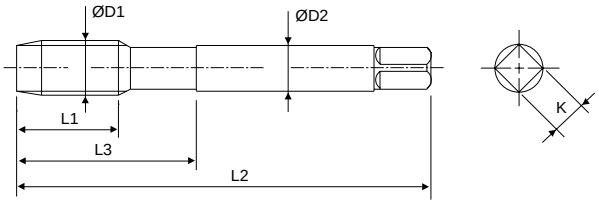
UNC / UNF UNIFIED ANSI B1.1 TAP

HSS 5% Cobalt Machine Taps for Cast Iron, Short Chipping Copper Alloy & Plastic

- Suitable for tapping grey cast iron, short chipping brass/bronze and GFRP/CFPR
- NI (nitrided) finish for tapping abrasive materials
- Straight flute for blind and through holes
- 2BX tolerance

Series	
TE434 YG-1	TE454 YG-1





Up to 3/8 | Over 3/8 | Through & Blind Holes

HSS-E | DIN 371 | DIN 376 | 2BX | 60° | C 2 - 3 | NI TREATED | 2xD

ØD1 UNC	TPI	L1	L2	L3	ØD2 h9	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
UNC Unified Coarse										
No.10	24	15	70	25	6	4.9	3	3.9	TE434322	**£8.94**
No.12	24	16	80	30	6	4.9	3	4.5	TE434362	**£8.94**
1/4	20	17	80	30	7	5.5	4	5.2	TE434402	**£8.94**
5/16	18	20	90	35	8	6.2	4	6.6	TE434442	**£11.55**
3/8	16	22	100	39	9	7	4	8	TE434482	**£13.97**
7/16	14	22	100	40	8	6.2	4	9.4	TE434522	**£18.64**
1/2	13	25	110	44	9	7	4	10.75	TE434562	**£18.64**
9/16	12	26	110	44	11	9	4	12.25	TE434602	**£23.65**
5/8	11	27	110	44	12	9	4	13.5	TE434642	**£28.69**
3/4	10	30	125	50	14	11	4	16.5	TE434702	**£41.57**
7/8	9	32	140	54	18	14.5	4	19.5	TE434742	**£51.61**

ØD1 UNF	TPI	L1	L2	L3	ØD2 h9	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
UNF Unified Fine										
No.10	32	15	70	25	6	4.9	3	4.1	TE454342	**£14.46**
No.12	28	16	80	30	6	4.9	4	4.7	TE454382	**£14.46**
1/4	28	17	80	30	7	5.5	4	5.5	TE454422	**£14.46**
5/16	24	17	90	35	8	6.2	4	6.9	TE454462	**£18.80**
3/8	24	18	100	39	9	7	4	8.5	TE454502	**£22.66**
7/16	20	22	100	40	8	6.2	4	9.9	TE454542	**£30.14**
1/2	20	22	100	40	9	7	4	11.5	TE454582	**£30.14**
9/16	18	22	100	40	11	9	4	12.9	TE454622	**£38.30**
5/8	18	22	100	40	12	9	4	14.5	TE454662	**£46.40**
3/4	16	25	110	44	14	11	4	17.5	TE454722	**£67.38**
7/8	14	26	125	50	18	14.5	4	20.5	TE454762	**£83.52**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
									● 10-15	● 5-8				

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					○ 25-35									● 5-7

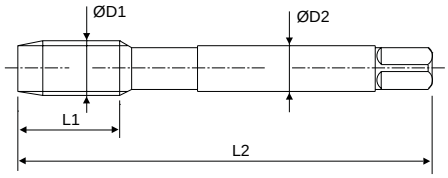
BSP(G) BRITISH STANDARD GAS ISO 228X TAP

Ultra High Performance for Cast Iron, Short Chipping Copper Alloy, High Silicon Aluminium & Graphite

Series
K27G-TX
UFS

- Suitable for tapping grey, nodular and malleable cast iron, short chipping copper alloys, graphite, highly abrasive aluminium and magnesium alloys
- Powder metal high performance substrate
- Straight flute for blind and through holes
- ISO 228X Tolerance





HSS PM3 | DIN 5156 | ISO 228X | 55° | C 2-3 | TiAlN 900 | 3xD | Through & Blind Holes

ØD1 GAS	TPI	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
1/8	28	15	90	7	5.5	4	8.8	K27G1/8TX	**£36.37**
1/4	19	22	100	11	9	4	11.8	K27G1/4TX	**£51.36**
3/8	19	22	100	12	9	4	15.25	K27G3/8TX	**£65.48**
1/2	14	25	125	16	12	6	19	K27G1/2TX	**£86.14**
3/4	14	25	140	20	16	6	24.5	K27G3/4TX	**£140.34**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
									● 25-30	● 20-25	○ 25-30	○ 20-25		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 25-30		○ 5-8				○ 25-30			

Machine Taps for Non-Ferrous

P S N

YG-1 TAPS FOR NON-FERROUS



SUBSTRATE
HSS 5% Cobalt for good wear resistance & excellent toughness

INTERRUPTED FLUTES
Prevents built up edge and long chip aluminium or Copper clogging up the flutes

RING COLOUR
Blue Ring identifies YG taps are for non-ferrous materials

COATINGS
Bright Finish (ideal for aluminium or sticky materials)

NI Treated highly wear resistant for tapping abrasive materials

UFS TAPS FOR NON-FERROUS



SUBSTRATE
HSS 5% Cobalt for good wear resistance & excellent toughness

RING COLOUR
Yellow Ring identifies UFS taps are for non-ferrous materials

INTERRUPTED FLUTES
Prevents built up edge on long chip aluminium or copper clogging up the flutes

45° HELIX
For fast chip evacuation in blind hole tapping

COATINGS
TiAlN +C coating offers exceptional wear resistance

Bright Finish
Ideal for auminium or sticky materials

CrN Coating
Chromium Nitride coating provides improved tool life

HSS 5% cobalt taps from YG-1 & UFS with special geometries

For aluminium, aluminium alloy, titanium, copper, copper alloy, brass, bronze & plastic. The YG-1 & UFS ranges for non-ferrous materials feature taps designed for machining medium to long chipping aluminium (<10% Si), copper, brass, hard bronze & plastic, plus a tap specifically designed for MS58 brass.

Special geometries include interrupted flutes to prevent chip clogging, 40-45° helix for fast chip evacuation and a choice of surface treatments for unalloyed aluminium, aluminium alloy and copper alloy.

Thread Form Selection

M METRIC COARSE	**893**

M ISO METRIC COARSE DIN 13

HSS 5% Cobalt High Performance Machine Taps for Non Ferrous Machining

Series	
TC622/TC163 YG-1	TE943/TE953 YG-1

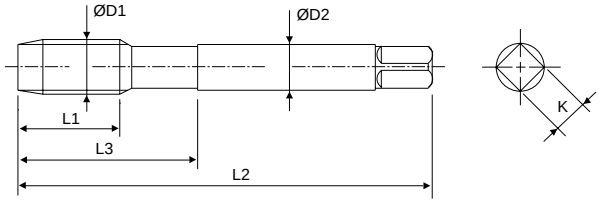
- Bright finish with interrupted pitch, for aluminium, aluminium alloys (Si<10%), unalloyed copper & titanium (spiral point)
- Interrupted pitch design prevents chip build up in soft materials (bright finish only) (spiral point)
- NI finish for tapping HIGH SILICON aluminium (>10%)
- Bright finish for aluminium, aluminium alloy (Si<10%), unalloyed copper & titanium (spiral flute)
- Deep flute pockets aid chip evacuation and prevents chip build up in soft materials (spiral flute)
- Deep flute pockets aid chip evacuation and prevents chip build up in soft materials (spiral flute)
- 6H tolerance

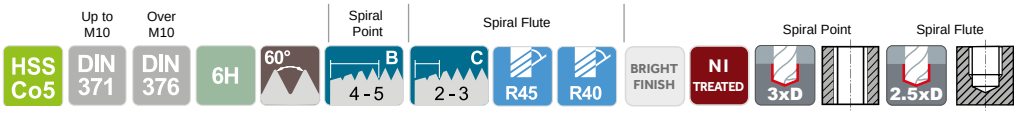
Spiral Point



Spiral Flute







ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance					
									Bright Finish			NI Treated		
									Spiral Point	Spiral Flute	Price	Spiral Point	Spiral Flute	Price
M2	0.4	8	45	13	2.8	2.1	3	1.6	TC622136	TC163136	**£16.80**	TE943136	TE953136	**£20.14**
M2.5	0.45	9	50	15	2.8	2.1	3	2.05	TC622176	TC163176	**£15.21**	TE943176	TE953176	**£19.79**
M3	0.5	11	56	18	3.5	2.7	3	2.5	TC622206	TC163206	**£12.05**	TE943206	TE953206	**£16.99**
M4	0.7	13	63	21	4.5	3.4	3	3.3	TC622246	TC163246	**£12.05**	TE943246	TE953246	**£17.44**
M5	0.8	15	70	25	6	4.9	3	4.2	TC622286	TC163286	**£12.60**	TE943286	TE953286	**£18.21**
M6	1	17	80	30	6	4.9	3	5	TC622316	TC163316	**£12.60**	TE943316	TE953316	**£17.72**
M8	1.25	20	90	35	8	6.2	3	6.8	TC622366	TC163366	**£16.18**	TE943366	TE953366	**£21.29**
M10	1.5	22	100	39	10	8	3	8.5	TC622426	TC163426	**£19.41**	TE943426	TE953426	**£25.71**
M12	1.75	24	110	44	9	7	3	10.2	TC622506	TC163506	**£25.92**	TE943506	TE953506	**£31.76**
M14	2	26	110	44	11	9	3	12	TC622546	TC163546	**£31.45**	TE943546	TE953546	**£39.96**
M16	2	27	110	44	12	9	3	14	TC622606	TC163606	**£39.43**	TE943606	TE953606	**£44.86**
M18	2.5	30	125	50	14	11	3	15.5	TC622656	TC163656	**£51.56**	TE943656	TE953656	**£62.40**
M20	2.5	32	140	54	16	12	3	17.5	TC622706	TC163706	**£61.37**	TE943706	TE953706	**£66.16**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

	Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
	Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
	<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
BRIGHT	○	○	○											○	
NI			○												
Speed	15-20	15-20	12-18											10-15	

	Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
	Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
	≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
BRIGHT					●				●	●	●				
NI												●			
Speed					8-12				10-15	25-35	15-20	10-15			

M ISO METRIC COARSE DIN 13 TOP-LINE TAP

For Aluminium, Aluminium Alloys (Si<10%), Copper, Copper Alloys, Titanium, Nickel & Plastic

Series	
E24/25M-AZ UFS	E70/71M UFS

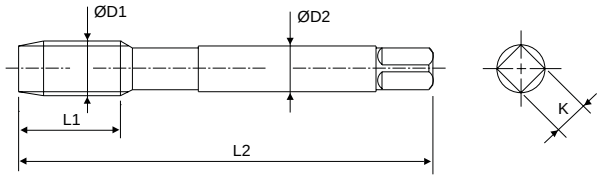
- Interrupted pitch prevent chips from clogging in through hole tapping, ideal for long chipping aluminium (spiral point)
- Deep flute pockets & high helix aid chip evacuation, ideal for long chipping aluminium (spiral flute)
- BRIGHT finish prevents swarf sticking to the tap flutes
- TiAlN +C Coating offers exceptional wear resistance in abrasive aluminium
- ISO 2/6H tolerance

Spiral Point



Spiral Flute





Up to M10 | Over M10 | Spiral Point | Spiral Flute

HSS Co5 | DIN 371 | DIN 376 | ISO 2/6H | 60° | B 4-5 | C 2-3 | R45 | BRIGHT FINISH | TiAlN +C | Spiral Point 3xD | Spiral Flute 2.5xD

ØD1	Pitch	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance			
								Bright Finish		TiAlN+C Coated	
								Order Code	Price	Order Code	Price
Spiral Point with Interrupted Pitch											
M3	0.5	10	56	3.5	2.7	3	2.5	E24M3AZ	**£18.85**	E24M3AZ-TXC	**£26.07**
M4	0.7	13	63	4.5	3.4	3	3.3	E24M4AZ	**£17.91**	E24M4AZ-TXC	**£25.06**
M5	0.8	13	70	6	4.9	3	4.2	E24M5AZ	**£18.30**	E24M5AZ-TXC	**£25.06**
M6	1	16	80	6	4.9	3	5	E24M6AZ	**£18.38**	E24M6AZ-TXC	**£25.06**
M8	1.25	18	90	8	6.2	3	6.8	E24M8AZ	**£20.04**	E24M8AZ-TXC	**£43.40**
M10	1.5	20	100	10	8	3	8.5	E24M10AZ	**£22.33**	E24M10AZ-TXC	**£35.24**
M12	1.75	25	110	9	7	3	10.3	E25M12AZ	**£30.37**	E25M12AZ-TXC	**£45.15**
M14	2	28	110	11	9	3	12	E25M14AZ	**£39.05**	E25M14AZ-TXC	**£78.75**
M16	2	28	110	12	9	3	14	E25M16AZ	**£41.78**	E25M16AZ-TXC	**£62.96**
Spiral Flute											
M3	0.5	10	56	3.5	2.7	2	2.5	E70M3	**£17.98**	E70M3TXC	**£22.11**
M4	0.7	13	63	4.5	3.4	2	3.3	E70M4	**£17.15**	E70M4TXC	**£22.11**
M5	0.8	13	70	6	4.9	2	4.2	E70M5	**£16.82**	E70M5TXC	**£22.11**
M6	1	16	80	6	4.9	2	5	E70M6	**£17.15**	E70M6TXC	**£22.11**
M8	1.25	18	90	8	6.2	2	6.8	E70M8	**£19.40**	E70M8TXC	**£27.50**
M10	1.5	20	100	10	8	2	8.5	E70M10	**£21.56**	E70M10TXC	**£33.38**
M12	1.75	25	110	9	7	3	10.3	E71M12	**£29.46**	E71M12TXC	**£39.68**
M14	2	28	110	11	9	3	12	E71M14	**£34.16**	E71M14TXC	**£53.01**
M16	2	28	110	12	9	3	14	E71M16	**£41.37**	E71M16TXC	**£59.25**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

	Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
	Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
	<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
BRIGHT														○	
TiAlN	●														
Speed	20-30													5-8	

	Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
	Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
	≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
BRIGHT		○											○		
TiAlN					○		●		○	●	●				
Speed		6-8			15-20		20-25		20-25	20-25	25-30		20-25		

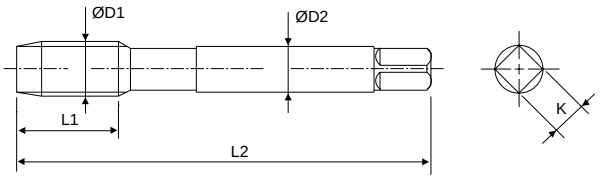
M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Machine Taps for Aluminium, Aluminium Alloys (Si<10%), Copper & Copper Alloys

Series	
E24M-AL-TXC YG-1	E25M-AL-TXC YG-1

- TiAlN +C Coating offers exceptional wear resistance in short-medium chipping aluminium alloys, aerospace aluminium and copper alloys
- Spiral point for blind holes
- ISO 2/6H tolerance





Up to M10 | Over M10 | Through Holes

HSS Co5 | DIN 371 | DIN 376 | ISO 2/6H | 60° | B 4-5 | TiAlN +C | 3xD

ØD1	Pitch	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M3	0.5	10	56	3.5	2.7	2	2.5	E24M3AL-TXC	£23.22
M4	0.7	13	63	4.5	3.4	2	3.3	E24M4AL-TXC	£23.22
M5	0.8	13	70	6	4.9	2	4.2	E24M5AL-TXC	£23.22
M6	1	16	80	6	4.9	2	5	E24M6AL-TXC	£23.22
M8	1.25	18	90	8	6.2	2	6.8	E24M8AL-TXC	£28.27
M10	1.5	20	100	10	8	2	8.5	E24M10AL-TXC	£32.29
M12	1.75	25	110	9	7	3	10.3	E25M12AL-TXC	£40.86
M14	2	28	110	11	9	3	12	E25M14AL-TXC	£50.62
M16	2	28	110	12	9	3	14	E25M16AL-TXC	£56.93

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
● 20-30														

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al Wrought	Al Si ≤10%	Al Si >10%	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350						
				○ 15-20		● 20-25		○ 20-25	● 25-30	● 20-25				

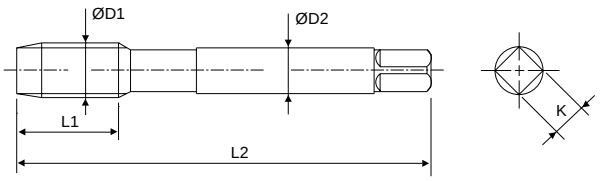
M ISO METRIC COARSE DIN 13 TOP-LINE TAP BRASS/BRONZE MS58

Ultra High Performance Taps for Short Chipping Brass, Bronze, Copper Alloys & Plastics

Series	
LANCIAM UFS	LANCIAM-C UFS

- Special MS58 geometry for brass and bronze
- Bright finish is designed to prevent swarf sticking to the flutes
- Chromium nitride coating provides improved tool life
- Straight flute for blind and through holes
- ISO 2/6H tolerance





Through & Blind Holes

HSS Co5 | DIN 371 | ISO 2/6H | 60° | C 2-3 | BRIGHT FINISH | CrN COATED | 3xD

ØD1	Pitch	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Bright Finish Order Code	Bright Finish Price	CrN Coated Order Code	CrN Coated Price
M3	0.5	10	56	3.5	2.7	2	2.5	LANCIAM3	£13.96	LANCIAM3NC	£19.33
M4	0.7	13	63	4.5	3.4	2	3.3	LANCIAM4	£13.96	LANCIAM4NC	£19.72
M5	0.8	13	70	6	4.9	2	4.2	LANCIAM5	£13.96	LANCIAM5NC	£19.72
M6	1	16	80	6	4.9	2	5	LANCIAM6	£13.96	LANCIAM6NC	£19.72
M8	1.25	18	90	8	6.2	2	6.8	LANCIAM8	£16.41	LANCIAM8NC	£24.93
M10	1.5	20	100	10	8	2	8.5	LANCIAM10	£17.91	LANCIAM10NC	£28.24

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al Wrought	Al Si ≤10%	Al Si >10%	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350						
					● 15-20								○ 8-10	○ 3-5

Synchro Rigid Taps for High Speed Tapping

P H M S K N

YG-1 SR SERIES SYNCHRO TAPS



COATINGS
TiN Coating provides improved tool life and is best suited for tapping steel

TiCN Coating is best suited for tapping steel and cast iron

SUBSTRATE
HSS PM powder metal HSS with high content of vanadium & cobalt for high speed tapping and ultimate wear resistance

SHORT THREAD
For reduced friction and low torque requirement

UFS SR SERIES SYNCHRO TAPS



SUBSTRATE
HSS PM3 powder metal HSS with high content of vanadium & cobalt for high speed tapping and ultimate wear resistance

COATINGS
TiAlN +C coating for high wear resistance with excellent chip evacuation

TiN XP Coated for exceptional wear resistance across a wide range of materials

BACK TAPERED
Improves chip control and reduces the risk of damage of the last threads, especially in the inversion phase of tapping

Powder metal ultra-high performance machine taps from YG-1 & UFS

Synchro Taps can run at surface speeds up to 4 times greater than standard HSSE taps with vastly increased tool life, lower tapping loads & improved thread quality. They are specifically designed for modern machines, where the spindle revolution (A-Axis) & feed movement (Z-Axis) are synchronously controlled (RIGID TAPPING).

Thread Form Selection

M METRIC COARSE 897

PLEASE NOTE
Synchro taps should only be used in synchro tap chucks, see page 1088

Optional Through Coolant

RADIAL FLOW
For better chip evacuation, longer tool life and tapping in deeper holes (up to 3.5xD) **FOR THROUGH HOLES**



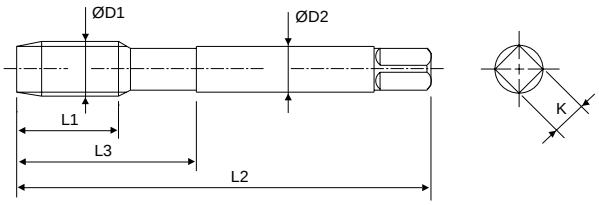
M ISO METRIC COARSE DIN 13

Up to 4 Times Faster Tapping of Carbon/Alloy Steel, Cast Iron, Copper, Aluminium & Plastic

Series
TTS33
YG-1

- High speed rigid tapping of steels, cast iron, copper, copper alloys and high silicon aluminium
- TiN coating with premium powder metal substrate for extreme tool life
- Up to 4 times faster than conventional rigid tapping
- Spiral point for through holes
- 6HX tolerance
- **Synchro taps should only be used in synchro tap chucks, see page 1088**





Up to M10 / Over M10

HSS PM | DIN 371 | DIN 376 | 6HX | 60° | B 4-5 | TiN COATED | S R | 3xD | Through Holes

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M3	0.5	5	56	18	3.5	2.7	3	2.5	TTS33206	**£19.39**
M4	0.7	7	63	21	4.5	3.4	3	3.3	TTS33246	**£19.52**
M5	0.8	8	70	25	6	4.9	3	4.2	TTS33286	**£21.65**
M6	1	10	80	30	6	4.9	3	5	TTS33316	**£21.65**
M8	1.25	13	90	35	8	6.2	3	6.8	TTS33366	**£30.89**
M10	1.5	15	100	39	10	8	3	8.5	TTS33426	**£36.93**
M12	1.75	18	110	44	9	7	4	10.2	TTS33506	**£50.40**
M14	2	20	110	44	11	9	4	12	TTS33546	**£60.81**
M16	2	20	110	44	12	9	4	14	TTS33606	**£74.96**
M18	2.5	25	125	50	14	11	4	15.5	TTS33656	**£98.84**
M20	2.5	25	140	54	16	12	4	17.5	TTS33706	**£118.04**

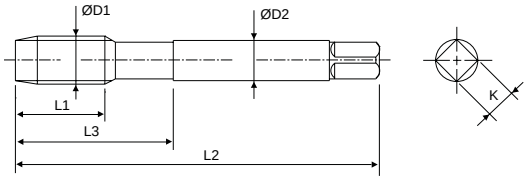
M ISO METRIC COARSE DIN 13

Up to 4 Times Faster Tapping of Carbon/Alloy Steels, Cast Iron, Copper, Aluminium & Plastic

Series
TTS31
YG-1

- High speed rigid tapping of steels, cast iron, copper, copper alloys and high silicon aluminium
- TiN coating with premium powder metal substrate for extreme tool life
- Up to 4 times faster than conventional rigid tapping
- Spiral flute for blind holes
- 6H tolerance
- **Synchro taps should only be used in synchro tap chucks, see page 1088**





Up to M10 / Over M10

HSS PM | DIN 371 | DIN 376 | 6H | 60° | C 2-3 | R45 | TiN COATED | S R | 2.5xD | Blind Holes

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M3	0.5	6	56	18	3.5	2.7	3	2.5	TTS31206	**£18.95**
M4	0.7	7	63	21	4.5	3.4	3	3.3	TTS31246	**£19.15**
M5	0.8	8	70	25	6	4.9	3	4.2	TTS31286	**£21.26**
M6	1	10	80	30	6	4.9	3	5	TTS31316	**£21.26**
M8	1.25	13	90	35	8	6.2	3	6.8	TTS31366	**£30.89**
M10	1.5	15	100	39	10	8	3	8.5	TTS31426	**£36.93**
M12	1.75	18	110	44	9	7	3	10.2	TTS31506	**£50.40**
M14	2	20	110	44	11	9	3	12	TTS31546	**£60.81**
M16	2	20	110	44	12	9	3	14	TTS31606	**£74.96**
M18	2.5	25	125	50	14	11	4	15.5	TTS31656	**£98.84**
M20	2.5	25	140	54	16	12	4	17.5	TTS31706	**£118.04**

For accessories, please see page 833

Material Applications N/mm² — Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●						○		●			
41-46	41-46	35-40	28-33						28-33		28-33			

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
				○		●				●	●	○		
				22-27		41-46				41-46	28-33	60-65		

M ISO METRIC COARSE DIN 13 TOP-LINE TAP

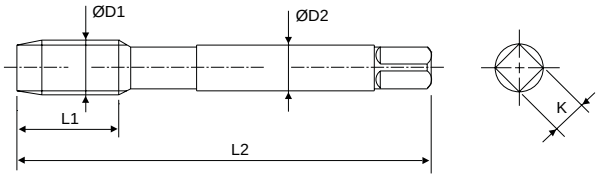
Up to 4 Times Faster Tapping of Carbon/Alloy Steel, Cast Iron, Copper, Aluminium & Plastic

Series	
S24M-TXC UFS	S24M-FORY-TXC UFS

- High speed rigid tapping of steel, cast iron, copper, copper alloy, stainless steel, nickel alloy, titanium, aluminium and high silicon aluminium
- TiALN+C coating with premium powder metal substrate for extreme tool life
- Up to 4 times faster than conventional rigid tapping
- 6HX tolerance
- **Synchro taps should only be used in synchro tap chucks, see page 1088**

Spiral Point - Solid





Spiral Point - Through Coolant



Up to M10 | HSS PM3 | DIN 371 | 6HX | 60° | B 4-5 | TiAlN +C | S R | Solid 3xD | Through Coolant 3.5xD | Through Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code: Spiral Point Solid	Price	Spiral Point Through Coolant	Price
M6	1	10	80	6	4.9	3	5	S24M6TXC	£31.95	S24M6FORY-TXC	£59.88
M8	1.25	13	90	8	6.2	3	6.8	S24M8TXC	£35.74	S24M8FORY-TXC	£71.16
M10	1.5	15	100	10	8	3	8.5	S24M10TXC	£41.34	S24M10FORY-TXC	£76.28
M12	1.75	18	110	12	9	3	10.3	S24M12TXC	£51.28	S24M12FORY-TXC	£90.25
M14	2	20	110	12	9	3	12	S24M14TXC	£65.40	S24M14FORY-TXC	£105.00
M16	2	20	110	16	12	4	14	S24M16TXC	£78.65	S24M16FORY-TXC	£121.41

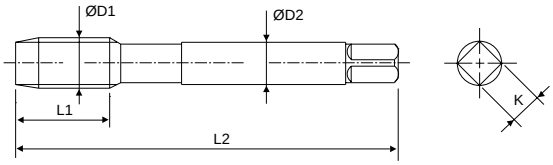
M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Up to 4 Times Faster Tapping of Carbon/Alloy Steels, Cast Iron, Copper, Aluminium & Plastic

Series
S80M-TXC UFS

- High speed rigid tapping of steels, cast iron, copper, copper alloy, stainless steel, nickel alloy, titanium, aluminiumand high silicon aluminium
- Up to 4 times faster than conventional rigid tapping
- Spiral flute for blind holes
- 6HX tolerance
- **Synchro taps should only be used in synchro tap chucks, see page 1088**





Up to M10 | Over M10 | HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | R40 | BT BACK TAPERED | TiAlN +C | S R | 2.5xD | Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M6	1	10	80	6	4.9	3	5	S80M6TXC	£32.03
M8	1.25	13	90	8	6.2	3	6.8	S80M8TXC	£33.92
M10	1.5	15	100	10	8	3	8.5	S80M10TXC	£41.26
M12	1.75	18	110	12	9	3	10.3	S80M12TXC	£50.88
M14	2	20	110	12	9	3	12	S80M14TXC	£63.03
M16	2	20	110	16	12	4	14	S80M16TXC	£77.15

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
● 40-45	● 40-45	● 30-40	● 25-30	● 10-15		● 20-25	● 15-20	● 10-15			● 25-30	● 20-25	● 20-30	● 12-15

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium			Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	● 20-30	● 8-12				● 25-30			● 45-50	● 30-40				

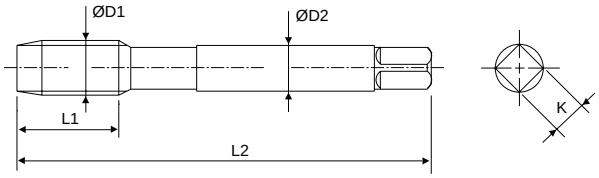
M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Up to 4 Times Faster Than Conventional Rigid Tapping on a Wide Range of Materials

Series
S20M-TXC
UFS

- High strength straight flute design for through or blind holes
- High speed rigid tapping of hardened steels, high strength bronze, grey cast iron, high silicon aluminium, graphite, plastic and composite materials
- Up to 4 times faster than conventional rigid tapping
- Straight flute for blind and through holes
- 6H tolerance
- **Synchro taps should only be used in synchro tap chucks, see page 1088**





Up to M10

HSS PM3 | DIN 371 | 6HX | 60° | C 2-3 | TiAlN +C | S R | 3xD

Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2 h9	K h12	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M6	1	10	80	6	4.9	4	5	S20M6TXC	**£29.98**
M8	1.25	13	90	8	6.2	4	6.8	S20M8TXC	**£34.55**
M10	1.5	15	100	10	8	4	8.5	S20M10TXC	**£39.92**
M12	1.75	18	110	12	9	4	10.3	S20M12TXC	**£49.54**
M14	2	20	110	12	9	4	12	S20M14TXC	**£63.19**
M16	2	20	110	16	12	4	14	S20M16TXC	**£75.89**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
				○ 10-15	● 8-10				● 25-30	● 20-25	● 25-30	● 20-25		

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
					● 35-40		● 8-10		○ 20-25	○ 30-40	● 25-30		● 20-25	● 10-15

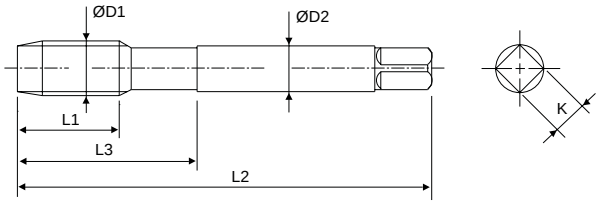
M ISO METRIC COARSE DIN 13 TAP

Up to 4 Times Faster Than Conventional Rigid Tapping on a Wide Range of Materials

Series
TKS35
UFS

- High speed rigid tapping of steels, cast iron and high silicon aluminium
- TiCN coating with premium powder metal substrate for extreme tool life
- Up to 4 times faster than conventional rigid tapping
- Straight flute for blind and through holes
- 6HX tolerance
- **Synchro taps should only be used in synchro tap chucks, see page 1088**





Up to M10 | Over M10

HSS PM | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | TiCN COATED | S R | 2xD | Through & Blind Holes

ØD1	Pitch	L1	L2	L3	ØD2	K	Z	Drill Dia.	★★★★★ Performance Order Code	Price
M3	0.5	5	56	18	3.5	2.7	3	2.5	TKS35206	**£18.35**
M4	0.7	7	63	21	4.5	3.4	3	3.3	TKS35246	**£18.60**
M5	0.8	8	70	25	6	4.9	3	4.2	TKS35286	**£20.58**
M6	1	10	80	30	6	4.9	3	5	TKS35316	**£20.58**
M8	1.25	13	90	35	8	6.2	3	6.8	TKS35366	**£29.64**
M10	1.5	15	100	39	10	8	4	8.5	TKS35426	**£35.34**
M12	1.75	18	110	44	9	7	4	10.2	TKS35506	**£48.13**
M14	2	20	110	44	11	9	4	12	TKS35546	**£54.76**
M16	2	20	110	44	12	9	4	14	TKS35606	**£71.68**
M18	2.5	25	125	50	14	11	4	15.5	TKS35656	**£93.54**
M20	2.5	25	140	54	16	12	4	17.5	TKS35706	**£111.53**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●						○		●			
41-46	41-46	35-40	28-33						28-33		28-33			

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
											○			
											28-33			

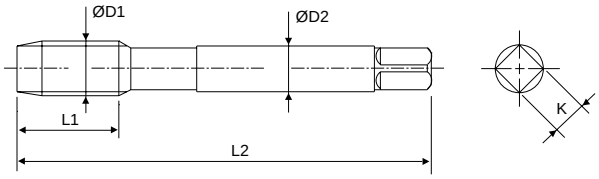
M ISO METRIC COARSE DIN 13 SYNCHRO RIGID TAP

High Speed Tapping of Carbon/Alloy Steel, Stainless Steel, Copper, Aluminium & Aluminium Alloy

Series
TTS37
UFS

- Powder Metal substrate for maximum tool life
- Oil grooves aid lubrication when tapping deeper threads
- Up to 4 times faster than conventional rigid tapping
- Suitable for tapping steel, stainless steel, copper, aluminium and aluminium alloy
- 6HX tolerance
- **Synchro taps should only be used in synchro tap chucks, see page 1088**





Up to M10 / Over M10

HSS PM | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | TiN COATED

S R

3xD

Through & Blind Holes

ØD1	Pitch	L1	L2	L3	ØD2	K	Drill Dia.	★★★★★ Performance Order Code	Price
M3	0.5	5	56	18	3.5	2.7	2.8	TTS37206	**£23.03**
M4	0.7	7	63	21	4.5	3.4	3.7	TTS37246	**£23.17**
M5	0.8	8	70	25	6	4.9	4.65	TTS37286	**£24.41**
M6	1	10	80	30	6	4.9	5.55	TTS37316	**£24.41**
M8	1.25	13	90	35	8	6.2	7.4	TTS37366	**£33.51**
M10	1.5	15	100	39	10	8	9.3	TTS37426	**£40.28**
M12	1.75	18	110	44	9	7	11.2	TTS37506	**£56.20**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steel			Steel Alloy			INOX Free	INOX Aust.	INOX	GG Cast	GG Cast	GGG Cast	GGG Cast	Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●			○	○							
15-20	15-20	12-18	10-15			7-10	5-8							
Ti Alloy	**Ni**	**Ni Alloy**		**Cu**	**Cu Alloy**		**Cu-Al-Fe**	**Al/Mg**	**Al**	**Al**	**Al**	**Plastic**	**Plastic**	**Plastic**
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%	Thermosoft	Thermoset	FRP
				○		○		●	●	○				
				8-12		15-20		10-15	25-35	15-20				

Cold Forming Roll Taps

P H M S K N

YG-1 COLD FORMING ROLL TAPS



SUBSTRATES
HSS PM powder metal HSS with high content of Vanadium & Cobalt for high speed tapping and ultimate wear resistance

HSS-E HSS 5% Cobalt for good wear resistance & excellent toughness

COATINGS
VAP Treated steam tempered to harden the flutes and reduce friction

TiN Coating improved tool life and is best suited for tapping Steels

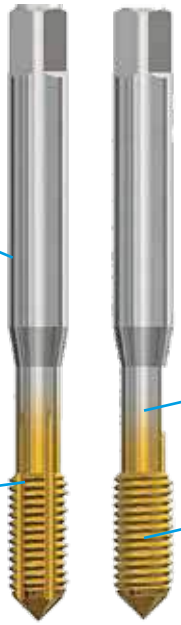
OIL GROOVES
Available with oil grooves for through hole threads and horizontal machining

UFS COLD FORMING ROLL TAPS

SUBSTRATES
HSS PM3 powder metal HSS with high content of Vanadium & Cobalt for high speed tapping and ultimate wear resistance

HSS Co8 HSS with 8% Cobalt for excellent wear resistance & toughness

OIL GROOVES
Available with oil grooves for through hole threads and horizontal machining



COATINGS
TiN-G Coated high performance coating with a surface treatment to reduce friction

E FORM CHAMFER
Option available with ultra short thread lead for machining short holes or thin plate materials

HSSE & powder metal cold forming roll taps for thread forming

Roll taps FORM a thread by material deformation, as opposed to cutting the material deformation, as opposed to cutting the material and therefore do not produce any chips. Roll taps produce stronger and cleaner threads than cutting taps and the lack of swarf means that the top cannot break due to the flutes clogging.

Thread Form Selection

M METRIC COARSE	903
MF METRIC FINE	905
UNC UNIFIED COARSE	906
UNF UNIFIED FINE	907
BSP(G) BRITISH STANDARD GAS	907

M ISO METRIC COARSE DIN 13 TAP

Powder Metal Machine Taps for Carbon/Alloy Steels, Stainless Steel, Aluminium, Copper & Titanium

Series	
TQ723 YG-1	TQ703 YG-1

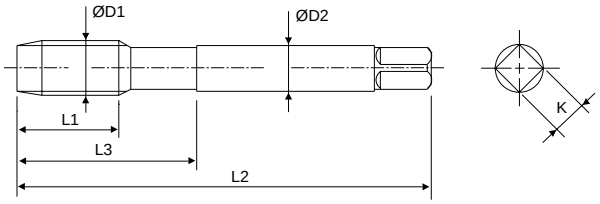
- Powder Metal substrate for maximum tool life
- VAP surface treatment reduces friction and hardens flutes
- Oil grooves aid lubrication when tapping deeper threads
- Suitable for tapping steel, stainless steel, titanium, nickel, copper, aluminium and aluminium alloy
- 6HX tolerance

Without Oil Grooves



With Oil Grooves





Up to M10 | Over M10 | Through & Blind Holes



ØD1	Pitch	L1	L2	L3	ØD2	K	Drill Dia.	★★★★★ Performance Order Code			
								Without Oil Grooves	Price	With Oil Grooves	Price
M2	0.4	8	45	13	2.8	2.1	1.83	TQ723136	**£15.64**	TQ703136	**£17.33**
M2.5	0.45	9	50	15	2.8	2.1	2.3	TQ723176	**£13.27**	TQ703176	**£14.70**
M3	0.5	11	56	18	3.5	2.7	2.8	TQ723206	**£10.73**	TQ703206	**£11.81**
M4	0.7	13	63	21	4.5	3.4	3.7	TQ723246	**£10.73**	TQ703246	**£11.81**
M5	0.8	15	70	25	6	4.9	4.65	TQ723286	**£11.41**	TQ703286	**£12.56**
M6	1	17	80	30	6	4.9	5.55	TQ723316	**£11.41**	TQ703316	**£12.56**
M8	1.25	20	90	35	8	6.2	7.4	TQ723366	**£15.38**	TQ703366	**£16.90**
M10	1.5	22	100	39	10	8	9.3	TQ723426	**£17.21**	TQ703426	**£20.26**
M12	1.75	24	110	44	9	7	11.2	TQ723506	**£26.27**	TQ703506	**£28.62**
M14	2	26	110	44	11	9	13	TQ723546	**£32.56**	TQ703546	**£35.38**
M16	2	27	110	44	12	9	15	TQ723606	**£40.71**	TQ703606	**£44.40**
M18	2.5	30	125	50	14	11	16.8	TQ723656	**£53.98**	TQ703656	**£58.70**
M20	2.5	32	140	54	16	12	18.8	TQ723706	**£66.04**	TQ703706	**£71.63**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steel			Steel Alloy			INOX Free	INOX Aust.	INOX	GG Cast	GG Cast	GGG Cast	GGG Cast	Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●			○	○						○	
15-20	15-20	12-18	10-15			7-10	5-8						10-15	

Ti Alloy	Ni	Ni Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Plastic	Plastic	Plastic
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%	Thermosoft	Thermoset	FRP
	●			○		○		●	●	○				
	8-12			8-12		15-20		10-15	25-35	15-20				

M ISO METRIC COARSE DIN 13 TAP

Machine Taps for Carbon/Alloy Steel, Stainless Steel, Aluminium, Copper & Titanium

Series	
TD723 YG-1	TD703 YG-1

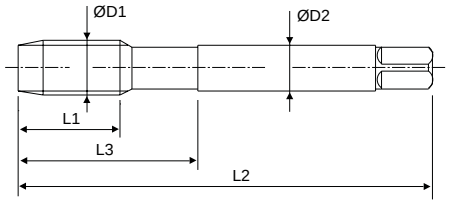
- HSS 5% Cobalt substrate for economical tapping
- TiN coating provides improved tool life
- Oil grooves aid lubrication when tapping deeper threads
- Suitable for tapping steel, stainless steel, titanium, nickel, copper, aluminium and aluminium alloy
- 6HX tolerance

Without Oil Grooves



With Oil Grooves





Up to M10 / Over M10 / Through & Blind Holes

HSS Co5 | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | TiN COATED | 3xD

ØD1	Pitch	L1	L2	L3	ØD2	K	Drill Dia.	★★★★★ Performance			
								Order Code			
								Without Oil Grooves	Price	With Oil Grooves	Price
M2	0.4	8	45	13	2.8	2.1	1.83	TD723136	**£16.90**	TD703136	**£18.45**
M2.5	0.45	9	50	15	2.8	2.1	2.3	TD723176	**£14.56**	TD703176	**£15.94**
M3	0.5	11	56	18	3.5	2.7	2.8	TD723206	**£12.37**	TD703206	**£13.41**
M4	0.7	13	63	21	4.5	3.4	3.7	TD723246	**£12.37**	TD703246	**£13.41**
M5	0.8	15	70	25	6	4.9	4.65	TD723286	**£12.75**	TD703286	**£13.78**
M6	1	17	80	30	6	4.9	5.55	TD723316	**£12.75**	TD703316	**£13.78**
M8	1.25	20	90	35	8	6.2	7.4	TD723366	**£17.35**	TD703366	**£18.76**
M10	1.5	22	100	39	10	8	9.3	TD723426	**£20.94**	TD703426	**£22.54**
M12	1.75	24	110	44	9	7	11.2	TD723506	**£27.80**	TD703506	**£30.03**
M14	2	26	110	44	11	9	13	TD723546	**£33.48**	TD703546	**£36.23**
M16	2	27	110	44	12	9	15	TD723606	**£40.19**	TD703606	**£43.62**
M18	2.5	30	125	50	14	11	16.8	TD723656	**£52.40**	TD703656	**£56.86**
M20	2.5	32	140	54	16	12	18.8	TD723706	**£62.57**	TD703706	**£67.95**

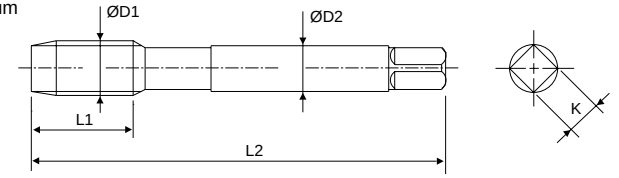
M ISO METRIC COARSE DIN 13 TOP-LINE TAP

Machine Taps for Carbon/Alloy Steel, Stainless Steel, Aluminium & Copper/ Nickel Alloy

Series	
X2SCM-TG UFS	K2CCM-TG UFS

- Powder Metal substrate for maximum tool life
- Oil grooves aid lubrication when tapping deeper threads
- Suitable for tapping steels, stainless steels, titanium, copper, aluminium and aluminium
- 6HX tolerance





Up to M10 / Over M10 / Through & Blind Holes

HSS PM3 | DIN 371 | DIN 376 | 6HX | 60° | C 2-3 | TiN-G COATED | 3xD

ØD1	Pitch	L1	L2	ØD2	K h12	Drill Dia.	★★★★★ Performance			
							Order Code			
							Without Oil Grooves	Price	With Oil Grooves	Price
M3	0.5	10	56	3.5	2.7	2.80	X2SCM3TG	**£28.08**	K2CCM3TG	**£31.48**
M4	0.7	13	63	4.5	3.4	3.70	X2SCM4TG	**£28.08**	K2CCM4TG	**£31.48**
M5	0.8	13	70	6	4.9	4.65	X2SCM5TG	**£28.08**	K2CCM5TG	**£31.48**
M6	1	16	80	6	4.9	5.55	-	-	K2CCM6TG	**£31.48**
M8	1.25	18	90	8	6.2	7.40	-	-	K2CCM8TG	**£36.13**
M10	1.5	20	100	10	8	9.30	X2SCM10TG	**£38.65**	K2CCM10TG	**£43.47**
M12	1.75	25	110	9	7	11.20	X2SCM12TG	**£47.10**	K2CCM12TG	**£52.78**
M14	2	28	110	11	9	13.10	X2SCM14TG	**£56.25**	K2CCM14TG	**£64.85**
M16	2	28	110	12	9	15.10	-	-	K2CCM16TG	**£81.81**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steel			Steel Alloy			INOX Free	INOX Aust.	INOX	GG Cast	GG Cast	GGG Cast	GGG Cast	Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●			○	○						○	
15-20	15-20	12-18	10-15			7-10	5-8						10-15	

Ti Alloy	Ni	Ni Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Plastic	Plastic	Plastic
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%	Thermosoft	Thermoset	FRP
	●			○		○		●	●	○				
	8-12			8-12		15-20		10-15	25-35	15-20				

M ISO METRIC COARSE DIN 13 TOP-LINE TAP, E FORM CHAMFER

For Short Holes in Carbon/Alloy Steel, Stainless Steel, Aluminium & Copper/Nickel Alloy

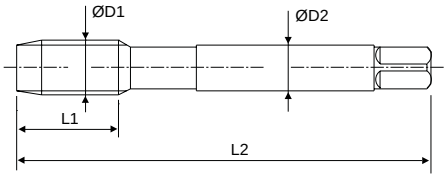
Series
K2CCEM-TG
UFS

- E Form thread lead for machining short holes or thin plate materials
- TiN coating provides improved tool life
- Oil grooves aid lubrication when tapping deeper threads
- Suitable for tapping steel, stainless steels, nickel, copper, aluminium and aluminium
- 6HX tolerance

With Oil Grooves



E FORM LEAD



HSS PM3 | DIN 371 | 6HX | 60° | E 1.5 - 2 | TiN-G COATED | 3xD | Blind Holes

ØD1	Pitch	L1	L2	ØD2	K h12	Drill Dia.	★★★★★ Performance Order Code	Price
M6	1	16	80	6	4.9	5.55	K2CCEM6TG	**£34.87**
M8	1.25	18	90	8	6.2	7.40	K2CCEM8TG	**£39.68**
M10	1.5	20	100	10	8	9.30	K2CCEM10TG	**£50.01**

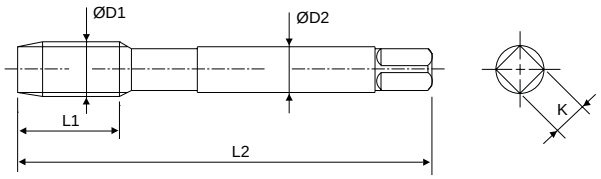
MF ISO METRIC FINE DIN13 TOP-LINE TAP

Machine Taps for Carbon/Alloy Steel, Stainless Steel, Aluminium & Copper/Nickel Alloy

Series
K2CCMF-TG
UFS

- Powder Metal substrate for maximum tool life
- Oil grooves aid lubrication when tapping deeper threads
- Suitable for tapping steel, stainless steel, nickel, copper, aluminium and aluminium alloy
- 6HX tolerance





HSS PM3 | DIN 371 (Up to M10) | DIN 374 (Over M10) | 6HX | 60° | C 2 - 3 | TiN-G COATED | 3xD | Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2	K h12	Drill Dia.	★★★★★ Performance Order Code	Price
M4	0.5	13	63	4.5	3.4	3.75	K2CCMF4X0.5TG	**£39.36**
M5	0.5	13	70	6	4.9	4.75	K2CCMF5X0.5TG	**£39.36**
M6	0.75	16	80	6	4.9	5.65	K2CCMF6X0.75TG	**£39.36**
M8	1	18	90	8	6.2	7.55	K2CCMF8X1TG	**£43.07**
M10	1	15	90	10	8	9.55	K2CCMF10X1TG	**£49.07**
M10	1.25	20	100	10	8	9.45	K2CCMF10X1.25TG	**£46.78**
M12	1	22	100	9	7	11.55	K2CCMF12X1TG	**£61.53**
M12	1.25	22	100	9	7	11.45	K2CCMF12X1.25TG	**£58.22**
M12	1.5	22	100	9	7	11.30	K2CCMF12X1.5TG	**£58.22**
M14	1.25	22	100	11	9	13.45	K2CCMF14X1.25TG	**£76.52**
M14	1.5	22	100	11	9	13.30	K2CCMF14X1.5TG	**£73.84**
M16	1.5	22	100	12	9	15.30	K2CCMF16X1.5TG	**£99.24**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	○		●	●	●						
30-40	30-40	30-35	25-30	10-15		10-15	10-12	6-10						

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	●	○		○		○		●	●	●				
	15-20	5-8		15-20		15-20		35-40	40-45	35-40				

UNC UNIFIED COARSE ANSI B1.1 TOP-LINE TAP

Machine Taps for Carbon/Alloy Steel, Stainless Steel, Aluminium & Copper Alloy

Series	
P2SCUNC-T UFS	P2CCUNC-T UFS

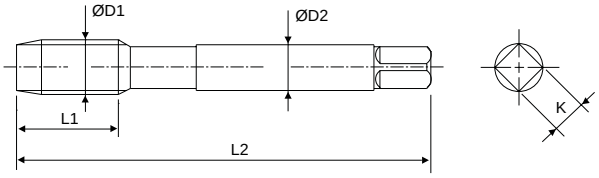
- Powder Metal substrate for maximum tool life
- Oil grooves aid lubrication when tapping deeper threads
- Suitable for tapping steel, stainless steel, nickel, copper, aluminium and aluminium alloy
- 2BX tolerance

Without Oil Grooves



With Oil Grooves





Up to 3/8 | Over 3/8 | Through & Blind Holes

HSS PM3 | DIN 371 | DIN 376 | 2BX | 60° | C 2-3 | TiN COATED | 3xD

ØD1 UNC	TPI	L1	L2	ØD2	K h12	Drill Dia.	★★★★★ Performance Order Code			
							Without Oil Grooves	Price	With Oil Grooves	Price
No.6	32	11	56	4	3	3.15	P2SCUNC6-32T	**£26.19**	P2CCUNC6-32T	**£30.13**
No.8	32	13	63	4.5	3.4	3.8	P2SCUNC8-32T	**£26.19**	P2CCUNC8-32T	**£30.13**
No.10	24	13	70	6	4.9	4.3	-	-	P2CCUNC10-24T	**£30.13**
No.12	24	16	80	6	4.9	5	P2SCUNC12-24T	**£26.19**	P2CCUNC12-24T	**£30.13**
1/4	20	16	80	7	5.5	5.75	P2SCUNC1/4T	**£26.19**	P2CCUNC1/4T	**£30.84**
5/16	18	18	90	8	6.2	7.25	P2SCUNC5/16T	**£32.19**	P2CCUNC5/16T	**£34.95**
3/8	16	20	100	10	8	8.75	P2SCUNC3/8T	**£37.39**	P2CCUNC3/8T	**£43.15**
7/16	14	20	100	8	6.2	10.3	P2SCUNC7/16T	**£47.57**	P2CCUNC7/16T	**£52.07**
1/2	13	25	110	9	7	11.8	P2SCUNC1/2T	**£48.04**	P2CCUNC1/2T	**£53.80**
9/16	12	28	110	11	9	13.3	P2SCUNC9/16T	**£68.08**	P2CCUNC9/16T	**£69.42**
5/8	11	28	110	12	9	14.8	P2SCUNC5/8T	**£75.26**	P2CCUNC5/8T	**£85.75**
3/4	10	32	125	14	11	17.9	P2SCUNC3/4T	**£94.11**	P2CCUNC3/4T	**£102.40**

For accessories, please see page 833

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	○			●	●	○						
20-30	20-30	20-25	15-20			10-15	10-12	6-10						

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al	Al	Al	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350	Wrought	Si ≤10%	Si >10%			
	●	○		○		○		●	●	●				
	15-20	5-8		15-20		15-20		35-40	40-45	35-40				

UNF UNIFIED FINE ANSI B1.1 TOP-LINE TAP

Machine Taps for Carbon/Alloy Steel, Stainless Steel, Aluminium & Copper Alloy

Series	
P2SCUNF-T UFS	P2CCUNF-T UFS

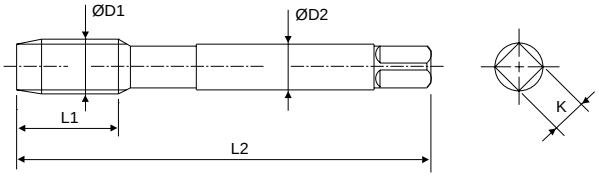
- Powder Metal substrate for maximum tool life
- Oil grooves aid lubrication when tapping deeper threads
- Suitable for tapping steel, stainless steel, nickel, copper, aluminium and aluminium alloy
- 2BX tolerance

Without Oil Grooves



With Oil Grooves





Up to 3/8 | Over 3/8 | Through & Blind Holes

HSS PM3 | DIN 371 | DIN 374 | 2BX | 60° | C 2-3 | TiN COATED | 3xD

ØD1 UNC	TPI	L1	L2	ØD2	K h12	Drill Dia.	★★★★★ Performance Order Code			
							Without Oil Grooves	Price	With Oil Grooves	Price
No.6	40	11	56	4	3	3.2	P2SCUNF6-40T	**£38.26**	P2CCUNF6-40T	**£40.23**
No.8	36	13	63	4.5	3.4	3.85	P2SCUNF8-36T	**£29.82**	P2CCUNF8-36T	**£32.50**
No.10	32	13	70	6	4.9	4.45	P2SCUNF10-32T	**£28.16**	P2CCUNF10-32T	**£30.13**
1/4	28	16	80	7	5.5	5.9	P2SCUNF1/4T	**£28.48**	P2CCUNF1/4T	**£30.84**
5/16	24	18	90	8	6.2	7.45	P2SCUNF5/16T	**£33.61**	P2CCUNF5/16T	**£34.95**
3/8	24	15	90	10	8	9	P2SCUNF3/8T	**£40.63**	P2CCUNF3/8T	**£43.15**
7/16	20	20	100	8	6.2	10.5	P2SCUNF7/16T	**£50.72**	P2CCUNF7/16T	**£52.07**
1/2	20	20	100	9	7	12.1	P2SCUNF1/2T	**£52.62**	P2CCUNF1/2T	**£58.69**

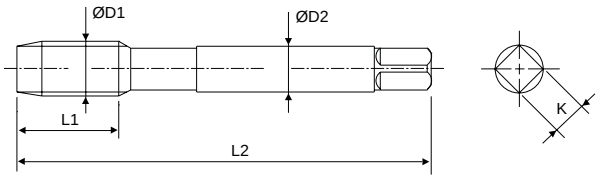
BSP(G) BRITISH STANDARD GAS ISO 228 TOP-LINE TAP

Machine Taps for Carbon/Alloy Steel, Stainless Steel, Aluminium, Copper & Nickel

Series
K2CCG-TG UFS

- Powder Metal substrate for maximum tool life
- Oil grooves aid lubrication when tapping deeper threads
- Suitable for tapping steel, stainless steel, nickel, copper, aluminium and aluminium alloy
- ISO 228BX tolerance





Through & Blind Holes

HSS PM3 | DIN 5156 | ISO 228X | 55° | C 2-3 | TiN-G COATED | 3xD

ØD1 GAS	TPI	L1	L2	L3	ØD2	Drill Dia.	★★★★★ Performance Order Code	Price
1/8	28	15	90	7	5.5	9.25	K2CCG1/8TG	**£48.44**
1/4	19	22	100	11	9	12.5	K2CCG1/4TG	**£69.74**
3/8	19	22	100	12	9	16	K2CCG3/8TG	**£86.14**
1/2	14	25	125	16	12	20	K2CCG1/2TG	**£102.55**
3/4	14	25	140	20	16	25.5	K2CCG3/4TG	**£146.89**

Material Applications N/mm² Cutting Speed m/min

● Excellent ○ Good

Steels				Hardened Steels		Stainless Steels			Cast Iron				Titanium	
Soft Steels		Carbon	Alloy	Pre-Hard	Hardened	Free Mach.	Austenitic	Fer/Marten.	Grey Cast iron		Malleable Cast Iron/Graphite		Ti	Ti Alloy
<400	<700	<850	<850	≤1200	>1200	<850	<850	<1000	<500	<1000	<700	<1000	<700	<900
●	●	●	●	○		●	●	●						
30-40	30-40	30-35	25-30	10-15		10-15	10-12	6-10						

Titanium	Inconel, Hastelloy, Nickel			Copper, Brass, Bronze				Aluminium				Plastics / Composites		
Ti Alloy	Nickel	Nickel Alloy		Cu	Cu Alloy		Cu-Al-Fe	Al/Mg	Al Wrought	Al Si ≤10%	Al Si >10%	Thermo	Thermoset	CFRP/GFRP
≤1300	<500	<900	≤1400	<350	Short	Long	<1500	<350						
	●	○		○		○		●	●	●				
	15-20	5-8		15-20		15-20		35-40	40-45	35-40				

Thread Repair Taps, Inserts & Kits

P S N

YG-1 THREAD REPAIR TAPS



SUBSTRATE
HSS-E HSS 5% Cobalt for good wear resistance & excellent toughness

COATING
Bright Finish prevents swarf sticking to the tap flutes

UFS THREAD REPAIR TAPS



SUBSTRATE
HSS-E HSS 5% Cobalt for good wear resistance & excellent toughness

COATINGS
Bright Finish prevents swarf sticking to the tap flutes.

TiN-XP Coated recommended for tapping with axial compensation

HSS-E thread repair taps for a wide range of materials

Used to create an oversized hole in which the thread repair insert is then screwed into. YG-1 & UFS STI taps include geometries for steel, cast iron, titanium, nickel & aluminium.

Recoil thread repair inserts are used to replace damaged threads. Kits are also available which include full thread repair solutions (insert, tap, drill and accessories).

Thread Form Selection

M METRIC COARSE	909
UNC UNIFIED COARSE	911
UNF UNIFIED FINE	912

EG M METRIC COARSE TAP

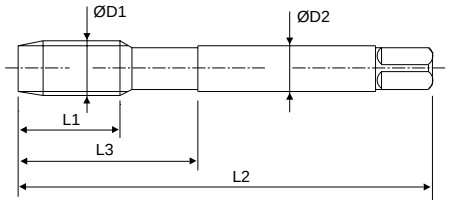
Thread Repair Tapping of Aluminium/Alloys (Si<10%), Unalloyed Copper & Unalloyed Titanium

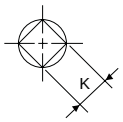
- BRIGHT finish prevents swarf sticking to the tap flutes, ideal for steel, copper, aluminium, titanium and nickel
- Suitable for tapping holes for use with all major brand thread repair inserts
- Spiral point for through holes
- 6h mod. tolerance

Series
TC973
YG-1









Up to M8 | Over M8 | Through Holes

HSS Co5 | DIN 371 | DIN 376 | 6H mod. | 60° | B 4-5 | BRIGHT FINISH | 3xD

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★ Performance Order Code	Price
M2.5	0.45	11	56	18	3.5	2.7	3	2.65	TC973176	**£19.61**
M3	0.5	10	63	21	4.5	3.4	3	3.15	TC973206	**£13.99**
M3.5	0.6	14	70	25	6	4.9	3	3.7	TC973226	**£17.02**
M4	0.7	13	70	25	6	4.9	3	4.2	TC973246	**£14.54**
M5	0.8	13	80	30	6	4.9	3	5.25	TC973286	**£14.93**
M6	1	17	90	35	8	6.2	3	6.3	TC973316	**£14.93**
M8	1.25	18	100	39	10	8	3	8.4	TC973366	**£18.85**
M10	1.5	22	110	44	9	7	3	10.4	TC973426	**£22.52**
M12	1.75	26	110	44	11	9	3	12.5	TC973506	**£30.29**
M14	2	27	110	44	12	9	3	14.5	TC973546	**£36.62**
M16	2	30	125	50	14	11	4	16.5	TC973606	**£46.10**
M18	2.5	32	140	54	18	14.5	4	18.75	TC973656	**£60.48**
M20	2.5	34	160	60	18	14.5	4	20.75	TC973706	**£71.96**

EG M METRIC COARSE TAP

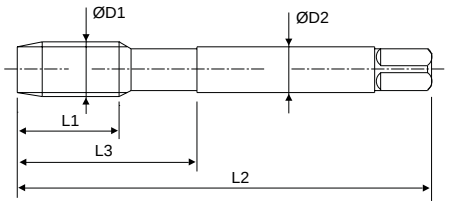
Thread Repair Tapping of Aluminium/Alloys (Si<10%), Unalloyed Copper & Unalloyed Titanium

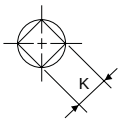
- BRIGHT finish prevents swarf sticking to the tap flutes, ideal for steel, copper, aluminium, titanium and nickel
- Suitable for tapping holes for use with all major brand thread repair inserts
- Spiral flute for blind holes
- 6h mod. tolerance

Series
TC909
YG-1









Up to M8 | Over M8 | Blind Holes

HSS Co5 | DIN 371 | DIN 376 | 6H mod. | 60° | C 2-3 | R40 | BRIGHT FINISH | 2.5xD

ØD1	Pitch	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★★★ Performance Order Code	Price
M2.5	0.45	6	56	18	3.5	2.7	3	2.65	TC909176	**£20.62**
M3	0.5	5	63	21	4.5	3.4	3	3.15	TC909206	**£14.77**
M3.5	0.6	8	70	25	6	4.9	3	3.7	TC909226	**£17.88**
M4	0.7	8	70	25	6	4.9	3	4.2	TC909246	**£15.20**
M5	0.8	8	80	30	6	4.9	3	5.25	TC909286	**£15.67**
M6	1	10	90	35	8	6.2	3	6.3	TC909316	**£15.67**
M8	1.25	16	100	39	10	8	3	8.4	TC909366	**£19.67**
M10	1.5	15	110	44	9	7	3	10.4	TC909426	**£23.63**
M12	1.75	20	110	44	11	9	3	12.5	TC909506	**£31.94**
M14	2	22	110	44	12	9	3	14.5	TC909546	**£38.68**
M16	2	25	125	50	14	11	4	16.5	TC909606	**£48.42**
M18	2.5	27	140	54	18	14.5	4	18.75	TC909656	**£63.39**
M20	2.5	30	160	60	18	14.5	4	20.75	TC909706	**£75.39**

EG-M ISO METRIC COARSE DIN 8140-2

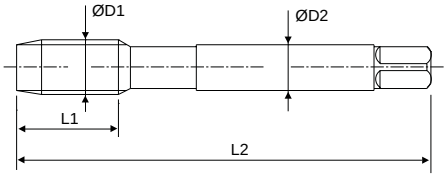
Thread Repair Tapping of Carbon/Alloy Steel, Stainless Steel, Cast Iron, Aluminium & Copper Alloy

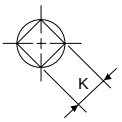
- BRIGHT finish prevents swarf sticking to the tap flutes, ideal for steel, copper, aluminium
- TiN XP coating recommended for steels, stainless steel, cast iron and copper alloy
- Suitable for tapping holes for use with all major brand thread repair inserts
- Spiral point for through holes
- 6h mod. tolerance

Series	
E24/25EGM UFS	E24/25EGM-XP UFS









HSS Co5 | DIN 40435 | 6H mod. | 60° | B 4-5 | BRIGHT FINISH | TiN XP | 3xD | Through Holes

ØD1	Pitch	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★ Performance Order Code			
								Bright Finish	Price	TiN XP Coated	Price
M3	0.5	13	63	4.5	3.4	3	3.15	E24EGM3	**£21.14**	E24EGM3XP	**£30.60**
M4	0.7	13	70	6	4.9	3	4.20	E24EGM4	**£21.14**	E24EGM4XP	**£30.60**
M5	0.8	16	80	6	4.9	3	5.25	E24EGM5	**£21.14**	E24EGM5XP	**£30.60**
M6	1	18	90	8	6.2	3	6.30	E24EGM6	**£26.21**	E24EGM6XP	**£38.67**
M8	1.25	20	100	10	8	3	8.40	E24EGM8	**£28.20**	E24EGM8XP	**£42.15**
M10	1.5	22	100	9	7	3	10.5	E25EGM10	**£37.07**	E25EGM10XP	**£51.91**
M12	1.75	28	110	11	9	3	12.5	E25EGM12	**£50.42**	E25EGM12XP	**£70.14**
M14	2	28	110	12	9	3	14.5	E25EGM14	**£68.94**	E25EGM14XP	**£89.24**
M16	2	33	125	14	11	4	16.5	E25EGM16	**£78.20**	E25EGM16XP	**£101.42**

EG-M ISO METRIC COARSE DIN 8140-2

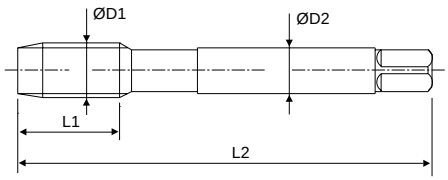
Thread Repair Tapping of Carbon/Alloy Steel, Stainless Steel, Cast Iron, Aluminium & Copper Alloy

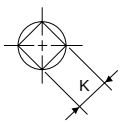
- BRIGHT finish prevents swarf sticking to the tap flutes, ideal for steel, copper, aluminium
- TiN XP coating recommended for steels, stainless steel, cast iron and copper alloy
- Suitable for tapping holes for use with all major brand thread repair inserts
- Spiral flute for blind holes
- 6h mod. tolerance

Series	
E60/61EGM UFS	E60/61EGM-XP UFS









HSS Co5 | DIN 40435 | 6H mod. | 60° | C 2-3 | R40 | BRIGHT FINISH | TiN XP | 2.5xD | Blind Holes

ØD1	Pitch	L1	L2	ØD2	K h12	No. of Flutes	Drill Dia.	★★★★ Performance Order Code			
								Bright Finish	Price	TiN XP Coated	Price
M3	0.5	7	63	4.5	3.4	3	3.15	E60EGM3	**£24.20**	E60EGM3XP	**£33.67**
M4	0.7	8	70	6	4.9	3	4.20	E60EGM4	**£22.72**	E60EGM4XP	**£30.64**
M5	0.8	10	80	6	4.9	3	5.25	E60EGM5	**£24.20**	E60EGM5XP	**£33.67**
M6	1	13	90	8	6.2	3	6.30	E60EGM6	**£29.89**	E60EGM6XP	**£42.36**
M8	1.25	15	100	10	8	3	8.40	E60EGM8	**£31.90**	E60EGM8XP	**£45.81**
M10	1.5	13	100	9	7	3	10.5	E61EGM10	**£43.05**	E61EGM10XP	**£57.89**
M12	1.75	20	110	11	9	3	12.5	E61EGM12	**£55.18**	E61EGM12XP	**£74.93**
M14	2	20	110	12	9	3	14.5	E61EGM14	**£74.93**	E61EGM14XP	**£95.25**
M16	2	25	125	14	11	4	16.5	E61EGM16	**£85.68**	E61EGM16XP	**£108.87**

EG-UNC UNIFIED COARSE

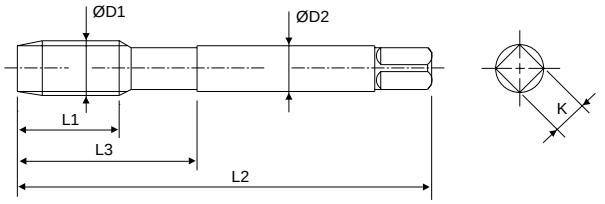
Thread Repair Tapping of Aluminium/Alloy (Si<10%), Unalloyed Copper & Unalloyed Titanium

- BRIGHT finish prevents swarf sticking to the tap flutes, ideal for steel, copper, aluminium, titanium and nickel
- Suitable for tapping holes for use with all major brand thread repair inserts
- Spiral point for through holes
- 2B tolerance

Series
TC934
YG-1







Up to 3/8 | Over 3/8 | Through Holes

HSS Co5 | DIN 371 | DIN 376 | 2B | 60° | B 4-5 | BRIGHT FINISH | 3xD

ØD1 UNC	TPI	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★★ Performance Order Code	Price
No.4	40	13	63	21	4.5	3.4	3	3.1	TC934162	**£21.89**
No.5	40	13	63	21	4.5	3.4	3	3.4	TC934202	**£23.24**
No.6	32	14	70	25	6	4.9	3	3.8	TC934242	**£24.49**
No.8	32	13	80	25	6	4.9	3	4.4	TC934282	**£25.82**
No.10	24	17	80	30	7	5.5	3	5.2	TC934322	**£27.17**
No.12	24	17	80	30	7	5.5	3	5.8	TC934362	**£28.58**
5/16	18	22	100	39	10	8	3	8.4	TC934442	**£31.12**
3/8	16	21	110	39	12	9	3	10	TC934482	**£32.40**
7/16	14	26	110	44	11	9	3	11.6	TC934522	**£33.76**
1/2	13	27	110	44	12	9	3	13.3	TC934562	**£35.16**
9/16	12	30	125	50	14	11	3	15	TC934602	**£36.45**
5/8	11	30	125	50	14	11	4	16.5	TC934642	**£37.84**
3/4	10	32	140	54	18	14.5	4	19.75	TC934702	**£39.02**

EG-UNC UNIFIED COARSE

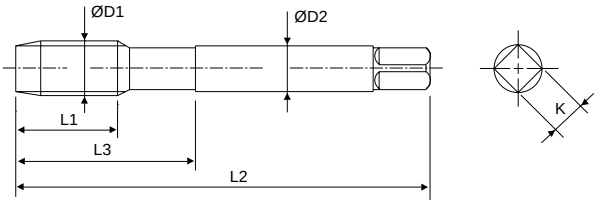
Thread Repair Tapping of Aluminium/Alloys (Si<10%), Unalloyed Copper & Unalloyed Titanium

- BRIGHT finish prevents swarf sticking to the tap flutes, ideal for steel, copper, aluminium, titanium and nickel
- Suitable for tapping holes for use with all major brand thread repair inserts
- Spiral flute for blind holes
- 2B tolerance

Series
TC944
YG-1







Up to 3/8 | Over 3/8 | Blind Holes

HSS Co5 | DIN 371 | DIN 376 | 2B | 60° | C 2-3 | R40 | BRIGHT FINISH | 2.5xD

ØD1 UNC	TPI	L1	L2	L3	ØD2	K	No. of Flutes	Drill Dia.	★★★★ Performance Order Code	Price
No.4	40	7	63	21	4.5	3.4	3	3.1	TC944162	**£20.38**
No.5	40	7	63	21	4.5	3.4	3	3.4	TC944202	**£16.10**
No.6	32	8	70	25	6	4.9	3	3.8	TC944242	**£18.27**
No.8	32	8	80	25	6	4.9	3	4.4	TC944282	**£16.10**
No.10	24	10	80	30	7	5.5	3	5.2	TC944322	**£16.65**
No.12	24	10	80	30	7	5.5	3	5.8	TC944362	**£16.02**
1/4	20	14	90	35	8	6.2	3	6.7	TC944402	**£15.07**
5/16	18	16	100	39	10	8	3	8.4	TC944442	**£20.13**
3/8	16	16	110	39	12	9	3	10	TC944482	**£24.26**
7/16	14	20	110	44	11	9	3	11.6	TC944522	**£31.51**
1/2	13	22	110	44	12	9	3	13.3	TC944562	**£31.51**
9/16	12	22	125	50	14	11	3	15	TC944602	**£38.07**
5/8	11	25	125	50	14	11	4	16.5	TC944642	**£47.69**
3/4	10	27	140	56	18	14.5	4	19.75	TC944702	**£74.47**

M METRIC COARSE WIRE THREAD REPAIR KITS

Recoil® PRO XL Series

Included in set:
- Thread repair inserts (see table for quantities)
- Combo tap & installation tool
- Magnetic tang break tool
- Intermediate tap
- HSS drill



* Not supplied with drill. Please contact for required size.

Dia	Pitch	No. Of Inserts	Order Code	Price
M2	0.4	15	35028	**£48.18**
M2.2	0.45	15	35018	**£51.05**
M2.5	0.45	15	35258	**£49.74**
M3	0.5	15	35038	**£35.34**
M3.5	0.6	15	35358	**£49.50**
M4	0.7	15	35048	**£28.67**
M5	0.8	15	35058	**£29.96**
M6	1	15	35068	**£28.81**
M8	1	15	37088	**£35.35**
M8	1.25	15	35088	**£29.34**
M10	1	10	38108	**£56.29**
M10	1.25	10	37108	**£43.06**
M10	1.5	10	35108	**£36.51**
M12	1.25	10	38128	**£58.93**
M12	1.5	10	37128	**£49.76**
M12	1.75	10	35128	**£45.70**
M14	1.25	6	38148-1	**£69.42**
M14	1.5	6	37148	**£70.44**
M14	2	6	35148	**£54.73**
M16	1.5	6	37168	**£75.96**
M16	2	6	35168	**£66.77**
M18	1.5	6	38188-1	**£103.46**
M18	2	6	37188	**£103.22**
M18	2.5	6	35188	**£94.30**
M20	1.5	5	38208	**£125.62**
M20	2	6	37208	**£125.73**
M20	2.5	6	35208	**£115.14**

UNC UNIFIED COARSE WIRE THREAD REPAIR KITS

Recoil® PRO XL Series

Included in set:
- Thread repair inserts (quantities in table)
- Combo tap & installation tool
- Magnetic tang break tool
- Intermediate tap
- HSS drill



* Not supplied with drill. Please contact for required size.

Dia	TPI	No. Of Inserts	Order Code	Price
No.4	40	15	33548	**£27.47**
No. 5	40	15	33558	**£34.05**
No.6	32	15	33568	**£27.50**
No.8	32	15	33588	**£27.35**
No.10	24	15	33608	**£27.34**
No.12	24	15	33628	**£31.43**
1/4	20	15	33048	**£27.50**
5/16	18	15	33058	**£28.55**
3/8	16	15	33068	**£32.62**
7/16	14	10	33078	**£34.05**
1/2	13	10	33088	**£37.96**
9/16	12	6	33098*	**£48.35**
5/8	11	6	33108*	**£52.37**
11/16	11	6	33110*	**£83.61**
3/4	10	6	33128*	**£72.01**

UNF UNIFIED FINE WIRE THREAD REPAIR KITS

Recoil® PRO XL Series

Included in set:
- Thread repair inserts (quantities in table)
- Combo tap & installation tool
- Magnetic tang break tool
- Intermediate tap
- HSS drill



* Not supplied with drill. Please contact for required size.

Dia	TPI	No. Of Inserts	Order Code	Price
No.4	48	15	34548	**£40.47**
No.6	40	15	34568	**£40.46**
No.8	36	15	34588	**£39.28**
No.10	32	15	34608	**£33.90**
No.12	28	15	34628	**£32.61**
1/4	28	15	34048	**£30.11**
5/16	24	15	34058	**£30.12**
3/8	24	15	34068	**£36.39**
7/16	20	10	34078	**£37.71**
1/2	20	10	34088	**£43.06**
9/16	18	6	34098*	**£52.36**
5/8	18	6	34108*	**£58.94**
3/4	16	6	34128*	**£78.56**

M METRIC COARSE WIRE THREAD REPAIR INSERTS

Recoil® PRO XL Series

- Made from high quality 304 Stainless Steel
- Used to strengthen or repair threads
- Available in 1D, 1.5D or 2.5D



Dia	Pitch	InsertLength	No. Of Inserts	Order Code	Price
M3	0.5	1D	10	25032	**£3.11**
M4	0.7		10	25042	**£3.00**
M5	0.8		10	25052	**£2.69**
M6	1		10	25062	**£2.88**
M8	1		10	27082	**£4.88**
M8	1.25		10	25082	**£3.29**
M10	1.5		10	25102	**£4.02**
M12	1.25		10	28122	**£7.15**
M12	1.5		10	27122	**£6.09**
M12	1.75		10	25122	**£6.12**
M14	2		5	25142	**£5.05**
M16	1.5		5	27162	**£6.05**
M18	2.5		5	25182	**£7.75**
M2	0.4	1.5D	10	25023	**£4.39**
M2.2	0.45		10	25013	**£4.39**
M2.5	0.45		10	25253	**£3.99**
M3	0.5		10	25033	**£3.43**
M3.5	0.6		10	25353	**£4.77**
M4	0.7		10	25043	**£3.26**
M5	0.8		10	25053	**£2.98**
M6	1		10	25063	**£3.19**
M8	1		10	27083	**£4.86**
M8	1.25		10	25083	**£3.80**
M10	1.5		10	25103	**£4.86**
M12	1.25		10	28123	**£8.36**
M12	1.5		10	27123	**£8.57**
M12	1.75		10	25123	**£8.41**
M14	1.5		5	27143	**£6.10**
M14	2		5	25143	**£5.55**
M16	1.5		5	27163	**£7.32**
M16	2		5	25163	**£7.01**
M18	1.5		5	28183	**£9.52**
M18	2		5	27183	**£9.72**
M18	2.5		5	25183	**£9.28**
M20	1.5		5	28203	**£10.86**
M20	2		5	27203	**£10.86**
M20	2.5		5	25203	**£10.95**
M8	1.25	2.5D	10	25085	**£5.40**
M10	1.5		10	25105	**£7.36**
M16	1.5		5	27165	**£10.99**
M16	2		5	25165	**£10.77**

Thread Repair Inserts also available in UNC and UNF.

Please contact us for more information.

Hand Taps



HSS hand taps for universal applications from YG-1, Presto & UFS

A wide range of hand taps for universal applications in a wide range of thread forms. Hand taps are straight fluted and come individually or in a set of 3, comprising of: first, second and bottom taps.

Thread Form Selection

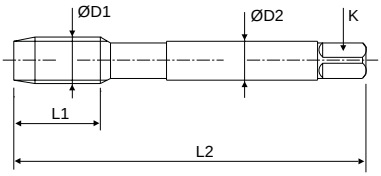
M METRIC COARSE	915	BA BRITISH ASSOCIATION	926
MF METRIC FINE	918	BSF BRITISH STANDARD FINE	927
UNC UNIFIED NATIONAL COARSE	920	BSPF (G) WHIWORTH PIPE THREAD	928
UNF UNIFIED NATIONAL FINE	922	BSPT (RC) BRITISH STANDARD TAPER	928
BSW BRITISH STANDARD WHITWORTH	924	NPT NATIONAL PIPE TAPER	929

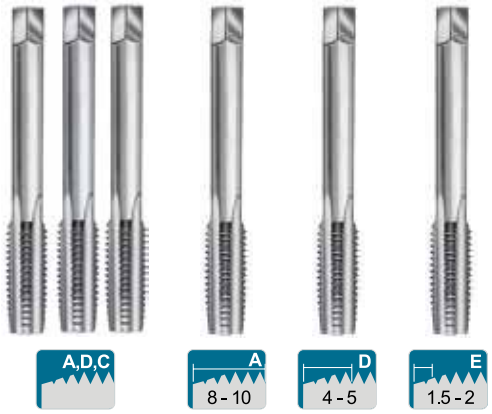
M METRIC COARSE TAP SETS & INDIVIDUAL TAPS

HSS Hand Taps for Free Cutting Steel up to 800N/mm2

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - ISO2/6H tolerance

Series
6000
Presto





HSS | ISO 2/6H | 60° | BRIGHT FINISH

PRESTO

ØD1	Pitch	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
M1.6	0.35	8	41	2.5	2	600001.640.35	**£103.54**	600001.610.35	**£34.50**	600001.620.35	**£34.50**	600001.630.35	**£34.50**
M2	0.4	8	41	2.5	2	600002.040.4	**£48.68**	600002.010.4	**£16.21**	600002.020.4	**£16.21**	600002.030.4	**£16.21**
M2.5	0.45	9.5	44.5	2.8	2.24	600002.540.45	**£40.02**	600002.510.45	**£13.35**	600002.520.45	**£13.35**	600002.530.45	**£13.35**
M3	0.5	16	48	3.15	2.5	600003.040.5	**£25.95**	600003.010.5	**£8.66**	600003.020.5	**£8.66**	600003.030.5	**£8.18**
M3.5	0.6	19	50	3.55	2.8	600003.540.6	**£29.69**	600003.510.6	**£9.89**	600003.520.6	**£9.89**	600003.530.6	**£9.89**
M4	0.7	13	53	4	3.15	600004.040.7	**£23.56**	600004.010.7	**£7.88**	600004.020.7	**£8.24**	600004.030.7	**£7.88**
M4.5	0.75	13	53	4.5	3.55	600004.540.75	**£43.07**	600004.510.75	**£14.39**	600004.520.75	**£14.39**	600004.530.75	**£14.39**
M5	0.8	16	58	5	4	600005.040.8	**£24.96**	600005.010.8	**£8.34**	600005.020.8	**£7.89**	600005.030.8	**£8.34**
M6	1	19	66	6.3	5	600006.041.0	**£25.47**	600006.011.0	**£8.52**	600006.021.0	**£8.52**	600006.031.0	**£8.03**
M7	1	19	66	7.1	5.6	600007.041.0	**£49.64**	600007.011.0	**£16.55**	600007.021.0	**£16.55**	600007.031.0	**£16.55**
M8	1.25	22	72	8	6.3	600008.041.25	**£28.27**	600008.011.25	**£9.43**	600008.021.25	**£9.43**	600008.031.25	**£8.94**
M9	1.25	22	72	9	7.1	600009.041.25	**£57.83**	600009.011.25	**£19.29**	600009.021.25	**£19.29**	600009.031.25	**£19.29**
M10	1.5	24	80	10	8	6000010.041.5	**£36.26**	6000010.011.5	**£12.09**	6000010.021.5	**£12.09**	6000010.031.5	**£11.42**
M11	1.5	25	85	8	6.3	6000011.041.5	**£74.84**	6000011.011.5	**£26.22**	6000011.021.5	**£26.22**	6000011.031.5	**£26.22**
M12	1.75	29	89	9	7.1	6000012.041.75	**£51.26**	6000012.011.75	**£17.09**	6000012.021.75	**£17.09**	6000012.031.75	**£16.14**
M14	2	30	95	11.2	9	6000014.042.0	**£62.06**	6000014.012.0	**£20.69**	6000014.022.0	**£20.69**	6000014.032.0	**£20.69**
M16	2	32	102	12.5	10	6000016.042.0	**£75.65**	6000016.012.0	**£25.22**	6000016.022.0	**£25.22**	6000016.032.0	**£25.22**
M18	2.5	37	112	14	11.2	6000018.042.5	**£114.89**	6000018.012.5	**£38.29**	6000018.022.5	**£38.29**	6000018.032.5	**£38.29**
M20	2.5	37	112	14	11.2	6000020.042.5	**£125.92**	6000020.012.5	**£41.97**	6000020.022.5	**£41.97**	6000020.032.5	**£41.97**
M22	2.5	38	118	16	12.5	6000022.042.5	**£154.65**	6000022.012.5	**£238.38**	6000022.022.5	**£51.58**	6000022.032.5	**£51.58**
M24	3	45	130	18	14	6000024.043.0	**£124.02**	6000024.013.0	**£62.08**	6000024.023.0	**£62.08**	6000024.033.0	**£62.08**
M27	3	45	135	20	16	6000027.043.0	**£189.84**	6000027.013.0	**£111.43**	6000027.023.0	**£111.43**	6000027.033.0	**£111.43**
M30	3.5	48	138	20	16	6000030.043.5	**£192.76**	6000030.013.5	**£102.87**	6000030.023.5	**£102.87**	6000030.033.5	**£102.87**
M33	3.5	51	151	22.4	18	6000033.043.5	**£253.61**	6000033.013.5	**£86.72**	6000033.023.5	**£86.72**	6000033.033.5	**£97.13**
M36	4	57	162	25	20	6000036.044.0	**£251.85**	6000036.014.0	**£83.96**	6000036.024.0	**£76.32**	6000036.034.0	**£83.96**
M39	4	60	170	28	22.4	6000039.044.0	**£333.66**	6000039.014.0	**£111.24**	6000039.024.0	**£111.24**	6000039.034.0	**£111.24**
M42	4.5	60	170	28	22.4	6000042.044.5	**£460.62**	6000042.014.5	**£139.61**	6000042.024.5	**£139.61**	6000042.034.5	**£139.61**
M45	4.5	67	187	31.5	25	6000045.044.5	**£542.41**	6000045.014.5	**£180.82**	6000045.024.5	**£180.82**	6000045.034.5	**£180.82**
M48	5	67	187	31.5	25	6000048.045.0	**£666.34**	6000048.015.0	**£222.13**	6000048.025.0	**£222.13**	6000048.035.0	**£222.13**
M52	5	70	200	35.5	28	6000052.045.0	**£760.25**	6000052.015.0	**£253.43**	6000052.025.0	**£253.43**	6000052.035.0	**£253.43**
M56	5.5	70	200	35.5	28	6000056.045.5	**£1,035.89**	6000056.015.5	**£345.32**	6000056.025.5	**£345.32**	6000056.035.5	**£345.32**
M60	5.5	76	221	40	31.5	6000060.045.5	**£1,292.51**	6000060.015.5	**£431.32**	6000060.025.5	**£431.32**	6000060.035.5	**£431.32**

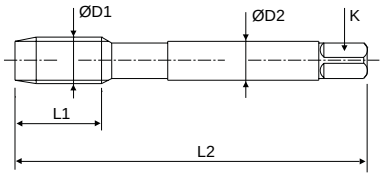
M METRIC COARSE RIGHT & LEFT HAND TAP SETS

Uncoated for use on Steel, Stainless Steel, Cast Iron & Non-Ferrous Materials

Series	
00M UFS	00M-LH UFS

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - ISO2/6H tolerance





HSS | DIN 352 | ISO 2/6H | 60° | A,D,C | BRIGHT FINISH | 2xD | Through & Blind Holes

UFS

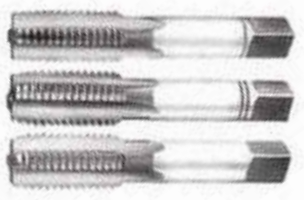
ØD1	Pitch	L1	L2	ØD2	K	No. of Flutes	Drill Dia.	Order Code			
								Right Hand	Price	Left Hand	Price
M2	0.4	8	36	2.8	2.1	3	1.6	00M2	**£36.09**	-	-
M2.5	0.45	9	40	2.8	2.1	3	2.05	00M2.5	**£36.09**	-	-
M3	0.5	9	40	3.5	2.7	3	2.5	00M3	**£24.02**	00M3LH	**£38.58**
M4	0.7	11	45	4.5	3.4	3	3.3	00M4	**£23.75**	00M4LH	**£38.58**
M5	0.8	13	50	6	4.9	3	4.2	00M5	**£24.79**	00M5LH	**£38.58**
M6	1	15	56	6	4.9	3	5	00M6	**£24.79**	00M6LH	**£38.58**
M8	1.25	19	63	6	4.9	3	6.8	00M8	**£28.75**	00M8LH	**£43.07**
M10	1.5	22	70	7	5.5	3	8.5	00M10	**£36.60**	00M10LH	**£54.91**
M12	1.75	28	75	9	7	4	10.30	00M12	**£47.00**	00M12LH	**£70.52**
M14	2	30	80	11	9	4	12	00M14	**£58.60**	-	-
M16	2	30	80	12	9	4	14	00M16	**£69.72**	-	-
M20	2.5	34	95	16	12	4	17.5	00M20	**£120.22**	-	-
M24	3	38	110	18	14.5	4	21	00M24	**£167.63**	-	-

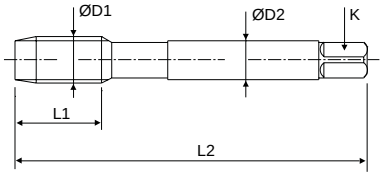
M METRIC COARSE RIGHT & LEFT HAND TAP SETS

Uncoated for use on Steel, Cast Iron & Non-Ferrous Materials

Series	
T7109 YG-1	T7343 YG-1

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - DIN352 / 6H tolerance
- Bottoming tap of set has final internal thread dimensions only
- First tap with pilot guide





HSS | DIN 352 | 60° | A,D,C | BRIGHT FINISH | 6H | 2xD | Through & Blind Holes

YG

ØD1	Pitch	L1	L2	ØD2	K	No. of Flutes	Drill Dia.	Order Code			
								Right Hand	Price	Left Hand	Price
M2	0.4	8	36	2.8	2.1	3	1.6	T7109139	**£25.27**	-	-
M2.5	0.45	9	40	2.8	2.1	3	2.5	T7109179	**£20.67**	-	-
M3	0.5	11	40	3.5	2.7	3	2.5	T7109209	**£14.50**	T7343209	**£22.10**
M3.5	0.6	13	45	4	3	3	2.9	T7109229	**£16.83**	-	-
M4	0.7	13	45	4.5	3.4	3	3.3	T7109249	**£14.50**	T7343249	**£22.10**
M4.5	0.75	16	50	6	4.9	3	3.7	T7109269	**£15.02**	T7343269	**£22.59**
M5	0.8	16	52	6	4.9	3	4.2	T7109289	**£15.02**	T7343289	**£22.59**
M6	1	18	56	6	4.9	3	5	T7109319	**£15.55**	T7343319	**£23.38**
M8	1.25	20	63	6	4.9	3	6.8	T7109369	**£20.29**	T7343369	**£30.42**
M10	1.5	22	70	7	5.5	4	8.5	T7109429	**£26.06**	T7343429	**£38.92**
M12	1.75	24	80	9	7	4	10.2	T7109509	**£32.49**	T7343509	**£48.65**
M14	2	26	80	11	9	4	12	T7109549	**£41.08**	T7343549	**£61.78**
M16	2	27	80	12	9	4	14	T7109609	**£55.23**	T7343609	**£82.86**
M18	2.5	30	95	14	11	4	15.5	T7109659	**£66.14**	T7343659	**£79.85**
M20	2.5	32	95	16	12	4	17.5	T7109709	**£80.12**	T7343709	**£96.82**
M22	2.5	32	100	18	14.5	4	19.5	T7109749	**£99.25**	T7343749	**£120.21**
M24	3	34	110	18	14.5	4	21	T7109789	**£114.41**	T7343789	**£138.43**
M27	3	36	110	20	16	4	24	T7109869	**£155.26**	T7343869	**£187.73**
M30	3.5	40	125	22	18	4	26.5	T7109949	**£160.17**	T7343949	**£240.35**

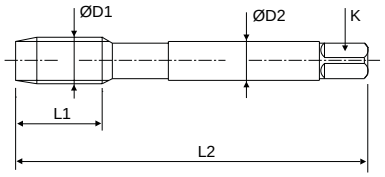
M METRIC COARSE STAINLESS STEEL TAP SETS

Hand Taps for Carbon/Alloy Steel, Stainless Steel, Cast Iron, Aluminium, Copper & Copper Alloy

Series
00M-X-VS UFS

- VAP S is a new generation surface treatment for soft materials with a tendency to stick
- Can also be used as a machine tap if required
- Straight flute - 6HX tolerance





HSS | DIN 352 | 6HX | 60° | A,D,C | VAP S | 2xD | Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2	K	No. of Flutes	Drill Dia.	Order Code	Price
M4	0.7	11	45	4.5	3.4	3	3.3	00M4X-VS	**£43.71**
M5	0.8	13	50	6	4.9	3	4.2	00M5X-VS	**£43.71**
M6	1	15	56	6	4.9	3	5	00M6X-VS	**£43.71**
M8	1.25	19	63	6	4.9	3	6.8	00M8X-VS	**£53.98**
M10	1.5	22	70	7	5.5	3	8.5	00M10X-VS	**£65.76**
M12	1.75	28	75	9	7	4	10.30	00M12X-VS	**£77.46**

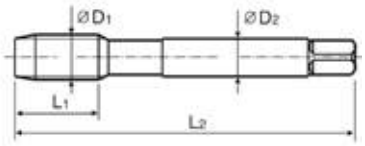
M METRIC COARSE INOX SETS

VAP Surface Treatment for use on Stainless Steel & Steel

Series
TB373 YG-1

- VAP finish prolongs tap life and prevents material sticking
- Can also be used as a machine tap if required
- Straight flute - DIN352 / 6H tolerance
- Bottoming tap of set has final internal thread dimensions only





HSS Co5 | DIN 352 | 60° | A,D,C | BRIGHT FINISH | 6HX | 2xD | Through & Blind Holes

ØD1	Pitch	L1	L2	ØD2	K	No. of Flutes	Drill Dia.	Order Code	Price
M3	0.5	11	40	3.5	2.7	3	2.5	TB373209	**£43.67**
M3.5	0.6	13	45	4	3	3	2.9	TB373229	**£51.09**
M4	0.7	13	45	4.5	3.4	3	3.3	TB373249	**£43.52**
M4.5	0.75	16	50	6	4.9	3	3.7	TB373269	**£52.90**
M5	0.8	16	52	6	4.9	3	4.2	TB373289	**£48.04**
M6	1	18	56	6	4.9	3	5	TB373319	**£48.41**
M8	1.25	20	63	6	4.9	3	6.8	TB373369	**£52.90**
M10	1.5	22	70	7	5.5	4	8.5	TB373429	**£69.35**
M12	1.75	24	80	9	7	4	10.2	TB373509	**£87.95**
M14	2	26	80	11	9	4	12	TB373549	**£91.35**
M16	2	27	80	12	9	4	14	TB373609	**£111.52**
M18	2.5	30	95	14	11	4	15.5	TB373659	**£141.22**
M20	2.5	32	95	16	12	4	17.5	TB373709	**£171.30**

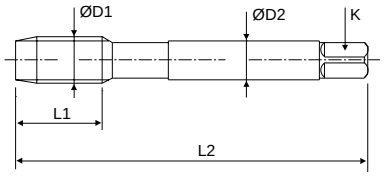
MF METRIC FINE SETS & INDIVIDUAL TAPS

Uncoated for use on Steel & Non-Ferrous Materials

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - DIN352 / 6H tolerance

Series

60080
Presto





HSS | ISO 2/6H | 60° | BRIGHT FINISH

PRESTO

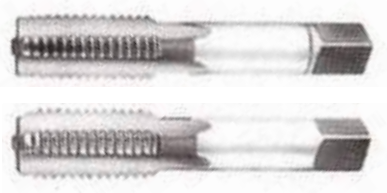
ØD1	Pitch	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
M3	0.35	16	48	3.15	2.5	600803.040.35	**£53.04**	600803.010.35	**£18.85**	600803.020.35	**£18.85**	600803.030.35	**£18.85**
M4	0.5	13	53	4	3.15	600804.040.5	**£56.50**	600804.010.5	**£18.85**	600804.020.5	**£18.85**	600804.030.5	**£18.85**
M4.5	0.5	13	53	4.5	3.55	600804.540.5	**£68.20**	600804.510.5	**£22.76**	600804.520.5	**£22.76**	600804.530.5	**£22.76**
M5	0.5	16	58	5	4	600805.040.5	**£56.50**	600805.010.5	**£18.85**	600805.020.5	**£18.85**	600805.030.5	**£18.85**
M5	0.75	16	58	5	4	600805.040.75	**£67.80**	600805.010.75	**£22.63**	600805.020.75	**£22.63**	600805.030.75	**£22.63**
M6	0.75	19	66	6.3	5	600806.040.75	**£44.90**	600806.010.75	**£14.98**	600806.020.75	**£14.98**	600806.030.75	**£14.98**
M7	0.75	19	66	7.1	5.6	600807.040.75	**£63.62**	600807.010.75	**£20.20**	600807.020.75	**£21.21**	600807.030.75	**£21.21**
M8	0.75	22	72	8	6.3	600808.040.75	**£69.12**	600808.010.75	**£23.08**	600808.020.75	**£23.08**	600808.030.75	**£23.08**
M8	1	22	72	8	6.3	600808.041.0	**£51.94**	600808.011.0	**£17.30**	600808.021.0	**£17.30**	600808.031.0	**£17.30**
M9	1	22	72	9	7.1	600809.041.0	**£138.72**	600809.011.0	**£46.26**	600809.021.0	**£46.26**	600809.031.0	**£46.26**
M10	0.75	24	80	10	8	6008010.040.75	**£138.72**	6008010.010.75	**£46.26**	6008010.020.75	**£46.26**	6008010.030.75	**£46.26**
M10	1	24	80	10	8	6008010.041.0	**£66.18**	6008010.011.0	**£22.09**	6008010.021.0	**£22.09**	6008010.031.0	**£22.09**
M10	1.25	24	80	10	8	6008010.041.25	**£66.44**	6008010.011.25	**£22.16**	6008010.021.25	**£22.16**	6008010.031.25	**£22.16**
M12	1	29	89	9	7.1	6008012.041.0	**£140.04**	6008012.011.0	**£46.71**	6008012.021.0	**£46.71**	6008012.031.0	**£46.71**
M12	1.25	29	89	9	7.1	6008012.041.25	**£86.49**	6008012.011.25	**£28.84**	6008012.021.25	**£28.84**	6008012.031.25	**£28.84**
M12	1.5	29	89	9	7.1	6008012.041.5	**£86.49**	6008012.011.5	**£28.84**	6008012.021.5	**£28.84**	6008012.031.5	**£28.84**
M14	1	30	95	11.2	9	6008014.041.0	**£168.97**	6008014.011.0	**£56.32**	6008014.021.0	**£56.32**	6008014.031.0	**£56.32**
M14	1.25	30	95	11.2	9	6008014.041.25	**£118.29**	6008014.011.25	**£39.48**	6008014.021.25	**£39.48**	6008014.031.25	**£39.48**
M14	1.5	30	95	11.2	9	6008014.041.5	**£96.31**	6008014.011.5	**£32.13**	6008014.021.5	**£32.13**	6008014.031.5	**£32.13**
M16	1	32	102	12.5	10	6008016.041.0	**£120.96**	6008016.011.0	**£66.59**	6008016.021.0	**£66.59**	6008016.031.0	**£66.59**
M16	1.5	32	102	12.5	10	6008016.041.5	**£108.08**	6008016.011.5	**£36.04**	6008016.021.5	**£36.04**	6008016.031.5	**£36.04**
M18	1	37	112	14	11.2	6008018.041.0	**£146.22**	6008018.011.0	**£85.86**	6008018.021.0	**£85.86**	6008018.031.0	**£85.86**
M18	1.5	37	112	14	11.2	6008018.041.5	**£149.88**	6008018.011.5	**£49.98**	6008018.021.5	**£49.98**	6008018.031.5	**£49.98**
M18	2	37	112	14	11.2	6008018.042.0	**£146.22**	6008018.012.0	**£85.86**	6008018.022.0	**£44.01**	6008018.032.0	**£85.86**
M20	1	37	112	14	11.2	6008020.041.0	**£166.75**	6008020.011.0	**£97.90**	6008020.021.0	**£97.90**	6008020.031.0	**£97.90**
M20	1.5	37	112	14	11.2	6008020.041.5	**£121.16**	6008020.011.5	**£60.60**	6008020.021.5	**£60.60**	6008020.031.5	**£60.60**
M20	2	37	112	14	11.2	6008020.042.0	**£165.45**	6008020.012.0	**£97.11**	6008020.022.0	**£97.11**	6008020.032.0	**£97.11**
M22	1.5	38	118	16	12.5	6008022.041.5	**£148.68**	6008022.011.5	**£81.84**	6008022.021.5	**£81.84**	6008022.031.5	**£81.84**
M22	2	38	118	16	12.5	6008022.042.0	**£165.93**	6008022.012.0	**£97.41**	6008022.022.0	**£97.41**	6008022.032.0	**£97.41**
M24	1.5	45	130	18	14	6008024.041.5	**£222.02**	6008024.011.5	**£114.44**	6008024.021.5	**£114.44**	6008024.031.5	**£114.44**
M24	2	45	130	18	14	6008024.042.0	**£168.04**	6008024.012.0	**£98.65**	6008024.022.0	**£98.65**	6008024.032.0	**£98.65**
M25	1.5	45	130	18	14	6008025.041.5	**£167.28**	6008025.011.5	**£98.20**	6008025.021.5	**£98.20**	6008025.031.5	**£98.20**
M27	1.5	37	127	20	16	6008027.041.5	**£389.37**	6008027.011.5	**£125.88**	6008027.021.5	**£138.47**	6008027.031.5	**£138.47**
M27	2	37	127	20	16	6008027.042.0	**£278.87**	6008027.012.0	**£111.24**	6008027.022.0	**£111.24**	6008027.032.0	**£109.04**
M30	1.5	37	127	20	16	6008030.041.5	**£318.06**	6008030.011.5	**£113.11**	6008030.021.5	**£124.43**	6008030.031.5	**£113.11**
M30	2	37	127	20	16	6008030.042.0	**£341.71**	6008030.012.0	**£110.47**	6008030.022.0	**£121.51**	6008030.032.0	**£110.47**
M32	1.5	37	137	22.4	18	6008032.041.5	**£362.64**	6008032.011.5	**£128.40**	6008032.021.5	**£141.23**	6008032.031.5	**£141.23**
M33	2	37	137	22.4	18	6008033.042.0	**£474.01**	6008033.012.0	**£143.66**	6008033.022.0	**£158.03**	6008033.032.0	**£143.66**
M40	1.5	39	149	28	22.4	6008040.041.5	**£570.66**	6008040.011.5	**£190.22**	6008040.021.5	**£190.22**	6008040.031.5	**£190.22**

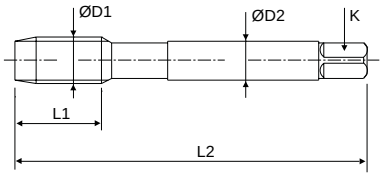
MF METRIC FINE SETS

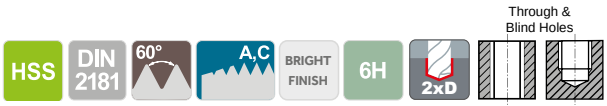
Uncoated for use on Steel, Cast Iron & Non-Ferrous Materials

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - DIN2181 / 6H tolerance
- Set contains first and bottom tap
- Bottoming tap of set has final internal thread dimensions only

Series
T7309 YG-1







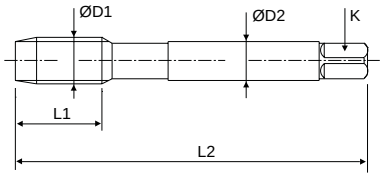
ØD1	Pitch	L1	L2	ØD2	K	No. of Flutes	Drill Dia.	Order Code	Price
M3	0.35	9	40	3.5	2.7	3	2.65	T7309219	**£10.01**
M4	0.5	10	45	4.5	3.4	3	3.5	T7309259	**£14.00**
M5	0.5	13	52	6	4.9	3	4.5	T7309299	**£14.00**
M6	0.75	14	56	6	4.9	3	5.2	T7309329	**£13.51**
M6	0.5	13	56	6	4.9	3	5.5	T7309339	**£15.05**
M7	0.75	14	56	6	4.9	3	6.2	T7309359	**£18.22**
M8	1	17	63	6	4.9	3	7	T7309379	**£16.80**
M8	0.75	14	63	6	4.9	3	7.2	T7309389	**£18.22**
M8	0.5	14	63	6	4.9	3	7.5	T7309939	**£19.80**
M9	1	17	63	7	5.5	4	8	T7309409	**£23.96**
M10	1.25	22	70	7	5.5	4	8.8	T7309439	**£19.42**
M10	1	18	63	7	5.5	4	9	T7309449	**£19.42**
M10	0.75	18	63	7	5.5	4	9.2	T7309459	**£23.96**
M11	1	18	63	8	6.2	4	10	T7309479	**£23.38**
M12	1.5	20	70	9	7	4	10.5	T7309519	**£23.14**
M12	1.25	20	70	9	7	4	10.8	T7309529	**£23.38**
M12	1	18	70	9	7	4	11	T7309539	**£23.55**
M13	1.5	20	70	11	9	4	11.5	T7309N19	**£32.78**
M13	1	18	70	11	9	4	12	T7309N29	**£32.78**
M14	1.5	20	70	11	9	4	12.5	T7309559	**£28.85**
M14	1.25	20	70	11	9	4	12.8	T7309569	**£32.20**
M14	1	18	70	11	9	4	13	T7309579	**£35.87**
M15	1.5	20	70	12	9	4	13.5	T7309589	**£39.54**
M15	1	18	70	12	9	4	14	T7309599	**£43.76**
M16	1.5	20	70	12	9	4	14.5	T7309619	**£39.54**
M16	1	18	70	12	9	4	15	T7309629	**£43.76**
M18	2	22	80	14	11	4	16	T7309669	**£55.23**
M18	1.5	22	80	14	11	4	16.5	T7309679	**£50.28**
M18	1	18	80	14	11	4	17	T7309689	**£54.18**
M20	2	22	80	16	12	4	18	T7309719	**£65.94**
M20	1.5	22	80	16	12	4	18.5	T7309729	**£54.50**
M20	1	18	80	16	12	4	19	T7309739	**£65.94**
M22	2	22	80	18	14.5	4	20	T7309759	**£88.71**
M22	1.5	22	80	18	14.5	4	20.5	T7309769	**£80.73**
M22	1	18	80	18	14.5	4	21	T7309779	**£88.71**
M24	2	22	90	18	14.5	4	22	T7309799	**£101.84**
M24	1.5	22	90	18	14.5	4	22.5	T7309809	**£96.98**
M24	1	18	90	18	14.5	4	23	T7309819	**£106.76**
M25	1.5	22	90	18	14.5	4	23.5	T7309839	**£94.59**
M25	1	18	90	18	14.5	4	24	T7309849	**£103.99**
M26	1.5	22	90	18	14.5	4	24.5	T7309859	**£96.98**
M26	1	18	90	18	14.5	4	25	T7309N59	**£55.83**
M27	2	22	90	20	16	4	25	T7309879	**£133.72**
M27	1.5	22	90	20	16	4	25.5	T7309889	**£122.60**
M27	1	18	90	20	16	4	26	T7309899	**£146.96**
M28	2	22	90	20	16	4	26	T7309909	**£139.54**
M28	1.5	22	90	20	16	4	26.5	T7309919	**£122.60**
M30	2	22	90	22	18	4	28	T7309969	**£152.81**
M30	1.5	22	90	22	18	4	28.5	T7309979	**£138.17**
M30	1	18	90	22	18	4	29	T7309989	**£156.40**

UNC UNIFIED NATIONAL COARSE SETS & INDIVIDUAL TAPS

Uncoated for use on Steel & Non-Ferrous Materials

Series
60100
Presto

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - 2B tolerance





HSS | 2B | 60° | BRIGHT FINISH

PRESTO

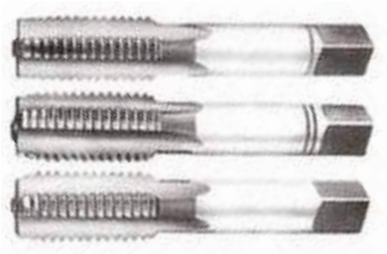
ØD1 UNC	TPI	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
No.1	64	8	41	2.5	2.0	6010014N	**£150.59**	6010011N	**£50.23**	6010012N	**£50.23**	6010013N	**£50.23**
No.2	56	9.5	44.5	2.8	2.24	6010024N	**£103.93**	6010021N	**£34.64**	6010022N	**£34.64**	6010023N	**£34.64**
No.3	48	9.5	44.5	2.8	2.24	6010034N	**£103.93**	6010031N	**£34.64**	6010032N	**£34.64**	6010033N	**£34.64**
No.4	40	16	48	3.15	2.5	6010044N	**£55.16**	6010041N	**£18.41**	6010042N	**£18.41**	6010043N	**£18.41**
No.5	40	16	48	3.15	2.5	6010054N	**£69.12**	6010051N	**£23.08**	6010052N	**£23.08**	6010053N	**£23.08**
No.6	32	19	50	3.55	2.8	6010064N	**£33.21**	6010061N	**£11.10**	6010062N	**£11.10**	6010063N	**£11.10**
No.8	32	13	53	4.5	3.55	6010084N	**£33.21**	6010081N	**£11.10**	6010082N	**£11.10**	6010083N	**£11.10**
No.10	24	16	58	5.0	4.0	60100104N	**£33.72**	60100101N	**£11.26**	60100102N	**£11.26**	60100103N	**£11.26**
No.12	24	17	62	5.6	4.5	60100124N	**£48.63**	60100121N	**£16.21**	60100122N	**£16.21**	60100123N	**£16.21**
1/4	20	19	66	6.3	5.0	60100-144	**£28.21**	60100-141	**£9.43**	60100-142	**£9.43**	60100-143	**£9.43**
5/16	18	22	72	8.0	6.3	60100-5164	**£28.21**	60100-5161	**£9.43**	60100-5162	**£9.43**	60100-5163	**£9.43**
3/8	16	24	80	10.0	8.0	60100-384	**£40.45**	60100-381	**£13.50**	60100-382	**£13.50**	60100-383	**£13.50**
7/16	14	25	85	8.0	6.3	60100-7164	**£68.78**	60100-7161	**£22.94**	60100-7162	**£22.94**	60100-7163	**£22.94**
1/2	13	29	89	9.0	7.1	60100-124	**£57.34**	60100-121	**£19.14**	60100-122	**£19.14**	60100-123	**£19.14**
9/16	12	30	95	11.2	9.0	60100-9164	**£97.78**	60100-9161	**£32.61**	60100-9162	**£32.61**	60100-9163	**£32.61**
5/8	11	32	102	12.5	10.0	60100-584	**£84.61**	60100-581	**£28.18**	60100-582	**£28.18**	60100-583	**£28.18**
3/4	10	37	112	14.0	11.2	60100-344	**£126.89**	60100-341	**£42.32**	60100-342	**£42.32**	60100-343	**£42.32**
7/8	9	38	118	16.0	12.5	60100-784	**£133.67**	60100-781	**£49.98**	60100-782	**£49.98**	60100-783	**£49.98**
1"	8	45	130	18.0	14.0	601001-4	**£156.25**	601001-1	**£56.68**	601001-2	**£56.68**	601001-3	**£56.68**
1" 1/8	7	48	138	20.0	16.0	601001-184	**£244.98**	601001-181	**£97.78**	601001-182	**£97.78**	601001-183	**£97.78**
1" 1/4	7	51	151	22.4	18.0	601001-144	**£330.92**	601001-141	**£117.66**	601001-142	**£117.66**	601001-143	**£117.66**
1" 3/8	6	57	162	25.0	20.0	601001-384	**£384.97**	601001-381	**£136.90**	601001-382	**£136.90**	601001-383	**£136.90**
1" 1/2	6	60	170	28.0	22.4	601001-124	**£461.95**	601001-121	**£154.00**	601001-122	**£154.00**	601001-123	**£154.00**
1" 3/4	5	67	187	31.5	25.0	601001-344	**£727.43**	601001-341	**£242.50**	601001-342	**£242.50**	601001-343	**£242.50**
2"	4.5	70	200	35.5	28.0	601002-4	**£830.94**	601002-1	**£277.00**	601002-2	**£277.00**	601002-3	**£277.00**

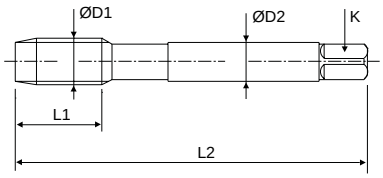
UNC UNIFIED COARSE SETS

Uncoated for use on Steel, Cast Iron & Non-Ferrous Materials

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - DIN351 / 2B Tolerance
- Bottoming tap of set has final internal thread dimensions only

Series
T7363 YG-1







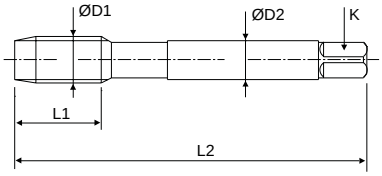
ØD1 UNC	TPI	L1	L2	ØD2	K	No. of Flutes	Drill Dia.	Order Code	Price
No.2	56	9	36	2.8	2.1	3	1.8	T7363089	**£42.51**
No.3	48	10	40	2.8	2.1	3	2.1	T7363129	**£36.07**
No.4	40	10	42	3.5	2.7	3	2.3	T7363169	**£23.99**
No.5	40	10	42	3.5	2.7	3	2.6	T7363209	**£18.75**
No.6	32	11	45	4	3	3	2.85	T7363249	**£18.75**
No.8	32	12	48	4.5	3.4	3	3.5	T7363289	**£18.75**
No.10	24	14	52	6	4.9	3	3.9	T7363329	**£18.22**
No.12	24	16	56	6	4.9	3	4.5	T7363369	**£26.29**
1/4	20	16	56	6	4.9	3	5.2	T7363409	**£17.96**
5/16	18	20	63	6	4.9	3	6.6	T7363449	**£25.15**
3/8	16	22	70	7	5.5	4	8	T7363489	**£29.52**
7/16	14	22	70	8	6.2	4	9.4	T7363529	**£38.75**
1/2	13	25	80	9	7	4	10.75	T7363569	**£45.56**
9/16	12	26	80	11	9	4	12.25	T7363609	**£65.48**
5/8	11	27	90	12	9	4	13.5	T7363649	**£64.08**
3/4	10	32	105	14	11	4	16.5	T7363709	**£91.18**
7/8	9	32	110	18	14.5	4	19.5	T7363749	**£138.43**
1"	8	36	110	20	16	4	22.25	T7363789	**£200.88**
1" 1/8	7	40	125	22	18	4	25	T7363829	**£267.14**
1" 1/4	7	40	125	25	20	4	28.25	T7363869	**£322.24**
1" 3/8	6	50	150	28	22	4	30.75	T7363909	**£452.92**
1" 1/2	6	50	150	32	24	4	34	T7363949	**£524.97**
1" 3/4	5	58	160	36	29	4	39.5	T7363B89	**£720.08**
2"	4.5	65	180	40	32	4	45.25	T7363D29	**£960.82**

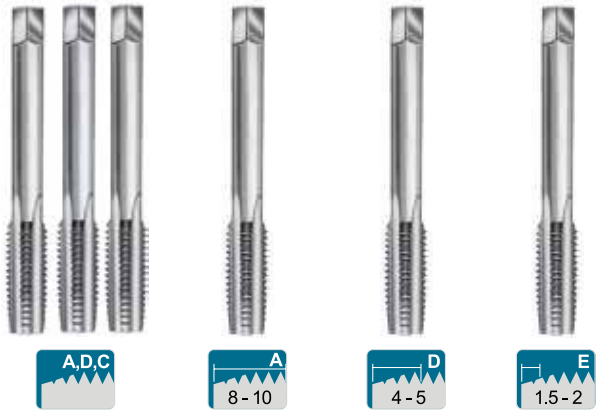
UNF UNIFIED NATIONAL FINE SETS & INDIVIDUAL TAPS

Uncoated for use on Steel & Non-Ferrous Materials

Series
60200
Presto

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - 2B tolerance





HSS | 2B | 60° | BRIGHT FINISH

PRESTO

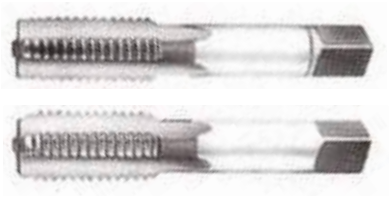
ØD1 UNF	TPI	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
No.0	80	8	41	2.5	2.0	6020004N	**£216.10**	6020001N	**£115.31**	6020002N	**£115.31**	6020003N	**£115.31**
No.1	72	8	41	2.5	2.0	6020014N	**£162.24**	6020011N	**£54.12**	6020012N	**£54.12**	6020013N	**£54.12**
No.2	64	9.5	44.5	2.8	2.24	6020024N	**£117.45**	6020021N	**£39.15**	6020022N	**£39.15**	6020023N	**£39.15**
No.3	56	9.5	44.5	2.8	2.24	6020034N	**£117.45**	6020031N	**£39.15**	6020032N	**£39.15**	6020033N	**£39.15**
No.4	48	16	48	3.15	2.5	6020044N	**£78.65**	6020041N	**£26.24**	6020042N	**£26.24**	6020043N	**£26.24**
No.5	44	16	48	3.15	2.5	6020054N	**£78.65**	6020051N	**£26.24**	6020052N	**£26.24**	6020053N	**£26.24**
No.6	40	19	50	3.55	2.8	6020064N	**£47.93**	6020061N	**£15.99**	6020062N	**£15.99**	6020063N	**£15.99**
No.8	36	13	53	4.5	3.55	6020084N	**£47.93**	6020081N	**£15.99**	6020082N	**£15.99**	6020083N	**£15.99**
No.10	32	16	58	5.0	4.0	60200104N	**£38.07**	60200101N	**£12.72**	60200102N	**£12.72**	60200103N	**£12.72**
No.12	28	17	62	5.6	4.5	60200124N	**£54.71**	60200121N	**£18.26**	60200122N	**£18.26**	60200123N	**£18.26**
1/4	28	19	66	6.3	5.0	60200-144	**£32.40**	60200-141	**£10.80**	60200-142	**£10.80**	60200-143	**£10.80**
5/16	24	22	72	8.0	6.3	60200-5164	**£36.53**	60200-5161	**£12.19**	60200-5162	**£12.19**	60200-5163	**£12.19**
3/8	24	24	80	10.0	8.0	60200-384	**£45.53**	60200-381	**£15.18**	60200-382	**£15.18**	60200-383	**£15.18**
7/16	20	25	85	8.0	6.3	60200-7164	**£65.51**	60200-7161	**£21.86**	60200-7162	**£21.86**	60200-7163	**£21.86**
1/2	20	29	89	9.0	7.1	60200-124	**£65.51**	60200-121	**£21.86**	60200-122	**£21.86**	60200-123	**£21.86**
9/16	18	30	95	11.2	9.0	60200-9164	**£83.04**	60200-9161	**£27.69**	60200-9162	**£27.69**	60200-9163	**£27.69**
5/8	18	32	102	12.5	10.0	60200-584	**£106.14**	60200-581	**£35.39**	60200-582	**£35.39**	60200-583	**£35.39**
3/4	16	37	112	14.0	11.2	60200-344	**£98.03**	60200-341	**£32.68**	60200-342	**£32.68**	60200-343	**£32.68**
7/8	14	38	118	16.0	12.5	60200-784	**£129.76**	60200-781	**£48.55**	60200-782	**£48.55**	60200-783	**£48.55**
1"	12	45	130	18.0	14.0	602001-4	**£168.04**	602001-1	**£67.03**	602001-2	**£67.03**	602001-3	**£67.03**
1" 1/8	12	37	127	20.0	16.0	602001-184	**£307.57**	602001-181	**£111.54**	602001-182	**£111.54**	602001-183	**£106.14**
1" 1/4	12	37	137	22.4	18.0	602001-144	**£379.63**	602001-141	**£148.48**	602001-142	**£148.48**	602001-143	**£148.48**
1" 3/8	12	39	144	25.0	20.0	602001-384	**£435.38**	602001-381	**£145.13**	602001-382	**£145.13**	602001-383	**£145.13**
1" 1/2	12	39	149	28.0	22.4	602001-124	**£525.64**	602001-121	**£175.21**	602001-122	**£192.75**	602001-123	**£175.21**

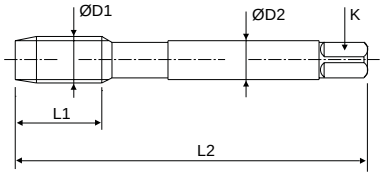
UNF UNIFIED FINE SETS

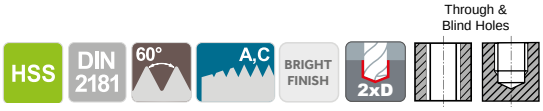
Uncoated for use on Steel, Cast Iron & Non-Ferrous Materials

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - DIN2181 / 2B tolerance
- Bottoming tap of set has final internal thread dimensions only

Series
T7509
YG-1







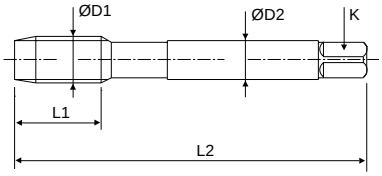
ØD1 UNF	TPI	L1	L2	ØD2	K	No. of Flutes	Drill Dia.	Order Code	Price
No.4	48	10	42	3.5	2.7	3	2.4	T7509189	**£20.03**
No.5	44	10	42	3.5	2.7	3	2.7	T7509229	**£19.68**
No.6	40	11	45	4	3	3	3	T7509269	**£19.68**
No.8	36	12	48	4.5	3.4	3	3.5	T7509309	**£18.75**
No.10	32	14	52	6	4.9	3	4.1	T7509349	**£12.49**
No.12	28	16	56	6	4.9	3	4.7	T7509389	**£18.14**
1/4	28	16	56	6	4.9	3	5.5	T7509429	**£12.34**
5/16	24	17	63	6	4.9	3	6.9	T7509469	**£17.21**
3/8	24	18	63	7	5.5	4	8.5	T7509509	**£20.12**
7/16	20	20	70	8	6.2	4	9.9	T7509549	**£22.00**
1/2	20	20	70	9	7	4	11.5	T7509589	**£25.19**
9/16	18	20	70	11	9	4	12.9	T7509629	**£36.25**
5/8	18	20	70	12	9	4	14.5	T7509669	**£34.65**
3/4	16	22	80	14	11	4	17.5	T7509729	**£43.29**
7/8	14	22	80	18	14.5	4	20.5	T7509769	**£54.94**
1"	12	22	90	18	14.5	4	23.25	T7509809	**£70.83**
1" 1/8	12	22	90	22	18	4	26.5	T7509849	**£93.54**

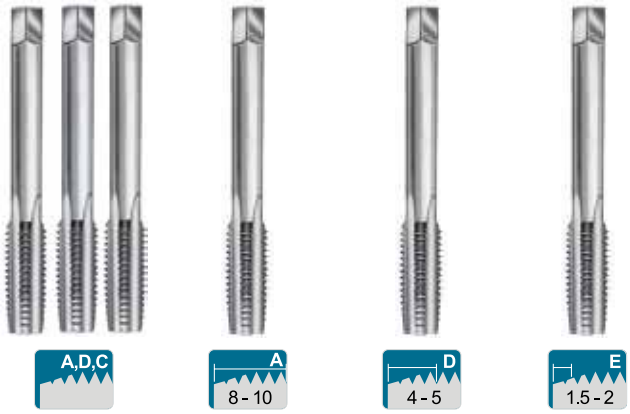
BSW BRITISH STANDARD WHITWORTH SETS & INDIVIDUAL TAPS

Uncoated for use on Steel & Non-Ferrous Materials

Series
60300
Presto

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - Class 2 tolerance





HSS | CLASS 2 | 55° | BRIGHT FINISH

PRESTO

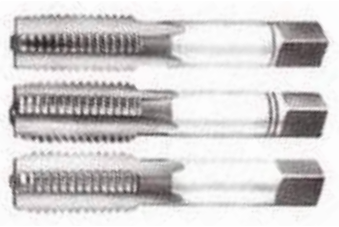
ØD1 BSW	TPI	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
1/16	60	8	41	2.5	2.0	60300-1164	**£157.25**	60300-1161	**£92.30**	60300-1162	**£92.30**	60300-1163	**£92.30**
3/32	48	9.5	44.5	2.8	2.24	60300-3324	**£158.25**	60300-3321	**£52.77**	60300-3322	**£52.77**	60300-3323	**£52.77**
1/8	40	16	48	3.15	2.5	60300-184	**£60.88**	60300-181	**£19.31**	60300-182	**£20.28**	60300-183	**£19.16**
5/32	32	13	53	4.0	3.15	60300-5324	**£93.79**	60300-5321	**£29.79**	60300-5322	**£29.79**	60300-5323	**£29.79**
3/16	24	16	58	5.0	4.0	60300-3164	**£36.41**	60300-3161	**£12.16**	60300-3162	**£12.16**	60300-3163	**£12.16**
7/32	24	17	62	5.6	4.5	60300-7324	**£61.60**	60300-7321	**£20.75**	60300-7322	**£20.75**	60300-7323	**£19.76**
1/4	20	19	66	6.3	5.0	60300-144	**£31.01**	60300-141	**£10.36**	60300-142	**£10.36**	60300-143	**£9.81**
5/16	18	22	72	8.0	6.3	60300-5164	**£34.63**	60300-5161	**£11.56**	60300-5162	**£11.56**	60300-5163	**£10.94**
3/8	16	24	80	10.0	8.0	60300-384	**£44.52**	60300-381	**£14.85**	60300-382	**£14.85**	60300-383	**£14.85**
7/16	14	25	85	8.0	6.3	60300-7164	**£74.74**	60300-7161	**£23.74**	60300-7162	**£24.94**	60300-7163	**£23.56**
1/2	12	29	89	9.0	7.1	60300-124	**£63.14**	60300-121	**£21.05**	60300-122	**£21.05**	60300-123	**£19.89**
9/16	12	30	95	11.2	9.0	60300-9164	**£104.42**	60300-9161	**£33.16**	60300-9162	**£33.16**	60300-9163	**£34.82**
5/8	11	32	102	12.5	10.0	60300-584	**£93.99**	60300-581	**£31.34**	60300-582	**£31.34**	60300-583	**£29.59**
3/4	10	37	112	14.0	11.2	60300-344	**£140.71**	60300-341	**£46.94**	60300-342	**£46.94**	60300-343	**£44.35**
7/8	9	38	118	16.0	12.5	60300-784	**£136.84**	60300-781	**£71.74**	60300-782	**£75.33**	60300-783	**£75.33**
1"	8	45	130	18.0	14.0	603001-4	**£154.99**	603001-1	**£91.02**	603001-2	**£91.02**	603001-3	**£86.00**
1" 1/8	7	48	138	20.0	16.0	603001-184	**£270.03**	603001-181	**£107.72**	603001-182	**£107.72**	603001-183	**£107.72**
1" 1/4	7	51	151	22.4	18.0	603001-144	**£402.32**	603001-141	**£130.05**	603001-142	**£130.05**	603001-143	**£130.05**
1" 3/8	6	57	162	25.0	20.0	603001-384	**£428.07**	603001-381	**£142.68**	603001-382	**£142.68**	603001-383	**£142.72**
1" 1/2	6	60	170	28.0	22.4	603001-124	**£505.56**	603001-121	**£168.53**	603001-122	**£168.53**	603001-123	**£168.53**
1" 3/4	5	67	187	31.5	25.0	603001-344	**£795.18**	603001-341	**£265.08**	603001-342	**£265.08**	603001-343	**£265.08**
2"	4.5	70	200	35.5	28.0	603002-4	**£957.34**	603002-1	**£319.13**	603002-2	**£319.13**	603002-3	**£319.13**
2" 1/4	4	76	221	40.0	31.5	603002-144	**£1,466.86**	603002-141	**£488.97**	603002-142	**£488.97**	603002-143	**£488.97**
2" 1/2	4	79	224	40.0	31.5	603002-124	**£1,807.67**	603002-121	**£602.55**	603002-122	**£602.55**	603002-123	**£602.55**

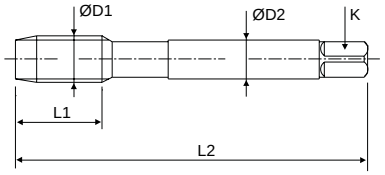
BSW BRITISH STANDARD WHITWORTH SETS

Uncoated for use on Steel, Cast Iron & Non-Ferrous Materials

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - DIN351
- Bottoming tap of set has final internal thread dimensions only

Series
T7609
YG-1







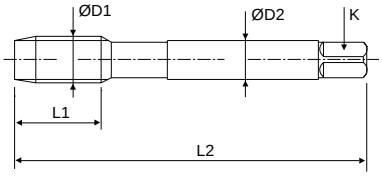
ØD1 BSW	TPI	L1	L2	ØD2	K	No. of Flutes	Drill Dia.	Order Code	Price
3/32	48	10	40	2.8	2.1	3	1.8	T7609129	**£23.38**
1/8	40	10	42	3.5	2.7	3	2.5	T7609209	**£16.83**
5/32	32	12	48	4.5	3.4	3	3.1	T7609289	**£19.13**
3/16	24	14	52	6	4.9	3	3.6	T7609329	**£17.73**
7/32	24	16	56	6	4.9	3	4.4	T7609369	**£11.40**
1/4	20	16	56	6	4.9	3	5.1	T7609409	**£15.81**
5/16	18	20	63	6	4.9	3	6.5	T7609449	**£18.89**
3/8	16	22	70	7	5.5	4	7.9	T7609489	**£26.73**
7/16	14	22	70	8	6.2	4	9.3	T7609529	**£36.07**
1/2	12	25	80	9	7	4	10.5	T7609569	**£41.37**
9/16	12	26	80	11	9	4	12	T7609609	**£31.09**
5/8	11	27	90	12	9	4	13.5	T7609649	**£58.17**
3/4	10	32	105	14	11	4	16.5	T7609709	**£82.68**
7/8	9	32	110	18	14.5	4	19.25	T7609749	**£79.24**
1"	8	36	110	20	16	4	22	T7609789	**£189.26**
1" 1/8	7	40	125	22	18	4	24.75	T7609829	**£213.51**
1" 1/4	7	40	125	25	20	4	27.75	T7609869	**£246.97**
1" 3/8	6	50	150	28	22	4	30.5	T7609909	**£347.38**
1" 1/2	6	50	150	32	24	4	33.5	T7609949	**£402.68**
1" 5/8	5	56	150	32	24	4	35.5	T7609B29	**£477.36**
1" 3/4	5	58	160	36	29	4	39	T7609B89	**£552.21**
1" 7/8	4.5	65	180	36	29	4	41.5	T7609C69	**£644.60**
2"	4.5	65	180	40	32	4	44.5	T7609D29	**£736.94**

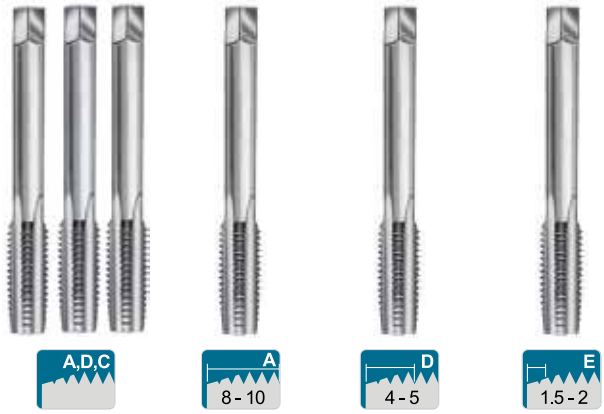
BA BRITISH ASSOCIATION SETS & INDIVIDUAL TAPS

Uncoated for use on Steel & Non-Ferrous Materials

Series
60500
Presto

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - Class 2 tolerance





HSS | CLASS 2 | 47.5° | BRIGHT FINISH

PRESTO

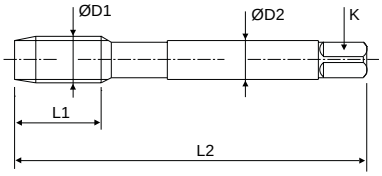
Size	TPI	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
12	90.9	7	40	2.5	2.0	6050012N4	**£144.49**	6050012N1	**£71.00**	6050012N2	**£71.00**	6050012N3	**£71.00**
10	72.6	8	41	2.5	2.0	6050010N4	**£120.82**	6050010N1	**£40.31**	6050010N2	**£40.31**	6050010N3	**£40.31**
9	65.1	8	41	2.5	2.0	605009N4	**£108.66**	605009N1	**£53.43**	605009N2	**£53.43**	605009N3	**£53.43**
8	59.1	9.5	44.5	2.8	2.24	605008N4	**£55.93**	605008N1	**£18.67**	605008N2	**£18.67**	605008N3	**£18.67**
7	52.9	9.5	44.5	2.8	2.24	605007N4	**£83.54**	605007N1	**£27.92**	605007N2	**£27.92**	605007N3	**£27.92**
6	47.9	9.5	44.5	2.8	2.24	605006N4	**£30.91**	605006N1	**£10.32**	605006N2	**£10.32**	605006N3	**£10.32**
5	43.0	16	48	3.15	2.5	605005N4	**£43.89**	605005N1	**£14.63**	605005N2	**£14.63**	605005N3	**£14.63**
4	38.5	19	50	3.55	2.8	605004N4	**£27.29**	605004N1	**£9.09**	605004N2	**£9.09**	605004N3	**£9.09**
3	34.8	13	53	4.5	3.55	605003N4	**£57.74**	605003N1	**£19.22**	605003N2	**£19.22**	605003N3	**£19.22**
2	31.4	16	58	5.0	4.0	605002N4	**£27.29**	605002N1	**£9.09**	605002N2	**£9.09**	605002N3	**£9.09**
1	28.2	17	62	5.6	4.5	605001N4	**£57.74**	605001N1	**£19.22**	605001N2	**£19.22**	605001N3	**£19.22**
0	25.4	19	66	6.3	5.0	605000N4	**£37.60**	605000N1	**£12.55**	605000N2	**£12.55**	605000N3	**£12.55**

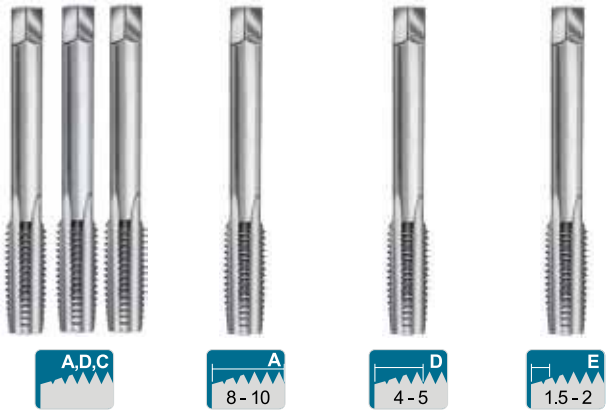
BSF BRITISH STANDARD FINE SETS & INDIVIDUAL TAPS

Uncoated for use on Steel & Non-Ferrous Materials

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute - Class 2 tolerance

Series
60400
Presto





HSS | CLASS 2 | 55° | BRIGHT FINISH

PRESTO

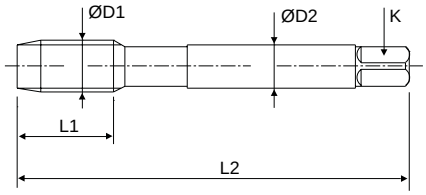
ØD1 BSF	TPI	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
3/16	32	16	58	5.0	4.0	60400-3164	**£47.12**	60400-3161	**£14.24**	60400-3162	**£14.93**	60400-3163	**£14.24**
1/4	26	19	66	6.3	5.0	60400-144	**£35.41**	60400-141	**£11.25**	60400-142	**£11.25**	60400-143	**£11.25**
5/16	22	22	72	8.0	6.3	60400-5164	**£43.18**	60400-5161	**£13.02**	60400-5162	**£13.70**	60400-5163	**£13.70**
3/8	20	24	80	10.0	8.0	60400-384	**£51.29**	60400-381	**£16.24**	60400-382	**£16.24**	60400-383	**£16.24**
7/16	18	25	85	8.0	6.3	60400-7164	**£83.67**	60400-7161	**£25.24**	60400-7162	**£25.24**	60400-7163	**£25.24**
1/2	16	29	89	9.0	7.1	60400-124	**£77.84**	60400-121	**£23.48**	60400-122	**£24.66**	60400-123	**£24.66**
9/16	16	30	95	11.2	9.0	60400-9164	**£104.86**	60400-9161	**£31.63**	60400-9162	**£31.63**	60400-9163	**£31.63**
5/8	14	32	102	12.5	10.0	60400-584	**£124.83**	60400-581	**£37.64**	60400-582	**£39.54**	60400-583	**£39.54**
3/4	12	37	112	14.0	11.2	60400-344	**£120.70**	60400-341	**£54.63**	60400-342	**£57.35**	60400-343	**£57.35**
7/8	11	38	118	16.0	12.5	60400-784	**£159.30**	60400-781	**£76.94**	60400-782	**£76.94**	60400-783	**£76.94**
1"	10	45	130	18.0	14.0	604001-4	**£175.33**	604001-1	**£93.12**	604001-2	**£93.12**	604001-3	**£93.11**
1" 1/8	9	48	138	20.0	16.0	604001-184	**£489.96**	604001-181	**£155.17**	604001-182	**£155.17**	604001-183	**£155.17**
1" 1/4	9	51	151	22.4	18.0	604001-144	**£391.26**	604001-141	**£139.11**	604001-142	**£139.11**	604001-143	**£139.11**
1" 3/8	8	57	162	25.0	20.0	604001-384	**£436.96**	604001-381	**£145.68**	604001-382	**£145.68**	604001-383	**£145.68**
1" 1/2	8	60	170	28.0	22.4	604001-124	**£528.38**	604001-121	**£176.15**	604001-122	**£176.15**	604001-123	**£176.15**
1" 3/4	7	67	187	31.5	25.0	604001-344	**£840.23**	604001-341	**£280.08**	604001-342	**£280.08**	604001-343	**£280.08**
2"	7	70	200	35.5	28.0	604002-4	**£920.81**	604002-1	**£312.71**	604002-2	**£312.71**	604002-3	**£312.71**
2" 1/4	6	76	221	40.0	31.5	604002-144	**£1,521.39**	604002-141	**£507.15**	604002-142	**£507.15**	604002-143	**£507.15**
2" 1/2	6	79	224	40.0	31.5	604002-124	**£1,870.38**	604002-121	**£623.48**	604002-122	**£623.48**	604002-123	**£623.48**

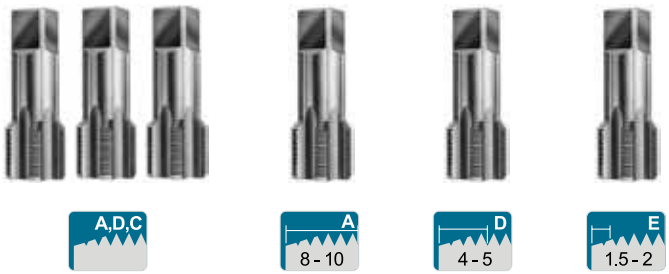
BSPF (G) WHITWORTH PIPE THREAD SETS & INDIVIDUAL TAPS

Uncoated for use on Steel & Non-Ferrous Materials

Series
60600
Presto

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute





HSS 55° BRIGHT FINISH

PRESTO

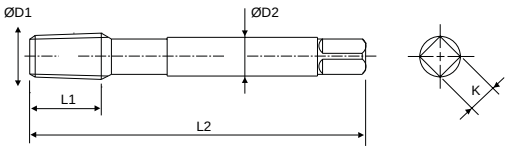
ØD1 BSPF	TPI	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
1/8	28	15	59	8.0	6.3	60600-184	**£60.11**	60600-181	**£20.06**	60600-182	**£20.06**	60600-183	**£20.06**
1/4	19	19	67	10.0	8.0	60600-144	**£83.14**	60600-141	**£27.69**	60600-142	**£27.69**	60600-143	**£27.69**
3/8	19	21	75	12.5	10.0	60600-384	**£126.59**	60600-381	**£42.23**	60600-382	**£42.23**	60600-383	**£42.23**
1/2	14	26	87	16.0	12.5	60600-124	**£129.28**	60600-121	**£57.74**	60600-122	**£57.74**	60600-123	**£57.74**
5/8	14	26	91	18.0	14.0	60600-584	**£203.92**	60600-581	**£106.93**	60600-582	**£106.93**	60600-583	**£106.93**
3/4	14	28	96	20.0	16.0	60600-344	**£154.50**	60600-341	**£80.97**	60600-342	**£80.97**	60600-343	**£80.97**
7/8	14	29	102	22.4	18.0	60600-784	**£329.54**	60600-781	**£110.41**	60600-782	**£117.04**	60600-783	**£117.04**
1"	11	33	109	25.0	20.0	606001-4	**£276.43**	606001-1	**£144.88**	606001-2	**£144.88**	606001-3	**£108.14**
1" 1/4	11	36	119	31.5	25.0	606001-144	**£542.08**	606001-141	**£180.74**	606001-142	**£180.74**	606001-143	**£198.81**
1" 1/2	11	37	125	35.5	28.0	606001-124	**£621.92**	606001-121	**£207.32**	606001-122	**£228.06**	606001-123	**£207.32**
1" 3/4	11	39	132	35.5	28.0	606001-344	**£1,055.81**	606001-341	**£351.95**	606001-342	**£351.95**	606001-343	**£351.95**
2"	11	41	140	40.0	31.5	606002-4	**£1,115.91**	606002-1	**£371.96**	606002-2	**£371.96**	606002-3	**£371.96**
2" 1/4	11	42	142	40.0	31.5	606002-144	**£2,044.29**	606002-141	**£681.47**	606002-142	**£681.47**	606002-143	**£681.47**
2" 1/2	11	45	153	45.0	35.5	606002-124	**£2,609.12**	606002-121	**£869.73**	606002-122	**£869.73**	606002-123	**£869.73**

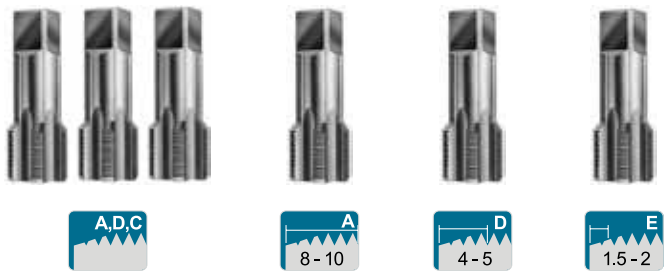
BSPT (RC) WHITWORTH PIPE THREAD TAPERED SETS & INDIVIDUAL TAPS

HSS Hand Taps for Free Cutting Steel up to 800N/mm2

Series
60680
Presto

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute





HSS 55° BRIGHT FINISH

PRESTO

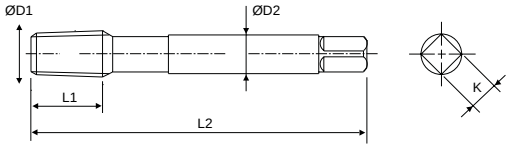
ØD1 BSPT	TPI	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
1/8	28	15	59	8.0	6.3	60680-184	**£131.58**	60680-181	**£43.87**	60680-182	**£43.87**	60680-183	**£43.87**
1/4	19	19	67	10.0	8.0	60680-144	**£108.72**	60680-141	**£48.57**	60680-142	**£48.57**	60680-143	**£48.57**
3/8	19	21	75	12.5	10.0	60680-384	**£159.50**	60680-381	**£83.59**	60680-382	**£83.59**	60680-383	**£83.59**
1/2	14	26	87	16.0	12.5	60680-124	**£175.22**	60680-121	**£91.84**	60680-122	**£91.84**	60680-123	**£91.84**
3/4	14	28	96	20.0	16.0	60680-344	**£266.07**	60680-341	**£126.78**	60680-342	**£126.78**	60680-343	**£126.78**
1"	11	33	109	25.0	20.0	606801-4	**£353.68**	606801-1	**£120.95**	606801-2	**£125.76**	606801-3	**£125.76**
1" 1/4	11	36	119	31.5	25.0	606801-144	**£726.42**	606801-141	**£242.15**	606801-142	**£242.15**	606801-143	**£242.15**
1" 1/2	11	37	125	35.5	28.0	606801-124	**£919.26**	606801-121	**£306.42**	606801-122	**£306.42**	606801-123	**£306.42**
2"	11	41	140	40.0	31.5	606802-4	**£1,325.54**	606802-1	**£441.84**	606802-2	**£396.99**	606802-3	**£441.84**

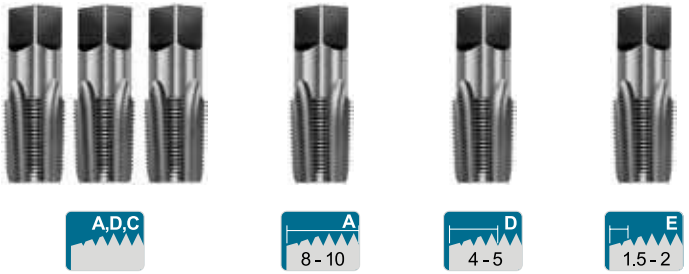
NPT NATIONAL PIPE TAPER SETS & INDIVIDUAL TAPS

HSS Hand Taps for Free Cutting Steel up to 800N/mm³

- BRIGHT finish prevents swarf sticking to the tap flutes
- Can also be used as a machine tap if required
- Straight flute

Series
60750
Presto





HSS | 60° | BRIGHT FINISH

PRESTO

ØD1 NPT	TPI	L1	L2	ØD2	K	Order Code							
						Set	Price	First/Taper	Price	Second	Price	Bottom/Plug	Price
1/16	27	11/16	2" 1/8	0.312	0.234	60750-1164	**£142.29**	60750-1161	**£47.46**	60750-1162	**£47.46**	60750-1163	**£47.46**
1/8	27	3/4	2" 1/8	0.437	0.328	60750-184	**£105.77**	60750-181	**£35.27**	60750-182	**£35.27**	60750-183	**£35.27**
1/4	18	1" 1/16	2" 7/16	0.562	0.421	60750-144	**£117.65**	60750-141	**£39.23**	60750-142	**£39.23**	60750-143	**£39.23**
3/8	18	1" 1/16	2" 9/16	0.700	0.531	60750-384	**£141.58**	60750-381	**£63.26**	60750-382	**£63.26**	60750-383	**£63.26**
1/2	14	1" 3/8	3" 1/8	0.687	0.515	60750-124	**£148.22**	60750-121	**£66.21**	60750-122	**£66.21**	60750-123	**£66.21**
3/4	14	1" 3/8	3" 1/4	0.906	0.679	60750-344	**£162.40**	60750-341	**£85.14**	60750-342	**£85.14**	60750-343	**£85.14**
1"	11.5	1" 3/4	3" 3/4	1.125	0.843	607501-4	**£312.09**	607501-1	**£110.95**	607501-2	**£110.97**	607501-3	**£110.95**
1" 1/4	11.5	1" 3/4	4"	1.312	0.984	607501-144	**£583.92**	607501-141	**£194.67**	607501-142	**£194.67**	607501-143	**£194.67**
1" 1/2	11.5	1" 3/4	4" 1/4	1.5	1.125	607501-124	**£567.43**	607501-121	**£189.16**	607501-122	**£189.16**	607501-123	**£189.16**
2"	11.5	1" 3/4	4" 1/2	1.875	1.406	607502-4	**£983.04**	607502-1	**£327.72**	607502-2	**£327.72**	607502-3	**£327.72**

TAP WRENCH RACHET T-TYPE

- Adjustable
- Ratchet action with three positions: Forward, reverse & lock
- Ideal for use in confined spaces



PRESTO

Nominal Tap Diameter	Overall Length mm	Order Code	Price
M2 - M6 (1/8 - 1/4")	82.5	6983306-521	**£28.34**
M6 - M12 (1/4 - 1/2")	108	6983306-522	**£35.80**

TAP WRENCH BAR TYPE

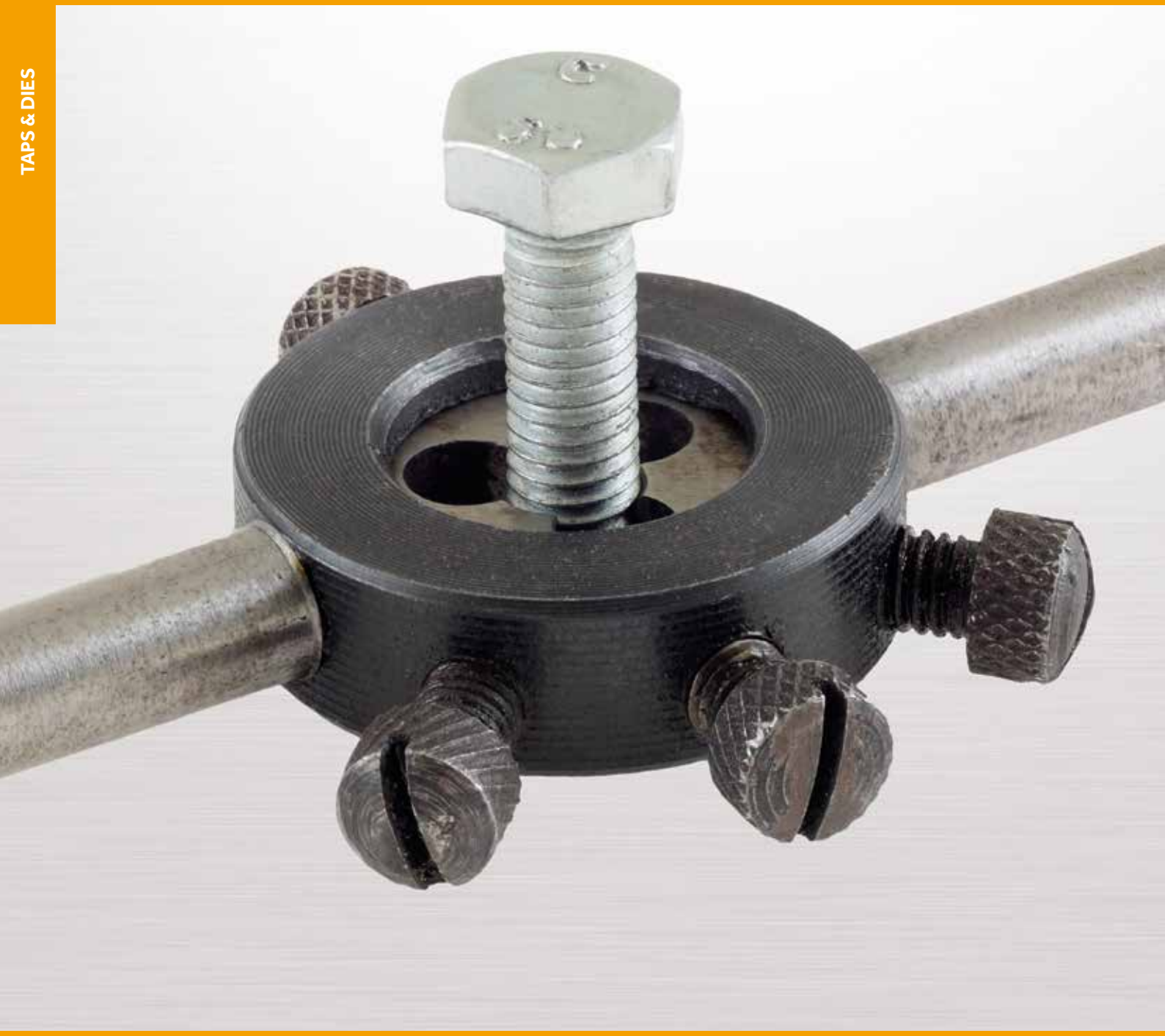
- Adjustable
- Knurled handle for secure grip
- Also suitable for hand reamers



PRESTO

Nominal Tap Diameter	Overall Length inch	Order Code	Price
M2 - M6 (1/16 - 1/4")	4-1/8	69823X	**£8.00**
M3 - M12 (1/8 - 1/2")	15	69823Y	**£17.48**
M3 - M12 (1/8 - 1/2")	10-1/2	69843101	**£28.28**
M6 - M20 (1/4 - 3/4")	15	69843102	**£37.13**
M11 - M27 (3/8 - 1")	19-3/4	69843103	**£56.06**
M20 - M38 (3/4 - 1-1/2")	31-1/2	69843104	**£123.34**
M24 - M60 (1 - 2-1/2")	43	69843105	**£201.48**

Circular Dies & Hexagon Die Nuts



HSS circular split dies, solid dies and hexagon die nuts

Round body split dies are adjustable for precision threading of bolts, studs, rods and other pieces that require external threading by hand. Split dies are also ideal for cleaning/repairing external threads.

Unlike split dies, solid dies have no adjustment they are used for cleaning and repairing threads.

Hexagon die nuts are ideal for repairing broken or worn threads by hand. They are also useful for machining new external threads in difficult to reach applications.

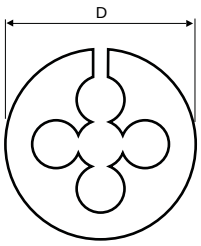
M METRIC COARSE / MF METRIC FINE

Circular Split Die

- Split die can be adjusted for tighter or looser thread
- For die holder see page 939

Series	
64100 Presto	64110 Presto





HSS 60° BRIGHT FINISH

METRIC COARSE

Metric Coarse	Pitch	D	Order Code	Price
M1.2	0.25	13/16"	641001.20.25-1316	£117.28
M1.4	0.3	13/16"	641001.40.30-1316	£35.20
M1.6	0.35	13/16"	641001.60.35-1316	£38.02
M2	0.4	13/16"	641002.00.40-1316	£27.10
M2.2	0.45	13/16"	641002.20.45-1316	£38.02
M2.5	0.45	13/16"	641002.50.45-1316	£27.09
M3	0.5	13/16"	641003.00.50-1316	£15.85
M3.5	0.6	13/16"	641003.50.60-1316	£19.99
M4	0.7	13/16"	641004.00.70-1316	£15.85
M4.5	0.75	13/16"	641004.50.75-1316	£19.86
M5	0.8	13/16"	641005.00.80-1316	£15.85
M6	1	13/16"	641006.01.0-1316	£15.85
M6	1	1"	641006.01.001-	£13.25
M6	1	1 5/16"	641006.01.01-516	£33.70
M7	1	13/16"	641007.01.0-1316	£19.99
M7	1	1"	641007.01.001-	£23.91
M7	1	1 5/16"	641007.01.01-516	£31.38
M8	1.25	1"	641008.01.251-	£18.74
M8	1.25	1 5/16"	641008.01.251-516	£27.56
M9	1.25	1"	641009.01.251-	£22.14
M9	1.25	1 5/16"	641009.01.251-516	£31.20
M10	1.5	1"	6410010.01.501-	£25.14
M10	1.5	1 5/16"	6410010.01.51-516	£27.56
M10	1.5	1 1/2"	6410010.01.51-12	£55.59
M11	1.5	1 5/16"	6410011.01.51-516	£33.70
M11	1.5	1 1/2"	6410011.01.51-12	£41.46
M12	1.75	1 5/16"	6410012.01.751-516	£27.56
M12	1.75	1 1/2"	6410012.01.751-12	£32.16
M12	1.75	2"	6410012.01.752-	£60.10
M14	2	1 5/16"	6410014.02.01-516	£33.70
M14	2	1 1/2"	6410014.02.01-12	£45.50
M14	2	2"	6410014.02.02-	£60.10
M16	2	1 1/2"	6410016.02.01-12	£22.76
M16	2	2"	6410016.02.02-	£47.52
M18	2.5	1 1/2"	6410018.02.51-12	£41.46
M18	2.5	2"	6410018.02.52-	£47.52
M20	2.5	1 1/2"	6410020.02.51-12	£41.46
M20	2.5	2"	6410020.02.52-	£47.52
M22	2.5	2"	6410022.02.52-	£44.00
M24	3	2"	6410024.03.02-	£47.52
M24	3	3"	6410024.03.03-	£104.14
M27	3	3"	6410027.03.03-	£104.14
M30	3.5	3"	6410030.03.53-	£104.13
M33	3.5	3"	6410033.03.53-	£96.42
M36	4	3"	6410036.04.03-	£104.13
M39	4	3"	6410039.04.03-	£95.53

METRIC FINE

PRESTO

Metric Fine	Pitch	D	Order Code	Price
M3	0.35	13/16"	641103.00.35-1316	£30.32
M4	0.5	13/16"	641104.00.5-1316	£21.32
M5	0.5	13/16"	641105.00.5-1316	£21.32
M6	0.75	13/16"	641106.00.75-1316	£21.32
M7	0.75	1"	641107.00.751-	£46.46
M8	0.75	1"	641108.00.751-	£32.44
M8	1	1"	641108.01.01-	£25.34
M9	1	1"	641109.01.01-	£35.64
M10	0.75	1"	6411010.00.751-	£32.44
M10	1	1"	6411010.01.01-	£25.24
M10	1.25	1"	6411010.01.251-	£25.24
M12	1	1 5/16"	6411012.01.01-516	£34.49
M12	1.25	1 5/16"	6411012.01.251-516	£37.26
M12	1.5	1 5/16"	6411012.01.51-516	£37.25
M14	1.25	1 5/16"	6411014.01.251-516	£37.25
M14	1.25	1 1/2"	6411014.01.251-12	£56.26
M14	1.5	1 1/2"	6411014.01.51-12	£48.66
M16	1	1 1/2"	6411016.01.01-12	£40.28
M16	1.5	1 1/2"	6411016.01.51-12	£43.50
M18	1.5	1 1/2"	6411018.01.51-12	£43.50
M20	1	1 1/2"	6411020.01.01-12	£40.28
M20	1.5	2"	6411020.01.52-	£63.72
M20	2	1 1/2"	6411020.02.01-12	£51.72
M22	1.5	2"	6411022.01.52-	£63.72
M24	1.5	2"	6411024.01.52-	£63.72
M24	2	2"	6411024.02.02-	£63.72
M25	1.5	2"	6411025.01.52-	£63.72
M27	2	3"	6411027.02.03-	£139.62
M30	2	3"	6411030.02.03-	£139.62
M32	1.5	3"	6411032.01.53-	£139.62

HSS SOLID DIE METRIC COARSE

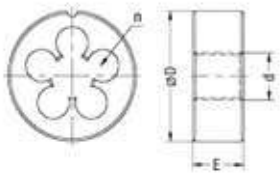
Circular Solid Die with Spiral Entry

- Spiral entry results in a free flow of chips ahead of the die and a reduction in the cutting torque
- For die holder see page 939

Standard
- Tolerance 6g
- For cutting steel up to 800N/mm²

INOX
- VA type No1 for stainless steel
- Tolerance 6g
- For cutting steel up to 1200N/mm²
- Nitrided





STANDARD

Metric Coarse	Pitch	ØD x E	Order Code	Price
M1	0.25	16 x 5	JBO-101212	**£34.37**
M2	0.4	16 x 5	JBO-101816	**£18.34**
M3	0.5	20 x 5	JBO-102207	**£14.12**
M4	0.7	20 x 5	JBO-102470	**£14.12**
M5	0.8	20 x 7	JBO-102642	**£14.12**
M6	1	20 x 7	JBO-102771	**£14.12**
M8	1.25	25 x 9	JBO-102959	**£15.64**
M10	1.5	30 x 11	JBO-101297	**£18.72**
M12	1.75	38 x 14	JBO-101439	**£24.83**
M14	2	38 x 14	JBO-101558	**£25.32**
M16	2	45 x 18	JBO-101657	**£32.21**
M18	2.5	45 x 18	JBO-101746	**£34.22**
M20	2.5	45 x 18	JBO-101934	**£34.22**
M22	2.5	55 x 22	JBO-102002	**£48.98**
M24	3	55 x 22	JBO-102060	**£48.98**
M27	3	65 x 25	JBO-102150	**£73.91**
M30	3.5	65 x 25	JBO-102316	**£73.91**
M33	3.5	65 x 25	JBO-102372	**£78.64**
M36	4	65 x 25	JBO-102415	**£78.64**
M39	4	75 x 30	JBO-102455	**£130.81**
M42	4.5	75 x 30	JBO-102587	**£130.81**
M45	4.5	90 x 36	JBO-108325	**£195.94**
M48	5	90 x 36	JBO-102630	**£195.94**
M52	5	90 x 36	JBO-102740	**£206.99**

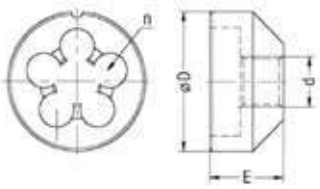
INOX

Metric Coarse	Pitch	ØD x E	Order Code	Price
M2	0.4	16 x 5	JBO-104225	**£34.47**
M3	0.5	20 x 5	JBO-104306	**£22.52**
M4	0.7	20 x 5	JBO-104373	**£21.89**
M5	0.8	20 x 7	JBO-104418	**£19.85**
M6	1	20 x 7	JBO-104453	**£19.85**
M8	1.25	25 x 9	JBO-104511	**£23.93**
M10	1.5	30 x 11	JBO-104060	**£28.50**
M12	1.75	38 x 14	JBO-104106	**£38.03**
M14	2	38 x 14	JBO-104147	**£42.13**
M16	2	45 x 18	JBO-104179	**£50.50**
M18	2.5	45 x 18	JBO-104201	**£52.68**
M20	2.5	45 x 18	JBO-104260	**£51.65**

BELL FORM DIE METRIC COARSE

- For cutting close to shoulder
- Tolerance 6g
- Open chip spaces for better chip removal and coolant flow
- Spiral entry results in a free flow of chips ahead of the die and a reduction in the cutting torque
- For die holder see page 939





M2-M6 use 13559005 holder
M8-M10 use 13559030 holder
M12 use 13559040 holder

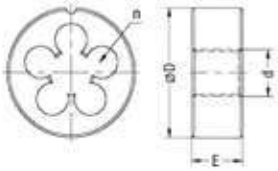
Metric Coarse	Pitch	ØD x E	Order Code	Price
M2	0.4	16 x 8	JBO-100618	**£36.13**
M3	0.5	16 x 8	JBO-100642	**£32.33**
M4	0.7	16 x 9.5	JBO-100659	**£31.30**
M5	0.8	16 x 9.5	JBO-100672	**£32.71**
M6	1	16 x 9.5	JBO-100681	**£32.57**
M8	1.25	25 x 14	JBO-100700	**£42.88**
M10	1.5	25 x 14	JBO-100578	**£49.70**
M12	1.75	30 x 18	JBO-100591	**£69.68**

HSS SOLID DIE METRIC FINE

Circular Solid Die with Spiral Entry

- Tolerance 6g
- For cutting steel up to 800N/mm²
- Spiral entry results in a free flow of chips ahead of the die and a reduction in the cutting torque
- For die holder see page 939
- Other pitches available on request





Metric Fine	Pitch	ØD x E	Order Code	Price
M3	0,35	20 x 5	JBO-105138	£25.96
M3.5	0,35	20 x 5	JBO-105147	£32.33
M4	0,35	20 x 5	JBO-105237	£27.86
M4	0.5	20 x 5	JBO-105239	£20.99
M4.5	0.5	20 x 5	JBO-105246	£26.98
M5	0,35	20 x 5	JBO-105294	£44.91
M5	0.5	20 x 5	JBO-105295	£20.49
M5	0.75	20 x 7	JBO-105298	£39.32
M5.5	0.5	20 x 5	JBO-105305	£43.77
M6	0.5	20 x 5	JBO-105353	£20.49
M6	0.75	20 x 7	JBO-105356	£19.35
M7	0.5	25 x 9	JBO-105395	£34.10
M7	0.75	25 x 9	JBO-105398	£23.03
M8	0.5	25 x 9	JBO-105425	£28.75
M8	0.75	25 x 9	JBO-105427	£21.65
M8	1	25 x 9	JBO-105431	£21.38
M9	0.5	25 x 9	JBO-105452	£42.13
M9	0.75	25 x 9	JBO-105455	£29.27
M9	1	25 x 9	JBO-105457	£24.55
M10	0.5	30 x 11	JBO-104879	£38.56
M10	0.75	30 x 11	JBO-104882	£28.50
M10	1	30 x 11	JBO-104885	£25.70
M10	1.25	30 x 11	JBO-104887	£28.00
M11	0.5	30 x 11	JBO-104899	£63.62
M11	0.75	30 x 11	JBO-104900	£38.94
M11	1	30 x 11	JBO-104902	£28.75
M11	1.25	30 x 11	JBO-104904	£40.58
M12	0.5	38 x 10	JBO-104911	£49.87
M12	0.75	38 x 10	JBO-104913	£38.03
M12	1	38 x 10	JBO-104916	£33.59
M12	1.25	38 x 10	JBO-104918	£35.12
M12	1.5	38 x 10	JBO-104920	£30.92
M13	0.75	38 x 10	JBO-104929	£62.21
M13	1	38 x 10	JBO-104932	£35.00
M14	0.5	38 x 10	JBO-104939	£62.46
M14	0.75	38 x 10	JBO-104941	£38.03
M14	1	38 x 10	JBO-104944	£33.84
M14	1.25	38 x 10	JBO-104948	£35.39
M14	1.5	38 x 10	JBO-104950	£30.92
M15	0.75	38 x 10	JBO-104957	£61.58
M15	1	38 x 10	JBO-104959	£35.63
M15	1.5	38 x 10	JBO-104962	£41.10
M15	2	38 x 10	JBO-104964	£109.92
M16	0.5	45 x 14	JBO-104969	£82.96
M16	0.75	45 x 14	JBO-104970	£65.15
M16	1	45 x 14	JBO-104972	£46.82
M16	1.25	45 x 14	JBO-104974	£55.74
M16	1.5	45 x 14	JBO-104975	£42.38
M17	1	45 x 14	JBO-104982	£53.97
M18	0.75	45 x 14	JBO-104991	£81.44
M18	1	45 x 14	JBO-104994	£46.82
M18	1.25	45 x 14	JBO-104996	£64.52
M18	1.5	45 x 14	JBO-104997	£42.38
M18	2	45 x 14	JBO-105002	£52.80

Metric Fine	Pitch	ØD x E	Order Code	Price
M19	0.75	45 x 14	JBO-105007	£114.00
M19	1	45 x 14	JBO-105009	£59.93
M20	0.5	45 x 14	JBO-105028	£119.84
M20	0.75	45 x 14	JBO-105030	£106.61
M21	0.75	45 x 14	JBO-105042	£150.88
M20	1	45 x 14	JBO-105032	£46.82
M20	1.5	45 x 14	JBO-105036	£42.38
M20	2	45 x 14	JBO-105039	£48.47
M21	1	45 x 14	JBO-105043	£65.15
M21	1.5	45 x 14	JBO-105046	£79.91
M22	1	55 x 16	JBO-105056	£62.34
M22	1.5	55 x 16	JBO-105059	£55.62
M22	2	55 x 16	JBO-105062	£67.05
M23	1	55 x 16	JBO-105068	£101.14
M24	1	55 x 16	JBO-105077	£62.34
M24	1.5	55 x 16	JBO-105081	£55.62
M24	2	55 x 16	JBO-105084	£61.70
M25	1	55 x 16	JBO-105092	£78.50
M25	1.5	55 x 16	JBO-105095	£66.17
M25	2	55 x 16	JBO-105097	£83.60
M26	1	55 x 16	JBO-105100	£78.50
M26	1.5	55 x 16	JBO-105101	£66.17
M26	2	55 x 16	JBO-105104	£86.52
M27	1	65 x 18	JBO-105110	£94.79
M27	1.5	65 x 18	JBO-105112	£82.32
M27	2	65 x 18	JBO-105114	£90.72
M28	1	65 x 18	JBO-105118	£94.79
M28	1.5	65 x 18	JBO-105121	£82.32
M28	2	65 x 18	JBO-105124	£105.48
M30	1	65 x 18	JBO-105155	£94.79
M30	1.5	65 x 18	JBO-105158	£82.32
M30	2	65 x 18	JBO-105161	£90.72
M32	1	65 x 18	JBO-105170	£110.94
M32	1.5	65 x 18	JBO-105173	£83.98
M32	2	65 x 18	JBO-105176	£105.48
M33	1.5	65 x 18	JBO-105183	£86.90
M33	2	65 x 18	JBO-105185	£90.72
M34	1	65 x 18	JBO-105189	£122.78
M34	1.5	65 x 18	JBO-105191	£92.76
M35	1.5	65 x 18	JBO-105198	£86.02
M35	2	65 x 18	JBO-105200	£123.17
M36	1	65 x 18	JBO-105207	£122.78
M36	1.5	65 x 18	JBO-105209	£86.02
M36	2	65 x 18	JBO-105211	£90.72
M38	1.5	75 x 20	JBO-105223	£130.28
M38	2	75 x 20	JBO-105225	£152.42
M39	1.5	75 x 20	JBO-105230	£130.28
M39	2	75 x 20	JBO-105231	£144.92
M40	1.5	75 x 20	JBO-105251	£130.28
M40	2	75 x 20	JBO-105253	£144.92
M42	1.5	75 x 20	JBO-105259	£130.28
M42	2	75 x 20	JBO-105261	£144.92

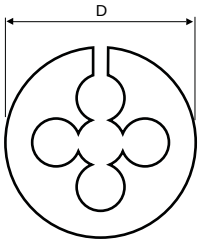
UNC UNIFIED COARSE / UNF UNIFIED FINE

Circular Split Die

- Split die can be adjusted for tighter or looser thread
- For die holder see page 939

Series	
64120 Presto	64130 Presto





HSS 60° BRIGHT FINISH

PRESTO

UNIFIED COARSE

UNC	TPI	D	Order Code	Price
No.1	64	13/16"	641201N-1316	**£25.88**
No.2	56	13/16"	641202N-1316	**£23.53**
No.3	48	13/16"	641203N-1316	**£22.35**
No.4	40	13/16"	641204N-1316	**£22.48**
No.5	40	13/16"	641205N-1316	**£22.48**
No.6	32	13/16"	641206N-1316	**£22.48**
No.8	32	13/16"	641208N-1316	**£22.48**
No.10	24	13/16"	6412010N-1316	**£22.48**
No.12	24	13/16"	6412012N-1316	**£22.48**
1/4"	20	13/16"	64120-14-1316	**£16.54**
1/4"	20	1"	64120-141-	**£21.13**
1/4"	20	1 5/16"	64120-141-516	**£37.92**
5/16"	18	1"	64120-5161-	**£21.12**
5/16"	18	1 5/16"	64120-5161-516	**£37.92**
3/8"	16	1"	64120-381-	**£21.12**
3/8"	16	1 5/16"	64120-381-516	**£30.82**
3/8"	16	1 1/2"	64120-381-12	**£46.64**
7/16"	14	1 5/16"	64120-7161-516	**£30.82**
7/16"	14	1 1/2"	64120-7161-12	**£46.64**
1/2"	13	1 5/16"	64120-121-516	**£30.82**
1/2"	13	1 1/2"	64120-121-12	**£36.18**
1/2"	13	2"	64120-122-	**£67.96**
9/16"	12	1 5/16"	64120-9161-516	**£38.66**
9/16"	12	1 1/2"	64120-9161-12	**£51.26**
9/16"	12	2"	64120-9162-	**£67.96**
5/8"	11	1 1/2"	64120-581-12	**£36.18**
5/8"	11	2"	64120-582-	**£53.74**
3/4"	10	1 1/2"	64120-341-12	**£36.18**
3/4"	10	2"	64120-342-	**£53.74**
7/8"	9	2"	64120-782-	**£53.74**
1"	8	2"	641201-2-	**£53.75**
1"	8	3"	641201-3-	**£117.10**
1 1/8"	7	3"	641201-183-	**£93.64**
1 1/4"	7	3"	641201-143-	**£117.10**
1 3/8"	6	3"	641201-383-	**£117.10**
1 1/2"	6	3"	641201-123-	**£108.42**

UNIFIED FINE

UNF	TPI	D	Order Code	Price
No.1	72	13/16"	641301N-1316	**£31.52**
No.2	64	13/16"	641302N-1316	**£25.20**
No.3	56	13/16"	641303N-1316	**£31.52**
No.4	48	13/16"	641304N-1316	**£20.26**
No.5	44	13/16"	641305N-1316	**£23.46**
No.6	40	13/16"	641306N-1316	**£23.46**
No.8	36	13/16"	641308N-1316	**£25.34**
No.10	32	13/16"	6413010N-1316	**£25.34**
No.12	28	13/16"	6413012N-1316	**£25.34**
1/4"	28	13/16"	64130-14-1316	**£20.06**
1/4"	28	1"	64130-141-	**£23.72**
1/4"	28	1 5/16"	64130-141-516	**£42.62**
5/16"	24	1"	64130-5161-	**£23.72**
5/16"	24	1 5/16"	64130-5161-516	**£42.62**
3/8"	24	1"	64130-381-	**£23.74**
3/8"	24	1 5/16"	64130-381-516	**£34.66**
3/8"	24	1 1/2"	64130-381-12	**£52.52**
7/16"	20	1 5/16"	64130-7161-516	**£34.65**
7/16"	20	1 1/2"	64130-7161-12	**£52.51**
1/2"	20	1 5/16"	64130-121-516	**£34.65**
1/2"	20	1 1/2"	64130-121-12	**£40.70**
1/2"	20	2"	64130-122-	**£76.50**
9/16"	18	1 5/16"	64130-9161-516	**£34.66**
9/16"	18	1 1/2"O/D	64130-9161-12	**£40.70**
9/16"	18	2"O/D	64130-9162-	**£76.50**
5/8"	18	1 1/2"	64130-581-12	**£40.70**
5/8"	18	2"	64130-582-	**£60.10**
3/4"	16	1 1/2"	64130-341-12	**£40.70**
3/4"	16	2"	64130-342-	**£60.10**
7/8"	14	2"	64130-782-	**£60.10**
1"	12	2"	641301-2-	**£60.10**
1"	12	3"	641301-3-	**£130.52**
1 1/8"	12	3"	641301-183-	**£130.52**
1 1/4"	12	3"	641301-143-	**£120.85**
1 3/8"	12	3"	641301-383-	**£120.84**
1 1/2"	12	3"	641301-123-	**£120.85**

HSS SOLID DIE UNC / UNF

Circular Solid Die

- Tolerance 2A
- For cutting steel up to 800N/mm²
- Spiral entry results in a free flow of chips ahead of the die and a reduction in the cutting torque
- For die holder see page 939



UNIFIED COARSE

UNC	TPI	ØD	Order Code	Price
No. 1	64	16	JBO-103171	£36.77
No. 2	56	16	JBO-103183	£31.58
No. 3	48	16	JBO-103185	£39.57
No. 4	40	16	JBO-103187	£26.34
No. 5	40	20	JBO-103200	£22.01
No. 6	32	20	JBO-103202	£20.49
No. 8	32	20	JBO-103210	£20.00
No. 10	24	20	JBO-103174	£20.00
No. 12	24	20	JBO-103177	£22.52
1/4“	20	20	JBO-103229	£17.68
5/16“	18	25	JBO-103247	£20.11
3/8“	16	30	JBO-103240	£23.66
7/16“	14	30	JBO-103255	£24.44
1/2“	13	38	JBO-103226	£29.77
9/16“	12	38	JBO-103262	£33.59
5/8“	11	45	JBO-103252	£39.32
3/4“	10	45	JBO-103237	£40.22
7/8“	9	55	JBO-103260	£59.05
1“	8	55	JBO-103216	£59.05
1 1/8“	7	65	JBO-103223	£110.69
1 1/4“	7	65	JBO-103221	£110.69
1 1/2“	6	75	JBO-103219	£153.20

UNIFIED FINE

UNF	TPI	ØD	Order Code	Price
No. 0	80	16	JBO-103266	£30.92
No. 1	72	16	JBO-103268	£29.77
No. 2	64	16	JBO-103279	£34.37
No. 3	56	16	JBO-103282	£39.57
No. 4	48	16	JBO-103284	£33.73
No. 5	44	20	JBO-103289	£27.48
No. 6	40	20	JBO-103293	£26.34
No. 8	36	20	JBO-103297	£23.17
No. 10	32	20	JBO-103269	£18.20
No. 12	28	20	JBO-103276	£21.26
1/4“	28	20	JBO-103317	£17.68
5/16“	24	25	JBO-103342	£20.11
3/8“	24	30	JBO-103332	£23.66
7/16“	20	30	JBO-103359	£24.55
1/2“	20	38	JBO-103310	£29.77
9/16“	18	38	JBO-103375	£30.03
5/8“	18	45	JBO-103351	£39.32
3/4“	16	45	JBO-103325	£39.32
7/8“	14	55	JBO-103370	£53.97
1“	12	55	JBO-103299	£56.62
1 1/8“	12	65	JBO-103308	£90.07
1 1/4“	12	65	JBO-103306	£90.07
1 3/8“	12	65	JBO-103309	£103.97
1 1/2“	12	75	JBO-103302	£127.87

TSCHORN Probes & Tools Technology



CNC Die Holders

The Tschorn CNC die holder revolutionises the way you produce external threads, its impossible to cut quicker!

The die holder enables precise and cylindrical threads, with internal coolant to ensure the workpiece is surrounded by coolant to ensure longer tool life and excellent chip flow. CNC die holders can cut external threads up to 3 times faster than conventional/manual methods.

Visit cutwel.co.uk

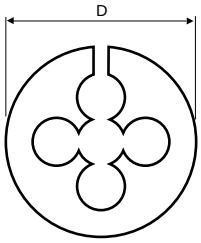
BSW BRITISH STANDARD WHITWORTH / BSF BRITISH STANDARD FINE

Circular Split Die

- Split die can be adjusted for tighter or looser thread
- For die holder see page 939

Series	
64140 Presto	64150 Presto





HSS 55° BRIGHT FINISH

PRESTO

BSW (BRITISH STANDARD WHITWORTH)

BSW	TPI	D	Order Code	Price
1/16"	60	13/16"	64140-116-1316	**£30.32**
3/32"	48	13/16"	64140-332-1316	**£37.92**
1/8"	40	13/16"	64140-18-1316	**£25.34**
5/32"	32	13/16"	64140-532-1316	**£31.38**
3/16"	24	13/16"	64140-316-1316	**£25.34**
3/16"	24	1"	64140-3161-	**£37.16**
1/4"	20	13/16"	64140-14-1316	**£20.17**
1/4"	20	1"	64140-141-	**£23.74**
1/4"	20	1 5/16"	64140-141-516	**£39.30**
1/4"	20	1 1/2"	64140-141-12	**£89.06**
5/16"	18	1"	64140-5161-	**£23.72**
5/16"	18	1 5/16"	64140-5161-516	**£39.30**
5/16"	18	1 1/2"	64140-5161-12	**£89.06**
3/8"	16	1"	64140-381-	**£23.72**
3/8"	16	1 5/16"	64140-381-516	**£34.84**
3/8"	16	1 1/2"	64140-381-12	**£52.52**
7/16"	14	1 5/16"	64140-7161-516	**£34.84**
7/16"	14	1 1/2"	64140-7161-12	**£48.62**
1/2"	12	1 5/16"	64140-121-516	**£32.27**
1/2"	12	1 1/2"	64140-121-12	**£40.89**
9/16"	12	1 5/16"	64140-9161-516	**£33.94**
9/16"	12	1 1/2"	64140-9161-12	**£37.46**
9/16"	12	2"	64140-9162-	**£75.92**
5/8"	11	1 1/2"	64140-581-12	**£40.90**
5/8"	11	2"	64140-582-	**£60.10**
11/16"	11	2"	64140-11162-	**£93.98**
3/4"	10	1 1/2"	64140-341-12	**£52.52**
3/4"	10	2"	64140-342-	**£60.10**
7/8"	9	2"	64140-782-	**£75.92**
1"	8	2"	641401-2-	**£66.42**
1"	8	3"	641401-3-	**£180.40**
1 1/8"	7	3"	641401-183-	**£180.40**
1 1/4"	7	3"	641401-143-	**£131.02**
1 3/8"	6	3"	641401-383-	**£155.00**
1 1/2"	6	3"	641401-123-	**£131.02**

BSF (BRITISH STANDARD FINE)

BSF	TPI	D	Order Code	Price
3/16"	32	13/16"	64150-316-1316	**£29.00**
1/4"	26	13/16"	64150-14-1316	**£21.02**
1/4"	26	1"	64150-141-	**£22.86**
1/4"	26	1 5/16"	64150-141-516	**£49.06**
5/16"	22	1 5/16"	64150-5161-516	**£49.06**
5/16"	22	1"	64150-5161-	**£24.68**
5/16"	22	1 1/2"	64150-5161-12	**£49.06**
3/8"	20	1"	64150-381-	**£24.68**
3/8"	20	1 5/16"	64150-381-516	**£36.40**
3/8"	20	1 1/2"	64150-381-12	**£60.09**
7/16"	18	1 5/16"	64150-7161-516	**£36.40**
7/16"	18	1 1/2"	64150-7161-12	**£36.40**
1/2"	16	1 5/16"	64150-121-516	**£60.10**
1/2"	16	1 1/2"	64150-121-12	**£87.42**
1/2"	16	2"	64150-122-	**£45.34**
9/16"	16	1 5/16"	64150-9161-516	**£52.58**
9/16"	16	1 1/2"	64150-9161-12	**£60.10**
9/16"	16	2"	64150-9162-	**£68.82**
5/8"	14	1 1/2"	64150-581-12	**£42.72**
5/8"	14	2"	64150-582-	**£62.86**
3/4"	12	1 1/2"	64150-341-12	**£60.10**
3/4"	12	2"	64150-342-	**£62.68**
7/8"	11	2"	64150-782-	**£87.42**
1"	10	2"	641501-2-	**£87.42**
1"	10	3"	641501-3-	**£136.78**
1 1/8"	9	3"	641501-183-	**£188.10**
1 1/4"	9	3"	641501-143-	**£136.78**
1 3/8"	8	3"	641501-383-	**£155.00**
1 1/2"	8	3"	641501-123-	**£136.78**

HSS SOLID DIE BSW / BSF

Circular Solid Die

- For cutting steel up to 800N/mm²
- Tolerance med.
- Spiral entry results in a free flow of chips ahead of the die and a reduction in the cutting torque
- For die holder see page 939
- Other sizes available on request



BSW (BRITISH STANDARD WHITWORTH)

BSW	TPI	ØD	Order Code	Price
1/8“	40	20	JBO-105780	**£25.70**
5/32“	32	20	JBO-105828	**£25.70**
3/16“	24	20	JBO-105806	**£25.70**
7/32“	24	20	JBO-105841	**£25.70**
1/4“	20	20	JBO-105775	**£22.01**
5/16“	18	25	JBO-105824	**£24.83**
3/8“	16	30	JBO-105813	**£28.00**
7/16“	14	30	JBO-105836	**£29.77**
1/2“	12	38	JBO-105769	**£36.77**
9/16“	12	38	JBO-105851	**£43.13**
5/8“	11	45	JBO-105831	**£47.47**
3/4“	10	45	JBO-105808	**£50.25**
7/8“	9	55	JBO-105842	**£68.72**
1“	8	55	JBO-105752	**£68.72**
1 1/8“	7	65	JBO-105762	**£127.49**
1 1/4“	7	65	JBO-105760	**£117.17**
1 3/8“	6	65	JBO-105765	**£136.26**
1 1/2“	6	75	JBO-105758	**£194.91**
1 3/4“	5	90	JBO-108681	**£342.82**
2“	4	90	JBO-105793	**£321.89**

BSF (BRITISH STANDARD FINE)

BSF	TPI	ØD	Order Code	Price
3/16“	32	20	JBO-105605	**£33.73**
1/4“	26	20	JBO-105601	**£30.55**
5/16“	22	25	JBO-105610	**£32.33**
3/8“	20	30	JBO-105608	**£31.58**
7/16“	18	30	JBO-105614	**£38.18**
1/2“	16	38	JBO-105599	**£42.88**
9/16“	16	38	JBO-105617	**£60.06**
5/8“	14	45	JBO-105612	**£63.74**
3/4“	12	45	JBO-105606	**£63.74**
7/8“	11	55	JBO-105616	**£93.26**
1“	10	55	JBO-105592	**£93.26**

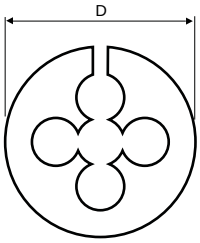
BSP(G) BRITISH STANDARD PIPE GAS / BA BRITISH ASSOCIATION

Circular Split Die

- Split die can be adjusted for tighter or looser thread

Series	
64160 Presto	64170 Presto





HSS 55° BRIGHT FINISH

PRESTO

BSP(G) GAS

BSP(G)	TPI	D	Order Code	Price
1/8"	28	1"	64160-181-	**£23.62**
1/8"	28	1 5/16"	64160-181-516	**£44.26**
1/8"	28	1 1/2"	64160-181-12	**£51.64**
1/4"	19	1 5/16"	64160-141-516	**£34.76**
1/4"	19	1 1/2"	64160-141-12	**£55.78**
1/4"	19	2"	64160-142-	**£83.61**
3/8"	19	1 1/2"	64160-381-12	**£40.42**
3/8"	19	2"	64160-382-	**£83.60**
1/2"	14	2"	64160-122-	**£60.09**
1/2"	14	2 1/4"	64160-122-14	**£143.00**
5/8"	14	2"	64160-582-	**£75.92**
3/4"	14	2"	64160-342-	**£75.91**
3/4"	14	2 1/4"	64160-342-14	**£143.00**
3/4"	14	3"	64160-343-	**£178.98**
7/8"	14	2 1/4"	64160-782-14	**£103.64**
7/8"	14	3"	64160-783-	**£178.98**
1"	11	2 1/4"	641601-2-14	**£103.64**
1"	11	3"	641601-3-	**£178.98**
1"	11	4"	641601-4-	**£396.82**
1 1/4"	11	3"	641601-143-	**£129.57**
1 1/2"	11	4"	641601-124-	**£286.46**
1 3/4"	11	4"	641601-344-	**£396.82**
2"	11	4"	641602-4-	**£396.82**

BA (147.5°)

BA	TPI	D	Order Code	Price
No.0	25.4	13/16"	641700N-1316	**£24.52**
No.1	28.2	13/16"	641701N-1316	**£25.87**
No.2	31.4	13/16"	641702N-1316	**£24.45**
No.3	34.8	13/16"	641703N-1316	**£28.46**
No.4	38.5	13/16"	641704N-1316	**£24.44**
No.5	43	13/16"	641705N-1316	**£33.85**
No.6	47.9	13/16"	641706N-1316	**£22.64**
No.7	52.9	13/16"	641707N-1316	**£28.46**
No.8	59.1	13/16"	641708N-1316	**£28.38**
No.9	65.1	13/16	641709N-1316	**£33.40**
No.10	72.6	13/16"	6417010N-1316	**£41.76**
No.12	90.9	13/16"	6417012N-1316	**£46.82**
No.14	110.4	13/16"	6417014N-1316	**£160.76**

HSS SOLID DIE BSP(G)

Circular Solid Die

- Spiral entry results in a free flow of chips ahead of the die and a reduction in the cutting torque
- For die holder see page 939
- Other sizes available on request

Standard
- Tolerance 6g
- For cutting steel up to 800N/mm²

INOX
- VA type No1 for stainless steel (Nitrided)
- Tolerance A
- For cutting steel up to 1200N/mm²



JBO

STANDARD

BSP(G)	TPI	ØD	Order Code	Price
1/8"	28	30	JBO-101044	**£27.10**
1/4"	19	38	JBO-101012	**£27.10**
3/8"	19	45	JBO-101120	**£36.26**
1/2"	14	45	JBO-100977	**£36.26**
5/8"	14	55	JBO-101157	**£55.49**
3/4"	14	55	JBO-101080	**£54.95**
7/8"	14	65	JBO-101166	**£80.55**
1"	11	65	JBO-100920	**£76.59**
1 1/8"	11	75	JBO-100965	**£137.15**
1 1/4"	11	75	JBO-100950	**£113.35**
1 3/8"	11	90	JBO-100972	**£190.97**
1 1/2"	11	90	JBO-100937	**£156.50**
1 3/4"	11	90	JBO-100970	**£166.81**
2"	11	105	JBO-101064	**£202.30**
2 1/4"	11	105	JBO-101074	**£255.73**
2 1/2"	11	120	JBO-101071	**£273.54**
2 3/4"	11	120	JBO-101076	**£305.34**
3"	11	130	JBO-101079	**£356.21**

INOX

BSP(G)	TPI	ØD	Order Code	Price
1/8"	28	30	JBO-103995	**£38.56**
1/4"	19	38	JBO-103989	**£38.56**
3/8"	19	45	JBO-104010	**£51.41**
1/2"	14	45	JBO-103983	**£51.41**
3/4"	14	55	JBO-104003	**£78.11**
1"	11	65	JBO-103972	**£107.78**
1 1/4"	11	75	JBO-103977	**£169.21**
1 1/2"	11	90	JBO-103975	**£233.84**

HSS SOLID DIE NPT/NPTF

Circular Solid Die

- For cutting steel up to 800N/mm²
- Spiral entry results in a free flow of chips ahead of the die and a reduction in the cutting torque
- For die holder see below
- Other sizes available on request



NPT (NATIONAL PIPE TAPER)

NPT	TPI	ØD	Order Code	Price
1/16“	27	25	JBO-103418	**£42.48**
1/8“	27	30	JBO-103425	**£40.71**
1/4“	18	38	JBO-103422	**£41.49**
3/8“	18	45	JBO-103436	**£54.60**
1/2“	14	45	JBO-103419	**£54.60**
3/4“	14	55	JBO-103433	**£90.07**
1“	11.5	65	JBO-103413	**£115.40**
1 1/4“	11.5	75	JBO-103417	**£161.96**
1 1/2“	11.5	90	JBO-103416	**£225.46**
2“	11.5	105	JBO-103429	**£291.35**

NPTF (NATIONAL PIPE TAPER FINE)

NPTF	TPI	ØD	Order Code	Price
1/16“	27	25	JBO-105622	**£77.03**
1/8“	27	30	JBO-105626	**£50.78**
1/4“	18	38	JBO-105624	**£55.74**
3/8“	18	45	JBO-105629	**£71.25**
1/2“	14	45	JBO-105623	**£74.30**
3/4“	14	55	JBO-105628	**£123.54**
1“	11.5	65	JBO-105618	**£183.20**

DIE STOCK FOR SPLIT DIES

- BS 1127 (for inch size OD dies)



Die Diameter	Length	Order Code	Price
13/16"	6 1/2"	69403-1316	**£11.69**
1"	8 7/8"	694031-	**£11.99**
1 5/16"	11"	694031-516	**£24.33**
1 1/2"	14 1/4"	694031-12	**£29.20**
2"	19 1/8"	694032-	**£43.37**
2 1/4"	23"	694032-14	**£88.06**
3"	30"	694033-	**£133.12**
4"	56"	694034-	**£227.12**

METRIC CIRCULAR DIE HOLDER



Die Holder Size	Suitable for Circular Metric Coarse Dies	Suitable Die Sizes (Dia x Thickness)	Order Code	Price
0	M1-2.5	16 x 5	13559005	**£4.06**
1	M3-4	20 x 5	13559010	**£4.76**
2	M4.5-6	20 x 7	13559020	**£4.68**
3	M7-9	25 x 9	13559030	**£5.58**
4	M10-11	30 x 11	13559040	**£7.69**
5	-	38 x 10	13559050	**£10.90**
6	M10-14	38 x 14	13559060	**£9.95**
7	-	45 x 14	13559070	**£14.62**
8	M16-20	45 x 18	13559080	**£15.33**
9	-	55 x 16	13559090	**£18.06**
10	M22-26	55 x 22	13559100	**£12.68**
11	-	65 x 18	13559110	**£19.88**
12	M27-36	65 x 25	13559120	**£19.22**
13	-	75 x 20	13559130	**£44.31**
15	-	90 x 22	13559150	**£56.38**
16	M45-52	90 x 36	13559160	**£58.07**
17	-	105 x 22	13559170	**£73.28**

MORE CIRCULAR DIE SIZES AND THREAD FORMS AVAILABLE AT CUTWEL.CO.UK

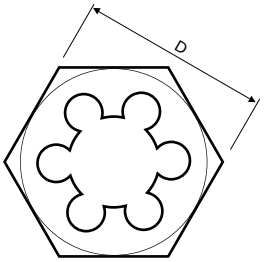
M METRIC COARSE / MF METRIC FINE

Hexagon Die Nut

- Hexagon die nuts are ideal for repairing external threads

Series	
64400 Presto	64410 Presto





HSS 60° BRIGHT FINISH

PRESTO

METRIC COARSE

Metric Coarse	Pitch	D	Order Code	Price
M3	0.5	19	644003.00.5	**£65.04**
M4	0.7	19	644004.00.7	**£37.34**
M5	0.8	19	644005.00.8	**£33.24**
M6	1	19	644006.01.0	**£22.82**
M7	1	22	644007.01.0	**£29.66**
M8	1.25	22	644008.01.25	**£27.01**
M9	1.25	22	644009.01.25	**£37.08**
M10	1.5	27	6440010.01.5	**£30.86**
M11	1.5	27	6440011.01.5	**£42.60**
M12	1.75	36	6440012.01.75	**£37.44**
M14	2	36	6440014.02.0	**£46.33**
M16	2	41	6440016.02.0	**£46.32**
M18	2.5	41	6440018.02.5	**£56.76**
M20	2.5	41	6440020.02.5	**£56.76**
M22	2.5	50	6440022.02.5	**£64.80**
M24	3	50	6440024.03.0	**£92.85**
M27	3	60	6440027.03.0	**£149.96**
M30	3.5	60	6440030.03.5	**£149.96**
M33	3.5	60	6440033.03.5	**£205.74**
M36	4	60	6440036.04.0	**£182.76**
M42	4.5	70	6440042.04.5	**£328.08**

METRIC FINE

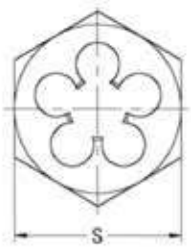
Metric Fine	Pitch	D	Order Code	Price
M3	0.35	19	644103.00.35	**£90.10**
M4	0.5	19	644104.00.5	**£52.08**
M5	0.5	19	644105.00.5	**£46.56**
M6	0.75	19	644106.00.75	**£31.66**
M8	1	22	644108.01.0	**£37.80**
M10	1	27	6441010.01.0	**£43.44**
M10	1.25	27	6441010.01.25	**£43.44**
M12	1.25	36	6441012.01.25	**£52.45**
M12	1.5	36	6441012.01.5	**£52.44**
M14	1.25	36	6441014.01.25	**£77.20**
M14	1.5	36	6441014.01.5	**£64.68**
M16	1.5	41	6441016.01.5	**£64.68**
M18	1.5	41	6441018.01.5	**£79.08**
M20	1.5	41	6441020.01.5	**£79.07**
M22	1.5	50	6441022.01.5	**£90.21**
M24	1.5	50	6441024.01.5	**£130.78**
M24	2	50	6441024.02.0	**£121.08**
M30	2	60	6441030.02.0	**£229.72**
M32	1.5	60	6441032.01.5	**£270.50**
M40	1.5	70	6441040.01.5	**£539.20**
M42	1.5	70	6441042.01.5	**£539.20**

METRIC COARSE HEXAGON DIE NUT

Hexagon Die Nut

- Metric coarse ISO DIN
- Tolerance 6g
- For recutting and repairing damaged threads
- Made in Germany
- Other sizes available on request





METRIC COARSE

Metric Coarse	Pitch	S	Order Code	Price
M3	0.5	18	JBO-120260	**£17.56**
M4	0.7	18	JBO-120319	**£17.06**
M5	0.8	18	JBO-120370	**£16.81**
M6	1	18	JBO-120418	**£16.81**
M8	1.25	21	JBO-120486	**£17.95**
M10	1.5	27	JBO-120082	**£22.52**
M12	1.75	36	JBO-120108	**£29.77**
M14	2	36	JBO-120128	**£30.55**
M16	2	41	JBO-120151	**£38.42**
M20	2.5	41	JBO-120191	**£39.95**
M24	3	50	JBO-120220	**£58.52**

METRIC FINE

Metric Fine	Pitch	S	Order Code	Price
M12	1.5	36	JBO-120116	**£34.86**
M14	1.5	36	JBO-120135	**£37.92**
M16	1.5	41	JBO-120161	**£44.79**
M18	1.5	41	JBO-120176	**£44.79**
M22	1.5	50	JBO-120210	**£61.58**
M24	1.5	50	JBO-120224	**£61.58**
M24	2	50	JBO-120226	**£66.92**
M27	2	60	JBO-120250	**£108.02**
M30	1.5	60	JBO-120270	**£97.70**
M30	2	60	JBO-120272	**£108.02**
M33	2	60	JBO-120288	**£108.02**
M36	1.5	60	JBO-120301	**£97.70**
M36	2	60	JBO-120303	**£108.02**
M40	1.5	70	JBO-120327	**£149.50**
M42	2	70	JBO-120339	**£149.50**
M45	1.5	85	JBO-120349	**£184.99**
M48	1.5	85	JBO-120362	**£184.99**
M48	3	85	JBO-120367	**£205.60**
M56	2	100	JBO-120407	**£248.60**

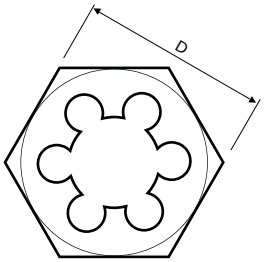
UNC UNIFIED COARSE / UNF UNIFIED FINE

Hexagon Die Nut

- Hexagon die nuts are ideal for repairing external threads

Series	
64420 Presto	64430 Presto





HSS 60° BRIGHT FINISH

PRESTO

UNIFIED COARSE

UNC	TPI	D	Order Code	Price
No 8	32	19	644208N	£54.01
No 10	24	19	6442010N	£54.00
No 12	24	19	6442012N	£43.18
1/4"	20	19	64420-14	£25.68
5/16"	18	22	64420-516	£30.36
3/8"	16	27	64420-38	£34.82
7/16"	14	27	64420-716	£47.89
1/2"	13	36	64420-12	£42.12
9/16"	12	36	64420-916	£51.98
5/8"	11	41	64420-58	£51.97
3/4"	10	41	64420-34	£63.72
7/8"	9	50	64420-78	£73.06
1"	8	50	644201-	£105.34
1 1/8"	7	60	644201-18	£149.96
1 1/4"	7	60	644201-14	£149.96
1 3/8"	6	60	644201-38	£164.04
1 1/2"	6	70	644201-12	£201.04
1 3/4"	5	80	644201-34	£299.28
2"	4 5	85	644202-	£283.94

UNIFIED FINE

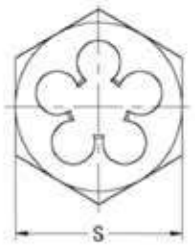
UNF	TPI	D	Order Code	Price
No 8	36	19	644308N	£50.00
No 10	32	19	6443010N	£54.01
No 12	28	19	6443012N	£54.00
1/4"	28	19	64430-14	£28.92
5/16"	24	22	64430-516	£34.08
3/8"	24	27	64430-38	£39.23
7/16"	20	27	64430-716	£59.28
1/2"	20	36	64430-12	£47.41
9/16"	18	36	64430-916	£58.45
5/8"	18	41	64430-58	£58.44
3/4"	16	41	64430-34	£71.74
7/8"	14	50	64430-78	£81.70
1"	12	50	644301-	£117.92
1 1/8"	12	60	644301-18	£167.94
1 1/4"	12	60	644301-14	£167.94
1 3/8"	12	60	644301-38	£184.66
1 1/2"	12	70	644301-12	£242.92

UNC/UNF HEXAGON DIE NUT

Hexagon Die Nut

- Unified Coarse and Unified Fine
- Tolerance 2A
- For recutting and repairing damaged threads
- Made in Germany
- Other sizes available on request





JBO

UNIFIED COARSE

UNC	TPI	S	Order Code	Price
1/4“	20	18	JBO-120544	£26.45
5/16“	18	21	JBO-120553	£24.50
3/8“	16	27	JBO-120552	£31.94
7/16“	14	27	JBO-120557	£39.06
1/2“	13	36	JBO-120542	£33.73
9/16“	12	36	JBO-120560	£41.21
5/8“	11	41	JBO-120555	£50.63
3/4“	10	41	JBO-120550	£43.73
7/8“	9	50	JBO-120558	£74.72
1“	8	50	JBO-120534	£86.52
1 1/8“	7	60	JBO-120539	£149.56
1 1/4“	7	60	JBO-120537	£121.53

UNIFIED FINE

UNF	TPI	S	Order Code	Price
1/4“	28	18	JBO-120580	£23.03
5/16“	24	21	JBO-120586	£21.10
3/8“	24	27	JBO-120584	£28.50
7/16“	20	27	JBO-120590	£47.71
1/2“	20	36	JBO-120578	£37.92
9/16“	18	36	JBO-120594	£43.01
5/8“	18	41	JBO-120588	£48.86
3/4“	16	41	JBO-120582	£48.86
1“	12	50	JBO-120571	£75.45

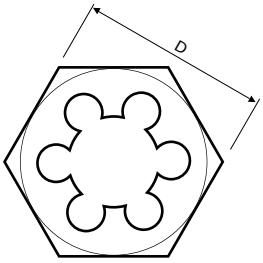
BSW BRITISH STANDARD WHITWORTH / BSF BRITISH STANDARD FINE

Hexagon Die Nut

- Hexagon die nuts are ideal for repairing external threads

Series	
64440 Presto	64450 Presto





HSS 55° BRIGHT FINISH

PRESTO

BSW (BRITISH STANDARD WHITWORTH)

BSW	TPI	D	Order Code	Price
1/8"	40	19	64440-18	**£57.48**
3/16"	24	19	64440-316	**£40.10**
1/4"	20	19	64440-14	**£26.68**
5/16"	18	22	64440-516	**£31.44**
3/8"	16	27	64440-38	**£39.12**
7/16"	14	27	64440-716	**£49.88**
1/2"	12	36	64440-12	**£47.40**
9/16"	12	36	64440-916	**£58.68**
5/8"	11	41	64440-58	**£58.68**
3/4"	10	41	64440-34	**£71.74**
7/8"	9	50	64440-78	**£81.70**
1"	8	50	644401-	**£99.26**
1 1/8"	7	60	644401-18	**£154.16**
1 1/4"	7	60	644401-14	**£164.38**
1 3/8"	6	60	644401-38	**£265.10**
1 1/2"	6	70	644401-12	**£237.52**
1 3/4"	5	80	644401-34	**£345.48**
2"	4.5	85	644402-	**£437.24**

BSF (BRITISH STANDARD FINE)

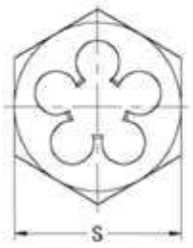
BSF	TPI	D	Order Code	Price
3/16"	32	19	64450-316	**£60.12**
1/4"	26	19	64450-14	**£30.13**
5/16"	22	22	64450-516	**£33.00**
3/8"	20	27	64450-38	**£40.80**
7/16"	18	27	64450-716	**£61.80**
1/2"	16	36	64450-12	**£49.56**
9/16"	16	36	64450-916	**£61.20**
5/8"	14	41	64450-58	**£61.20**
3/4"	12	41	64450-34	**£69.54**
7/8"	11	50	64450-78	**£86.02**
1"	10	50	644501-	**£123.58**
1 1/8"	9	60	644501-18	**£172.74**
1 1/4"	9	60	644501-14	**£172.74**
1 3/8"	8	60	644501-38	**£265.10**
1 1/2"	8	70	644501-12	**£248.32**
1 5/8"	8	70	644501-58	**£259.34**
1 3/4"	7	80	644501-34	**£344.28**

BSW HEXAGON DIE NUT

Hexagon Die Nut

- British standard Whitworth
- Tolerance med
- For recutting and repairing damaged threads
- Made in Germany





BSW (BRITISH STANDARD WHITWORTH)

BSW	TPI	S	Order Code	Price
1/8“	40	18	JBO-120829	**??**
3/16“	24	18	JBO-120857	**??**
1/4“	20	18	JBO-120827	**£48.35**
5/16“	18	21	JBO-120876	**£50.89**
3/8“	16	27	JBO-120864	**£53.57**
7/16“	14	27	JBO-120882	**£57.89**
1/2“	12	36	JBO-120824	**£57.89**
5/8“	11	41	JBO-120879	**£55.69**
3/4“	10	41	JBO-120860	**£55.05**
7/8“	9	50	JBO-120885	**£82.07**
1“	8	50	JBO-120806	**£70.88**
1 1/8“	7	60	JBO-120813	**£124.31**
1 1/4“	7	60	JBO-120811	**£115.04**
1 3/8“	6	60	JBO-120820	**??**
1 1/2“	6	70	JBO-120810	**??**
1 3/4“	5	85	JBO-120818	**??**
2“	4	85	JBO-120836	**??**

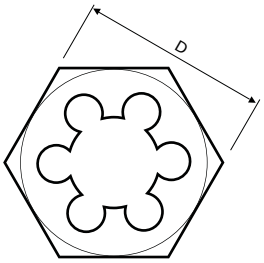
BSP(G) BRITISH STANDARD PIPE GAS / NPT NATIONAL PIPE TAPER

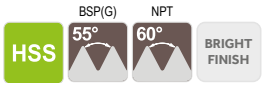
Hexagon Die Nut

- Hexagon die nuts are ideal for repairing external threads

Series	
64460 Presto	64490 Presto







BSP(G)

BSP(G)	TPI	D	Order Code	Price
1/8"	28	27	64460-18	**£39.12**
1/4"	19	36	64460-14	**£47.29**
3/8"	19	41	64460-38	**£58.20**
1/2"	14	41	64460-12	**£81.70**
3/4"	14	50	64460-34	**£155.34**
1"	11	60	644601-	**£245.92**
1 1/4"	11	70	644601-14	**£259.72**
1 1/2"	11	85	644601-12	**£359.26**

NPT

PRESTO

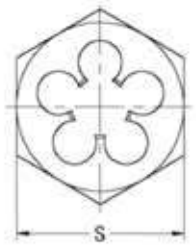
NPT	TPI	D	Order Code	Price
1/8"	27	27	64490-18	**£73.32**
1/4"	18	36	64490-14	**£108.58**
3/8"	18	41	64490-38	**£109.56**
1/2"	14	50	64490-12	**£158.36**
3/4"	14	60	64490-34	**£222.52**
1"	11.5	60	644901-	**£304.70**
1 1/4"	11.5	85	644901-14	**£337.06**
1 1/2"	11.5	85	644901-12	**£532.58**
2"	11.5	100	644902-	**£774.28**

BSP(G) / NPT HEXAGON DIE NUT

Hexagon Die Nut

- Whitworth pipe thread and National pipe tapered thread
- Tolerance A
- For recutting and repairing damaged threads
- Made in Germany





BSP(G)

BSP(G)	TPI	S	Order Code	Price
1/8"	28	27	JBO-120014	**£24.86**
1/4"	19	36	JBO-120012	**£26.71**
3/8"	19	41	JBO-120067	**£35.16**
1/2"	14	41	JBO-120010	**£40.71**
3/4"	14	50	JBO-120025	**£71.76**
1"	11	60	JBO-120058	**£88.18**
1 1/4"	11	70	JBO-120063	**£121.37**
1 3/8"	11	85	JBO-120006	**£189.11**
1 1/2"	11	85	JBO-120061	**£164.24**
2"	11	100	JBO-120016	**£207.14**
2 1/2"	11	115	JBO-120018	**£292.61**

NPT

NPT	TPI	S	Order Code	Price
1/8"	27	27	JBO-120611	**£46.70**
1/4"	18	36	JBO-120610	**£58.65**
3/8"	18	41	JBO-120616	**£59.66**
1/2"	14	41	JBO-120609	**£71.76**
3/4"	14	60	JBO-120615	**£120.35**
1"	11.5	60	JBO-120604	**£143.51**

M3-M12 METRIC COARSE HAND TAP & SPLIT DIE SET - 19PC

Contains:
- M3, M4, M5, M6, M8, M10, M12 Taper & Bottom Taps & Dies
- M3 - M12 Tap Wrench
- 13/16" Circular Diestock
- 1" Circular Diestock
- 1.5/16" Circular Diestock
- Small Screwdriver
- Class 6H / 6g

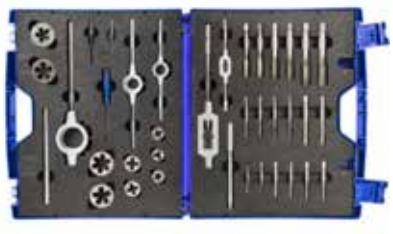


PRESTO

Tap Range	Order Code	Price
M3-M12	6960038	**£416.42**

M6-M24 METRIC COARSE HAND TAP & SPLIT DIE SET - 35PC

Contains:
- M6, M8, M10, M12, M14, M16, M18, M20, M22, M24 Taper & Bottom Taps & Dies
- M3 - M12 Tap Wrench
- M11 - M27 Tap Wrench
- 1" Circular Diestock
- 1.5/16" Circular Diestock
- 2" Circular Diestock
- Large Screwdriver
- M4 Hex Allen Key



PRESTO

Tap Range	Order Code	Price
M6-M24	6960042	**£692.02**

METRIC COARSE TAP & DIE SETS

- Includes an assortment of hand taps (taper, second and third) plus tap wrench and thread gauge
- For producing metric threads by hand in blind holes & through holes
- For steel, non-ferrous metals and (cast-iron) material groups up to a strength of 1000 N/mm²



ORION

Die Range	Order Code	Price
M3-M12	13399312	**£125.85**
M5-M20	13399520	**£304.73**
M3-M24	13399900	**£514.03**

METRIC FINE TAP & DIE SETS

- Includes an assortment of hand taps (taper, second and third) plus tap wrench and thread gauge
- For producing metric threads by hand in blind holes & through holes
- For steel, non-ferrous metals and (cast-iron) material groups up to a strength of 1000 N/mm²



ORION

Die Range	Order Code	Price
MF3-MF24	13399902	**£433.48**

35PC UNC UNIFIED NATIONAL COARSE HAND TAP & SPLIT DIE SET

Contains:
- 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 1" Taps & Dies
- M3 - M12 Tap Wrench
- M11 - M27 Tap Wrench
- 1" Circular Diestock
- 1.5/16" Circular Diestock.
- 2" Circular Diestock.
- Small Screw Driver.
- Large Screw Driver
- M4 Hex Allen Key.



PRESTO

Tap Range	Order Code	Price
UNC 1/4" - UNC 1"	6960023	**£582.21**

35PC UNF UNIFIED NATIONAL FINE HAND TAP & SPLIT DIE SET

Contains:
- 1/4", 5/16", 3/8", 7/16", 1/2", 5/8", 3/4", 7/8", 1" Taps & Dies
- M3 - M12 Tap Wrench
- M11 - M27 Tap Wrench
- 1" Circular Diestock
- 1.5/16" Circular Diestock
- 2" Circular Diestock
- Small Screw Driver
- Large Screw Driver
- M4 Hex Allen Key



PRESTO

Tap Range	Order Code	Price
UNF 1/4" - UNF 1"	6960026	**£635.09**

M3-M12 SOLID DIE SET

- Includes 1 of each M3, M4, M5, M6, M8, M10 & M12 circular solid dies
- Tolerance 6g
- For producing metric external threads
- For steel & NF metal material groups up to a strength of 700 N/mm²



ORION®

Die Range	Order Code	Price
M3-M12	13417500	**£54.43**

M3-M12 HEXAGON DIE NUT SET

- Includes 1 of each M3, M4, M5, M6, M8, M10 & M12 hexagon dies
- Tolerance 6g
- For rethreading and repairing damaged external threads
- For steel & NF metal material groups up to a strength of 700 N/mm²



Die Range	Order Code	Price
M3-M12	13434500	**£201.62**

21PC M METRIC COARSE HAND TAP SET

Through Hole and Blind Hole

- Standard geometry with excellent price/performance ratio
- Robust metal box protects the tool
- 3 hand taps for each size (taper tap/second tap/third tap (plug))
- M3, M4, M5, M6, M8, M10, M12



ORION®

Tap Range	Order Code	Price
M3-M12	13396010	**£50.43**

6PC M METRIC PORTABLE DRILL TAP SET

- For producing metric threads for portable use on cordless drill screwdrivers in through holes, in steel, non-ferrous metals and cast iron
- With 1/4" hexagon drive, HSS for M3, M4, M5, M6, M8, M10, M12 and magnetic steel tool holder for high requirements in terms of process reliability and service life



Tap Range	Order Code	Price
M3-M10	13407550	**£32.35**

High Performance Thread Rolling Dies

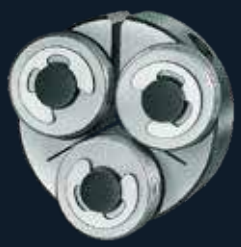
Heavy duty nitrided thread rolls available in M3-M8 thread sizes

Advantages:

- Rolled threads have a higher strength vs cutting dies
- No swarf that can damage the workpiece
- Excellent thread surface
- Minimal space required due to due to compact design
- Cost effective alternative to rolling heads



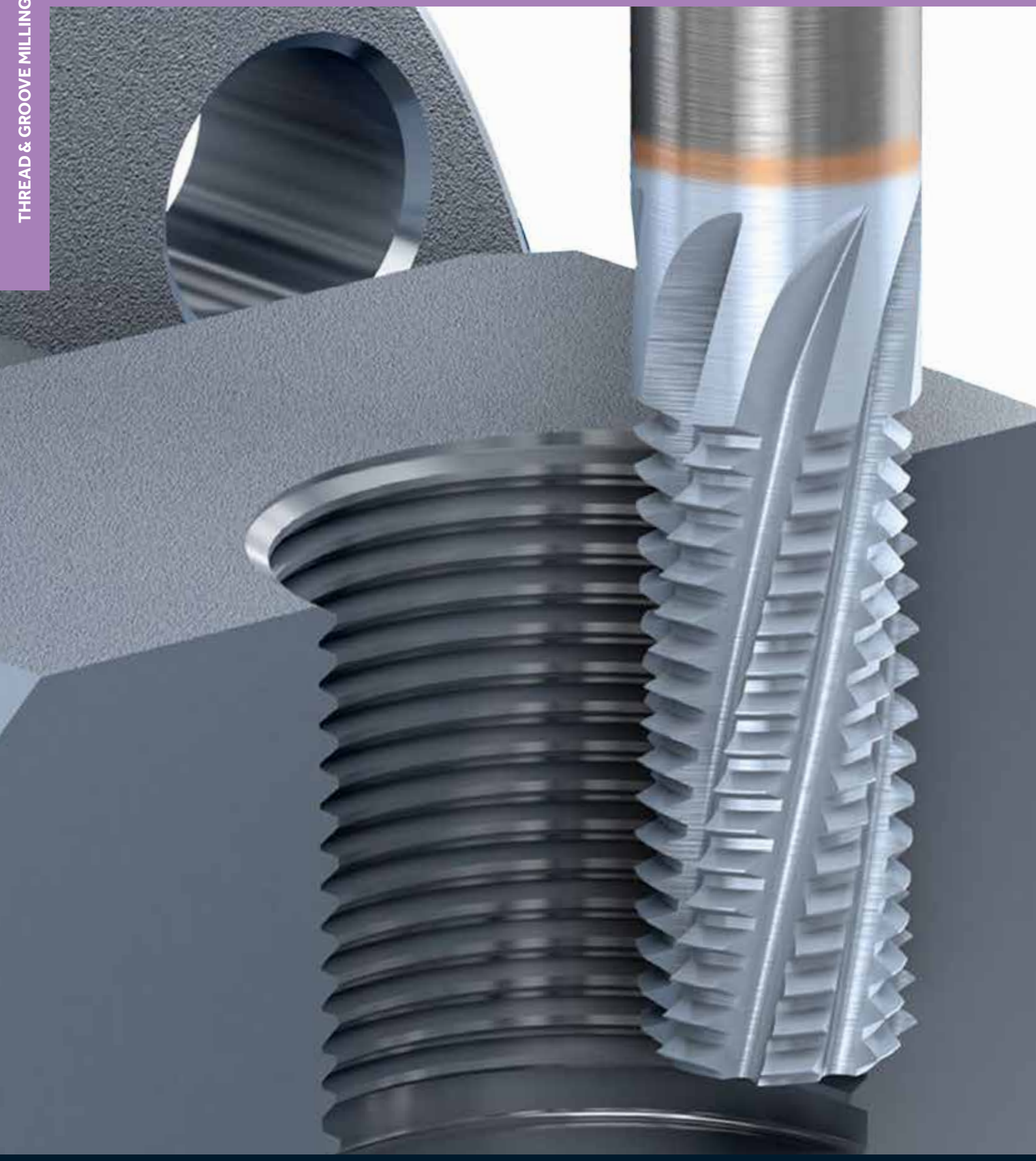
Non-Adjustable Type



Adjustable Type

Please contact our expert technical team for more information on 01924 869 615

Thread & Groove Milling



High performance solid carbide & indexable tooling solutions for the milling of threads, grooves, slots, chamfers & external radii. Systems are available for a wide range of performance requirements & specific material machining.



Solid Carbide Thread Mills 948
Vargus Vardex & Cutwel Pro solid carbide thread mills for small to medium diameter threads



Mach TM Thread Mills 972
Supersonic thread milling of steel, stainless steel, HRSA's, aluminium & cast iron up-to HRC45



Indexable Thread Mills 976
Vargus Vardex & Cutwel Pro indexable thread mill systems for medium to large diameter threads



Simmill Multifunctional Thread & Groove Milling 1000
Multi-funtional tooling system for thread milling, groove milling & chamfer milling in medium diameter bores



Simmill MX Multifunctional Thread & Groove Milling 1014
Multi-funtional tooling system for thread milling, groove milling & chamfer milling in medium to large diameter bores



Simmill 4V T-Slot Milling 1020
Simtek Simmill T-Slot indexable milling system



Simmill M4 Disk Milling 1022
Simtek Simmill indexable disk mills for slotting & grooving operations



vargus
NEUMO Ehrenberg Group

GENius Software

Introducing the world's most intelligent threading tool selector and CNC program generator.

The VARGUS GENius™ offers the most popular and advanced thread turning and thread milling software on the market today.

View More

Solid Carbide Thread Mills

P H M S K N



High performance carbide thread mills

For the machining of threads from 0.25 to 3.0mm pitch (72 to 8TPI). Specific ranges are available for materials including heat resistant super alloys, aluminium & hardened steels. With a specially developed high performance coating to prevent built up edge and improve thread quality.

Thread Form Selection

M METRIC COARSE	950	BSW BRITISH STANDARD WHITWORTH	964
UN UNIFIED NATIONAL	958	BSPT BRITISH STANDARD PIPE TAPER	966
UNJ UNIFIED NATIONAL	962	NPT NATIONAL PIPE TAPER	968
MJ METRIC	962	NPTF NAPTIONAL PIPE TAPER FUEL	968
BSP(G) BRITISH STANDARD GAS	964		

VARDEX CUTWEL PRO

Thread Mill Guide

HELICAL FLUTE
Solid

Coated thread mills for general thread milling of steel, stainless steel, HRSA's, cast iron and non-ferrous materials.



P H M S K N

HELICAL FLUTE
Axial Through Coolant

Higher performance thread mills for general thread milling of steel, stainless steel, HRSA's, cast iron and non-ferrous materials.

Through coolant ideal for increasing tool life and improving chip evacuation in blind holes.



P H M S K N

HELICAL FLUTE
Radial Through Coolant

Higher performance thread mills with polished TNF coating. Suitable for steel, stainless steel, HRSA's, cast iron and non-ferrous materials.

Variable helix reduces vibration and radial coolant holes improve chip evacuation in through holes.



P H M S K N

MULTI FLUTE
Axial Through Coolant

The ultimate thread mill for fast cycle times and longest tool life. With up to 7 flutes, the Vardex multi-flute geometry is around 40% faster and can offer superior tool life compared to standard thread mills.

Available in 2xD & 2.5xD lengths.



P H M S K N

HELICAL FLUTE
With 45° Chamfer

TNF coated thread mills with 45° chamfer to produce thread and chamfer in 1 hit. For general thread milling of steel, stainless steel, HRSA's, cast iron and non-ferrous materials.



P H M S K N

HELICAL FLUTE
For Hardened Steel

TX coated thread mills for high performance thread milling of hardened steel between HRC45-65.

Featuring an additional flute to standard thread mills & a special coating designed specifically for hardened steel.



P H M S K N

THRILLER
Drill, Chamfer & Thread

Special 'Thriller' design for drilling, chamfering and thread milling with 1 tool.

2 flute polished design ideal for aluminium or soft steel.



P H M S K N

HCN HELICAL FLUTE
Relieved Neck

Long reach helical flute carbide thread mill with a relieved neck for deep hole thread milling applications.

Available in 3xD lengths.



P H M S K N

MINIATURE STYLE
With 3 Teeth

Small diameter thread mills for general thread milling of steel, stainless steel, HRSA's, cast iron & non-ferrous materials. Available in 2xD or 3xD lengths in general geometry or hardened steel type.



P H M S K N

TPDR
Simultaneous Drilling & Threading

Special geometry thread mills which simultaneously drill and thread at the same time and finish with a chamfering operation. Ideal for live tooling lathes or CNC mills with limited space in the tool changers.



P H M S K N

LONG REACH
1 Tooth Style

Single tooth thread mills for general thread milling of steel, stainless steel, HRSA's, cast iron and non-ferrous materials. Available in 3xD lengths.



P H M S K N

MACH TM
Supersonic High Feed Thread Milling

High feed type with double the feed of standard thread mills. Machining time reduced by up to 60%. TiCN PVD coating to increase tool life by up to 25%



P H M S K N

M METRIC DIN 13 - HELICAL FLUTES

Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

P970

- TNF coated carbide thread mills
- Suitable for right and left hand threads
- Available in internal and external
- Axial coolant for blind holes, radial coolant for through holes

Solid

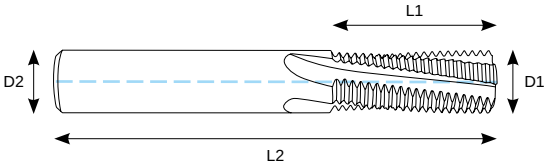


Axial Coolant



Radial Coolant





MG SC | 3-5 | R HELIX | HRC <45 | 60° | TNF | 1.5xD | 2xD

CUTWEL PRO

Thread		Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code					
M Coarse	M Fine							Solid	Price	Axial Coolant	Price	Radial Coolant	Price
Internal 1.5xD Max Depth													
M4x0.70	-	0.7	3.1	6	5	51	3	CTM-METHF50T	**£87.02**	-	-	-	-
M5x0.80	-	0.8	4	6	6	48	3	CTM-METHF52T	**£87.02**	CTM-METHF52TCF	**£104.42**	-	-
M6x1.0	MF8-40x1.0	1	4.5	6	7	49	3	CTM-METHF58T	**£87.02**	CTM-METHF58TCF	**£104.42**	-	-
M8x1.25	-	1.25	6	6	9	48	3	CTM-METHF66T	**£104.42**	CTM-METHF66TCF	**£121.82**	-	-
M10x1.5	MF10-48x1.5	1.5	8	8	12	57	3	CTM-METHF76T	**£121.82**	CTM-METHF76TCF	**£139.22**	-	-
M12x1.75	MF12-48x1.75	1.75	8	8	12	57	3	CTM-METHF78T	**£121.82**	CTM-METHF78TCF	**£139.22**	-	-
M14x2.0	MF17-80x2.0	2	10	10	15	69	4	CTM-METHF88T	**£153.20**	CTM-METHF88TCF	**£174.01**	-	-
M16x2.0	MF17-80x2.0	2	12	12	18	69	4	CTM-METHF96T	**£191.44**	CTM-METHF96TCF	**£208.83**	-	-
Internal 2xD Max Depth													
-	MF6-16x0.5	0.5	4.5	6	12	54	3	CTM-METHF27T	**£86.23**	-	-	-	-
-	MF8-16x0.5	0.5	6	6	12	54	3	CTM-METHF07T	**£86.23**	-	-	-	-
-	MF10-16x0.5	0.5	8	8	20	64	3	CTM-METHF13T	**£140.97**	-	-	-	-
M4x0.50	-	0.7	3.1	6	8	54	3	CTM-METHF03T	**£62.11**	-	-	-	-
-	MF6x0.75	0.75	4.5	6	12	54	3	CTM-METHF01T	**£62.11**	-	-	-	-
M5x0.80	-	0.8	4	6	12	54	3	CTM-METHF00T	**£62.11**	CTM-METHF00TCF	**£104.42**	-	-
M6x1.0	MF8-40x1.0	1	4.5	6	12	54	3	CTM-METHF02T	**£62.11**	CTM-METHF02TCF	**£104.42**	-	-
-	MF8-40x1.0	1	6	6	15	54	3	CTM-METHF05T	**£74.53**	-	-	CTM-MET05VHR	**£143.92**
-	MF10-40x1.0	1	8	8	20	64	3	CTM-METHF09T	**£121.82**	-	-	CTM-MET09VHR	**£164.46**
-	MF12-40x1.0	1	10	10	25	79	4	CTM-METHF14T	**£109.34**	-	-	CTM-MET14VHR	**£205.51**
M8x1.25	-	1.25	6	6	15	54	3	CTM-METHF06T	**£74.53**	CTM-METHF06TCF	**£121.82**	CTM-MET06VHR	**£143.92**
-	MF10x1.25	1.25	8	8	20	64	3	CTM-METHF10T	**£121.82**	-	-	-	-
M10x1.5	MF12-48x1.5	1.5	8	8	20	64	3	CTM-METHF11T	**£86.93**	CTM-METHF11TCF	**£139.22**	CTM-MET11VHR	**£164.46**
-	MF12-48x1.5	1.5	10	10	25	79	4	-	-	-	-	CTM-MET16VHR	**£205.51**
-	MF14-48x1.5	1.5	12	12	30	81	4	CTM-METHF20T	**£136.61**	-	-	-	-
-	MF16-48x1.5	1.5	14	14	35	99	4	CTM-METHF24T	**£226.26**	-	-	-	-
M12x1.75	-	1.75	8	8	20	64	3	CTM-METHF12T	**£86.93**	CTM-METHF12TCF	**£139.22**	CTM-MET12VHR	**£164.46**
M14x2.0	MF17-80x2.0	2	10	10	25	79	4	CTM-METHF17T	**£109.34**	CTM-METHF17TCF	**£174.01**	-	-
M16x2.0	MF17-80x2.0	2	12	12	30	81	4	CTM-METHF21T	**£136.61**	CTM-METHF21TCF	**£208.83**	CTM-MET21VHR	**£246.66**
-	MFF20-80x2.0	2	16	16	40	99	5	CTM-METHF30T	**£186.31**	-	-	-	-
M18-M22x2.5	-	2.5	14	14	35	99	4	CTM-METHF26T	**£161.47**	-	-	-	-
M20-M22x2.5	-	2.5	16	16	40	99	5	CTM-METHF31T	**£186.31**	-	-	CTM-MET31VHR	**£345.40**
M24x3.0	-	3	20	20	40	109	5	CTM-METHF36T	**£240.97**	-	-	-	-
External 2xD Max Depth													
M6x1.0	MF8-40x1.0	1	8	8	20	64	3	CTM-METHFEX17T	**£163.52**	-	-	-	-
M8x1.25	-	1.25	10	10	25	79	4	CTM-METHFEX19T	**£206.83**	-	-	-	-
M10x1.5	MF12-48x1.5	1.5	12	12	30	81	4	CTM-METHFEX21T	**£258.43**	-	-	-	-
M12x1.75	-	1.75	14	14	35	99	4	CTM-METHFEX23T	**£305.42**	-	-	-	-
M14x2.0	MF17-80x2.0	2	16	16	40	99	5	CTM-METHFEX25T	**£352.40**	-	-	-	-
M20-M22x2.5	-	2.5	18	18	40	109	5	CTM-METHFEX27T	**£404.18**	-	-	-	-
M24x3.0	-	3	20	20	40	109	5	CTM-METHFEX29T	**£455.81**	-	-	-	-

M METRIC DIN 13 - HELICAL FLUTES

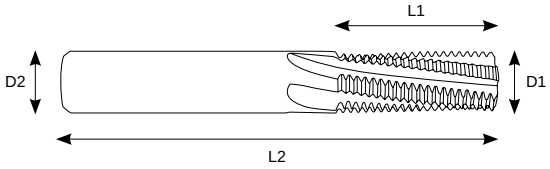
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal right and left hand threads
- Available in solid or axial through coolant (for blind holes)





MG SC | 3-5 | R HELIX | HRC <45 | 60° | TiAlN | 2xD

VARDEX

Thread		Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 2xD Max Depth (Solid)									
M3x0.5	M3.5-M16x0.5	0.5	2.2	4	6	45	3	101-00027	£111.50
-	M4x0.5	0.5	3	4	8	45	3	101-00028	£111.50
-	M5x0.5	0.5	3.9	4	10	45	3	101-00029	£111.50
M4x0.7	-	0.7	2.8	4	8.4	45	3	101-00025	£111.50
-	M6x0.75	0.75	3.9	4	12	45	3	101-00026	£111.50
M5x0.8	-	0.8	3.5	4	10.4	45	3	101-00006	£111.50
M6x1.0	M8-M40x1.0	1	3.9	4	12	45	3	101-00009	£111.50
-	M8x1.0	1	5.9	6	16	57	3	101-00012	£133.02
-	M10x1.0	1	7.9	8	20	63	3	101-00015	£154.97
-	M12x1.0	1	9.9	10	24	73	4	101-00010	£162.80
-	M8x1.25	1.25	5.8	6	16.25	57	3	101-00016	£133.02
M10x1.25	-	1.25	7.7	8	20	63	3	101-00018	£154.97
M10x1.5	M12-M48x1.5	1.5	7.7	8	21	63	3	101-00008	£154.97
-	M12x1.5	1.5	9.4	10	24	73	4	101-00011	£162.80
-	M14x1.5	1.5	11.2	12	28.5	83	4	101-00013	£221.44
-	M16x1.5	1.5	11.9	12	33	83	4	101-00014	£221.44
M12x1.75	-	1.75	8.7	10	24.5	73	4	101-00019	£162.80
M14x2.0	M17-M80x2.0	2	9.9	10	28	73	4	101-00021	£162.80
M16x2.0	M17-M80x2.0	2	11.9	12	32	83	4	101-00022	£221.44
M18-M22x2.5	-	2.5	13.9	16	40	92	5	101-00024	£307.70
M24x3.0	-	3	15.9	16	42	92	4	101-00023	£307.70
Internal 2xD Max Depth (Axial Coolant)									
M3x0.5	M3.5-M16x0.5	0.5	2.4	4	6.2	45	3	104-00001	£136.24
-	M4x0.5	0.5	3.2	4	8.2	45	3	104-00003	£136.24
-	M5x0.5	0.5	4.2	6	10.2	57	3	104-00005	£156.50
M4x0.7	-	0.7	3.15	4	8.7	45	3	104-00006	£136.24
-	M6x0.75	0.75	5	6	12.4	57	3	104-00008	£156.50
M5x0.8	-	0.8	3.9	4	10.8	45	3	104-00010	£136.24
M6x1.0	M8-M40x1.0	1	4.8	6	12.5	57	3	104-00012	£156.50
-	M8x1.0	1	6.7	8	16.5	61	3	104-00016	£182.36
-	M10x1.0	1	8.7	10	20.5	73	3	104-00018	£191.58
-	M12x1.0	1	10.7	12	24.5	73	4	104-00020	£260.62
M8x1.25	-	1.25	6.5	8	16.9	61	3	104-00022	£182.36
-	M10x1.25	1.25	8.5	10	20.6	73	3	104-00024	£191.58
M10x1.5	M12-M48x1.5	1.5	8.2	10	20.2	73	3	104-00026	£191.58
-	M12x1.5	1.5	9.9	10	24.7	73	4	104-00030	£191.58
-	M14x1.5	1.5	11.9	12	29.2	80	4	104-00032	£260.62
-	M16x1.5	1.5	13.9	14	32.2	92	4	104-00034	£297.49
M12x1.75	-	1.75	9.9	10	25.4	73	4	104-00036	£191.58
M14x2.0	M17-M80x2.0	2	11.6	12	29	80	4	104-00038	£260.62
M16x2.0	M17-M80x2.0	2	13.6	14	33	92	4	104-00041	£297.49
M18x2.5	-	2.5	14.8	16	36.2	92	4	104-00045	£362.08
M20x2.5	-	2.5	17.1	18	41.2	102	4	104-00047	£395.28
M24x3.0	-	3	19.9	20	49.5	102	4	104-00055	£395.28

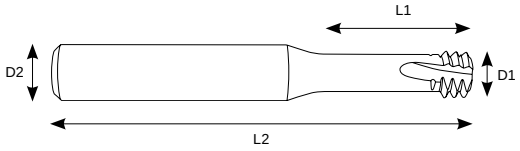
M METRIC DIN 13 - MINIATURE 3 TOOTH

Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data: P970

- TNF coated carbide thread mills
- Suitable for right and left hand internal threads
- Miniature style (3 tooth)





MG SC | 3-5 | R HELIX | HRC <45 | 60° | TNF | 2xD | 3xD

CUTWEL PRO

Thread		Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 2xD Max Depth									
M1.2x0.25	-	0.25	0.9	3	3	39	3	CTM-MET3T01T	**£95.58**
M1.4x0.30	-	0.3	1.05	3	3	39	3	CTM-MET3T02T	**£95.58**
M1.6x0.35	-	0.35	1.2	3	4.5	39	3	CTM-MET3T04T	**£95.58**
M2x0.40	-	0.4	1.55	3	4.5	39	3	CTM-MET3T03T	**£95.58**
M2.2x0.45	-	0.45	1.65	6	5	54	3	CTM-MET3T05T	**£95.58**
M3x0.50	MF3.5-16x0.5	0.5	2.35	6	6.5	54	3	CTM-MET3T09T	**£95.58**
M4x0.70	-	0.7	3.1	6	9	54	3	CTM-MET3T13T	**£97.49**
M5x0.80	-	0.8	3.8	6	12.5	54	3	CTM-MET3T15T	**£97.49**
M6x1.00	MF8-40x1.0	1	4.65	6	14	54	3	CTM-MET3T17T	**£97.49**
M8x1.25	-	1.25	5.95	6	18	54	3	CTM-MET3T19T	**£97.49**
M10x1.50	MF12-48x1.5	1.5	7.8	8	23	64	3	CTM-MET3T21T	**£110.41**
M12x1.75	-	1.75	9	10	26	73	3	CTM-MET3T23T	**£134.28**
M16x2.00	-	2	11.8	12	35	80	4	CTM-MET3T25T	**£171.87**
M20x2.50	-	2.5	15	16	43	100	5	CTM-MET3T27T	**£329.45**
Internal 3xD Max Depth									
M1.2x0.25	-	0.25	0.9	3	4	39	3	CTM-MET3T28T	**£97.49**
M1.4x0.30	-	0.3	1.05	3	4	39	3	CTM-MET3T29T	**£97.49**
M1.6x0.35	-	0.35	1.2	3	5	39	3	CTM-MET3T31T	**£97.49**
M2x0.40	-	0.4	1.55	3	6	39	3	CTM-MET3T33T	**£97.49**
M3x0.50	MF3.5-16x0.5	0.5	2.35	6	9.5	54	3	CTM-MET3T37T	**£97.49**
M3.5x0.60	-	0.6	2.75	6	10	54	3	CTM-MET3T38T	**£97.49**
M4x0.70	-	0.7	3.1	6	12.5	54	3	CTM-MET3T39T	**£97.49**
M4.5x0.75	-	0.75	3.4	6	14	54	3	CTM-MET3T40T	**£97.49**
M5x0.80	-	0.8	3.8	6	16	54	3	CTM-MET3T41T	**£97.49**
M6x1.00	MF8-40x1.0	1	4.65	6	20	54	3	CTM-MET3T43T	**£97.49**
M8x1.25	-	1.25	5.95	6	24	54	3	CTM-MET3T45T	**£97.49**

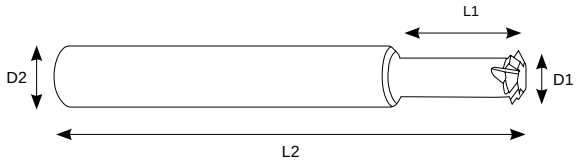
M METRIC DIN 13 - SINGLE TOOTH LONG REACH

Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data: P970

- TNF coated carbide thread mills
- Suitable for internal right and left hand threads
- Miniature design with 1 flute





MG SC | 3-5 | R HELIX | HRC <45 | 60° | TNF | 3xD

CUTWEL PRO

Thread		Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 3xD Max Depth									
M6x1	MF8-40x1.0	1	4.1	8	19	63	3	CTM-METLR03T	**£122.22**
M8x1.25	-	1.25	5.8	10	26	73	3	CTM-METLR05T	**£133.50**
M10x1.5	MF12-48x1.5	1.5	7.7	10	32	73	3	CTM-METLR07T	**£133.50**
-	MF12-48x1.5	1.5	9.4	12	38	83	4	CTM-METLR09T	**£152.15**
M12x1.75	-	1.75	8.7	12	38	83	4	CTM-METLR11T	**£152.15**
M14x2, M16x2	-	2	10.2	16	44	92	4	CTM-METLR13T	**£218.81**
M16x2	-	2	12.2	16	50	100	4	CTM-METLR15T	**£218.81**
M18x2.5, M20x2.5	-	2.5	12.9	16	57	108	5	CTM-METLR17T	**£218.81**
M20x2.5	-	2.5	14.8	16	63	114	5	CTM-METLR19T	**£218.81**

M METRIC DIN 13 - MINIATURE 3 TOOTH MILLIPRO

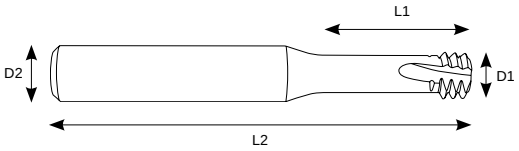
Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal right and left hand threads
- Miniature design with 3 flutes





MG SC | 3 | R HELIX | HRC <45 | 60° | TiAlN | 2xD | 3xD

VARDEX

Thread		Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 2xD Max Depth									
M1.6x0.35	-	0.35	1.2	3	3.4	30	3	102-80420	**£103.79**
M2x0.4	-	0.4	1.55	6	4.2	57	3	102-80254	**£103.79**
M2.2x0.45	-	0.45	1.65	6	4.6	57	3	102-80255	**£103.79**
M2.5x0.45	-	0.45	1.95	6	5.2	57	3	102-80256	**£103.79**
M3x0.5	M3.5-M16x0.5	0.5	2.4	6	6.2	57	3	102-80257	**£103.79**
M3.5x0.6	-	0.6	2.75	6	7.3	57	3	102-80258	**£103.79**
M4x0.7	-	0.7	3.15	6	8.3	57	3	102-80259	**£103.79**
M5x0.8	-	0.8	4.05	6	10.4	57	3	102-80260	**£103.79**
M6x1.0	M8-M40x1.0	1	4.8	6	12.5	57	3	102-80261	**£103.79**
M8x1.25	-	1.25	6.5	8	16.6	63	3	102-80262	**£117.80**
M10x1.5	M12-M48x1.50	1.5	8.2	10	20.8	73	3	102-80418	**£129.07**
M12x1.75	-	1.75	9.9	10	25	73	3	102-80419	**£129.07**
M16x2.0	-	2	11.9	12	33	83	3	102-00093	**£140.71**
M20x2.5	-	2.5	15.9	16	41.3	92	3	102-00073	**£169.26**
Internal 3xD Max Depth									
M1.6X0.35	-	0.35	1.2	3	5	30	3	102-80421	**£103.79**
M2x0.4	-	0.4	1.55	3	6.2	30	3	102-00100	**£103.79**
M2X0.4	-	0.4	1.55	6	6.2	57	3	102-80422	**£103.79**
M2.5x0.45	-	0.45	1.95	3	7.7	30	3	102-00094	**£103.79**
M2.5x0.45	-	0.45	1.95	6	7.7	57	3	102-80265	**£103.79**
M3X0.5	M3.5-M16x0.5	0.5	2.4	3	9.2	30	3	102-00099	**£103.79**
M3x0.5	M3.5-M16x0.5	0.5	2.4	6	9.2	57	3	102-80266	**£103.79**
M4x0.7	-	0.7	3.15	6	12.3	57	3	102-80267	**£103.79**
M5x0.8	-	0.8	4.05	6	15.4	57	3	102-80268	**£103.79**
M6x1.0	M8-M40x1.0	1	4.8	6	18.5	57	3	102-80269	**£103.79**
M8x1.25	-	1.25	6.5	8	24.6	63	3	102-80270	**£117.80**

M METRIC DIN 13 - SINGLE TOOTH MILLIPRO

Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal right and left hand threads
- Miniature design with 1 flute





MG SC | 3 | R HELIX | HRC <45 | 60° | TiAlN | 3xD

VARDEX

Thread		Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 3xD Max Depth									
M1.0x0.25	M1.4x0.25	0.25	0.7	3	3.1	31	3	103-00015	**£164.02**
M1.2x0.25	M1.4x0.25	0.25	0.9	3	3.8	31	3	103-00016	**£164.02**
M1.4x0.3	-	0.3	1.05	3	4.4	31	3	103-00010	**£164.02**
M1.6x0.35	-	0.35	1.2	3	5	31	3	103-00011	**£102.52**
M1.8x0.35	M2.0x0.35	0.35	1.4	3	5.6	31	3	103-00009	**£102.52**
M2.0x0.4	-	0.4	1.5	3	6.2	31	3	103-00006	**£102.52**
M2.5x0.45	-	0.45	1.95	3	7.7	31	3	103-00012	**£102.52**

M METRIC DIN 13 - MULTIFLUTE THREAD MILL

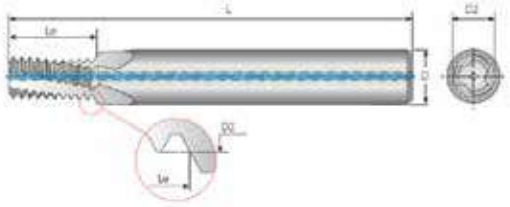
Multi-Flute Superfast Thread Mills

Cutting Data

View Online

- Multiflute type for superfast thread milling
- Save up to 40% machining time over conventional thread mills
- Suitable for internal right and left hand threads
- Axial coolant for blind holes





MG SC | 4-7 | R HELIX | HRC <45 | 60° | TiAlN | 2xD | 2.5xD

VARDEX

Thread		Pitch mm	D	D2	Le	L	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 2xD Max Depth (Axial Coolant)									
M3x0.5	M3.5-M16x0.5	0.5	4	2.4	6.2	45	5	165-00001	**£178.64**
M4x0.7	-	0.7	4	3.15	8.7	45	5	165-00003	**£178.64**
M5x0.8	-	0.8	4	3.9	10.8	45	6	165-00005	**£178.64**
M6x1.0	M8-M40x1.0	1	6	4.8	12.5	57	6	165-00006	**£212.97**
M8x1.25	-	1.25	8	6.5	16.9	61	6	165-00007	**£248.03**
M10x1.5	M12-M48x1.5	1.5	10	8.2	20.2	73	7	165-00008	**£260.70**
M12x1.75	-	1.75	10	9.9	25.4	73	7	165-00009	**£260.70**
M14x2.0	M17-M80x2.0	2	12	11.6	29	80	6	165-00010	**£354.58**
M16x2.0	M17-M80x2.0	2	14	13.6	33	92	7	165-00011	**£404.83**
Internal 2.5xD Max Depth (Axial Coolant)									
M3x0.5	M3.5-M16x0.5	0.5	4	2.4	6.2	45	4	165-00025	**£202.08**
M4x0.7	-	0.7	4	3.15	8.7	47	4	165-00027	**£202.08**
M5x0.8	-	0.8	4	3.9	10.8	50	5	165-00029	**£202.08**
M6x1.0	M8-M40x1.0	1	6	4.8	12.5	60	5	165-00030	**£240.94**
M8x1.25	-	1.25	8	6.5	16.9	66	5	165-00031	**£280.74**
M10x1.5	M12-M48x1.5	1.5	10	8.2	20.2	75	5	165-00032	**£295.02**
M12x1.75	-	1.75	10	9.9	25.4	86	5	165-00033	**£295.02**
M14x2.0	M17-M80x2.0	2	12	11.6	29	102	5	165-00034	**£401.22**
M16x2.0	M17-M80x2.0	2	14	13.6	33	108	5	165-00035	**£458.16**

M METRIC DIN 13 - HELICAL FLUTES WITH RELIEVED NECK

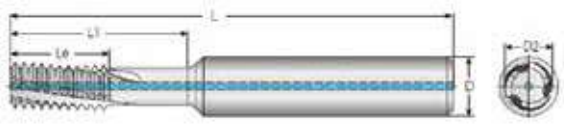
HCN Relief Neck for Reduced Cutting Forces & Long Reach Threads

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal right and left hand threads
- Axial coolant for blind holes
- Relief neck for difficult to reach applications





MG SC | 3&4 | R HELIX | HRC <45 | 60° | TiAlN | 3xD

VARDEX

Thread		Pitch mm	D	D2	Le	L1	L	No. of Flutes	Order Code	Price
M Coarse	M Fine									
Internal 3xD Max Depth (Axial Coolant)										
M3x0.5	M3.5-M16x0.5	0.5	4	2.4	5	9	9	3	110-00001	**£135.16**
M4x0.7	-	0.7	4	3.15	7	12	12	3	110-00002	**£135.16**
M5x0.8	-	0.8	4	3.9	8.8	15	15	3	110-00003	**£135.16**
M6x1.0	M8-M40x1.0	1	6	4.8	10	18	18	3	110-00004	**£161.14**
M8x1.25	-	1.25	8	6.5	13.75	24	24	3	110-00007	**£187.69**
M10x1.5	M12-M48x1.5	1.5	10	8.2	16.5	30	30	3	110-00008	**£197.29**
M12x1.75	-	1.75	10	9.9	19.25	36	36	4	110-00012	**£197.29**
M14x2.0	M17-M80x2.0	2	12	11.6	24	42	42	4	110-00013	**£268.30**
M16x2.0	M17-M80x2.0	2	14	13.6	26	48	48	4	110-00014	**£306.33**

M METRIC DIN 13 - TMDR DRILL, THREAD & CHAMFER MILL

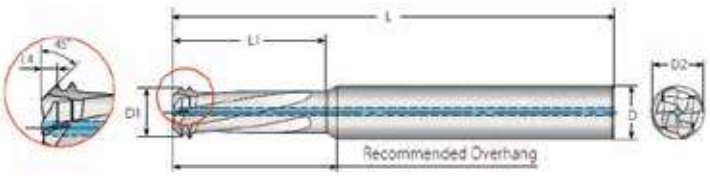
Drill, Thread & Chamfer All In One Tooling Operation

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Optional axial coolant for blind holes
- TMDR Thread Mills - Simultaneous drilling, threading and chamfering in 1 hit
- TMDR are left handed, for CNC programming use M04 code





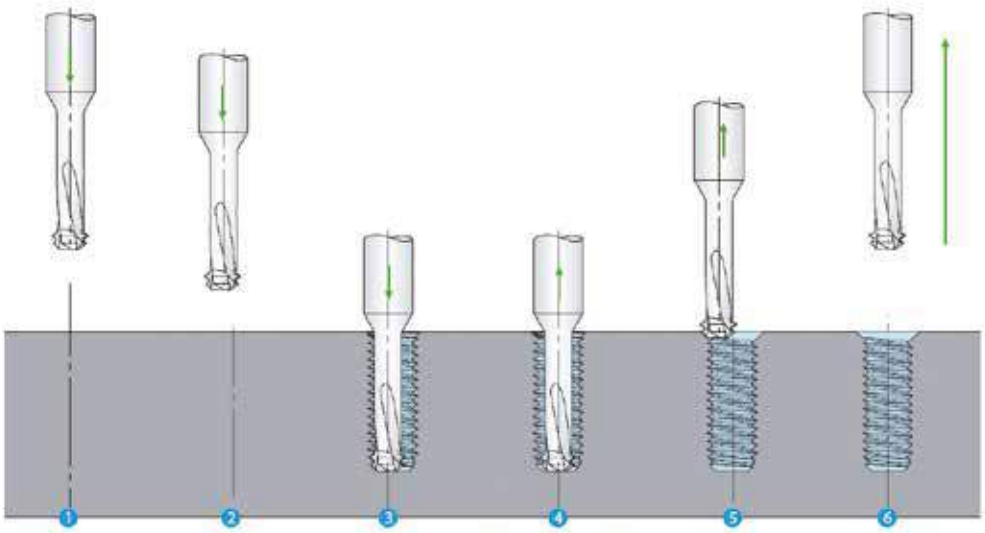
MG SC | 3&4 | L HELIX | HRC <45 | 60° | TiAlN | 2xD | 2.5xD

VARDEX

Thread		Pitch mm	D	D2	L	L1	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 2xD Max Depth (Solid)									
M3x0.5	M4x0.5	0.5	6	2.4	58	7	3	138-00003	
M4x0.7	-	0.7	6	3.2	58	9.2	3	138-00005	**£159.44**
M5x0.8	-	0.8	6	3.9	58	11.5	3	138-00006	
M6-M7x1.0	M8-M9x1.0	1	6	4.7	58	14	3	138-00008	
Internal 2xD Max Depth (Axial Coolant)									
M6-M7x1.0	M8-M9x1.0	1	8	4.7	64	14	3	138-00010	**£205.16**
M8x1.25	M9-M11x1.25	1.25	8	6.1	64	18	4	138-00012	**£205.16**
M10x1.5	M11-M14x1.5	1.5	8	7.8	64	23	4	138-00002	**£205.16**
M12x1.75	-	1.75	10	9	80	26	4	138-00014	**£245.39**
M16x2.0	M17-M23x2.0	2	12	11.8	100	35	4	138-00015	**£337.48**
M18-M22x2.50	-	2.5	16	15	135	44.6	4	138-00049	**£451.32**
Internal 2.5xD Max Depth (Solid)									
M3x0.5	M4x0.5	0.5	6	2.4	58	8.5	3	138-00004	
M4x0.7	-	0.7	6	3.2	58	11.2	3	138-00001	**£159.44**
M5x0.8	-	0.8	6	3.9	58	14.4	3	138-00007	
M6-M7x1.0	M8-M9x1.0	1	6	4.7	58	17	3	138-00009	
Internal 2.5xD Max Depth (Axial Coolant)									
M6-M7x1.0	M8-M9x1.0	1	8	4.7	64	17	3	138-00011	**£205.16**
M8x1.25	M9-M11x1.25	1.25	8	6.1	64	22	4	138-00013	**£205.16**
M10x1.5	M11-M14x1.5	1.5	8	7.8	64	28	4	138-00058	**£205.40**
M12x1.75	-	1.75	10	9	80	32	4	138-00059	**£245.69**
M16x2.0	M17-M23x2.0	2	12	11.8	100	43	4	138-00060	**£337.91**
M18-M22x2.50	-	2.5	16	15	135	54.6	4	138-00050	**£451.32**
M24x3.0	-	3	18	17.8	135	65	4	138-00078	**£684.60**

TMDR OPERATING CYCLE

Drill, Chamfer & Thread In 1 Hit!



1. Start point. Position at centre of hole
2. Move to helical starting position
3. Drill & thread with helical interpolation
4. When desired thread is complete, move to centre, then exit hole
5. Chamfer*
6. Return to start point



*TMDR are left handed, for CNC programming use M04 code

*Please use VARGUS GENius for chamfer recommendations.

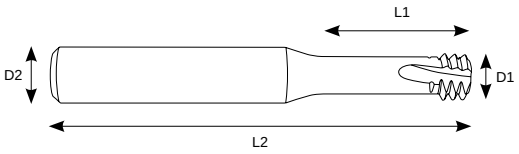
M METRIC DIN 13 - MINIATURE 3 TOOTH FOR HARDENED STEEL

Thread Mills for Hardened Steel Applications >HRC45

Cutting Data: P970

- Suitable for right and left hand internal threads
- 4 flute design for additional strength
- Miniature style (3 tooth)
- For CNC programing use M04 code





MG SC | 3&4 | L HELIX | HRC >45 | 60° | TX | 2xD | 3xD

CUTWEL PRO

Thread		Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 2xD Max Depth									
M2x0.40	-	0.4	1.55	3	4.5	39	4	CTM-MET3T03HS	**£148.04**
M2.5x0.45	-	0.45	1.95	6	5.5	54		CTM-MET3T07HS	**£148.04**
M3x0.50	MF3.5-16x0.5	0.5	2.35	6	6.5	54		CTM-MET3T09HS	**£148.04**
M4x0.70	-	0.7	3.1	6	9	54		CTM-MET3T13HS	**£148.04**
M5x0.80	-	0.8	3.8	6	12.5	54		CTM-MET3T15HS	**£148.04**
M6x1.00	MF8-40x1.0	1	4.65	6	14	54		CTM-MET3T17HS	**£148.04**
M8x1.25	-	1.25	5.95	6	18	54		CTM-MET3T19HS	**£148.04**
M10x1.50	MF12-48x1.5	1.5	7.8	8	23	64		CTM-MET3T21HS	**£167.67**
M12x1.75	-	1.75	9	10	26	73		CTM-MET3T23HS	**£203.92**
Internal 3xD Max Depth									
M2x0.40	-	0.4	1.55	3	6	39	3	CTM-MET3T33HS	**£148.04**
M2.5x0.45	-	0.45	1.95	6	7.5	54		CTM-MET3T35HS	
M3x0.50	MF3.5-16x0.5	0.5	2.35	6	9.5	54		CTM-MET3T37HS	
M4x0.70	-	0.7	3.1	6	12.5	54		CTM-MET3T39HS	
M4.5x0.75	-	0.75	3.4	6	14	54		CTM-MET3T41HS	
M5x0.80	-	0.8	3.8	6	16	54		CTM-MET3T43HS	
M6x1.00	MF8-40x1.0	1	4.65	6	20	54		CTM-MET3T45HS	
M8x1.25	-	1.25	5.95	6	24	54		CTM-MET3T47HS	

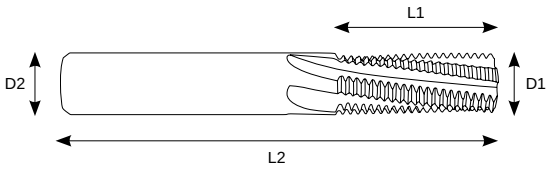
M METRIC DIN 13, HARDENED STEEL

Thread Mills for Hardened Steel Applications >HRC45

Cutting Data: P970

- Suitable for right and left hand internal threads
- 4-5 flute design for additional strength
- Helical flute





MG SC | 4&5 | R HELIX | HRC >45 | 60° | TX | 2xD

CUTWEL PRO

Thread		Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
M Coarse	M Fine								
Internal 2xD Max Depth									
M5x0.8	-	0.8	4	6	12	55	4	CTM-METHF50HS	**£146.83**
M6x1.0	MF8-40x1.0	1.0	4.5	6	12	55	4	CTM-METHF54HS	**£146.83**
M8x1.25	MF10x1.25	1.25	6	6	15	55	4	CTM-METHF60HS	**£176.19**
M10x1.5	MF10-48x1.5	1.5	8	8	20	65	4	CTM-METHF68HS	**£205.57**
M12x1.75	MF12-48x1.75	1.75	8	8	20	65	4	CTM-METHF70HS	**£205.57**
M14x2.0	MF17-80x2.0	2.0	10	10	25	80	5	CTM-METHF78HS	**£258.48**
M16x2.0	MF17-80x2.0	2.0	12	12	30	82	5	CTM-METHF84HS	**£323.05**

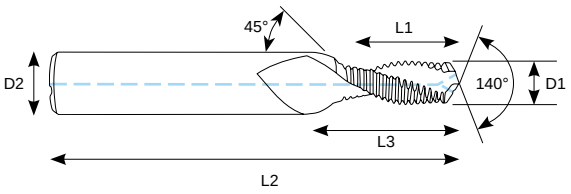
M METRIC DIN 13 - THRILLER DRILL, CHAMFER & THREAD ALU

Drilling, Chamfering & Thread Milling Aluminium & Soft Steel in 1 Operation

Cutting Data
P970

- Suitable for right and left hand internal threads
- Helical 2 flute design





MG SC | 2 | R HELIX | 60° | BRIGHT FINISH | 2xD | 2.5xD

*for these thread sizes only

CUTWEL PRO

Thread M Coarse*	Pitch mm	D1	D2	L1	L2	L3	No. of Flutes	Order Code	Price
Internal 2xD Max Depth									
M4x0.7	0.7	3.3	6	7.65	55	9	2	CTM-METDTC51NF	**£228.72**
M5x0.8	0.8	4.2	6	9.55	55	11.25		CTM-METDTC53NF	**£228.72**
M6x1.0	1	5	8	12.05	62	13.95		CTM-METDTC56NF	**£237.87**
M8x1.25	1.25	6.75	10	15.07	74	17.525		CTM-METDTC60NF	**£281.13**
M10x1.5	1.5	8.5	12	19.58	79	22.7		CTM-METDTC66NF	**£313.55**
M12x1.75	1.75	10.25	14	22.85	89	26.475		CTM-METDTC74NF	**£432.48**
M14x2.0	2	12	16	28.11	102	32.35		CTM-METDTC75NF	**£528.15**
M16x2.0	2	14	18	32.11	102	36.75		CTM-METDTC80NF	**£627.10**
Internal 2.5xD Max Depth									
M6x1.0	1	5	8	15.1	62	16.95	2	CTM-METDTC82NF	**£261.65**
M8x1.25	1.25	6.75	10	20.08	74	22.525		CTM-METDTC84NF	**£309.24**
M10x1.5	1.5	8.5	12	25.59	79	28.7		CTM-METDTC86NF	**£344.91**
M12x1.75	1.75	10.25	14	29.86	89	33.475		CTM-METDTC88NF	**£475.73**

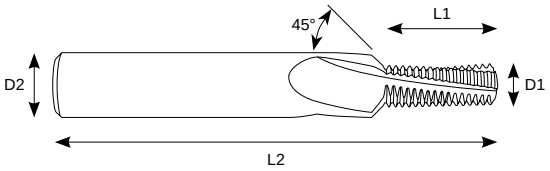
M METRIC DIN 13 - HELICAL FLUTE WITH 45° CHAMFER

Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data
P970

- TNF coated carbide thread mills
- Suitable for right and left hand internal threads
- Helical flute with integral chamfer





MG SC | 3 | R HELIX | HRC <45 | 60° | TNF | 2xD

CUTWEL PRO

Thread M Coarse	Thread M Fine	Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal 2xD Max Depth									
M5x0.80	-	0.8	4	6	10.75	55	3	CTM-METHFCMF50T	**£134.98**
-	MF6x0.75	0.75	5	8	12.3	62		CTM-METHFCMF52T	**£147.34**
M6x1.0	MF8-40x1.0	1	4.8	8	12.4	62		CTM-METHFCMF54T	**£147.34**
M8x1.25	-	1.25	6.5	10	16.8	74		CTM-METHFCMF58T	**£179.65**
M10x1.5	-	1.5	8.2	12	20.15	80		CTM-METHFCMF64T	**£241.44**

UN UNIFIED NATIONAL ANSI B1.1:74 - HELICAL FLUTES

Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

P970

- TNF coated carbide thread mills
- Suitable for right and left hand internal threads
- Helical flute
- Axial coolant for blind holes, radial coolant for through holes

Solid

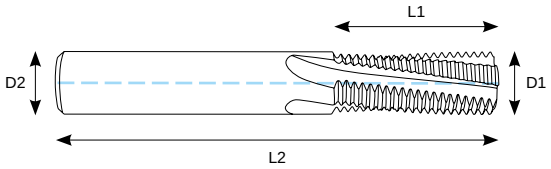


Axial Coolant



Radial Coolant





MG SC | 3-5 | R HELIX | HRC <45 | 60° | TNF | 1.5xD | 2xD

CUTWEL PRO

Thread		TPI	D1	D2	L1	L2	No. of Flutes	Solid		Axial Coolant		Radial Coolant	
UNC	UNF							Order Code	Price	Order Code	Price	Order Code	Price
Internal 1.5xD Max Depth													
-	5/16" UNF	24	5.5	6	9	49	3	CTM-UNHF56T	**£110.94**	CTM-UNHF56TCF	**£121.82**	-	-
-	3/8" UNF	24	8	8	12	58	3	CTM-UNHF64T	**£129.44**	CTM-UNHF64TCF	**£139.22**	-	-
1/4" UNC	7/16"-1/2" UNF	20	4.5	6	7	50	3	CTM-UNHF50T	**£92.45**	CTM-UNHF50TCF	**£104.42**	-	-
5/16" UNC	9/16"-5/8" UNF	18	5.5	6	9	49	3	CTM-UNHF54T	**£110.94**	CTM-UNHF54TCF	**£121.82**	-	-
3/8" UNC	3/4" UNF	16	7.5	8	12	58	3	CTM-UNHF58T	**£129.44**	CTM-UNHF58TCF	**£139.22**	-	-
7/16" UNC	7/8" UNF	14	8	8	12	58	3	CTM-UNHF60T	**£129.44**	CTM-UNHF60TCF	**£139.22**	-	-
1/2" UNC	-	13	10	10	15	70	4	CTM-UNHF68T	**£162.75**	CTM-UNHF68TCF	**£174.04**	-	-
9/16" UNC	1"-1 1/2" UNF	12	10	10	15	70	4	CTM-UNHF66T	**£162.75**	CTM-UNHF66TCF	**£174.04**	-	-
Internal 2xD Max Depth													
-	No.12. 1/4" UNF	28	4.5	6	12	55	3	CTM-UNHF03T	**£65.99**	-	-	-	-
-	5/16"-3/8" UNF	24	5.5	6	15	55	3	CTM-UNHF09T	**£79.18**	-	-	-	-
-	5/16"-3/8" UNF	24	8	8	20	65	3	CTM-UNHF15T	**£92.37**	-	-	-	-
1/4" UNC	7/16"-1/2" UNF	20	4.5	6	12	55	3	CTM-UNHF01T	**£65.99**	CTM-UNHF01TCF	**£104.42**	-	-
-	7/16"-1/2" UNF	20	10	10	25	80	4	CTM-UNHF23T	**£116.15**	-	-	-	-
5/16" UNC	9/16" UNF	18	5.5	6	15	55	3	CTM-UNHF07T	**£79.18**	CTM-UNHF07TCF	**£121.82**	-	-
-	9/16" UNF	18	12	12	30	82	4	CTM-UNHF25T	**£145.15**	-	-	-	-
3/8" UNC	3/4" UNF	16	7.5	8	20	65	3	CTM-UNHF05T	**£92.37**	CTM-UNHF05TCF	**£139.22**	CTM-UN05VHR	**£164.46**
-	3/4" UNF	16	15.5	16	40	100	5	CTM-UNHF29T	**£197.93**	-	-	-	-
7/16" UNC	7/8" UNF	14	8	8	20	65	3	CTM-UNHF11T	**£92.37**	CTM-UNHF11TCF	**£139.22**	CTM-UN11VHR	**£164.46**
-	7/8" UNF	14	18	18	40	110	5	CTM-UNHF37T	**£227.03**	-	-	-	-
1/2" UNC	-	13	10	10	25	80	4	CTM-UNHF19T	**£116.15**	CTM-UNHF19TCF	**£174.04**	CTM-UN19VHR	**£205.57**
9/16" UNC	1"-1 1/2" UNF	12	10	10	25	80	4	CTM-UNHF17T	**£116.15**	CTM-UNHF17TCF	**£174.04**	CTM-UN17VHR	**£205.57**
-	1"-1 1/2" UNF	12	20	20	40	110	5	CTM-UNHF41T	**£256.03**	-	-	-	-
5/8" UNC	-	11	12	12	30	82	4	CTM-UNHF27T	**£145.15**	CTM-UNHF27TCF	**£208.83**	CTM-UN27VHR	**£246.66**
3/4" UNC	-	10	15.5	16	40	100	5	CTM-UNHF31T	**£197.93**	CTM-UNHF31TCF	**£292.40**	CTM-UN31VHR	**£345.40**
7/8" UNC	-	9	18	18	40	110	5	CTM-UNHF35T	**£227.03**	CTM-UNHF35TCF	**£334.19**	CTM-UN35VHR	**£394.77**
1" UNC	-	8	20	20	40	110	5	CTM-UNHF39T	**£256.03**	CTM-UNHF39TCF	**£382.97**	CTM-UN39VHR	**£452.41**



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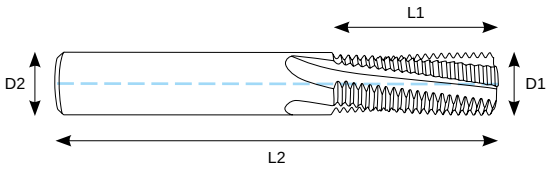
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

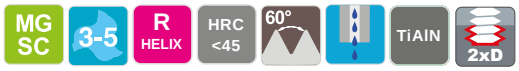
Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal right and left hand threads
- Helical flute
- Available in solid or axial through coolant (for blind holes)







VARDEX

Thread			TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
UNC	UNF	UNEF								
Internal 2xD Max Depth (Solid)										
-	No.8 UNF	-	36	3	4	8.5	45	3	101-00053	**£111.50**
-	No.10 UNF	No.12-3/8" UNEF	32	3.3	4	11.1	45	3	101-00052	**£111.50**
-	No.12 ,1/4" UNF	7/16", 1/2" UNEF	28	3.8	4	11.8	45	3	101-00050	**£111.50**
-	1/4" UNF	7/16", 1/2" UNEF	28	4.6	6	12.7	57	3	101-00071	**£133.02**
-	-	7/16", 1/2" UNEF	28	9.2	10	22.7	73	4	101-00051	**£162.80**
No.10 UNC	5/16", 3/8" UNF	9/16"-11/16" UNEF	24	2.9	4	10.6	45	3	101-00045	**£111.50**
No.12	5/16", 3/8" UNF	9/16"-11/16" UNEF	24	3.5	4	11.6	45	3	101-00046	**£111.50**
-	5/16", 3/8" UNF	9/16"-11/16" UNEF	24	5.7	6	15.9	57	3	101-00047	**£133.02**
-	3/8" UNF	9/16"-11/16" UNEF	24	7.4	8	19.1	63	3	101-00048	**£154.97**
-	-	9/16"-11/16" UNEF	24	11.9	12	28.6	83	4	101-00049	**£221.44**
1/4"x20 UNC	7/16", 1/2" UNF	3/4"-1" UNEF	20	3.9	4	12.7	45	3	101-00070	**£111.50**
-	7/16", 1/2" UNF	3/4"-1" UNEF	20	8.5	10	22.9	73	4	101-00042	**£162.80**
-	1/2" UNF	3/4"-1" UNEF	20	9.9	10	25.4	73	4	101-00043	**£162.80**
-	-	3/4"-1" UNEF	20	15.9	16	38.1	92	5	101-00044	**£307.70**
5/16" UNC	9/16", 5/8" UNF	11/16"-1 11/16" UNEF	18	5.2	6	16.9	57	3	101-00069	**£133.02**
-	9/16", 5/8" UNF	11/16"-1 11/16" UNEF	18	11.3	12	29.6	83	4	101-00040	**£221.44**
-	5/8" UNF	11/16"-1 11/16" UNEF	18	11.9	12	32.5	83	4	101-00041	**£221.44**
3/8" UNC	3/4" UNF	-	16	6.7	8	19.1	63	3	101-00038	**£154.97**
-	3/4" UNF	-	16	15.9	16	38.1	92	4	101-00039	**£307.70**
7/16" UNC	7/8" UNF	-	14	7.6	8	23.6	63	4	101-00036	**£154.97**
-	7/8" UNF	-	14	18.7	20	44.4	104	4	101-00037	**£335.86**
1/2" UNC	-	-	13	8.9	10	25.4	73	4	101-00035	**£162.80**
9/16" UNC	1"-1 1/2" UNF	-	12	10.3	12	29.6	83	4	101-00034	**£221.44**
-	1"-1 1/2" UNF	-	12	19.9	20	50.8	104	5	101-00017	**£335.86**
5/8" UNC	-	-	11	11	12	32.3	83	4	101-00033	**£221.44**
3/4" UNC	-	-	10	13.5	16	38.1	92	5	101-00032	**£307.70**
7/8" UNC	-	-	9	15.2	16	45.2	92	4	101-00031	**£307.70**
1" UNC	-	-	8	17	20	50.8	104	4	101-00030	**£335.86**
Internal 2xD Max Depth (Axial Coolant)										
-	No.10 UNF	No.12-3/8" UNEF	32	3.8	4	9.9	45	3	104-00056	**£136.24**
-	-	No.12-3/8" UNEF	32	4.4	6	11.5	57	3	104-00057	**£156.50**
-	No.12, 1/4" UNF	7/16", 1/2" UNEF	28	4.3	6	11.3	57	3	104-00059	**£156.50**
-	1/4" UNF	7/16", 1/2" UNEF	28	5.15	6	13.1	57	3	104-00279	**£156.50**
-	UNF	7/16", 1/2" UNEF	28	9.9	10	22.2	73	3	104-00061	**£191.58**
No.10 UNC	5/16", 3/8" UNF	9/16"-11/16" UNEF	24	3.58	4	10	45	3	104-00062	**£136.24**
No.12 UNC	5/16", 3/8" UNF	9/16"-11/16" UNEF	24	4.15	6	11.1	57	3	104-00063	**£156.50**
-	5/16", 3/8" UNF	9/16"-11/16" UNEF	24	6.68	8	16.4	61	3	104-00065	**£182.36**
-	3/8" UNF	9/16"-11/16" UNEF	24	8.2	10	19.6	73	3	104-00066	**£191.58**
-	-	9/16"-11/16" UNEF	24	12.9	14	29.1	92	4	104-00067	**£297.49**
1/4"UNC	7/16", 1/2" UNF	3/4"-1" UNEF	20	4.88	6	13.3	57	3	104-00068	**£156.50**
-	7/16", 1/2" UNF	3/4"-1" UNEF	20	9.6	10	22.2	73	3	104-00070	**£191.58**
-	1/2" UNF	3/4"-1" UNEF	20	11.1	12	26	80	4	104-00071	**£260.62**
-	-	3/4"-1" UNEF	20	17.4	18	38.7	102	4	104-00072	**£395.28**
5/16"UNC	9/16", 5/8" UNF	11/16"-1, 11/16" UNEF	18	6.15	8	16.2	61	3	104-00074	**£182.36**
-	9/16", 5/8" UNF	11/16"-1, 11/16" UNEF	18	12.5	14	28.9	92	4	104-00076	**£297.49**
-	5/8" UNF	11/16"-1, 11/16" UNF	18	14.1	16	31.7	92	4	104-00078	**£362.08**
3/8" UNC	3/4" UNF	-	16	7.65	8	19.8	61	3	104-00079	**£182.36**
-	3/4" UNF	-	16	17	18	38.8	102	4	104-00081	**£395.28**
7/16" UNC	7/8" UNF	-	14	9	10	22.7	73	3	104-00083	**£191.58**
-	7/8" UNF	-	14	19.9	20	44.4	102	4	104-00086	**£395.28**
1/2" UNC	-	-	13	10.35	12	26.4	80	4	104-00087	**£260.62**
9/16" UNC	1"-1 1/2" UNF	-	12	11.8	12	28.6	80	4	104-00089	**£260.62**
-	1"-1 1/2" UNF	-	12	19.9	20	51.9	102	4	104-00091	**£395.28**
5/8" UNC	-	-	11	13.1	14	33.5	92	4	104-00093	**£297.49**
3/4" UNC	-	-	10	15.9	16	39.4	92	4	104-00094	**£362.08**
7/8" UNC	-	-	9	19	20	46.6	102	4	104-00095	**£395.28**
1" UNC	-	-	8	19.9	20	52.4	102	4	104-00096	**£395.28**

UN UNIFIED NATIONAL ANSI B1.1:74 - MINATURE 3 TOOTH

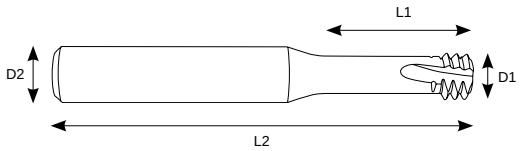
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

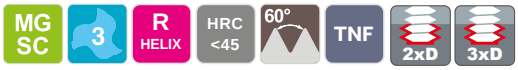
Cutting Data

P970

- TNF coated carbide thread mills
- Suitable for right and left hand internal threads
- Miniature style (3 tooth)







CUTWEL PRO

Thread		TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
UNC	UNF								
Internal 2xD Max Depth									
-	No.1 UNF	72	1.45	3	3.7	39	3	CTM-UN3T01T	**£101.56**
No.1 UNC	No.2 UNF	64	1.4	3	3.8	39		CTM-UN3T03T	**£101.56**
No.2 UNC	No.3 UNF	56	1.65	6	4.4	54		CTM-UN3T05T	**£101.56**
No.3 UNC	No.4 UNF	48	1.9	6	5.2	54		CTM-UN3T07T	**£101.56**
No.4, No.5 UNC	No.6 UNF	40	2.1	6	6.3	54		CTM-UN3T09T	**£101.56**
No.5 UNC	No.6 UNF	40	2.45	6	7	54		CTM-UN3T11T	**£101.56**
-	No.8 UNF	36	3.3	6	9	54		CTM-UN3T13T	**£101.56**
No.6, No.8 UNC	No.10 UNF	32	2.55	6	7.1	54		CTM-UN3T15T	**£101.56**
No.8 UNC	No.10 UNF	32	3.2	6	9.5	54		CTM-UN3T17T	**£101.56**
-	No.12, 1/4 UNF	28	4.2	6	11	54		CTM-UN3T21T	**£101.56**
No.10 UNC	5/16 UNF	24	3.5	6	10.6	54		CTM-UN3T25T	**£103.59**
1/4" UNC	7/16" UNF	20	4.75	6	14	54		CTM-UN3T29T	**£103.59**
-	7/16" UNF	20	8	8	25	64		CTM-UN3T31T	**£117.32**
5/16" UNC	-	18	6	6	17	54		CTM-UN3T33T	**£103.59**
3/8" UNC	-	16	6.7	8	22	64		CTM-UN3T37T	**£117.32**
7/16" UNC	-	14	7.7	8	25	64		CTM-UN3T39T	**£117.32**
Internal 3xD Max Depth									
-	No.0 UNF	80	1.15	3	4	39	3	CTM-UN3T49T	**£103.59**
-	No.1 UNF	72	1.45	3	6	39		CTM-UN3T51T	**£103.59**
No.2 UNC	No.3 UNF	56	1.65	6	6.6	54		CTM-UN3T53T	**£103.59**
No.4, No.5 UNC	No.6 UNF	40	2.1	6	8	54		CTM-UN3T55T	**£103.59**
No.6, No.8 UNC	No.10 UNF	40	2.45	6	9.6	54		CTM-UN3T57T	**£103.59**
No.6, No.8 UNC	No.10 UNF	32	2.55	6	10.5	54		CTM-UN3T59T	**£103.59**
No.8 UNC	No.10 UNF	32	3.2	6	12.5	54		CTM-UN3T61T	**£103.59**
-	No.10 UNF	32	3.7	6	15	54		CTM-UN3T63T	**£103.59**
-	1/4" UNF	28	5	6	19	54		CTM-UN3T65T	**£103.59**
-	5/16" UNF	24	6.6	8	24	64		CTM-UN3T67T	**£117.32**
1/4" UNC	7/16" UNF	20	4.75	6	19	54		CTM-UN3T69T	**£103.59**
5/16" UNC	-	18	6	6	23	54		CTM-UN3T71T	**£103.59**

UN UNIFIED NATIONAL ANSI B1.1:74 - MINATURE 3 TOOTH MILLIPRO

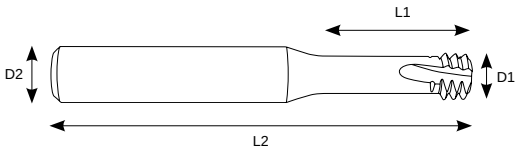
Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for right and left hand internal threads
- Miniature design with 3 flutes







VARDEX

Thread		TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
UNC	UNF								
Internal 2xD Max Depth (Solid)									
-	No.1 UNF	72	1.45	6	3.9	57	3	102-00014	**£103.79**
No.1 UNC	No.2 UNF	64	1.4	6	4.2	57		102-00012	**£103.79**
No.2 UNC	No.3 UNF	56	1.65	6	5	57		102-00015	**£103.79**
No.3 UNC	No.4UNF	48	1.9	6	6	57		102-00017	**£103.79**
No.4, No.5 UNC	No.6UNF	40	2.1	6	6	57		102-00019	**£103.79**
No.5 UNC	No.6 UNF	40	2.45	6	7.2	57		102-00021	**£103.79**
-	No.8 UNF	36	3.3	6	8.7	57		102-00023	**£103.79**
No.6, No.8 UNC	No.10 UNF	32	2.55	6	7.4	57		102-00024	**£103.79**
No.8 UNC	No.10 UNF	32	3.2	6	10	57		102-00025	**£103.79**
-	No.10 UNF	32	3.8	6	10.3	57		102-00147	**£103.79**
-	1/4"UNF	28	5.25	6	13.2	57		102-00028	**£103.79**
No.10 UNC	5/16"UNF	24	3.58	6	10.2	57		102-00040	**£103.79**
-	5/16"UNF	24	6.68	8	16.5	63		102-00042	**£117.80**
1/4"UNC	7/16" UNF	20	4.88	6	13.4	57		102-00034	**£103.79**
-	7/16"UNF	20	9.55	10	23	73		102-00037	**£129.07**
5/16" UNC	-	18	6.15	8	16.9	63		102-00154	**£117.80**
3/8"UNC	-	16	6.7	8	19.1	63		102-00070	**£117.80**
7/16" UNC	-	14	9	10	23.3	73		102-00038	**£129.07**
Internal 3xD Max Depth (Axial Coolant)									
-	No.1 UNF	72	1.45	3	5.75	30	3	102-00095	**£103.79**
-	No.1 UNF	72	1.45	6	5.75	57		102-00039	**£103.79**
No.2 UNC	No.3 UNF	56	1.65	3	7	30		102-00096	**£103.79**
No.4, No.5 UNC	No.6 UNF	40	2.1	3	9	30		102-00097	**£103.79**
No.4, No.5 UNC	No.6 UNF	40	2.1	6	9	57		102-00071	**£103.79**
No.5 UNC	No.6 UNF	40	2.45	6	10	57		102-00022	**£103.79**
No.6 No.8 UNC	No.10 UNF	32	2.55	3	11	30		102-00098	**£103.79**
No.6, No.8 UNC	No.10 UNF	32	2.55	6	11	57		102-00072	**£103.79**
No.8 UNC	No.10 UNF	32	3.2	6	13	57		102-00027	**£103.79**
-	No.10 UNF	32	3.8	6	15.1	57		102-00148	**£103.79**
No.12 UNC	1/4" UNF	28	4.4	6	17	57		102-00155	**£103.79**
-	1/4" UNF	28	5.25	6	19.6	57		102-00033	**£103.79**
-	5/16" UNF	24	6.68	8	24.5	63		102-00044	**£117.80**
1/4" UNC	7/16" UNF	20	4.88	6	19.8	57		102-00036	**£103.79**
5/16" UNC	-	18	6.15	8	24	63		102-00153	**£117.80**

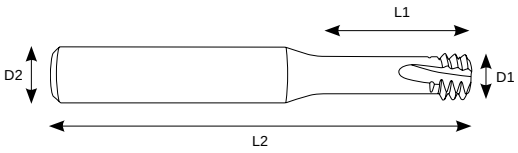
UNJ UNIFIED NATIONAL MIL-S-8879C - MINATURE 3 TOOTH

Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data: P970

- TNF coated carbide thread mills
- Suitable for right and left hand internal threads
- Miniature style (3 tooth)





MG SC | 3&4 | R HELIX | HRC <45 | 60° | TNF | 2xD

CUTWEL PRO

Thread UNJC	Thread UNJF	TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal 2xD Max Depth									
No.6 UNJC	No.10 UNJF	32	2.6	6	7	54	3	CTM-UNJ3T05T	**£105.09**
-	No.12, 1/4 UNJF	28	4	6	11	54	3	CTM-UNJ3T11T	**£105.09**
No.10, No.12 UNJC	5/16-3/,8 UNJF	24	3	6	9	54	3	CTM-UNJ3T09T	**£105.09**
1/4 UNJC	7/16"-1/2" UNJF	20	5	6	14.5	54	3	CTM-UNJ3T13T	**£105.09**
5/16" UNJC	9/16" UNJF	18	6.4	8	17	64	3	CTM-UNJ3T15T	**£119.04**
3/8" UNJC	3/4" UNJF	16	7.7	8	25	64	3	CTM-UNJ3T19T	**£119.04**
7/16" UNJC	7/8" UNJF	14	9.2	10	27.5	73	4	CTM-UNJ3T21T	**£144.76**
1/2" UNJC	-	13	9.9	10	27.5	73	4	CTM-UNJ3T25T	**£144.76**

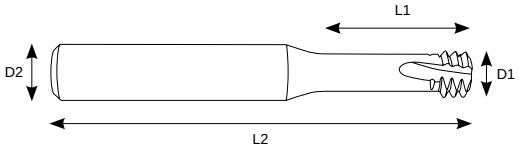
MJ METRIC DIN ISO 5855 - MINATURE 3 TOOTH

Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data: P970

- TNF coated carbide thread mills
  HRSA'S, aluminium & cast Iron up-to HRC45
- Suitable for right and left hand thread
- Suitable for internal threads
- Miniature style (3 tooth)





MG SC | 3&4 | R HELIX | HRC <45 | 60° | TNF | 2xD

CUTWEL PRO

Thread MJ	Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal 2xD Max Depth								
MJ 3	0.5	2.35	6	6.5	54	3	CTM-MJ3T01T	**£105.09**
MJ 4	0.7	3.1	6	9	54	3	CTM-MJ3T05T	**£105.09**
MJ 5	0.8	3.8	6	12.5	54	3	CTM-MJ3T07T	**£105.09**
MJ 6	1	4.65	6	14	54	3	CTM-MJ3T09T	**£105.09**
MJ 8	1.25	5.95	6	18	54	3	CTM-MJ3T11T	**£105.09**
MJ 10	1.5	7.8	8	23	64	3	CTM-MJ3T13T	**£119.04**
MJ 12	1.75	9	10	26	73	3	CTM-MJ3T15T	**£144.76**
MJ 14	2	10.4	12	35	80	4	CTM-MJ3T17T	**£185.31**
MJ 16	2	11.8	12	35	80	4	CTM-MJ3T19T	**£185.31**

UNJ UNIFIED NATIONAL MIL-S-8879C - MINATURE 3 TOOTH MILLIPRO

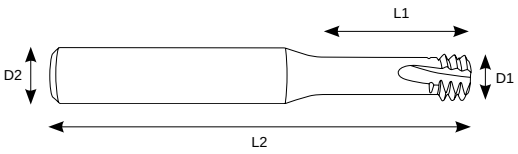
Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for right and left hand internal threads
- Miniature design with 3 flutes







VARDEX

Thread		TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
UNJC	UNJF								
Internal 3xD Max Depth (Solid)									
No.6 UNJC	No.10 UNJF	32	2.7	6	11	57	3	102-00083	**£103.79**
-	No.12, 1/4 UNJF	28	5.4	6	19.5	57		102-00084	**£103.79**
No.10 UNJC	-	24	3.7	6	14.9	57		102-00085	**£103.79**
-	5/16UNJF	24	6.7	8	24.1	63		102-00086	**£117.80**
1/4 UNJC	-	20	5	6	19.5	57		102-00087	**£103.79**
-	7/16" UNJF	20	9.6	10	33.5	73		102-00088	**£129.07**
5/16" UNJC	9/16" UNJF	18	6.4	8	24.1	63		102-00089	**£117.80**
3/8" UNJC	3/4" UNJF	16	7.7	8	29	63		102-00090	**£117.80**
7/16" UNJC	7/8" UNJF	14	9.2	10	33.5	73		102-00091	**£129.07**
1/2" UNJC	-	13	9.9	10	38.5	73		102-00092	**£129.07**

MJ METRIC DIN ISO 5855 - MINATURE 3 TOOTH MILLIPRO

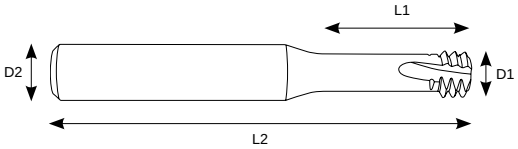
Miniature Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal right and left hand threads
- Miniature design with 3 flutes







VARDEX

Thread MJ	Pitch mm	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal 2xD Max Depth								
MJ 3	0.5	2.4	6	9.2	57	3	102-00074	**£103.79**
MJ 3.5	0.6	2.85	6	11	57	3	102-00075	**£103.79**
MJ 4	0.7	3.15	6	12.3	57	3	102-00076	**£103.79**
MJ 5	0.8	4.05	6	15.4	57	3	102-00077	**£103.79**
MJ 6	1	4.8	6	18.5	57	3	102-00078	**£103.79**
MJ 8	1.25	6.5	8	24.6	63	3	102-00079	**£117.80**
MJ 10	1.5	8.2	10	30.8	73	3	102-00080	**£129.07**
MJ 12	1.75	9.9	10	37	73	4	102-00081	**£129.07**
MJ 14	2	11.9	12	42.5	83	4	102-00082	**£140.71**

BSP (G) BRITISH STANDARD GAS B.S.2779:1956 - HELICAL FLUTES

Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data: P970

- TNF coated carbide thread mills
- Suitable for right and left hand threads
- Suitable for internal and external threads
- Helical flute
- Axial coolant for blind holes, radial coolant for through holes

Solid

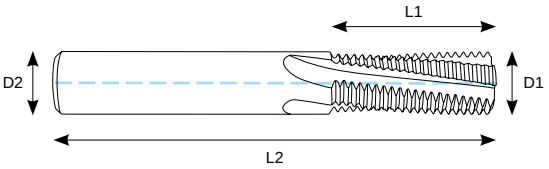


Axial Coolant



Radial Coolant





MG SC | 3-5 | R HELIX | HRC <45 | 55° | TNF | 2xD

CUTWEL PRO

Thread BSP(G)	Pitch TPI	D1	D2	L1	L2	No. of Flutes	Order Code					
							Standard	Price	Axial Coolant	Price	Radial Cooalnt	Price
Internal / External 2xD Max Depth												
1/8" BSP	28	8	8	20	65	3	CTM-BSPHF01T	**£81.51**	CTM-BSPHF01TCF	**£143.58**	CTM-BSP01VHR	**£176.19**
1/4" BSP	19	10	10	25	80	4	CTM-BSPHF03T	**£102.50**	CTM-BSPHF03TCF	**£179.49**	CTM-BSP03VHR	**£220.24**
3/8" BSP	19	14	14	14	35	4	CTM-BSPHF05T	**£151.37**	CTM-BSPHF05TCF	**£258.44**	CTM-BSP05VHR	**£317.17**
1/2" BSP	14	16	16	16	40	5	CTM-BSPHF07T	**£174.64**	CTM-BSPHF07TCF	**£301.55**	CTM-BSP07VHR	**£370.09**
5/8" BSP	14	20	20	20	40	5	CTM-BSPHF09T	**£225.91**	CTM-BSPHF09TCF	**£394.93**	CTM-BSP09VHR	**£484.72**
1>" BSP	11	20	20	20	40	5	CTM-BSPHF11T	**£225.91**	CTM-BSPHF11TCF	**£329.11**	CTM-BSP11VHR	**£484.72**

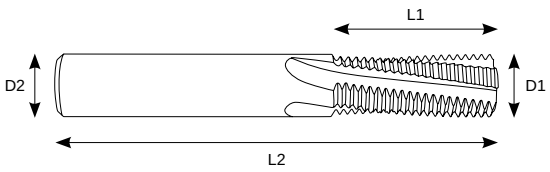
BSW WHITWORTH B.S.84 1956, DIN 259 - HELICAL FLUTES

Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data: P970

- TNF coated carbide thread mills
- Suitable for right and left hand threads internal & external threads
- Helical flute





MG SC | 3&4 | R HELIX | HRC <45 | 55° | TNF | 2xD

CUTWEL PRO

Thread		TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
BSW	BSF								
Internal / External 2xD Max Depth									
-	1/4" BSF	26	5.0	6	13.2	57	3	CTM-BSWHF01T	**£73.50**
-	5/16" BSF	26	6.35	8	16.2	61	3	CTM-BSWHF03T	**£85.73**
1/4" BSW	3/8" BSF	20	4.45	6	13.3	57	3	CTM-BSWHF05T	**£73.50**
5/16" BSW	7/16" BSF	18	5.85	6	16.2	57	3	CTM-BSWHF09T	**£73.50**
3/8" BSW	1/2", 9/16" BSF	16	7.20	8	61	19.8	3	CTM-BSWHF13T	**£85.73**
7/16" BSW	5/8", 11/16" BSF	14	8.5	10	73	22.7	3	CTM-BSWHF19T	**£107.81**
1/2" BSW	3/4" BSF	12	9.65	10	73	26.5	3	CTM-BSWHF25T	**£107.81**
9/16" BSW	3/4" BSF	12	11.25	12	80	28.6	4	CTM-BSWHF27T	**£134.73**
5/8, 11/16" BSW	7/8" BSF	11	12.6	14	92	33.5	4	CTM-BSWHF31T	**£143.17**

BSP (G) BRITISH STANDARD GAS B.S.2779:1956 - HELICAL FLUTES

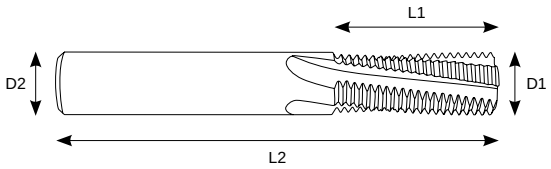
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal right and left hand threads





MG SC | 3-5 | R HELIX | HRC <45 | 55° | TiAlN | 2xD

VARDEX

Thread BSP(G)	TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal / External 2xD Max Depth (Solid)								
1/16", 1/8" BSP	28	5.8	6	16.3	57	3	101-00054	**£133.02**
1/8" BSP	28	7.7	8	20	63	3	101-00055	**£154.97**
1/4", 3/8" BSP	19	9.9	10	26.7	73	4	101-00056	**£162.80**
3/8" BSP	19	13.4	16	33.4	92	4	101-00057	**£307.70**
1/2", 3/4" BSP	14	15.7	16	43.5	92	5	101-00058	**£307.70**
1", 1 1/2", 2", 2 1/2" BSP	11	19.9	20	41.6	104	5	101-00020	**£335.86**

BSW/BSF WHITWORTH B.S.84 1956, DIN 259 - HELICAL FLUTES

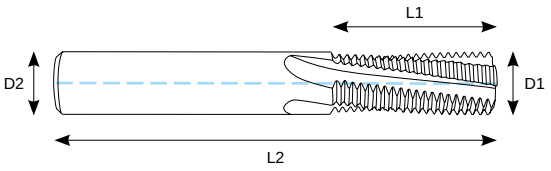
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal right and left hand threads
- Axial coolant for blind holes





MG SC | 3&4 | R HELIX | HRC <45 | 55° | TiAlN | 2xD

VARDEX

Thread BSW	Thread BSF	TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal / External 2xD Max Depth (Axial Coolant)									
-	1/4"x26 BSF	26	5	6	13.2	57	3	104-00097	**£156.50**
-	5/16"x22 BSF	22	6.35	8	16.7	61	3	104-00098	**£182.36**
1/4"x20 BSW	3/8"x20 BSF	20	4.45	6	13.3	57	3	104-00099	**£156.50**
-	3/8"x20 BSF	20	7.65	8	19.7	61	3	104-00100	**£182.36**
5/16"x18 BSW	7/16"x18 BSF	18	5.85	6	16.2	57	3	104-00101	**£156.50**
-	7/16"x18	18	9.2	10	23.3	73	3	104-00102	**£191.58**
3/8"x16 BSW	1/2", 9/16"x16 BSF	16	7.2	8	19.8	61	3	104-00103	**£182.36**
-	1/2", 9/16"x16	16	10.5	12	26.2	80	4	104-00104	**£260.62**
9/16"x16 BSW	-	16	12.15	14	29.4	92	4	104-00105	**£297.49**
7/16"x14 BSW	5/8", 11/16"x14	14	8.5	10	22.7	73	3	104-00106	**£191.58**
-	5/8", 11/16"x14	14	13.4	14	31.7	92	4	104-00107	**£297.49**
-	11/16"x14	14	15	16	35.4	92	4	104-00108	**£362.08**
1/2"x12 BSW	3/4"x12 BSF	12	9.65	10	26.5	73	3	104-00109	**£191.58**
9/16"x12 BSW	3/4"x12	12	11.25	12	28.6	80	4	104-00110	**£260.62**
-	3/4"x12	12	16.2	18	39.2	102	4	104-00111	**£395.28**
5/8"x11 BSW	7/8"x11 BSF	11	12.6	14	33.5	92	4	104-00112	**£297.49**
11/16"x11 BSW	-	11	14.2	16	35.8	92	4	104-00113	**£362.08**

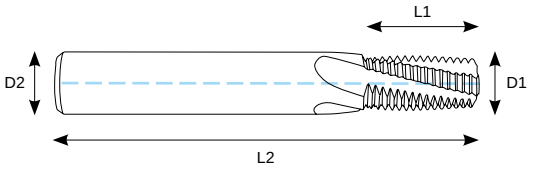
BSPT BRITISH STANDARD PIPE TAPER B.S.21:1985 - HELICAL FLUTES

Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data P970

- TNF coated carbide thread mills
- Helical flute for tapered threads
- Optional through coolant for improved chip evacuation in blind holes





MG SC | 3-5 | R HELIX | HRC <45 | 55° | TNF

CUTWEL PRO

Thread BSPT	TPI	D1	D2	L1	L2	No. of Flutes	Order Code			
							Solid	Price	Axial Coolant	Price
Internal / External Taper Thread										
1/16" BSPT	28	5.8	8	16.3	57	3	CTM-BSPHFTC20T	**£132.55**	CTM-BSPHFTC20TCF	**£138.16**
1/8" BSPT	28	7.7	8	20.0	63	3	CTM-BSPHFTC22T	**£171.24**	CTM-BSPHFTC22TCF	**£160.63**
1/4" BSPT	19	9.9	12	26.7	73	4	CTM-BSPHFTC24T	**£220.17**	CTM-BSPHFTC24TCF	**£200.76**
3/8" BSPT	19	13.4	12	33.4	92	4	CTM-BSPHFTC26T	**£330.26**	CTM-BSPHFTC26TCF	**£337.37**
1/2" BSPT	14	15.7	16	43.5	92	4	CTM-BSPHFTC28T	**£366.95**	CTM-BSPHFTC28TCF	**£337.37**
1" BSPT	11	19.9	20	41.6	104	5	CTM-BSPHFTC30T	**£427.17**	CTM-BSPHFTC30TCF	**£449.47**

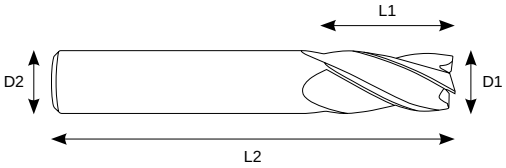
1:16 TAPER END MILLS FOR BSPT, NPT, NPTF THREADS

For Pre-Machining 1:16 Taper for Conical Threads

Cutting Data P970

- Improve tool life of thread mill by pre-machining the taper





MG SC | 3&4 | HRC <45 | TNF

CUTWEL PRO

D1	D2	Angle	L1	L2	No. of Flutes	Order Code	Price
5.3	6	30°	11.26	55	3	TEM-CON01	**£59.98**
7.3	8	30°	11.26	55	3	TEM-CON03	**£81.84**
8.8	10	30°	19.3	75	4	TEM-CON05	**£94.62**
10.8	12	30°	19.3	75	4	TEM-CON07	**£94.62**
12.5	14	30°	24.15	80	4	TEM-CON09	**£128.53**
18	20	30°	32.2	90	4	TEM-CON11	**£166.24**

BSPT BRITISH STANDARD PIPE TAPER B.S.21:1985 - HELICAL FLUTES

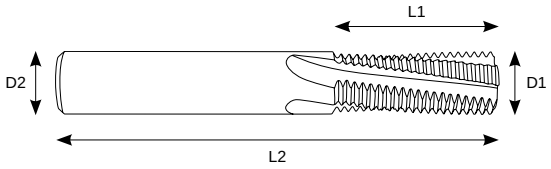
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal & external right and left hand threads





MG SC | 3-5 | R HELIX | HRC <45 | 55° | TiAlN

VARDEX

Thread BSPT	TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal / External 2xD Max Depth (Solid)								
1/16" BSPT	28	5.8	6	16.3	57	3	101-00089	**£133.02**
1/8" BSPT	28	7.7	8	20	63	3	101-00090	**£154.97**
1/4" BSPT	19	9.9	10	26.7	73	4	101-00091	**£162.80**
3/8" BSPT	19	13.4	16	33.4	92	4	101-00092	**£307.70**
1/2", 3/4" BSPT	14	15.7	16	43.5	92	5	101-00093	**£307.70**
1", 1 1/2", 2", 2 1/2" BSPT	11	19.9	20	41.6	104	5	101-00094	**£335.86**

BSPT BRITISH STANDARD PIPE TAPER B.S.21:1985 - HELICAL FLUTES

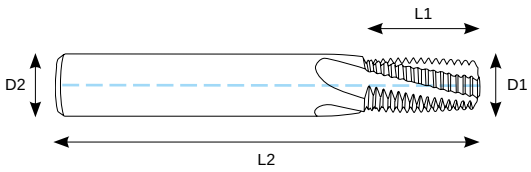
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Suitable for internal & external right and left hand threads
- Axial coolant for blind holes





MG SC | 3&4 | R HELIX | HRC <45 | 55° | TiAlN

VARDEX

Thread BSPT	TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal / External 2xD Max Depth (Axial Coolant)								
1/16" BSPT	28	5.9	6	10.2	57	3	104-00132	**£136.24**
1/8" BSPT	28	7.65	8	10.2	61	3	104-00133	**£160.21**
1/4" BSPT	19	9.9	10	15.4	73	4	104-00134	**£160.21**
3/8" BSPT	19	11.15	12	15.4	73	4	104-00135	**£219.27**
1/2", 3/4" BSPT	14	14.25	16	22.7	92	4	104-00136	**£352.59**
1", 1 1/2", 2", 2 1/2" BSPT	11	19.6	20	28.9	102	4	104-00137	**£341.03**

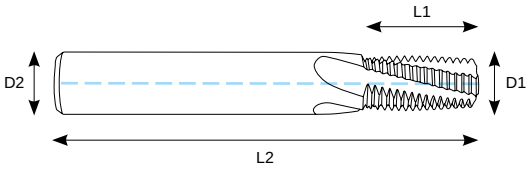
NPT NATIONAL PIPE TAPER B2.1:1965 - HELICAL FLUTES

Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data P970

- TNF coated carbide thread mills
- Helical flute for tapered threads
- Optional through coolant for improved chip evacuation in blind holes





MG SC | 3-5 | R HELIX | HRC <45 | 55° | TNF

CUTWEL PRO

Thread Size	TPI	D1	D2	L1	L2	No. of Flutes	Order Code			
							Solid	Price	Through Coolant	Price
NPT Internal / External SHORT										
1/16"	27	5.90	8	9.88	55	3	CTM-NPTHF01T	£161.83	CTM-NPTHF01TCF	**£158.36**
1/8"	27	7.65	8	9.88	55	3	CTM-NPTHF03T	£161.83	CTM-NPTHF03TCF	**£158.36**
1/4"	18	10.15	12	14.82	75	4	CTM-NPTHF05T	£282.56	CTM-NPTHF05TCF	**£237.52**
3/8"	18	11.15	12	14.82	75	4	CTM-NPTHF07T	£254.30	CTM-NPTHF07TCF	**£237.52**
1/2"	14	14.25	16	19.05	80	4	CTM-NPTHF09T	£346.76	CTM-NPTHF09TCF	**£332.61**
1"	11.5	19.60	20	23.19	90	5	CTM-NPTHF11T	£448.53	CTM-NPTHF11TCF	**£443.14**

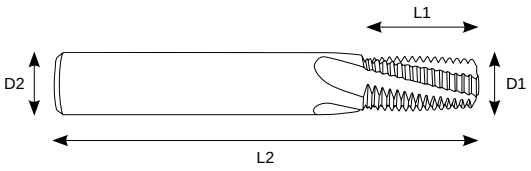
NPTF NATIONAL PIPE TAPER FUEL ANSI 1.20.3-1 - HELICAL FLUTES

Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data P970

- TNF coated carbide thread mills
- Helical flute for tapered threads





MG SC | 3-5 | R HELIX | HRC <45 | 60° | TNF

CUTWEL PRO

Thread Size	TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
NPTF Internal / External								
1/16"	27	5.90	8	9.88	55	3	CTM-NPTFHF01T	**£138.57**
1/8"	27	7.65	8	9.88	55	3	CTM-NPTFHF03T	**£138.57**
1/4"	18	10.15	12	14.82	75	4	CTM-NPTFHF05T	**£217.77**
3/8"	18	11.15	12	14.82	75	4	CTM-NPTFHF07T	**£217.77**
1/2"	14	14.25	16	19.05	80	4	CTM-NPTFHF09T	**£296.92**
1"	11.5	19.60	20	23.19	90	5	CTM-NPTFHF11T	**£384.08**

NPT NATIONAL PIPE TAPER B2.1:1965 - HELICAL FLUTES

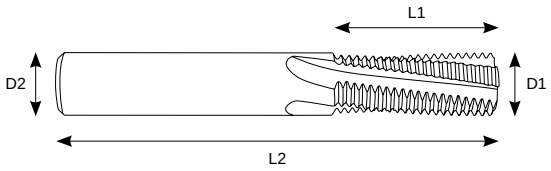
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Helical flute for tapered threads





MG SC | 3-5 | R HELIX | HRC <45 | 55° | TiAlN

VARDEX

Thread Size	TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal / External 2xD Max Depth (Solid)								
1/16"	27	5.3	6	9.4	57	3	101-00075	**£133.02**
1/8"	27	7.5	8	9.4	63	4	101-00076	**£154.97**
1/4"	18	9.4	10	14.1	73	4	101-00077	**£162.80**
3/8"	18	11.9	12	14.1	83	4	101-00078	**£221.44**
1/2"	14	15.5	16	25.4	92	5	101-00079	**£307.70**
1"	11.5	19.9	20	33.1	104	5	101-00080	**£335.86**
2 1/2"	8	19.9	20	38.1	104	4	101-00081	**£335.86**

NPTF NATIONAL PIPE TAPER FUEL ANSI 1.20.3-1 - HELICAL FLUTES

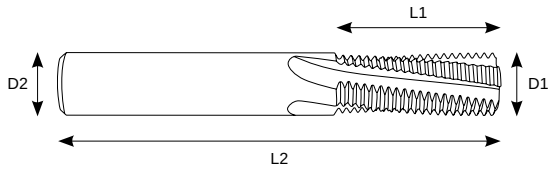
Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

View Online

- TiAlN coated carbide thread mills
- Helical flute for tapered threads





MG SC | 3-5 | R HELIX | HRC <45 | 60° | TiAlN

VARDEX

Thread Size	TPI	D1	D2	L1	L2	No. of Flutes	Order Code	Price
Internal / External 2xD Max Depth (Solid)								
1/16"	27	5.3	6	9.4	57	3	101-00082	**£133.02**
1/8"	27	7.5	8	9.4	63	4	101-00083	**£154.97**
1/4"	18	9.4	10	14.1	73	4	101-00084	**£162.80**
3/8"	18	11.9	12	14.1	83	4	101-00085	**£221.44**
1/2"	14	15.5	16	25.4	92	5	101-00086	**£307.70**
1"	11.5	19.9	20	33.1	104	5	101-00087	**£335.86**
2 1/2"	8	19.9	20	38.1	104	4	101-00088	**£335.86**

CARBIDE THREAD MILLS

CUTTING DATA

Thread Milling

Workpiece				Vc [m/min]		Feed fz [mm/tooth]		
Material	Group	Detail	Hardness Brinell HB	Helical Flute Deep Threading	Miniature	Helical	Deep Threading	Miniature
P STEEL	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	80-250	60-120	0.03-0.15	0.03-0.23	0.03-0.12
		Medium Carbon (C=0.25-0.55%)	150	80-230	60-120	0.03-0.1	0.03-0.15	0.03-0.12
		High Carbon (C=0.55-0.85%)	170	80-200	60-90	0.03-0.08	0.03-0.12	0.03-0.12
	Low Alloy Steel (Alloying Elements 5%)	Non Hardened	180	60-180	60-90	0.03-0.1	0.03-0.15	0.03-0.1
		Hardened	275	60-170	50-80	0.03-0.07	0.03-0.11	0.03-0.07
		Hardened	350	60-160	50-80	0.01-0.03	0.01-0.05	0.03
	High Alloy Steel (Alloying Elements>5%)	Annealed	200	40-100	50-80	0.03-0.05	0.03-0.08	0.03-0.05
		Hardened	325	30-80	50-80	0.01-0.03	0.01-0.05	0.03
	Cast Steel	Low Alloy (Alloying Elements <5%)	200	80-250	70-90	0.03-0.1	0.03-0.15	0.03-0.1
		High Alloy (Alloying Elements >5%)	225	60-170	60-80	0.01-0.03	0.01-0.05	0.03
M STAINLESS STEEL	Stainless Steel Ferritic	Non Hardened	200	60-150	60-90	0.04-0.1	0.04-0.15	0.03-0.1
		Hardened	330	60-120	50-80	0.01-0.05	0.01-0.08	0.03
	Stainless Steel Austenitic	Austenitic	180	60-140	60-90	0.04-0.1	0.04-0.15	0.03-0.1
		Super Austenitic	200	60-130	50-80	0.04-0.1	0.04-0.15	0.03-0.1
	Stainless Steel Cast Ferritic	Non Hardened	200	60-160	60-90	0.04-0.1	0.04-0.15	0.03-0.1
		Hardened	330	60-110	50-80	0.03-0.05	0.03-0.08	0.03
	Stainless Steel Cast Austenitic	Austenitic	200	60-150	60-90	0.04-0.1	0.04-0.15	0.03-0.1
		Hardened	330	60-100	50-80	0.03-0.05	0.03-0.08	0.03
K CAST IRON	Malleable	Ferritic (Short Chips)	130	60-70	50-80	0.01-0.03	0.01-0.05	0.03
	Cast Iron	Pearlitic (Long Chips)	230	60-150	60-90	0.03-0.05	0.03-0.08	0.05
	Grey Cast Iron	Low Tensile Strength	180	70-160	70-100	0.025-0.1	0.05-0.15	0.04-0.1
		High Tensile Strength	260	40-120	60-90	0.03-0.05	0.03-0.08	0.05
	Nodular Sg Iron	Ferritic	160	40-110	70-100	0.05-0.1	0.05-0.15	0.04-0.1
		Pearlitic	260	40-100	60-90	0.03-0.05	0.03-0.08	0.05
N NON-FERROUS METALS	Aluminium Alloys Wrought	Non Aging	60	200-300	60-250	0.1-0.25	0.10-0.38	0.05-0.15
		Aged	100	150-250	60-150	0.1-0.2	0.10-0.30	0.04-0.12
	Aluminium Alloys	Cast	75	100-200	60-250	0.1-0.2	0.10-0.30	0.04-0.12
		Cast & Aged	90	120-220	60-150	0.1-0.15	0.10-0.23	0.03-0.1
	Aluminium Alloys	Cast Si 13-22%	130	200-300	250	0.1-0.2	0.10-0.30	0.05-0.1
	Copper & Copper Alloys	Brass	90	200-300	60-250	0.1-0.25	0.10-0.38	0.04-0.12
		Bronze & Non Leaded Copper	100	150-250	60-150	0.1-0.2	0.10-0.30	0.05-0.1
S HEAT RESISTANT MATERIAL	High Temperature Alloys	Annealed (Iron Based)	200	30-60	60	0.04-0.1	0.04-0.15	0.03-0.1
		Aged (Iron Based)	280	20-50	50	0.01-0.03	0.01-0.05	0.03
		Annealed (Nickel Or Cobalt Based)	250	15-35	20-40	0.01-0.03	0.01-0.05	0.03
		Aged (Nickel Or Cobalt Based)	350	15-30	15-30	0.01-0.03	0.01-0.05	0.03
	Titanium Alloys	Pure 99.5 Ti	400Rm	40-80	30-50	0.03-0.05	0.03-0.08	0.03-0.06
		A+B Alloys	1050Rm	20-50	25-35	0.03-0.05	0.03-0.08	0.03-0.07
H HARDENED	Extra Hard Steel	Hardened & Tempered	45-50HRC	15-45	30-45	0.005-0.01	0.005-0.02	0.01
		Hardened & Tempered	51-55HRC	15-40	15-30	0.005-0.01	0.005-0.02	0.01
		Hardened & Tempered	55-60HRC	40-60	-	0.005-0.025	-	-
		Hardened & Tempered	60-63HRC	30-40	-	0.005-0.015	-	-
		Hardened & Tempered	63-66HRC	30-40	-	0.005-0.015	-	-

CARBIDE THREAD MILLS

Drill, Chamfer & Thread Milling

CUTTING DATA

Workpiece				Cutting Speed Vc [m/min]	Drilling Feed [mm/rev]		Feed fz [mm/tooth]	
Material	Group	Detail	Hardness		Ø0-8	Ø8+	Ø0-8	Ø8+
K CAST IRON	Cast Iron	With Laminar Graphite	100-250 N/mm²	80-160	0.10-0.25	0.20-0.40	0.04-0.07	0.05-0.12
			250-450 N/mm²	80-160	0.10-0.25	0.20-0.40	0.04-0.07	0.05-0.12
		With Nodular Graphite	350-500 N/mm²	80-160	0.10-0.25	0.15-0.25	0.04-0.07	0.05-0.12
			500-900 N/mm²	80-160	0.10-0.25	0.15-0.25	0.04-0.07	0.05-0.12
		With Vermicular Graphite	300-400 N/mm²	80-160	0.10-0.25	0.20-0.40	0.04-0.07	0.05-0.12
			400-500 N/mm²	80-160	0.10-0.25	0.20-0.40	0.04-0.07	0.05-0.12
		Malleable	250-500 N/mm²	80-160	-	-	0.04-0.07	0.05-0.12
			500-800 N/mm²	80-160	-	-	0.04-0.07	0.05-0.12
N NON-FERROUS METALS	Aluminium	Aluminium Alloys	≤ 200 N/mm²	150-250	0.08-0.15	0.15-0.25	0.04-0.08	0.07-0.15
			≤ 350 N/mm²	150-250	0.08-0.15	0.15-0.25	0.04-0.08	0.07-0.15
			≤ 550 N/mm²	150-250	0.08-0.15	0.15-0.25	0.04-0.08	0.07-0.15
			Si ≤ 7%	150-400	0.15-0.25	0.20-0.40	0.04-0.08	0.07-0.15
			7% < Si ≤ 12%	150-400	0.15-0.25	0.20-0.40	0.04-0.08	0.07-0.15
			12% < Si ≤ 17%	100-200	0.15-0.25	0.20-0.40	0.04-0.08	0.07-0.15
	Copper Alloys	Zinc (Brass, Long Chip)	≤ 550 N/mm²	150-400	0.10-0.20	0.15-0.30	0.05-0.08	0.07-0.15
		Zinc (Brass, Short Chip)	≤ 550 N/mm²	150-400	0.10-0.20	0.15-0.30	0.05-0.08	0.07-0.15
		Tin (Bronze, Short Chip)	≤ 400 N/mm²	100-250	0.10-0.25	0.20-0.40	0.04-0.07	0.05-0.12
	Magnesium Alloys	Malleable Magnesium Alloys	≤ 500 N/mm²	150-400	0.10-0.20	0.15-0.30	0.04-0.08	0.07-0.15
		Magnesium Casting Alloys	≤ 500 N/mm²	150-400	0.15-0.30	0.20-0.40	0.04-0.08	0.07-0.15
	Plastic Materials	Thermosetting Plastic (Short Chip)	-	100-400	0.15-0.30	0.20-0.40	0.05-0.10	0.08-0.20

RECOMMENDATION:

At tool entry, set the Feed fz[mm/tooth] to 70% lower than the threading Feed.

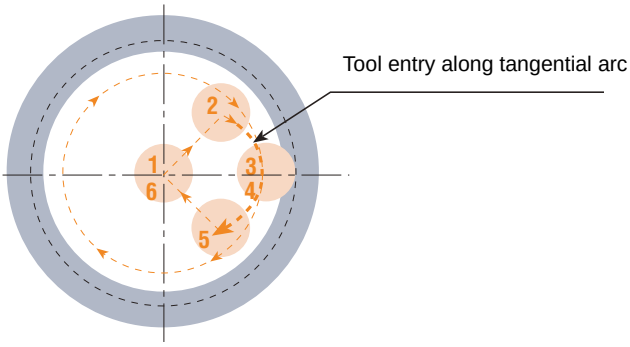
Example:

Threading Feed: 0.3[mm/tooth]

Tool entry Feed: 0.09[mm/tooth]

The feed rates listed are for straight line feeds and allowance should be made when interpolating as the outside edge of the cutter will be travelling faster than the centre.

The cutting speed values (Vc in m/min) are given only as an indication and should be adapted to the application conditions (material, cooling by lubricating oil, machine etc.).





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GENius Software

Introducing the world's most intelligent threading tool selector and CNC program generator.

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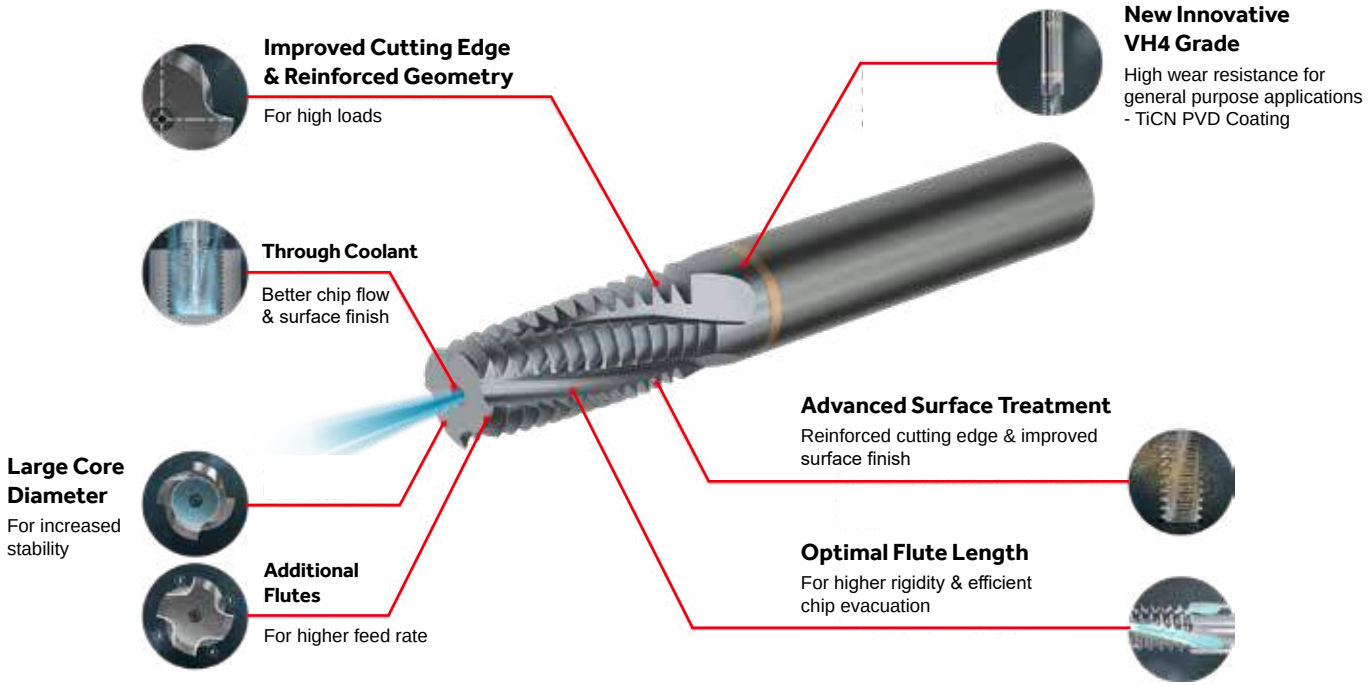
Mach TM
Supersonic Thread Mills

P M S K N



Unmatched Productivity

Feed (mm/flute)	Machining Time	Tool Life
+100%	-60%	+25%
Standard	Standard	Standard
Mach TM	Mach TM	Mach TM



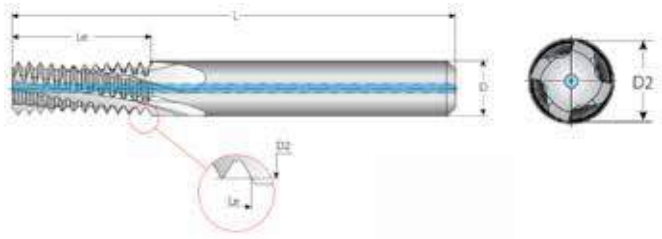
M METRIC DIN 13 - MACH TM THREAD MILL

Supersonic Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data
P975

- High feed type with double the feed of standard thread mills
- Machining time reduced by up to 60%
- TiCN PVD coating to increase tool life by up to 25%
- Reinforced cutting edge and improved surface finish





HRC <45 4&5

VARDEX

Thread		Pitch mm	D	D2	Le	L	No. of Flutes	Bore Dia	Order Code	Price
M Coarse	M Fine									
Internal 2xD Max Depth										
M3x0.5	M3.5-M16x0.5	0.5	3	2.4	6.2	28	4	2.5	049-00001	**£196.44**
M4x0.5	-	0.5	3	2.9	8.2	28	4	3.5	049-00002	**£196.44**
M4x0.7	-	0.7	3	2.9	8.7	30	4	3.3	049-00003	**£196.44**
M6x0.75	-	0.75	5	4.9	12.4	40	4	5.3	049-00004	**£234.38**
M5x0.8	-	0.8	4	3.9	10.8	35	4	4.2	049-00005	**£196.44**
M6x1.0	M8-M40x1.0	1	5	4.8	12.5	41	4	5	049-00006	**£234.38**
M8x1.25	-	1.25	6	5.9	16.9	61	4	6.8	049-00007	**£273.05**
M10x1.5	M12-M48x1.5	1.5	8	7.9	20.2	64	4	8.5	049-00008	**£286.93**
M12x1.75	-	1.75	10	9.9	25.4	73	5	10.2	049-00009	**£349.61**
M14x2.0	M17-M80x2.0	2	12	11.6	29	80	5	12	049-00010	**£399.65**
M16x2.0	M17-M80x2.0	2	12	11.9	33	92	5	14	049-00011	**£399.65**
M20x2.5	-	2.5	16	15.9	41.2	102	5	17.5	049-00012	**£578.45**

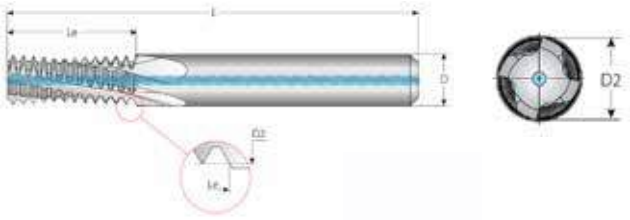
UN - MACH TM THREAD MILL

Supersonic Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data
P975

- High feed type with double the feed of standard thread mills
- Machining time reduced by up to 60%
- TiCN PVD coating to increase tool life by up to 25%
- Reinforced cutting edge and improved surface finish





HRC <45 4&5

VARDEX

Thread			Pitch TPI	D	D2	Le	L	No. of Flutes	Bore Dia	Order Code	Price
UNC	UNF	UNEF									
Internal 2xD Max Depth											
-	1/4"x28	7/16"-1/2"x28	28	5	4.9	13.1	40	4	5.5	049-00026	**£234.38**
-	5/16"; 3/8"x24	9/16"-11/16"x24	24	6	5.9	16.4	59	4	6.8	049-00027	**£273.05**
-	3/8"x24	9/16"-11/16"x24	24	8	7.9	19.6	62	4	8.5	049-00028	**£286.93**
1/4"x20	7/16"; 1/2"x20	3/4"-1"x20	20	5	4.9	13.3	41	4	5.2	049-00029	**£234.38**
-	7/16",1/2"x20	3/4"-1"x20	20	10	9.6	22.2	72	4	9.8	049-00030	**£349.61**
5/16"x18	9/16"; 5/8"x18	11/16"-1 11/16"x18	18	6	5.9	16.2	59	4	6.5	049-00031	**£273.05**
3/8"x16	3/4"x16	-	16	8	7.6	19.8	64	4	8	049-00032	**£286.93**
7/16"x14	7/8"x14	-	14	8	7.8	22.7	67	4	9.3	049-00033	**£286.93**
1/2"x13	-	-	13	10	9.9	26.4	75	5	10.8	049-00034	**£349.61**
9/16"x12	1"-1 1/2"x12	-	12	12	11.8	28.6	83	5	12.3	049-00035	**£399.65**
5/8"x11	-	-	11	14	13.1	33.5	90	5	13.5	049-00036	**£445.44**
3/4"x10	-	-	10	16	15.9	39.4	98	5	16.5	049-00037	**£578.45**
1x8"	-	-	8	20	19.9	52.4	107	5	22	049-00038	**£665.27**

BSP (G) - MACH TM THREAD MILL

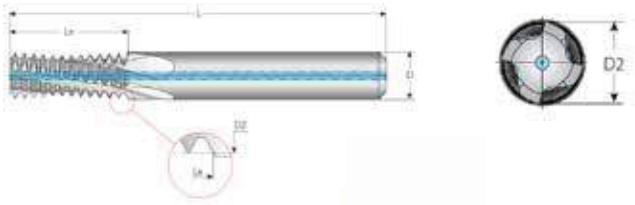
Supersonic Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

P975

- High feed type with double the feed of standard thread mills
- Machining time reduced by up to 60%
- TiCN PVD coating to increase tool life by up to 25%
- Reinforced cutting edge and improved surface finish





HRC <45 | 4&5

VARDEX

Thread BSP (G)	Pitch mm	D	D2	Le	L	No. of Flutes	Bore Dia	Order Code	Price
1/8"x28	28	8	7.9	19.5	62	4	8.7	049-00039	**£286.93**
1/4"x19, 3/8"x19	19	10	9.9	27.4	75	5	11.8, 15.2	049-00040	**£349.61**
1/2"x14, 3/4"x14	14	16	15.9	42.6	99	5	19.0, 24.4	049-00041	**£578.45**

NPT - MACH TM THREAD MILL

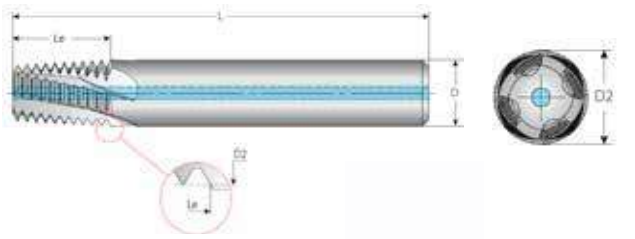
Supersonic Thread Milling of Steel, Stainless Steel, HRSA's, Aluminium & Cast Iron up-to HRC45

Cutting Data

P975

- High feed type with double the feed of standard thread mills
- Machining time reduced by up to 60%
- TiCN PVD coating to increase tool life by up to 25%
- Reinforced cutting edge and improved surface finish





HRC <45 | 4&5

VARDEX

Thread NPT	Pitch mm	D	D2	Le	L	No. of Flutes	Bore Dia	Order Code	Price
1/16"x27	27	6	5.9	9.9	53	4	6.3	049-00042	**£219.78**
1/8"x27	27	8	7.65	9.9	53	4	8.5	049-00043	**£239.79**
1/4"x18, 3/8"x18	18	10	9.9	14.8	63	4	11.1, 14.5	049-00044	**£249.68**
1/2"; 3/4"x14	14	14	13.9	19	75	5	17.7, 23	049-00045	**£423.38**
1", 1 1/4", 1 1/2", 2", x11.5	11.5	18	17.9	23.2	80	5	29, 37.7, 44, 56	049-00046	**£510.31**

MACH TM CUTTING DATA

Material Group	Vargus	Material		Hardness Brinell HB	Vc [m/min]	Feed f [mm/tooth]		
					VH4	D2≤4 mm	D2≤8 mm	D2>8 mm
P STEEL	1	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	80-250	0.04-0.08	0.09-0.13	0.06-0.20
	2		Medium Carbon (C=0.25-0.55%)	150	80-230	0.04-0.08	0.09-0.13	0.06-0.20
	3		High Carbon (C=0.55-0.85%)	170	80-200	0.04-0.08	0.09-0.13	0.06-0.20
	4	Low Alloy Steel (alloying elements≤5%)	Non Hardened	180	60-180	0.04-0.08	0.09-0.13	0.06-0.20
	5		Hardened	275	60-170	0.04-0.08	0.09-0.13	0.06-0.20
	6		Hardened	350	60-160	0.03-0.06	0.05-0.10	0.06-0.12
	7	High Alloy Steel (alloying elements>5%)	Annealed	200	40-100	0.04-0.08	0.09-0.13	0.06-0.20
	8		Hardened	325	30-80	0.03-0.06	0.05-0.10	0.06-0.12
	9	Cast Steel	Low Alloy (alloying elements <5%)	200	80-250	0.04-0.08	0.09-0.13	0.06-0.20
	10		High Alloy (alloying elements >5%)	225	60-170	0.04-0.08	0.09-0.13	0.06-0.20
M STAINLESS STEEL	11	Stainless Steel Ferritic	Non Hardened	200	60-150	0.03-0.06	0.05-0.10	0.06-0.12
	12		Hardened	330	60-120	0.015-0.03	0.03-0.05	0.02-0.06
	13	Stainless Steel Austenitic	Austenitic	180	60-140	0.04-0.08	0.09-0.13	0.06-0.20
	14		Super Austenitic	200	60-130	0.03-0.06	0.05-0.10	0.06-0.12
	15	Stainless Steel Cast Ferritic	Non Hardened	200	60-160	0.03-0.06	0.05-0.10	0.06-0.12
	16		Hardened	330	60-110	0.03-0.06	0.05-0.10	0.06-0.12
	17	Stainless Steel Cast Austenitic	Austenitic	200	60-150	0.03-0.05	0.05-0.10	0.05-0.11
	18		Hardened	330	60-100	0.015-0.03	0.03-0.05	0.02-0.06
K CAST IRON	28	Malleable Cast Iron	Ferritic (short chips)	130	60-70	0.04-0.08	0.09-0.13	0.06-0.20
	29		Pearlitic (long chips)	230	60-150	0.04-0.08	0.09-0.13	0.06-0.20
	30	Grey Cast Iron	Low Tensile Strength	180	70-160	0.04-0.08	0.09-0.13	0.06-0.20
	31		High Tensile Strength	260	40-120	0.03-0.06	0.05-0.10	0.06-0.12
	32	Nodular Sg Iron	Ferritic	160	40-110	0.04-0.08	0.09-0.13	0.06-0.20
	33		Pearlitic	260	40-100	0.03-0.06	0.05-0.10	0.06-0.12
N NON-FERROUS	34	Aluminum Alloys Wrought	Non Aging	60	200-300	0.06-0.11	0.10-0.17	0.09-0.20
	35		Aged	100	150-250	0.03-0.09	0.05-0.12	0.05-0.14
	36	Aluminum Alloys	Cast	75	100-200	0.06-0.11	0.10-0.17	0.09-0.20
	37		Cast & Aged	90	120-220	0.03-0.09	0.05-0.12	0.05-0.14
	38	Aluminum Alloys	Cast Si 13-22%	130	200-300	0.06-0.11	0.10-0.17	0.09-0.20
	39	Copper and Copper Alloys	Brass	90	200-300	0.06-0.11	0.10-0.17	0.09-0.20
	40		Bronze And Non Leaded Copper	100	150-250	0.03-0.09	0.05-0.12	0.05-0.14
S HRSA'S	19	High Temperature Alloys	Annealed (iron based)	200	30-60	0.03-0.06	0.05-0.10	0.06-0.12
	20		Aged (iron based)	280	20-50	0.015-0.03	0.03-0.05	0.02-0.06
	21		Annealed (nickel or cobalt based)	250	15-35	0.015-0.03	0.03-0.05	0.02-0.06
	22		Aged (nickel or cobalt based)	350	15-30	0.015-0.03	0.03-0.05	0.02-0.06
	23	Titanium Alloys	Pure 99.5 Ti	400Rm	40-80	0.015-0.03	0.03-0.05	0.02-0.06
	24		α+β Alloys	1050Rm	20-50	0.015-0.03	0.03-0.05	0.02-0.06

Indexable Thread Mills

P M S K N



VARDEX CUTWEL PRO

Tool Selection

Description		Page
CUTWEL PRO INDEXABLE THREAD MILLING INSERTS METRIC, UNC, UNF, BSW, BSP, BSF, BSPT, NPT & NPTF		978
CUTWEL PRO INDEXABLE THREAD MILLING HOLDERS SINGLE TOOTH, 2 TOOTH & 5 TOOTH		981
VARDEX STANDARD INDEXABLE THREAD MILLING INSERTS METRIC, UNC, UNF, BSW, BSF, BSPT, NPT, NPTF & PG		983
VARDEX STANDARD INDEXABLE THREAD MILLING HOLDERS STRAIGHT FLUTE & CONICAL FLUTE • STANDARD LENGTH, LONG LENGTH,TWIN FLUTE & TWIN OFFSET		988
VARDEX DEEP HOLE INDEXABLE THREAD MILLING INSERTS METRIC, UNC, UNF, 60° PARTIAL PROFILE, 55° PARTIAL PROFILE, NPT & NPTF		990
VARDEX DEEP HOLE INDEXABLE THREAD MILLING HOLDERS STEEL & CARBIDE SHANK		995



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NEUMO Ehrenberg Group

GENius Software

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The VARGUS GENius™ offers the most popular and advanced thread turning and thread milling software on the market today.

View More

CUTWEL PRO THREAD MILL RECOMMENDED CUTTING CONDITIONS

Workpiece		Cutting Speed	Feed Rate
Group	Material	(m/min)	(mm/tooth)
P Steel	Low and Medium Carbon Steel	115-280	0.05 - 0.15
	High Carbon Steel	130-200	
	Alloy Steel, Treated Steel	105-180	
M Stainless Steel	Stainless Steel	130-190	
	Cast Steel	150-190	
S HRSAs	Nickel Alloy & Titanium Alloy	25-90	
K Cast Iron	Cast Iron	80-70	
N Non Ferrous	Non-Ferrous & Aluminium	180-340	
	Synthetics, Duroplastics & Thermoplastics	115-460	

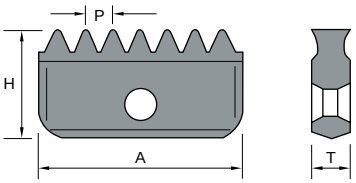
M, MF METRIC INDEXABLE THREAD MILL INSERTS

ISO Full Profile Inserts for Metric & Metric Fine Threads

Cutting Data: P977

- CW500 coated carbide inserts for thread milling of steel, stainless steel, HRSA's, aluminium & cast iron up-to HRC45
- Inserts have 2 cutting edges (double sided)





MG SC | CW500 COATED | 60° | HRC <45

CUTWEL PRO

Pitch	A	H	T	External		Internal		Price
				Teeth	Order Code	Teeth	Order Code	
1.5	14	8.02	3.10	9	20-01-20001	9	20-01-30001	£31.43
1.75				8	20-01-20002	8	20-01-30002	
2.0				7	20-01-20003	7	20-01-30003	
2.5				5	20-01-20004	5	20-01-30004	
1.5	21	12.74	4.7	14	20-01-20005	14	20-01-30005	£47.81
1.75				12	20-01-20006	12	20-01-30006	
2.0				10	20-01-20007	10	20-01-30007	
2.5				8	20-01-20008	8	20-01-30008	
3.0				7	20-01-20009	7	20-01-30009	
3.5				6	20-01-20010	6	20-01-30010	

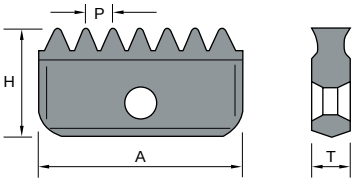
UN INDEXABLE THREAD MILL INSERTS

UN full profile inserts for UNC, UNF, UNEF Threads

Cutting Data: P977

- CW500 coated carbide inserts for thread milling of steel, stainless steel, HRSA's, aluminium & Cast Iron up-to HRC45
- Inserts have 2 cutting edges (double sided)





MG SC | CW500 COATED | 60° | HRC <45

CUTWEL PRO

TPI	A	H	T	External		Internal		Price
				Teeth	Order Code	Teeth	Order Code	
16	14	8.02	3.1	9	20-01-40001	8	20-01-50001	£31.43
14				7	20-01-40002	7	20-01-50002	
12				6	20-01-40003	6	20-01-50003	
11				6	20-01-40004	6	-	
10				5	20-01-40005	5	20-01-50005	
16	21	12.74	4.7	13	20-01-40006	13	20-01-50006	£47.81
14				11	20-01-40007	11	20-01-50007	
12				10	20-01-40008	10	20-01-50008	
11				9	20-01-40009	9	20-01-50009	
10				8	20-01-40010	8	20-01-50010	
9				7	20-01-40011	7	20-01-50011	
8				6	20-01-40012	6	20-01-50012	

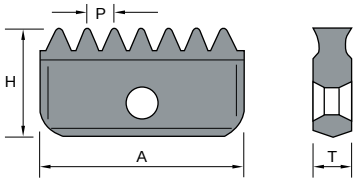
BSW, BSP, BSF WHITWORTH INDEXABLE THREAD MILL INSERTS

ISO Full Profile Inserts for BSW, BSP & BSF Threads

Cutting Data: P977

- CW500 coated carbide inserts for thread milling of steel, stainless steel, HRSA's, aluminium & cast iron up to HRC45
- Inserts have 2 cutting edges (double sided)
- Same insert can be used for internal and external threads





MG SC | CW500 COATED | 55° | HRC <45

CUTWEL PRO

TPI	A	H	T	External / Internal		Price
				Teeth	Order Code	
16	14	8.02	3.1	8	20-01-70001	£31.43
14				7	20-01-70002	
12				6	20-01-70003	
11				6	20-01-70004	
10				5	20-01-70005	
16	21	12.74	4.7	13	20-01-70006	£47.81
14				11	20-01-70007	
12				10	20-01-70008	
11				9	20-01-70009	
10				8	20-01-70010	
9				7	20-01-70011	
8				6	20-01-70012	

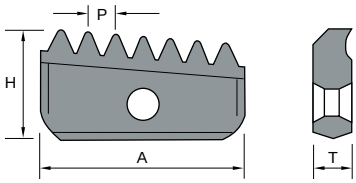
BSPT INDEXABLE THREAD MILL INSERTS

BSPT BS21 - 55° INC. - 1/16 Taper Thread Mill Inserts

Cutting Data: P977

- CW500 coated carbide inserts for thread milling of steel, stainless steel, HRSA's, aluminium & cast iron up to HRC45
- BSPT inserts are single sided and can be used for internal and external threads





MG SC | CW500 COATED | 60° | HRC <45

CUTWEL PRO

TPI	A	H	T	External / Internal		Price
				Teeth	Order Code	
28	14	8.02	3.1	15	CTM14-XS-28BSPT	£29.92
19				10	CTM14-XS-19BSPT	
14				7	CTM14-XS-14BSPT	
14	21	12.74	4.7	11	CTM21-XS-14BSPT	£45.53
11				9	CTM21-XS-11BSPT	

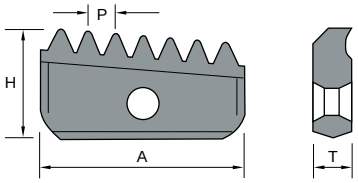
NPT INDEXABLE THREAD MILL INSERTS

NPT ASME/ANSI B1.20.1 - 60° INC. - 1/16 Taper Thread Mill Inserts

- CW500 coated carbide inserts for thread milling of steel, stainless steel, HRSA's, aluminium & cast iron up to HRC45
- NPT inserts are single sided and can be used for internal and external threads

Cutting Data
P977





MG SC | CW500 COATED | 60° | HRC <45

CUTWEL PRO

TPI	A	H	T	External / Internal		Price
				Teeth	Order Code	
18	14	8.02	3.1	9	20-01-90001	£31.43
14				7	20-01-90002	
18	21	12.74	4.7	14	20-01-90003	£47.81
14				11	20-01-90004	
11.5				9	20-01-90000	

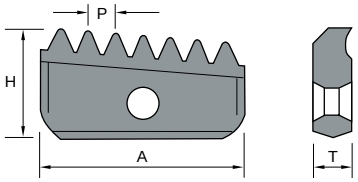
NPTF INDEXABLE THREAD MILL INSERTS

NPTF ASME/ANSI B1.20.3 - 60° INC. - 1/16 Taper Thread Mill Inserts

- CW500 coated carbide inserts for thread milling of steel, stainless steel, HRSA's, aluminium & cast iron up to HRC45
- NPTF inserts are single sided and can be used for internal and external threads

Cutting Data
P977





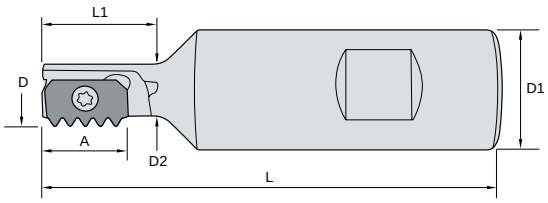
MG SC | CW500 COATED | 60° | HRC <45

CUTWEL PRO

TPI	A	H	T	External / Internal		Price
				Teeth	Order Code	
18	14	8.02	3.1	9	20-01-90005	£31.43
14				7	20-01-90006	
18	21	12.74	4.7	14	20-01-90007	£47.81
14				11	20-01-90008	
11.5				9	20-01-90009	

INDEXABLE THREAD MILL HOLDER 1 TOOTH



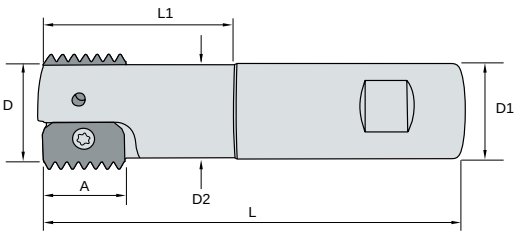


CUTWEL PRO

A	D	D1	D2	L1	L	Order Code	Price	Insert Size	Spares	
									Screw	Torx Key
14	12	20	8.9	20	75	SR0012F14	**£75.89**	14mm	S14	K14
	14.5	20	11.2	25	85	SR0014H14	**£75.89**			
	17	20	13.4	30	85	SR0017H14	**£90.09**			
21	18	20	14.4	30	85	SR0018H21	**£90.09**	21mm	S21	K21
	21	20	16.5	40	94	SR0021H21	**£130.43**			
	25	20	-	-	125	SR0025K21	**£132.78**			

INDEXABLE THREAD MILL HOLDER 2 TOOTH



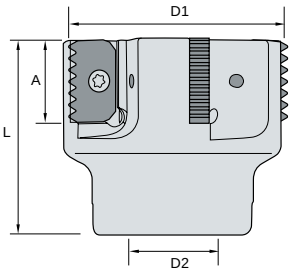


CUTWEL PRO

A	D	D1	D2	L1	L	Order Code	Price	Insert Size	Spares	
									Screw	Torx Key
14	20	20	16	41	93	SR0020H14-2	**£130.43**	14mm	S14	K14
21	30	25	24	52	108	SR0030J21-2	**£156.49**	21mm	S21	K21

INDEXABLE THREAD MILL HOLDER 5 TOOTH





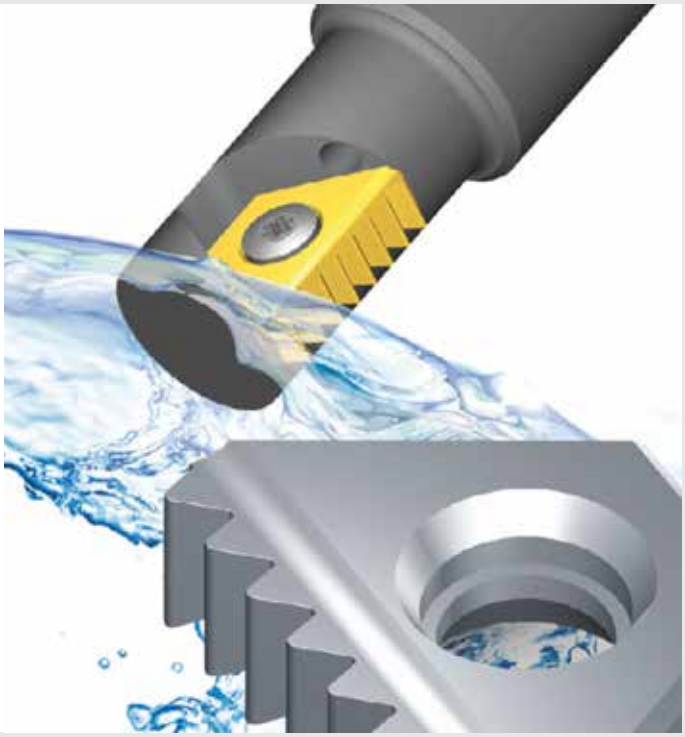
CUTWEL PRO

A	D1	D2	L	Order Code	Price	Insert Size	Spares	
							Screw	Torx Key
21	63	22	50	SR0063C21-5	**£215.77**	21mm	S21	K21

VARDEX

Standard TM Indexable Thread Mills

Performance
★★★★★



Reduce your costs on larger size threads

Indexable thread milling has numerous benefits: low cutting load (even on large threads), no scrapping of jobs if the tool breaks, possible to rework undersized threads, stronger threads, small chips, increased speed over tapping or single point threading, with any sized thread able to be machined.

One Tool Holder for Several Different Thread Forms

STRAIGHT FLUTE TOOL HOLDERS

- Metric
- UN
- UNJ
- Whitworth
- PG
- BSP



CONICAL FLUTE TOOL HOLDERS

- NPT
- NPTF
- BSPT



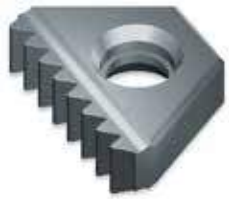
THREAD MILLING INSERT GRADES

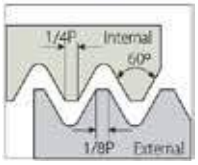
Insert Grade	Insert	Application
VTX		First choice coated grade for hardened steel, stainless steel, HRSA's and cast iron. A tough sub-micron substrate with TiAlN coating. Provides good fracture toughness and excellent wear resistance. Standard grade for all Vardex thread mill inserts.

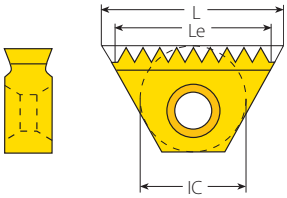
M, MF METRIC INDEXABLE THREAD MILL INSERTS

ISO Full Profile Inserts for Metric & Metric Fine Threads

- All inserts have 2 cutting edges except IC 6mm which has 1 cutting edge
- Defined by: ANSI B1.1.74
- Tolerance class: Class 2A/2B







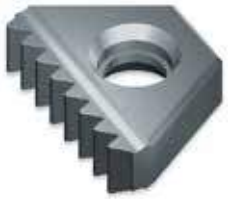
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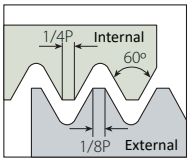
Insert Size		Pitch	Le	Teeth	External		Internal		Price	Tool Holder
IC	L mm	mm	mm		Designation	Order Code	Designation	Order Code		
6mm	10.4	0.5	10	20	-	-	6.0I0.5ISOTM	086-00022	£25.94	TMMC..-6.0
		0.75	9.75	13	-	-	6.0I0.75ISOTM	086-00026		
		1	9	9	-	-	6.0I1.0ISOTM	086-00030		
		1.25	8.75	7	-	-	6.0I1.25ISOTM	086-00033		
		1.5	9	6	-	-	6.0I1.5ISOTM	086-64787		
1/4"	11	0.5	10	20	-	-	2I0.5ISOTM2	086-64816	£34.59	TMC..-2 TMSH..-2
		0.75	10.5	14	2E0.75ISOTM2	086-63098	2I0.75ISOTM2	086-00088		
		1	10	10	2E1.0ISOTM2	086-00065	2I1.0ISOTM2	086-00091		
		1.25	10	8	2E1.25ISOTM2	086-00067	-	-		
		1.25	8.75	7	-	-	2I1.25ISOTM2	086-00095		
		1.5	9	6	2E1.5ISOTM2	086-00069	-	-		
		1.5	10.5	7	-	-	2I1.5ISOTM2	086-64171		
3/8"	16	0.5	15	30	-	-	3I0.5ISOTM2	086-65026	£40.49	TMC..-3 TMSH..-3
		0.75	15	20	3E0.75ISOTM2	086-00156	3I0.75ISOTM2	086-00198		
		0.8	14.4	18	-	-	3I0.8ISOTM2	086-00502		
		1	14	14	3E1.0ISOTM2	086-00159	-	-		
		1	15	15	-	-	3I1.0ISOTM2	086-65115		
		1.25	15	12	3E1.25ISOTM2	086-00164	3I1.25ISOTM2	086-64962		
		1.5	15	10	3E1.5ISOTM2	086-65088	3I1.5ISOTM2	086-64461		
		1.75	14	8	3E1.75ISOTM2	086-63329	3I1.75ISOTM2	086-00209		
		2	14	7	3E2.0ISOTM2	086-65002	3I2.0ISOTM2	086-64908		
3/8"B	22	1	22	22	3BE1.0ISOTM2	086-00563	3BI1.0ISOTM2	086-00590	£55.86	BTMC..-3B TMSH..-3B
		1.25	21.25	17	3BE1.25ISOTM2	086-00813	3BI1.25ISOTM2	086-00592		
		1.5	21	14	3BE1.5ISOTM2	086-00566	3BI1.5ISOTM2	086-00534		
		1.75	21	12	3BE1.75ISOTM2	-	3BI1.75ISOTM2	086-00821		
		2	22	11	3BE2.0ISOTM2	086-00570	3BI2.0ISOTM2	086-00572		
5/8"	27	1	26	26	5E1.0ISOTM2	086-64583	5I1.0ISOTM2	086-65103	£77.47	TMC..-5 TMSH..-5 TMOC25-5
		1.25	25	20	5E1.25ISOTM2	086-00809	5I1.25ISOTM2	086-64930		
		1.5	25.5	17	5E1.5ISOTM2	086-65142	5I1.5ISOTM2	086-64981		
		1.75	24.5	14	5E1.75ISOTM2	086-00811	5I1.75ISOTM2	086-00524		
		2	24	12	5E2.0ISOTM2	086-65140	5I2.0ISOTM2	086-65049		
		2.5	25	10	5E2.5ISOTM2	086-00278	5I2.5ISOTM2	086-65111		
		3	24	8	5E3.0ISOTM2	086-00280	5I3.0ISOTM2	086-64721		
		3.5	24.5	7	5E3.5ISOTM2	086-00282	5I3.5ISOTM2	086-00325		
		4	24	6	5E4.0ISOTM2	086-00284	5I4.0ISOTM2	086-65109		
		4.5	22.5	5	5E4.5ISOTM2	086-64965	5I4.5ISOTM2	086-65112		
3/4"B	38.5	1.5	36	24	6BE1.5ISOTM2	086-00762	6BI1.5ISOTM2	086-00539	£92.19	TMC..-6B TMSH..-6B
		2	36	18	6BE2.0ISOTM2	086-00617	6BI2.0ISOTM2	086-00542		
		3	36	12	6BE3.0ISOTM2	086-00796	6BI3.0ISOTM2	086-00553		
		4	32	8	6BE4.0ISOTM2	086-00618	6BI4.0ISOTM2	086-00545		
		4.5	31.5	7	6BE4.5ISOTM2	086-00744	6BI4.5ISOTM2	086-00550		
		5	30	6	6BE5.0ISOTM2	086-00619	6BI5.0ISOTM2	086-00552		
		5.5	33	6	6BE5.5ISOTM2	086-00621	6BI5.5ISOTM2	086-00547		
		6	30	5	6BE6.0ISOTM2	086-00686	6BI6.0ISOTM2	086-00549		

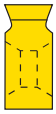
UNC/UNF UNIFIED INDEXABLE THREAD MILL INSERTS

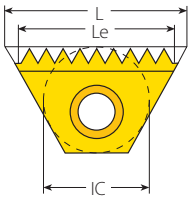
For External & Internal Unified Threads

- All inserts have 2 cutting edges except IC 6mm which has 1 cutting edge
- Defined by: ANSI B1.1.74
- Tolerance class: Class 2A/2B









VARDEX

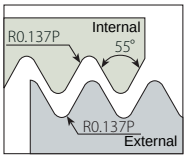
Insert Size		Pitch	Le	Teeth	External		Internal		Price	Tool Holder
IC	L mm	TPI	mm		Designation	Order Code	Designation	Order Code		
6mm	10.4	32	9.53	12	-	-	6.0I32UNTM	086-64912	**£25.94**	TMMC..-6.0
		28	9.07	10	-	-	6.0I28UNTM	086-64911		
		24	9.53	9	-	-	6.0I24UNTM	086-00733		
		20	8.89	7	-	-	6.0I20UNTM	086-64806		
		18	8.47	6	-	-	6.0I18UNTM	086-64799		
		16	7.94	5	-	-	6.0I16UNTM	086-64909		
1/4"	11	48	10.05	19	-	-	2I48UNTM2	086-63503	**£34.59**	TMC..-2 TMSH..-2
		40	10.16	16	-	-	2I40UNTM2	086-00748		
		32	10.32	13	-	-	2I32UNTM2	086-65086		
		28	9.98	11	2E28UNTM2	086-63383	2I28UNTM2	086-54337		
		27	10.35	11	-	-	2I27UNTM2	086-64997		
		24	9.53	9	2E24UNTM2	086-64148	2I24UNTM2	086-64205		
		20	10.16	8	2E20UNTM2	086-64141	2I20UNTM2	086-64905		
		18	9.88	7	2E18UNTM2	086-65017	2I18UNTM2	086-64913		
		16	9.53	6	2E16UNTM2	086-64132	2I16UNTM2	086-64186		
		14	9.07	5	2E14UNTM2	086-00734	2I14UNTM2	086-64178		
3/8"	16	40	14.61	23	-	-	3I40UNTM2	086-64532	**£40.49**	TMC..-3 TMSH..-3
		32	15.08	19	-	-	3I32UNTM2	086-64891		
		28	14.51	16	3E28UNTM2	086-64968	3I28UNTM2	086-65108		
		27	14.11	15	3E27UNTM2	086-65147	3I27UNTM2	086-64837		
		26	14.65	15	3E26UNTM2	086-00755	3I26UNTM2	086-00480		
		24	14.82	14	3E24UNTM2	086-65089	3I24UNTM2	086-64519		
		20	13.97	11	3E20UNTM2	086-64420	3I20UNTM2	086-64512		
		18	14.11	10	3E18UNTM2	086-64412	3I18UNTM2	086-64500		
		16	14.29	9	3E16UNTM2	086-64403	3I16UNTM2	086-64493		
		14	14.51	8	3E14UNTM2	086-64396	3I14UNTM2	086-64486		
		13	13.68	6	3E13UNTM2	086-64389	3I13UNTM2	086-64477		
		12	14.82	7	3E12UNTM2	086-64387	3I12UNTM2	086-64475		
		11.5	13.25	6	3E11.5UNTM2	086-00161	3I11.5UNTM2	086-00202		
3/8"B	22	24	21.16	20	-	-	3BI24UNTM2	086-00763	**£55.86**	BTMC..-3B TMSH..-3B
		20	21.59	17	3BE20UNTM2	086-00560	3BI20UNTM2	086-00585		
		18	21.17	15	3BE18UNTM2	086-00559	3BI18UNTM2	086-00582		
		16	20.64	13	3BE16UNTM2	086-00558	3BI16UNTM2	086-00581		
		14	21.77	12	3BE14UNTM2	086-00555	3BI14UNTM2	086-00650		
		12	21.17	10	3BE12UNTM2	086-00646	3BI12UNTM2	086-00575		
5/8"	27	24	25.4	24	5E24UNTM2	086-64954	5I24UNTM2	086-00747	**£77.47**	TMC..-5 TMSH..-5 TMOC25-5
		20	25.4	20	5E20UNTM2	086-65110	5I20UNTM2	086-64714		
		18	25.4	18	5E18UNTM2	086-65106	5I18UNTM2	086-64703		
		16	25.4	16	5E16UNTM2	086-64622	5I16UNTM2	086-64698		
		14	25.4	14	5E14UNTM2	086-65117	5I14UNTM2	086-65133		
		13	25.4	13	5E13UNTM2	086-65033	5I13UNTM2	086-00802		
		12	25.4	12	5E12UNTM2	086-64610	5I12UNTM2	086-64686		
		11.5	24.3	11	-	-	5I11.5UNTM2	086-65039		
		11	25.4	11	5E11UNTM2	086-64843	5I11UNTM2	086-00296		
		10	25.4	10	-	-	5I10UNTM2	086-65051		
		9	22.58	8	5E9UNTM2	086-00144	5I9UNTM2	086-00292		
		8	22.23	7	5E8UNTM2	086-65122	5I8UNTM2	086-64743		
		7	21.77	6	5E7UNTM2	086-64654	-	-		
		7	25.4	7	-	-	5I7UNTM2	086-65102		
		6	21.17	5	5E6UNTM2	086-00682	-	-		
		6	25.4	6	-	-	5I6UNTM2	086-64866		
3/4"B	38.5	6	38.87	8	6BE6UNTM2	-	6BI6UNTM2	086-00625	**£92.19**	TMC..-6B TMSH..-6B
		5	30.48	6	6BE5UNTM2	086-00751	6BI5UNTM2	086-00624		
		4.5	33.87	6	6BE4.5UNTM2	-	6BI4.5UNTM2	086-00543		
		4	31.75	5	6BE4UNTM2	086-00612	6BI4UNTM2	086-00746		

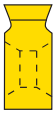
BSW/BSP WHITWORTH INDEXABLE THREAD MILL INSERTS

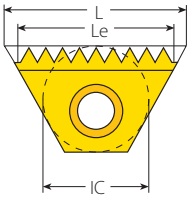
For External & Internal Whitworth Threads

- All inserts have 2 cutting edges except IC 6mm which has 1 cutting edge
- BSW Defined by: B.S.84:1956, DIN 259, ISO228/1:1982
- BSP Defined by: B.S.2779:1956
- Tolerance class: BSW-Medium class A, BSP-Medium class









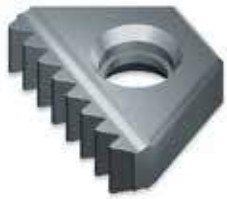
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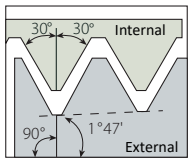
Insert Size		Pitch	Le	Teeth	External / Internal		Price	Tool Holder
IC	L mm	TPI	mm		Designation	Order Code		
6mm	10.4	28	9.07	10	6.0EI28WTM	086-00772	£25.94	TMMC..-6.0
		26	8.79	9	6.0EI26WTM	086-00736		
		20	8.89	7	6.0EI20WTM	086-00002		
		19	9.36	7	6.0EI19WTM	086-65062		
1/4"	11	28	9.98	11	2EI28WTM2	086-00786	£34.59	TMC..-2 TMSH..-2
		26	9.77	10	2EI26WTM2	086-00779		
		24	9.53	9	2EI24WTM2	086-00729		
		20	10.16	8	2EI20WTM2	086-00776		
		19	9.36	7	2EI19WTM2	086-65118		
		14	9.07	5	2EI14WTM2	086-65009		
3/8"	16	26	14.65	15	3EI26WTM2	086-63506	£40.49	TMC..-3 TMSH..-3
		24	14.82	14	3EI24WTM2	086-00498		
		20	13.97	11	3EI20WTM2	086-00130		
		19	14.71	11	3EI19WTM2	086-63504		
		18	14.11	10	3EI18WTM2	086-00124		
		16	14.29	9	3EI16WTM2	086-00119		
		14	14.51	8	3EI14WTM2	086-65091		
		12	14.82	7	3EI12WTM2	086-00104		
		11	13.85	6	3EI11WTM2	086-65090		
3/8"B	22	24	21.17	20	3BEI24WTM2	086-00815	£55.86	TMC..-3B TMSH..-3B
		20	21.59	17	3BEI20WTM2	086-00814		
		19	21.39	16	3BEI19WTM2	086-00804		
		18	21.17	15	3BEI18WTM2	086-00647		
		16	20.64	13	3BEI16WTM2	086-00405		
		14	21.77	12	3BEI14WTM2	086-00527		
		12	21.17	10	3BEI12WTM2	086-00341		
		11	20.78	9	3BEI11WTM2	086-00239		
5/8"	27	16	25.4	16	5EI16WTM2	086-00816	£77.47	TMC..-5 TMSH..-5
		14	25.4	14	5EI14WTM2	086-00247		
		12	23.28	11	5EI12WTM2	086-00243		
		11	23.09	10	5EI11WTM2	086-58954		
		10	25.40	10	5EI10WTM2	086-00235		
		9	22.58	8	5EI9WTM2	086-00230		
		8	22.23	7	5EI8WTM2	086-00225		
		7	21.77	6	5EI7WTM2	086-00217		
		6	21.17	5	5EI6WTM2	086-00215		
3/4"B	38.5	11	30.64	15	6BEI11WTM2	086-00609	£92.19	TMC..-6B TMSH..-6B
		6	33.87	8	6BEI6WTM2	086-00604		
		5	30.48	6	6BEI5WTM2	086-00602		
		4.5	33.87	6	6BEI4.5WTM2	086-00448		

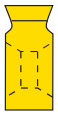
NPT INDEXABLE THREAD MILL INSERTS

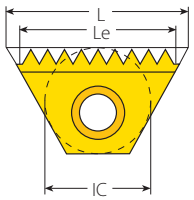
For External & Internal NPT Threads

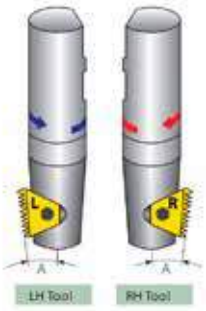
- Defined by: USAS B2.1:1968
- Tolerance class: Standard NPT











* For External threads only. To thread with the cutting length marked "L" use LH tool holder

** Single sided insert - RH only

VARDEX

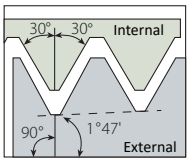
Insert Size		Pitch	Le	Teeth	External / Internal		Price	Tool Holder RH	Tool Holder LH
IC	L mm	TPI	mm		Designation	Order Code			
3/8"	16	18	14.11	10	3E18NPT-TM2*	086-65050	£40.49	TMNC..-3	TMNC..-3LH
		14	14.51	8	3EI14NPT-TM2	086-64338			
		11.5	13.25	6	3EI11.5NPT-TM2	086-64316			
3/8"B	22	14	21.77	12	3BEI14NPT-TM2	086-00526	£55.86	BTMNC..-3B	BTMNC..-3BLH
		11.5	19.88	9	3BEI11.5NPT-TM2**	086-00444			
5/8"	27	11.5	24.3	11	5EI11.5NPT-TM2	086-64558	£77.47	TM.C..-5	TM.C..-5LH
		8	22.23	7	5EI8NPT-TM2	086-64578			
3/4"B	38.5	11.5	35.34	16	6BEI11.5NPT-TM2	086-00611	£92.19	TMC..-6B	TMC..-6BLH
		8	31.75	10	6BEI8NPT-TM2	086-00606			

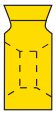
NPTF INDEXABLE THREAD MILL INSERTS

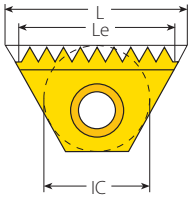
For External & Internal NPTF Threads

- All inserts have 2 cutting edges
- Defined by: ANSI 1.20.3-1976
- Tolerance class: Standard NPTF









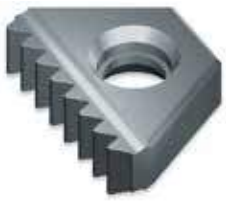
VARDEX

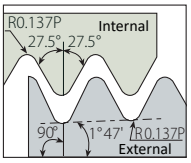
Insert Size		Pitch	Le	Teeth	External / Internal		Price	Tool Holder RH	Tool Holder LH
IC	L mm	TPI	mm		Designation	Order Code			
3/8"	16	14	14.51	8	3EI14NPTFTM2	086-65044	£40.49	TMNC..-3	TMNC..-3LH
		11.5	13.25	6	3EI11.5NPTFTM2	086-65128			
3/8"B	22	14	21.77	12	3BEI14NPTFTM2	086-00346	£55.86	BTMNC..-3B	BTMNC..-3BLH
		11.5	19.88	9	3BEI11.5NPTFTM2	086-00554			
5/8"	27	11.5	24.3	11	5EI11.5NPTFTM2	086-65061	£77.47	TM.C..-5	TM.C..-5LH
		8	22.23	7	5EI8NPTFTM2	086-00222			
3/4"B	38.5	11.5	35.34	16	6BEI11.5NPTFTM2	086-00819	£92.19	TMC..-6B	TMC..-6BLH

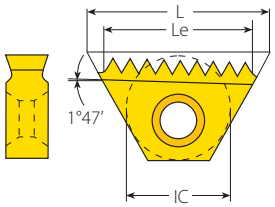
BSPT INDEXABLE THREAD MILL INSERTS

For External & Internal BSPT Threads

- All inserts have 2 cutting edges
- Defined by: B.S. 21:1985
- Tolerance class: Standard BSPT







VARDEX

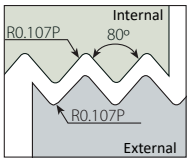
Insert Size		Pitch	Le	Teeth	External / Internal		Price	Tool Holder RH	Tool Holder LH
IC	L mm	TPI	mm		Designation	Order Code			
1/4"	11	19	9.36	7	2EI19BSPTTM2	086-65129	**£34.59**	TMC..-2	TMC..-2LH
3/8"	16	14	14.51	8	3EI14BSPTTM2	086-00110	**£40.49**	TMNC..-3	TMNC..-3LH
		11	13.85	6	3EI11BSPTTM2	086-64298			
5/8"	27	11	23.09	10	5EI11BSPTTM2	086-64509	**£77.47**	TMC..-5	TMC..-5LH

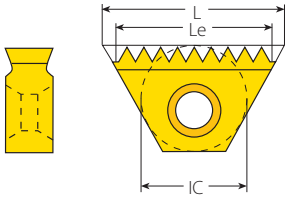
PG INDEXABLE THREAD MILL INSERTS

For External & Internal Pg Threads

- All inserts have 2 cutting edges except IC 6mm which has 1 cutting edge
- Defined by: DIN 40430
- Tolerance class: Standard







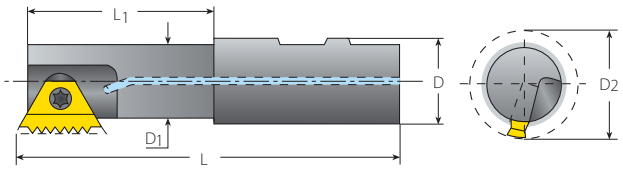
VARDEX

Insert Size		Pitch	Le	Teeth	Nominal Thread Size	External / Internal		Price	Tool Holder
IC	L mm	TPI	mm			Designation	Order Code		
6mm	10.4	20	8.99	7	Pg7	6.0EI20PGTM	086-64762	**£25.94**	TMMC..-6.0
1/4"	11	20	10.16	8	Pg7	2EI20PGTM2	086-00046	**£34.59**	TMC..-2
		18	9.88	7	Pg9, Pg11, Pg13.5, Pg16	2EI18PGTM2	086-00041		TMSH..-2
		16	9.53	6	Pg21, Pg29, Pg36, Pg42, Pg48	2EI16PGTM2	086-00039		TMC..-3
3/8"	16	18	14.11	10	Pg9, Pg11, Pg13.5, Pg16	3EI18PGTM2	086-64917	**£40.49**	TMSH..-3
		16	14.29	9	Pg21, Pg29, Pg36, Pg42, Pg48	3EI16PGTM2	086-00116		

STANDARD INDEXABLE THREAD MILL HOLDER

For External & Internal Thread Milling





* B Style Holders = Anti vibration

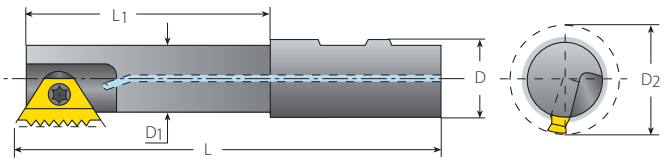
VARDEX

Insert Size	Dimensions mm					Designation	Order Code	Price	Spares	
IC	L	L1	D	D1	D2				Screw	Torx Key
6 mm	69	12	12	6.8	9	TMMC12-6.0	071-00121	**£146.41**	SN7T	K7T
	84	17	20	6.8	9	TMMC20-6.0	071-00133	**£167.76**		
1/4"	70	12	12	8.9	11.5	TMC12-2	071-00145	**£147.82**	SN2TM	K2T
	85	20	20	8.9	11.5	TMC20-2	071-00126	**£169.36**		
3/8"	90	22	16	13.6	17	TMC16-3	071-00122	**£169.36**	SN3TM	K3T
	95	43	20	16.6	20	TMC20-3	071-00129	**£169.36**		
3/8"B	79.5	29	16	13.5	17	BTMC16-3B*	071-00288	**£222.05**	SN3TM	K3T
	81.5	29	20	15.5	19	BTMC20-3B*	071-00132	**£240.78**	SN3T	K3T
	92.3	30	25	15.5	19	BTMC25-3B*	071-00134	**£278.19**		
	90.8	30	25	18.5	22	BTMWC25-3B*	071-00135	**£311.00**		
5/8"	110	52	25	24	30	TMC25-5	071-00136	**£240.87**	SN5TM	K5T
	110	52	25	24	30	TMC25-5LH	071-00139	**£240.87**		
	120	58	32	31	37	TMC32-5	071-00141	**£240.91**		
3/4"B	115	53	32	27	35	TMC32-6B	071-00143	**£240.91**	SM7T	K30T
	135	63	40	38	46	TMC40-6B	071-00146	**£296.92**		

LONG LENGTH INDEXABLE THREAD MILL HOLDER

For External & Internal Thread Milling





* B Style Holders = Anti vibration

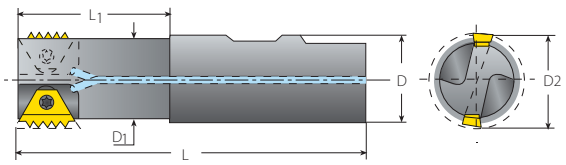
VARDEX

Insert Size	Dimensions mm					Designation	Order Code	Price	Spares	
IC	L	L1	D	D1	D2				Screw	Torx Key
1/4"	125	17	25	8.9	11.5	TMLC25-2	071-00113	**£218.82**	SN2TM	K2T
3/8"	125	25	25	18.6	22	TMLC25-3	071-00110	**£226.42**	SN3T	K3T
	125	63.5	25	18.6	22	BTMLC25-3	071-00100	**£292.67**		
3/8"B	96.5	44	20	15.5	19	BTMLC20-3B*	071-00171	**£287.60**	SN3T	K3T
	125	63.5	25	18.6	22	BTMLC25-3B*	071-00264	**£292.77**		
5/8"	150	92	25	24	30	TMLC25-5	071-67740	**£240.91**	SN5TM	K5T
	160	98	32	31	37	TMLC32-5	071-00102	**£287.29**		
3/4"B	165	93	40	38	46	TMLC40-6B	071-00104	**£296.93**	SM7T	K30T

TW2 TWIN FLUTE INDEXABLE THREAD MILL HOLDER

For External & Internal Thread Milling





VARDEX

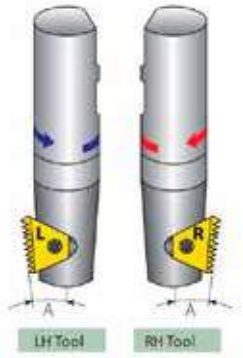
* B Style Holders = Anti vibration

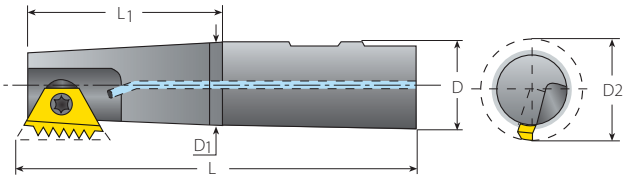
Insert Size	Dimensions mm					Designation	Order Code	Price	Spares	
IC	L	L1	D	D1	D2				Screw	Torx Key
1/4"	85	20	20	14.4	17	TM2C20-2	071-00216	**£249.59**	SN2TM	K2T
3/8"	100	43	25	22.5	26	TM2C25-3	071-00097	**£313.97**	SN3T	K3T
3/8"B	104.2	46	25	22.5	26	BTM2C25-3B*	071-00219	**£362.39**		
5/8"	120	45	32	36	42	TM2C32-5	071-67690	**£355.45**	SN5TM	K5T
3/4"B	137.2	65	40	44	52	TM2C40-6B	071-00226	**£388.10**	SM7T	K30T

CONICAL INDEXABLE THREAD MILL HOLDER

For External & Internal for Conical Threads - NPT, NPTF, BSPT







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NOTE: To use the cutting edge marked "L", LH Cutter is required. * B Style Holders = Anti vibration

Insert Size	Dimensions mm					Right Hand		Left Hand		Price	Spares	
IC	L	L1	D	D1	D2	Designation	Order Code	Designation	Order Code		Screw	Torx Key
3/8"	90	22	16	12.5	15.5	TMNC16-3	071-00095	TMNC16-3LH	071-00170	**£169.48**	SN3TM	K3T
	85	23	20	15	19	TMNC20-3	071-00096	TMNC20-3LH	071-00242	**£190.68**		
3/8"B	79.5	29	16	13.5	17	BTMNC16-3B*	071-00165	BTMNC16-3BLH*	071-00166	**£222.06**	SN3TM	K3T
	81.5	29	20	15.5	19	BTMNC20-3B*	071-00220	BTMNC20-3BLH*	071-00238	**£287.62**		
5/8"	120	58	32	31	37	TMNC32-5	071-00103	TMNC32-5LH	071-00248	**£240.91**	SN5TM	K5T



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VARDEX

TMSD Deep Hole Indexable Thread Mills

Performance
★★★★



A multi-flute, highly productive and economical solution for milling threads in deep holes.

There are two types of TMSD thread milling options:

- L-Style - For small bores and short reach
- U-Style - For large pitches

Grade	Application
VBX	TiCN coated carbide grade. Excellent grade for steel and general use.
VTX	TiAlN coated carbide grade. Ideal for stainless steel.

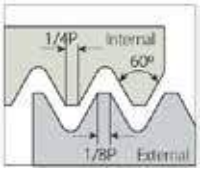
M METRIC DEEP HOLE INDEXABLE THREAD MILL INSERTS L STYLE

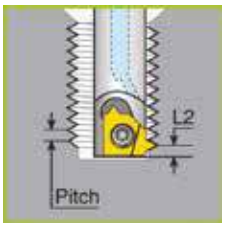
Metric Inserts For Deep Hole Thread Milling

- Defined by: R262 (DIN 13)
- Tolerance class: 6g/6H









For small bores and short L2 (reach).

VARDEX

Insert Size IC	Pitch mm	Designation	Order Code	Price	Tool Holder
5.0L (MINI L)	1.0	5LI1.0ISOTM	088-00175	**£25.49**	TM.SC...5L CTM.SC...5L
	1.5	5LI1.5ISOTM	088-00177		
	2.0	5LI2.0ISOTM	088-00179		

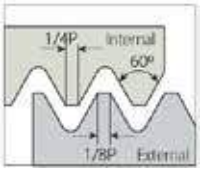
M METRIC DEEP HOLE INDEXABLE THREAD MILL INSERTS U STYLE

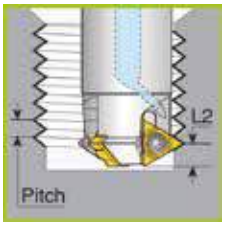
Metric Inserts For Deep Hole Thread Milling

- Defined by: R262 (DIN 13)
- Tolerance class: 6g/6H









For large pitches

VARDEX

* Correct the tool holder cutting diameter D2 according to adjustment, as indicated in the below table.

Insert Size IC	Insert Size L mm	Pitch mm	Designation	Order Code	Price	Tool Holder	Tool Holder Cutting Diameter D2 (mm) * Adjusted D2
1/4"U	11	1.5	2UI1.5ISOTM	088-00159	**£14.79**	TM2SC25W23-70-2U; TM3SC25W26-80-2U; TM4SC32W31-95-2U; TM2SC18C23-86-2U; TM3SC20C26-105-2U; TM4SC25C31-115-2U; CTM3SC20C26-110-2U; CTM4SC25C31-135-2U	For 1.5ISO change D2 to D2-1.0
		2.0	2UI2.0ISOTM	088-00161			For 2.0ISO change D2 to D2-1.15

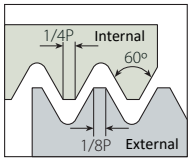
UNC/UNF UNIFIED DEEP HOLE INDEXABLE THREAD MILL INSERTS L STYLE

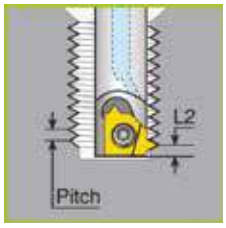
Unified Inserts for Deep Hole Thread Milling

- Defined by: ANSI B1.1:74
- Tolerance class: 2A/2B









For small bores and short L2 (reach).

VARDEX

Insert Size		Pitch	Designation	Order Code	Price	Tool Holder
IC		TPI				
5.0L (MINI L)		18	5LI18UNTM	088-00153	£25.49	TM.SC...5L CTM.SC...5L
		16	5LI16UNTM	088-00185		
		14	5LI14UNTM	088-00183		
		12	5LI12UNTM	088-00181		

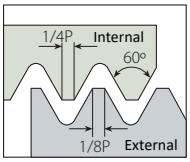
UNC/UNF UNIFIED DEEP HOLE INDEXABLE THREAD MILL INSERTS U STYLE

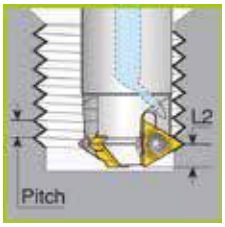
Unified Inserts for Deep Hole Thread Milling

- Defined by: ANSI B1.1:74
- Tolerance class: 2A/2B









For large pitches

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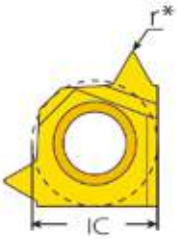
* Correct the tool holder cutting diameter D2 according to adjustment, as indicated in the below table.

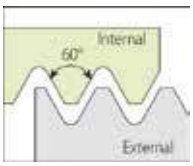
Insert Size		Pitch	Designation	Order Code	Price	Tool Holder	Tool Holder Cutting Diameter D2 (mm)
IC	L mm	mm					* Adjusted D2
1/4"U	11	14	2UI14UNTM	088-00165	£14.79	TM2SC25W23-70-2U; TM3SC25W26-80-2U; TM4SC32W31-95-2U; TM2SC18C23-86-2U; TM3SC20C26-105-2U; TM4SC25C31-115-2U; CTM3SC20C26-110-2U; CTM4SC25C31-135-2U	For 14UN change D2 to D2-1.06
		12	2UI12UNTM	088-00163			For 12UN change D2 to D2-1.15

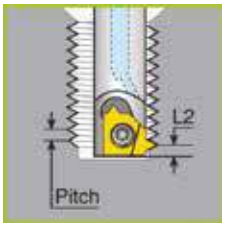
60° PARTIAL PROFILE DEEP HOLE INDEXABLE THREAD MILL INSERTS L STYLE

Partial Profile Inserts for Deep Hole Thread Milling









For small bores and short L2 (reach).

VARDEX

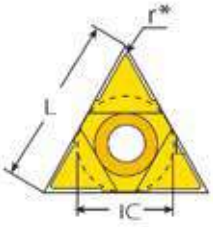
* The indicated radius (r) refers to the insert nose radius only.

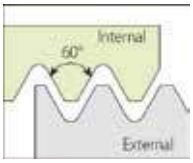
Insert Size		Pitch		r*	Designation	Order Code	Price	Tool Holder
IC		mm	TPI					
5.0L (MINI L)		0.5-1.5	48-16	0.04	5LIDA60TM	088-00050	**£25.49**	TM.SC5L CTM. SC5L
		1.0-2.0	24-11	0.06	5LIDN60TM	088-00052		

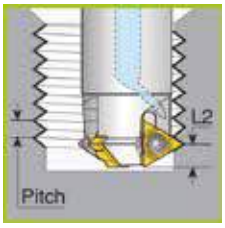
60° PARTIAL PROFILE DEEP HOLE INDEXABLE THREAD MILL INSERTS U STYLE

Partial Profile Inserts for Deep Hole Thread Milling









For large pitches

VARDEX

* The indicated radius (r) refers to the insert nose radius only.

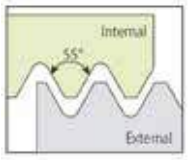
Insert Size		Pitch		r*	Designation	Order Code	Price	Tool Holder
IC	L mm	mm	TPI					
1/4"U	11	0.5-1.5	48-16	0.05	2UIDA60TM	088-00034	**£14.78**	TM.SC2U CTM. SC2U
		1.5-2.0	16-12	0.06	2UIDB60TM	088-00009		
		2.0-2.5	9-12	0.11	2UIDD60TM	088-00058	**£14.78**	CTM2SC 14C17-65-2U
		2.5	10	0.11	2UIDM60TM	088-00040		
		2.5-4.0	10-6	0.14	2UIDC60TM	088-00010	**£14.78**	TM.SC2U CTM. SC2U
3/8"U	16	1.5-2.0	16-12	0.06	3UIDB60TM	088-00019	**£15.45**	TM.SC3U
		2.5-3.5	10-7	0.14	3UIDE60TM	088-00020		
		4.0-6.0	6-4	0.25	3UIDH60TM	088-00021		
1/2"U	22	6.0-8.0	4-3	0.30	4UIDK60TM	088-00027	**£26.73**	TM.SC D4U

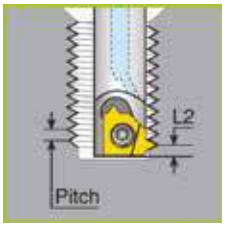
55° PARTIAL PROFILE DEEP HOLE INDEXABLE THREAD MILL INSERTS L STYLE

Partial Profile Inserts for Deep Hole Thread Milling









For small bores and short L2 (reach).

* The indicated radius (r) refers to the insert nose radius only.

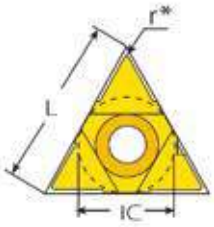
VARDEX

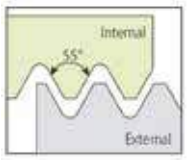
Insert Size		Pitch	r*	Designation	Order Code	Price	Tool Holder
IC		TPI					
5.0L (MINI L)		26-14	0.10	5LIDR55TM	088-00046	**£25.49**	TM.SC5L CTM. SC5L

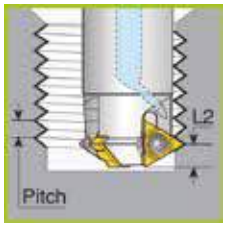
55° PARTIAL PROFILE DEEP HOLE INDEXABLE THREAD MILL INSERTS U STYLE

Partial Profile Inserts for Deep Hole Thread Milling









For large pitches

* The indicated radius (r) refers to the insert nose radius only.

VARDEX

Insert Size		Pitch	r*	Designation	Order Code	Price	Tool Holder
IC	L mm	TPI					
1/4"U	11	48-16	0.11	2UIDA55TM	088-00030	**£14.78**	TM.SC2U CTM. SC2U
		16-12	0.08	2UIDB55TM	088-00011		
		11-7	0.24	2UIDL55TM	088-00012		
3/8"U	16	16-12	0.08	3UIDB55TM	088-00022	**£15.45**	TM.SC3U
		11-7	0.24	3UIDL55TM	088-00023		
		6-4	0.27	3UIDH55TM	088-00024		
1/2"U	22	4-3	0.50	4UIDK55TM	088-00028	**£26.73**	TM.SC D4U

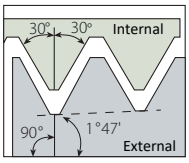
NPT DEEP HOLE INDEXABLE THREAD MILL INSERTS L STYLE

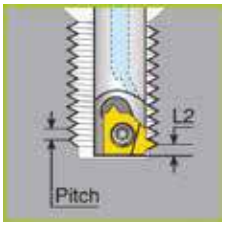
NPT Inserts for Deep Hole Thread Milling

- Defined by: USAS B2.1:1968
- Tolerance class: Standard NPT









For small bores and short L2 (reach).

VARDEX

Insert Size		Pitch	Designation	Order Code	Price	Tool Holder
IC		TPI				
5.0L (MINI L)		18	5LEI18NPT-TM	088-00173	**£25.49**	TM.SC...5L CTM. SC...5L

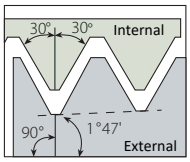
NPT DEEP HOLE INDEXABLE THREAD MILL INSERTS L STYLE

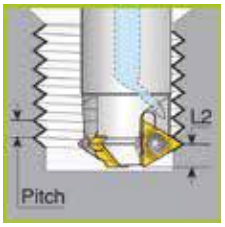
NPT Inserts for Deep Hole Thread Milling

- Defined by: USAS B2.1:1968
- Tolerance class: Standard NPT









For large pitches

VARDEX

* Correct the tool holder cutting diameter D2 according to adjustment, as indicated in the below table.

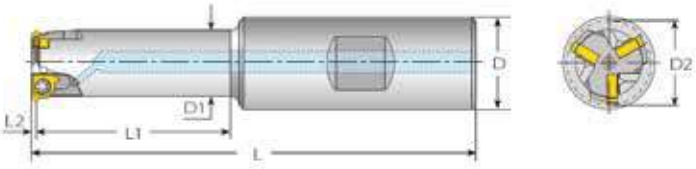
Insert Size		Pitch	Designation	Order Code	Price	Tool Holder	Tool Holder Cutting Diameter D2 (mm)
IC	L mm	TPI					* Adjusted D2
1/4"U	11	14	2UEI14NPT-TM	088-00157	**£14.79**	TM1SC16W15-40-2U; CTM1SC08C15-40-2U; CTM1SC11C15-60-2U	14.59
							20.49
		11.5	2UEI11.5NPT-TM	088-00155	**£14.79**	TM2SC25W23-70-2U; TM2SC18C23-86-2U	22.63
							25.63
							30.63
3/8"U	16	11.5	3UEI11.5NPT-TM	088-00169	**£15.45**	TM3SC32W36-95-3U; TM3SC32W36-145-3U; TM3SC25C36-125-3U; TM3SC28C36-144-3U	35.65
						TM4SC40W42-120-3U; TM4SCD42-16-3U	41.15
						TM5SCD48-22-3U	47.15
		8	3UEI8NPT-TM	088-00167	**£15.45**	TM3SC32W36-95-3U; TM3SC32W36-145-3U; TM3SC25C36-125-3U; TM3SC28C36-144-3U	35.65
						TM4SC40W42-120-3U; TM4SCD42-16-3U	41.15
						TM5SC-D48-22-3U	47.15
						TM6SC-D56-22-3U	55.15
1/2"U	22	8	4UEI8NPT-TM	088-00171	**£26.73**	TM6SC-D88-27-4U	88.06
						TM7SC-D98-32-4U	98.06

STEEL SHANK DEEP HOLE INDEXABLE THREAD MILL HOLDER L STYLE

L-Style Tool Holder for Deep Hole Thread Milling

Cutting Data
P998





Through coolant is recommended, especially when D2>0.7 x nominal thread diameter

VARDEX

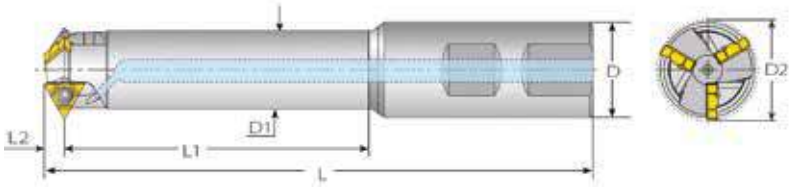
Insert Size / IC	L	L1	L2	D	D1	D2	No. of Flutes	Designation	Order Code	Price	Spares	
											Insert Screw	Torx Key
5.0L (Mini L)	81	29	1.1	16	9.8	13.0	1	TM1SC16W13-29-5L	073-00037	**£78.57**	SN5LTR	K7T
	85	33		16	10.3	13.5	2	TM2SC16W14-33-5L	073-00030	**£100.98**		
	96	42		20	14.3	17.7	3	TM3SC20W18-42-5L	073-00040	**£135.46**		

STEEL SHANK DEEP HOLE INDEXABLE THREAD MILL HOLDER U STYLE

U-Style Tool Holder for Deep Hole Thread Milling

Cutting Data
P998





Through coolant is recommended, especially when D2>0.7 x nominal thread diameter

VARDEX

Insert Size / IC	L	L1	L2	D	D1	D2	No. of Flutes	Designation	Order Code	Price	Spares	
											Insert Screw	Torx Key
Flat Shank												
1/4"U	95	40	5.4	16	11	14.75*	1	TM1SC16W15-40-2U	073-00020	**£138.64**	SN2T	HK2T
	123	60		25	16	20.65*	2	TM2SC25W21-60-2U	073-00021	**£163.13**		
	135	70		25	17.7	23	2	TM2SC25W23-70-2U	073-00014	**£165.06**		
	147	80		25	20.4	26	3	TM3SC25W26-80-2U	073-00006	**£187.44**		
	164	95		32	25.7	31	4	TM4SC32W31-95-2U	073-00013	**£254.81**		
3/8"U	166	95	8.0	32	29	36.5	3	TM3SC32W36-95-3U	073-00007	**£226.38**	SA3T	HK3T
	225	145		32	28	36.5	3	TM3SC32W36-145-3U	073-00048	**£226.38**		
	201	120		40	34.2	42	4	TM4SC40W42-120-3U	073-00011	**£283.74**		
Plain Shank												
1/4"U	166	86	5.4	18	-	23.3	2	TM2SC18C23-86-2U	073-00002	**£181.84**	SN2T	HK2T
	186	105		20	-	26	3	TM3SC20C26-105-2U	073-00005	**£209.32**		
	196	115		25	-	31	4	TM4SC25C31-115-2U	073-00015	**£289.28**		
3/8"U	193	125	8.0	25	-	36.5	3	TM3SC25C36-125-3U	073-00053	**£236.52**	SA3T	HK3T
	222	144		28	-	36.5	3	TM3SC28C36-144-3U	073-00010	**£278.13**		

CARBIDE SHANK DEEP HOLE INDEXABLE THREAD MILL HOLDER L STYLE

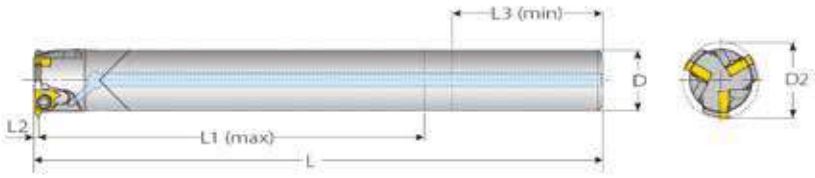
L-Style Tool Holder for Deep Hole Thread Milling

Cutting Data

P998

- L3 dimension refers to the minimum amount to be clamped in the tool holder





Through coolant is recommended, especially when D2>0.7 x nominal thread diameter

VARDEX

Insert Size IC	L	L1 (max)	L2	L3 (min)	D	D2	No. Flutes	Designation	Order Code	Price	Spares	
											Insert Screw	Torx Key
5.0L (Mini L)	109	43	1.1	20	9.5	13	1	CTM1SC09C13-43-5L	073-00035	**£266.62**	SN5LTR	K7T
	116	50		22	10	13.5	2	CTM2SC10C14-50-5L	073-00034	**£266.62**		
	132	65		30	14	17.7	3	CTM3SC14C18-65-5L	073-00033	**£465.05**		

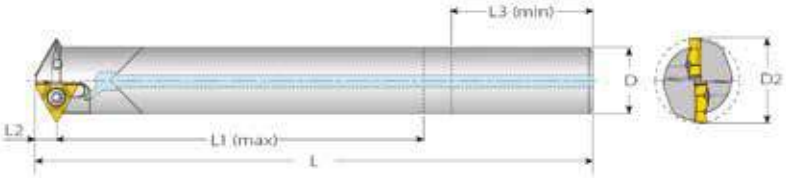
CARBIDE SHANK DEEP HOLE INDEXABLE THREAD MILL HOLDER U STYLE

U-Style Tool Holder for Deep Hole Thread Milling

Cutting Data

P998





Through coolant is recommended, especially when D2>0.7 x nominal thread diameter

VARDEX

Insert Size IC	L	L1 (max)	L2	L3 (min)	D	D2	No. Flutes	Designation	Order Code	Price	Spares	
											Insert Screw	Torx Key
1/4"U	109	40	5.4	18	8	14.75*	1	CTM1SC08C15-40-2U	073-00016	**£149.75**	SN2T	HK2T
	120	60		25	10.7	14.75*	1	CTM1SC11C15-60-2U	073-00017	**£241.09**		
	132	65	3.4	30	14	17.9**	2	CTM2SC14C17-65-2U**	073-00029	**£427.77**		
	136	65	5.4	30	14	20.65*	2	CTM2SC14C21-65-2U	073-00018	**£427.77**		
	135	80		34	16	20.65*	2	CTM2SC16C21-80-2U	073-00019	**£444.71**		
	165	110		40	20	26.0*	3	CTM3SC20C26-110-2U	073-00052	**£713.64**		
	186	135		46	25	31.0*	4	CTM4SC25C31-135-2U	073-00054	**£892.07**		

* For TR inserts use the CNC program (D2+0.25mm).
** To be used only with inserts 2UIDD60TM... or 2UIDM60TM... For insert 2UIDD60 TM... use the CNC program (D2+0.7mm).

VARGUS GENius | Tool Selector and CNC Program Generator



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GENius Software

Introducing the world's most intelligent threading tool selector and CNC program generator.

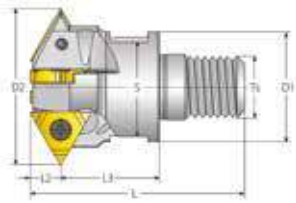
The VARGUS GENius™ offers the most popular and advanced thread turning and thread milling software on the market today.

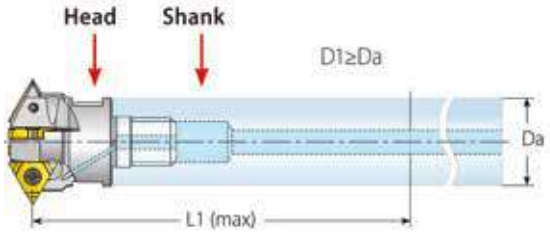
SCREWED SHANK DEEP HOLE INDEXABLE THREAD MILL HOLDER U STYLE

Modular U-Style Tool Holder for Deep Hole Thread Milling

Cutting Data
P998





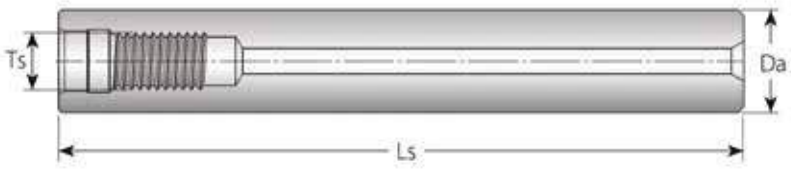


VARDEX

Insert Size IC	D1	D2	L	L1 (Steel Shank Max)	L1 (Carbide Shank Max)	L2	L3	Ts	S	No. Flutes	Designation	Order Code	Price	Spares	
														Insert Screw	Torx Key
1/4"U	10.6	14.75	33	48	57.5	5.4	15	M06	9	1	TM1SC-D15-M06-2U	172-00009	£159.34	SN2T	HK2T
	13	16.75	37	60	72		17	M08	11	1	TM1SC-D17-M08-2U	172-00010	£162.41		
	14.1	20.65	34	72	86		14	M08	12	2	TM2SC-D21-M08-2U	172-00011	£185.83		
	18	22.65	38	86	103		14	M10	16	2	TM2SC-D23-M10-2U	172-00012	£184.66		
	21	26.6	48	105	125		20	M12	18	3	TM3SC-D26-M12-2U	172-00013	£206.97		
	25	31	51	115	138		23	M12	22	4	TM4SC-D31-M12-2U	172-00014	£278.22		
3/8"U	29	36.5	55	125	150	8	25	M16	25	4	TM3SC-D36-M16-3U	172-00015	£275.06	SA3T	HK3T
	29	42	55	144	172		26	M16	25	3	TM4SC-D42-M16-3U	172-00016	£310.36		

STEEL SHANK DEEP HOLE MODULAR TOOL HOLDER HEADS

Modular U-Style Tool Holder for Deep Hole Thread Milling





VARDEX

Da	Ls	Ts	Designation	Order Code	Price
10.6	75	M06	STMC-C10.6L075M06	172-00023	£105.82
13	85	M08	STMC-C13.0L085M08	172-00017	£105.82
14.1	105	M08	STMC-C14.1L105M08	172-00018	£105.82
18	120	M10	STMC-C18.0L120M10	172-00019	£116.68
21	135	M12	STMC-C21.0L135M12	172-00020	£116.68
25	140	M12	STMC-C25.0L140M12	172-00021	£129.32
29	180	M16	STMC-C29.0L180M16	172-00022	£129.32

VARDEX STANDARD TM INDEXABLE THREAD MILLS

CUTTING DATA

Thread Milling

Workpiece				Vc [m/min]			Feed fz [mm/tooth]
Material	Group	Detail	Hardness Brinell HB	VBX	VTX	VK2	
P STEEL	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	100-120	90-180		0.05-0.3
		Medium Carbon (C=0.25-0.55%)	150	100-180	90-170		0.05-0.25
		High Carbon (C=0.55-0.85%)	170	100-170	90-160		0.05-0.2
	Low Alloy Steel (Alloying Elements 5%)	Non Hardened	180	90-160	90-155		0.05-0.25
		Hardened	275	80-180	80-160		0.05-0.2
		Hardened	350	70-140	70-150		0.05-0.15
	High Alloy Steel (Alloying Elements>5%)	Annealed	200	60-130	70-115		0.05-0.2
		Hardened	325	70-110	60-100		0.05-0.1
	Cast Steel	Low Alloy (Alloying Elements <5%)	200	100-170	100-170	100-150	0.05-0.15
		High Alloy (Alloying Elements >5%)	225	70-120	70-130	60-130	0.05-0.1
M STAINLESS STEEL	Stainless Steel Ferritic	Non Hardened	200	100-170	120-180		0.05-0.15
		Hardened	330	100-170	120-180		0.05-0.1
	Stainless Steel Austenitic	Austenitic	180	70-140	100-140		0.05-0.15
		Super Austenitic	200	70-140	100-140		0.05-0.1
	Stainless Steel Cast Ferritic	Non Hardened	200	70-140	100-140		0.05-0.15
		Hardened	330	70-140	100-140		0.05-0.1
	Stainless Steel Cast Austenitic	Austenitic	200	70-120	100-120		0.05-0.15
		Hardened	330	70-120	100-120		0.05-0.1
K CAST IRON	Malleable	Ferritic (Short Chips)	130	60-130	100-120		0.02-0.8
	Cast Iron	Pearlitic (Long Chips)	230	60-120	80-100		0.02-0.05
	Grey Cast Iron	Low Tensile Strength	180	60-130	80-100		0.05-0.15
		High Tensile Strength	260	60-100	80-100		0.05-0.1
	Nodular Sg Iron	Ferritic	160	60-125	80-100		0.05-0.15
		Pearlitic	260	50-90	60-90		0.05-0.1
N NON-FERROUS METALS	Aluminium Alloys Wrought	Non Aging	60	100-250		200-300	0.1-0.4
		Aged	100	100-180		60-110	0.1-0.3
	Aluminium Alloys	Cast	75	150-400		60-120	0.1-0.3
		Cast & Aged	90	150-280		60-100	0.05-0.25
	Aluminium Alloys	Cast Si 13-22%	130	80-150		20-50	0.1-0.3
	Copper & Copper Alloys	Brass	90	120-210	100-200	50-70	0.1-0.3
		Bronze & Non Leaded Copper	100	120-210	100-200	50-70	0.05-0.25
S HEAT RESISTANT MATERIAL	High Temperature Alloys	Annealed (Iron Based)	200	20-45	20-40	20-30	0.05-0.1
		Aged (Iron Based)	280	20-30	20-30	15-25	0.02-0.05
		Annealed (Nickel Or Cobalt Based)	250	20-50	15-20	15-20	0.02-0.05
		Aged (Nickel Or Cobalt Based)	350	10-15	10-15	10-15	0.02-0.05
	Titanium Alloys	Pure 99.5 Ti	400Rm	70-140	70-120	40-60	0.02--0.05
		A+B Alloys	1050Rm	20-50	20-50	20-40	0.02-0.05
H HARDENED STEEL	Extra Hard Steel	Hardened & Tempered	45-50HRC	20-45	20-45		0.01-0.03
			51-55HRC	20-45	20-45		0.01-0.02

VARDEX TMSD INDEXABLE THREAD MILLS

CUTTING DATA

Thread Milling

Workpiece				Vc [m/min]		Feed* f [mm/tooth] by Cutting Dia. (d2)		
Material	Group	Detail	Hardness Brinell HB	VBX	VBX	13-23	24-42	Shell Mill
P STEEL	Unalloyed Steel	Low Carbon (C=0.1-0.25%)	125	100-210	90-180	0.20-0.32	0.30-0.50	0.30-0.75
		Medium Carbon (C=0.25-0.55%)	150	100-180	90-170	0.20-0.32	0.30-0.50	0.30-0.75
		High Carbon (C=0.55-0.85%)	170	100-170	90-160	0.15-0.23	0.25-0.35	0.25-0.52
	Low Alloy Steel (Alloying Elements 5%)	Non Hardened	180	60-90	90-155	0.17-0.28	0.28-0.45	0.28-0.67
		Hardened	275	80-150	80-160	0.15-0.28	0.25-0.45	0.25-0.67
		Hardened	350	70-140	70-150	0.15-0.25	0.25-0.40	0.25-0.60
	High Alloy Steel (Alloying Elements>5%)	Annealed	200	60-130	70-115	0.15-0.22	0.20-0.30	0.20-0.45
		Hardened	325	70-110	60-100	0.13-0.21	0.18-0.30	0.18-0.45
	Cast Steel	Low Alloy (Alloying Elements <5%)	200	100-170	100-170	0.15-0.22	0.20-0.30	0.20-0.45
		High Alloy (Alloying Elements >5%)	225	70-120	70-130	0.12-0.22	0.17-0.30	0.17-0.45
M STAINLESS STEEL	Stainless Steel Ferritic	Non Hardened	200	100-170	120-180	0.15-0.22	0.22-0.34	0.22-0.50
		Hardened	330	100-170	120-180	0.16-0.23	0.21-0.32	0.21-0.48
	Stainless Steel Austenitic	Austenitic	180	70-140	100-140	0.15-0.25	0.25-0.40	0.25-0.60
		Super Austenitic	200	70-140	100-140	0.12-0.20	0.17-0.26	0.17-0.39
	Stainless Steel Cast Ferritic	Non Hardened	200	70-140	100-140	0.16-0.24	0.25-0.37	0.25-0.55
		Hardened	330	70-140	100-140	0.12-0.20	0.17-0.26	0.17-0.39
	Stainless Steel Cast Austenitic	Austenitic	200	70-120	100-120	0.15-0.22	0.20-0.30	0.20-0.45
		Hardened	330	70-120	100-120	0.12-0.20	0.17-0.26	0.17-0.39
K CAST IRON	Malleable	Ferritic (Short Chips)	130	60-130	100-120	0.16-0.24	0.25-0.37	0.25-0.55
	Cast Iron	Pearlitic (Long Chips)	230	60-120	80-100	0.15-0.22	0.20-0.30	0.20-0.45
	Grey Cast Iron	Low Tensile Strength	180	60-130	80-100	0.15-0.22	0.22-0.34	0.22-0.50
		High Tensile Strength	260	60-100	80-100	0.15-0.22	0.20-0.30	0.20-0.45
	Nodular Sg Iron	Ferritic	160	60-125	80-100	0.10-0.20	0.15-0.25	0.15-0.37
		Pearlitic	260	50-90	60-90	0.15-0.22	0.20-0.30	0.20-0.45
N NON-FERROUS METALS	Aluminium Alloys Wrought	Non Aging	60	100-250	-	0.30-0.50	0.60-1.00	0.60-1.50
		Aged	100	100-180	-	0.28-0.50	0.50-0.90	0.50-1.20
	Aluminium Alloys	Cast	75	150-400	-	0.28-0.50	0.50-0.90	0.50-1.20
		Cast & Aged	90	150-280	-	0.25-0.40	0.40-0.60	0.40-0.90
	Aluminium Alloys	Cast Si 13-22%	130	80-150	-	0.28-0.50	0.50-0.90	0.50-1.20
	Copper & Copper Alloys	Brass	90	120-210	100-200	0.30-0.50	0.60-1.00	0.60-1.50
		Bronze & Non Leaded Copper	100	120-210	100-200	0.28-0.50	0.50-0.90	0.50-1.20
S HEAT RESISTANT MATERIAL	High Temperature Alloys	Annealed (Iron Based)	200	20-45	20-40	0.09-0.15	0.12-0.22	0.12-0.33
		Aged (Iron Based)	280	20-30	20-30	0.07-0.13	0.10-0.20	0.10-0.30
		Annealed (Nickel Or Cobalt Based)	250	15-20	15-20	0.08-0.15	0.08-0.20	0.08-0.30
		Aged (Nickel Or Cobalt Based)	350	10-15	10-15	0.08-0.15	0.08-0.20	0.08-0.30
	Titanium Alloys	Pure 99.5 Ti	400Rm	70-140	70-120	0.07-0.13	0.10-0.20	0.10-0.30
		A+B Alloys	1050Rm	20-50	20-50	0.07-0.13	0.10-0.20	0.10-0.30
H HARDENED STEEL	Extra Hard Steel	Hardened & Tempered	45-50HRC	15-45	15-45	0.05-0.12	0.05-0.18	0.05-0.27
		Hardened & Tempered	51-55HRC	15-40	15-40	0.05-0.12	0.05-0.18	0.05-0.27

* When using a Shell Mill Tool Holder, the feed can be increased by 50%.
* For 3/8"L it is recommended to machine in two passes and decrease the feed by 40%.

Multifunctional Thread & Groove Milling

P M S K N



simmill® PX-SX-UX & VX

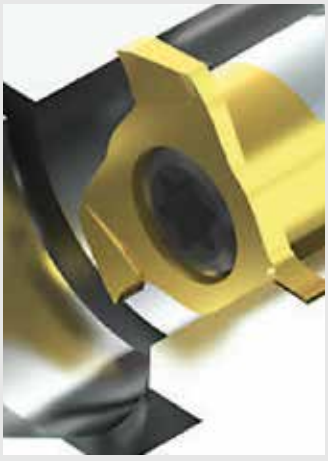
The system uses high quality micrograin carbide inserts, precision ground to the highest tolerances. The special seat design provides the highest torque transfer, low vibration and ensures the highest precision and tool life. simmill® PX-SX-UX & VX are suitable for bores from 10mm diameter.



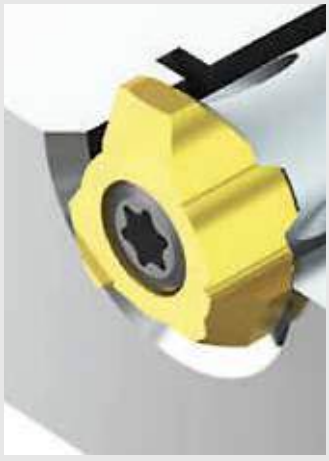
Thread Milling 1006



Groove Milling 1009



Circlip Groove Milling 1012



Chamfer Milling 1013

Tool Selection

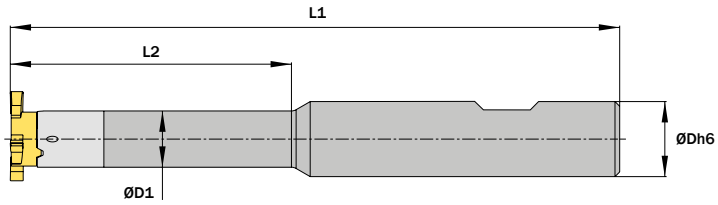
Description		Series	Page
CARBIDE SHANK HOLDER SHANK WITH FLAT OR PLAIN SHANK		PX SX UX VX	**1002**
STEEL SHANK HOLDER SHANK WITH FLAT OR PLAIN SHANK		PX SX UX VX	**1004**
ER COLLET CHUCK HOLDER FOR DIRECT CLAMPING INTO ER COLLET CHUCKS		PX SX UX VX	**1005**
3 TOOTH INSERTS METRIC ISO FULL PROFILE THREAD FOR INTERNAL THREADS		PX SX UX VX	**1006**
3 TOOTH INSERTS METRIC ISO PARTIAL PROFILE THREAD FOR INTERNAL THREADS		PX SX UX VX	**1007**
3 TOOTH INSERTS WHITWORTH FULL PROFILE THREAD FOR INTERNAL THREADS		PX SX UX VX	**1008**
3 TOOTH INSERTS UN FULL PROFILE THREAD FOR UNC, UNF & UNEF INTERNAL THREADS		UX	**1008**
3 TOOTH INSERTS GENERAL GROOVE MILLING		PX SX UX	**1009**
3 & 6 TOOTH INSERTS GENERAL GROOVE MILLING		VX	**1010**
6 TOOTH INSERTS GENERAL GROOVE MILLING SMOOTH CUTTING		PX SX UX VX	**1011**
3 TOOTH INSERTS CIRCLIP GROOVE MILLING INTERNAL		PX SX UX VX	**1012**
3 TOOTH INSERTS FULL RADIUS GROOVE MILLING		PX SX UX VX	**1013**
3 TOOTH INSERTS CHAMFER MILLING		PX SX UX VX	**1013**

CARBIDE SHANK TOOL HOLDER WITH FLAT SHANK

Simmill® PX, SX, UX & VX

- Anti-vibration carbide weldon shank
- Through coolant
- Use connect code to match inserts to holders
- For easy ordering use **Short Code**
- Select the insert first and then select the relevant holder





SIMTEK simmill

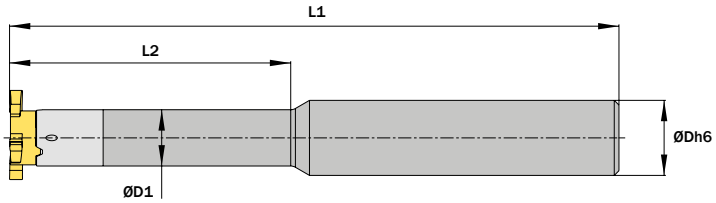
ØD h6	ØD1	L1	L2	Order Code		Price	Inserts		Spares	
				Description	Short Code		Connect Code	Series	Screw	Torx Key
12	6	80	21	P10.1206.21 B HM	AKJM	**£144.50**	PD06.0	PX	PM2.6 x 8	T8F
		90	30	P10.1206.30 B HM	AC5B	**£154.95**				
		100	42	P10.1206.42 B HM	AHUG	**£175.77**				
12	7.3	90	30	P10.1207.30 B HM	AHJ7	**£161.89**	PD07.3			
16		100	25	P10.1607.25 B HM	AP0F	**£238.19**				
12	8	95	29	S14.1208.29 B HM	AG22	**£146.03**	SD08.0	SX	SM3.5x10	T10F
		110	42	S14.1208.42 B HM	ACPK	**£157.56**				
		120	56	S14.1208.56 B HM	AC9E	**£177.26**				
12	9.5	110	42	S14.1209.42 B HM	AAKT	**£177.26**	SD09.5			
16		110	33	S14.1609.33 B HM	AH8J	**£218.85**				
12	9	100	32	U18.1209.32 B HM	AHQG	**£179.81**	UD09.0	UX	UM4 x 12	T15F
12		100	45	U18.1209.45 B HM	AGXG	**£200.67**				
12		120	64	U18.1209.64 B HM	AC32	**£236.52**				
16		93	25	U18.1609.25 B HM	AJ83	**£200.67**				
16		100	32	U18.1609.32 B HM	AH75	**£212.21**				
16		110	45	U18.1609.45 B HM	AA3N	**£248.04**				
16		130	64	U18.1609.64 B HM	ACGX	**£285.04**				
16	12	110	45	U18.1612.45 B HM	ADG9	**£282.69**	UD12.0			
16	13	110	64	U18.1613.64 B HM	AMT0	**£263.98**	UD13.0			
16		130	66	U18.1613.66 B HM	AJK6	**£276.96**				
12	12	100	42	V22.1212.42 B HM	APJA	**£163.13**	VD12.0	VX	VM5 x 12	T20T
12		130	60	V22.1212.60 B HM	AJ81	**£189.72**				
16		100	42	V22.1612.42 B HM	AHES	**£210.49**				
16		130	60	V22.1612.60 B HM	AD03	**£252.11**				
16		160	85	V22.1612.85 B HM	APYY	**£283.34**				
16	14.3	100	42	V28.1614.42 B HM	ANNZ	**£224.98**	VD14.3			
		130	60	V28.1614.60 B HM	AJ23	**£265.44**				
		160	85	V28.1614.85 B HM	AGBC	**£310.50**				
16	9	100	33	V33.1609.33 B HM	APSS	**£210.75**	VD09.0			
20	16	110	45	V22.2016.45 B HM	AG2G	**£304.15**	VD16.0			
		130	65	V22.2016.65 B HM	AHNF	**£306.47**				
20	13.5	104	35	V28.2013.35 B HM	ACWW	**£278.16**	VD13.5			
20	14.3	160	85	V28.2014.85 B HM	AF3D	**£352.14**	VD14.3			

CARBIDE SHANK TOOL HOLDER PLAIN SHANK

Simmill® PX, SX, UX & VX

- Anti-vibration carbide plain shank
- Through coolant
- Use connect code to match inserts to holders
- For easy ordering use **Short Code**
- Select the insert first and then select the relevant holder





SIMTEK simmill

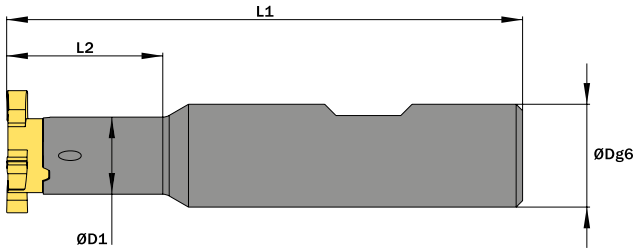
ØD h6	ØD1	L1	L2	Order Code		Price	Inserts		Spares	
				Description	Short Code		Connect Code	Series	Screw	Torx Key
12	6	80	21	P10.1206.21 A HM	AE35	**£144.50**	PD06.0	PX	PM2.6 x 8	T8F
		90	30	P10.1206.30 A HM	AG5A	**£154.95**				
		100	42	P10.1206.42 A HM	AMEK	**£175.77**				
12	7.3	90	30	P10.1207.30 A HM	AHBF	**£161.89**	PD07.3			
16		100	25	P10.1607.25 A HM	ADVZ	**£238.19**				
12	8	95	29	S14.1208.29 A HM	AM5T	**£146.03**	SD08.0	SX	SM3.5 x 10	T10F
		110	42	S14.1208.42 A HM	AAD5	**£157.56**				
		120	56	S14.1208.56 A HM	ADVQ	**£177.26**				
12	9.5	110	42	S14.1209.42 A HM	AG09	**£177.26**	SD09.5			
16		110	33	S14.1609.33 A HM	AJTB	**£218.85**				
12	9	100	32	U18.1209.32 A HM	ACQC	**£179.81**	UD09.0	UX	UM4 x 12	T15F
12		100	45	U18.1209.45 A HM	AGK5	**£200.67**				
12		120	64	U18.1209.64 A HM	AGEV	**£236.52**				
16		93	25	U18.1609.25 A HM	AAD3	**£200.67**				
16		100	32	U18.1609.32 A HM	AAKX	**£212.21**				
16		110	45	U18.1609.45 A HM	AMCV	**£248.04**				
16		130	64	U18.1609.64 A HM	ANX9	**£285.04**				
16	13	110	64	U18.1613.64 A HM	AFVT	**£263.98**	UD13.0			
16		130	66	U18.1613.66 A HM	AD9W	**£276.96**				
12	12	100	42	V22.1212.42 A HM	ABVM	**£163.13**	VD12.0	VX	VM5 x 12	T20T
12		130	60	V22.1212.60 A HM	AP4C	**£189.72**				
16		100	42	V22.1612.42 A HM	AAJW	**£210.49**				
16		130	60	V22.1612.60 A HM	AEYP	**£252.11**				
16		160	85	V22.1612.85 A HM	AJS8	**£283.34**				
16	14.3	100	42	V28.1614.42 A HM	AGNA	**£224.98**	VD14.3			
		130	60	V28.1614.60 A HM	AFWJ	**£265.44**				
		160	85	V28.1614.85 A HM	ANDA	**£310.50**				
16	9	100	33	V33.1609.33 A HM	AAWZ	**£210.75**	VD09.0			
20	16	110	45	V22.2016.45 A HM	AF6W	**£304.15**	VD16.0			
		130	65	V22.2016.65 A HM	ACHN	**£306.47**				
20	13.5	104	35	V28.2013.35 A HM	AE3N	**£278.16**	VD13.5			
20	14.3	160	85	V28.2014.85 A HM	AFNT	**£352.14**	VD14.3			

STEEL SHANK TOOL HOLDER WITH FLAT SHANK

Simmill® PX, SX, UX & VX

- Steel weldon shank for general use
- Through coolant
- Use connect code to match inserts to holders
- For easy ordering use **Short Code**
- Select the insert first and then select the relevant holder





*Not through coolant

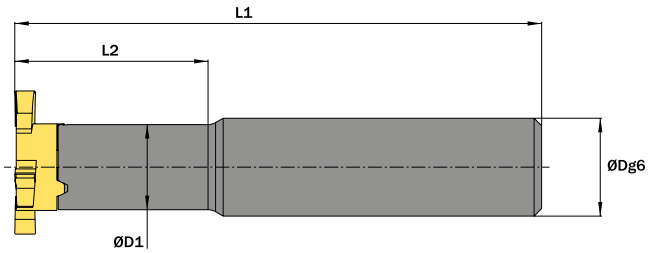
ØD g6	ØD1	L1	L2	Order Code		Price	Inserts		Spares	
				Description	Short Code		Connect Code	Series	Screw	Torx Key
10	6	60	15	P10.1006.15 B ST	AGS0*	**£88.82**	PD06.0	PX	PM2.6 x 8	T8F
12		74	15	P10.1206.15 B ST	AK28	**£102.91**				
16		80	12	P10.1606.12 B ST	AAB7	**£102.91**				
16	8	80	16	S14.1608.16 B ST	AH01	**£102.91**	SD08.0	SX	SM3.5 x 10	T10F
12	9	80	18	U18.1209.18 B ST	AV6E	**£102.91**	UD09.0	UX	UM4 x 12	T15F
16			18	U18.1609.18 B ST	ABP7					
16	12	80	24	V22.1612.24 B ST	AFWU	**£102.91**	VD12.0	VX	VM5 x 12	T20T
16	9	80	20	V33.1609.20 B ST	AB46	**£102.91**	VD09.0			
20	14	100	35.7	V28.2014.35 B ST	AE05	**£102.91**	VD14.0			

STEEL SHANK TOOL HOLDER PLAIN SHANK

Simmill® PX, SX, UX & VX

- Steel plain shank for general use
- Through coolant
- Use connect code to match inserts to holders
- For easy ordering use **Short Code**
- Select the insert first and then select the relevant holder





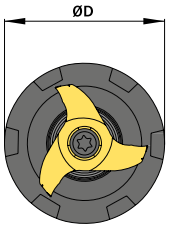
*Not through coolant

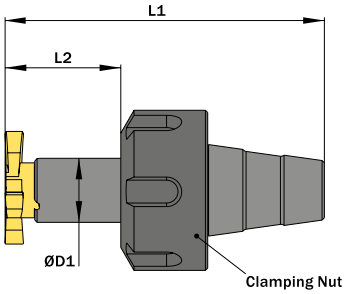
ØD g6	ØD1	L1	L2	Order Code		Price	Inserts		Spares	
				Description	Short Code		Connect Code	Series	Screw	Torx Key
10	6	74	15	P10.1006.15 A ST	AG7K*	**£88.82**	PD06.0	PX	PM2.6 x 8	T8F
16		80	12	P10.1606.12 A ST	AE8E	**£102.91**				
16	8	80	16	S14.1608.16 A ST	AABY	**£102.91**	SD08.0	SX	SM3.5 x 10	T10F
12	9	80	18	U18.1209.18 A ST	AV6D	**£102.91**	UD09.0	UX	UM4 x 12	T15F
16			18	U18.1609.18 A ST	AGU5					
16	12	80	24	V22.1612.24 A ST	AHC0	**£102.91**	VD12.0	VX	VM5 x 12	T20T
20	14	100	35	V28.2014.35 A ST	AEWT	**£102.91**	VD14.0			

ER COLLET CHUCK TOOL HOLDER

Simmill® PX, SX, UX & VX

- For direct clamping into ER collet chucks
- Supplied with ER clamping nut
- Use connect code to match inserts to holders
- For easy ordering use **Short Code**
- Select the insert first and then select the relevant holder





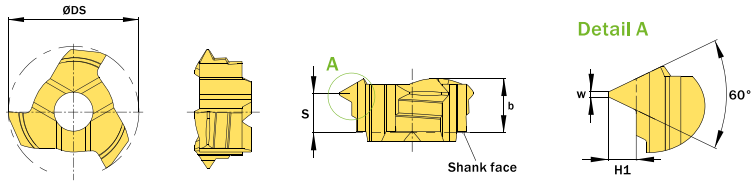
Collet Chuck Size	ØD	Nut Thread	L1	ØD1	L2	Order Code		Price	Inserts		Spares	
						Description	Short Code		Connect Code	Series	Screw	Torx Key
ER11	19	M14x0.75	36.3	6	16	P10.ER11.06.16	AJFH	**£235.60**	PD06.0	PX	PM2.6 x 8	T8F
ER11	16	M13x0.75	36.3			P10.ER11.06.16.B	AVMP					
ER11	36.3	M14x0.75	19	8	16	S14.ER11.08.16	AJE5	**£237.21**	SD08.0	SX	SM3.5x10	T10F
ER11	36.3	M13x0.75	16			S14.ER11.08.16.B	AVMQ	**£237.21**				
ER16	52	M22x1.5	32			S14.ER16.08.22	ACTZ	**£221.52**				
ER16	52	M19x1.0	25			S14.ER16.08.22.B	AVMT	**£221.52**				
ER16	52	M19x1.0	22			S14.ER16.08.22.C	AVMU	**£221.52**				
ER20	56.5	M25x1.5	35			S14.ER20.08.22	AFFE	**£250.22**				
ER20	56.5	M24x1.0	28			S14.ER20.08.22.B	AVMZ	**£250.22**				
ER11	42	M14x0.75	19	9	22	U18.ER11.09.22	AAV2	**£215.54**	UD09.0	UX	UM4 x 12	T15F
ER11	42	M13x0.75	16			U18.ER11.09.22.B	AVMS	**£215.54**				
ER16	52	M22x1.5	32			U18.ER16.09.22	APHJ	**£220.95**				
ER16	52	M19x1.0	25			U18.ER16.09.22.B	AVMV	**£220.95**				
ER16	52	M19x1.0	22			U18.ER16.09.22.C	AVMW	**£220.95**				
ER20	56.5	M25x1.5	35			U18.ER20.09.22	AC9J	**£222.58**				
ER25	60	M25x1.5	35			U18.ER25.09.22	AA1F	**£223.67**				
ER25	60	M30x1.0	42			U18.ER25.09.22.B	AVM3	**£223.67**				
ER16	60	M22x1.5	32	12	30	V22.ER16.12.30	AD5W	**£220.42**	VD12.0	VX	VM5 x 12	T20T
ER16	60	M19x1.0	25			V22.ER16.12.30.B	AVMX					
ER16	60	M19x1.0	22			V22.ER16.12.30.C	AVMY					
ER20	64.5	M25x1.5	35			V22.ER20.12.30	APJ7					
ER20	64.5	M24x1.0	28			V22.ER20.12.30.B	AVM1					
ER20	69.5	M25x1.5	35	14	35	V28.ER20.14.35	ABJC	**£219.88**	VD14.0			
ER20	69.5	M24x1.0	28			V28.ER20.14.35.B	AVM2					
ER25	68	M32x1.5	35	12	30	V22.ER25.12.30	AESQ	**£225.84**	VD12.0			
ER25	68	M30x1.0	42			V22.ER25.12.30.B	AVM4					
ER25	63	M32x1.5	35	14	19	V22.ER25.14.19	AMP6	**£219.35**	VD14.0			
ER25	63	M30x1.0	42		19	V22.ER25.14.19.B	AVM5	**£219.35**				
ER25	73	M32x1.5	35		35	V28.ER25.14.35	APAS	**£223.14**				
ER25	73	M30x1.0	42		35	V28.ER25.14.35.B	AVM6	**£223.14**				
ER32	74	M40x1.5	50	12	30	V22.ER32.12.30	AFVA	**£256.70**	VD12.0			
ER32	63	M40x1.5	50	14	19	V22.ER32.14.19	AKXJ	**£218.80**	VD14.0			
ER32	79	M40x1.5			35	V28.ER32.14.35	AC0B	**£257.26**				

3 TOOTH INSERTS METRIC ISO FULL PROFILE THREAD

Simmill® PX, SX, UX & VX

- For internal thread milling >Ø10 bores
- 0.75mm-4.5mm pitch
- For easy ordering use **Short Code**





SIMTEK simmill

Pitch Min	ØDS	H1	b	S	w	Order Code		Price	Holders	
						Description	Short Code		Connect Code	Series
0.75	9.7	0.41	3.6	3.1	0.09	P10.0407.02 M X800	AXX4X800	£55.53	PD06.0 PD07.3	PX
1		0.54		3	0.13	P10.0510.02 M X800	AXX5X800			
1.5		0.81		2.8	0.19	P10.0815.02 M X800	AXX6X800			
1.75		0.95		2.7	0.21	P10.0917.02 M X800	AXX7X800			
2		1.08		2.6	0.25	P10.1020.02 M X800	AXX8X800			
2.5	9.7	1.35	3.6	2.4	0.31	P10.1325.02 M X800	AXX9X800	£55.53	PD06.0	
1	13.7	0.54	4.5	3.6	0.13	S14.0510.02 M X800	AXXYX800	£55.53	SD08.0 SD09.5	SX
1.5		0.81		3.5	0.19	S14.0815.02 M X800	AXXZX800			
1.75		0.95		3.4	0.21	S14.0917.02 M X800	AXX0X800			
2		1.08		3.3	0.25	S14.1020.02 M X800	AXX1X800			
2.5		1.35		3.1	0.31	S14.1325.02 M X800	AXX2X800			
3		1.62		2.9	0.37	S14.1630.02 M X800	AXX3X800			
1.5	17.7	0.81	5.85	4.8	0.18	U18.0815.02 M X800	AHK3X800	£52.12	UD09.0 UD12.0 UD13.0	UX
1.75		0.95		4.7	0.21	U18.0917.02 M X800	AK07X800			
2		1.08		4.6	0.25	U18.1020.02 M X800	AE0EX800			
2.5		1.35		4.4	0.31	U18.1325.02 M X800	AJY6X800			
3		1.62		4.3	0.37	U18.1630.02 M X800	AJYFX800			
3.5		1.9		4	0.43	U18.1835.02 M X800	AN9WX800			
1.5	21.7	0.81	5.85	4.8	0.19	V22.0815.02 M X800	AA28X800	£39.96	VD11.3 VD11.5 VD12.0 VD12.7 VD13.5 VD14.0 VD14.3 VD15.0 VD16.0	VX
1.75		0.95		4.7	0.22	V22.0917.02 M X800	AD26X800	£49.95		
2.0		1.08		4.6	0.25	V22.1020.02 M X800	APM9X800	£39.96		
3.0		1.62		4.3	0.37	V22.1630.02 M X800	ADAAX800	£41.19		
3.5		1.89		4.1	0.43	V22.1835.02 M X800	AHUYX800	£44.50		
4.0		2.16		3.9	0.5	V22.2140.02 M X800	AD70X800	£44.50		
4.5		2.43		3.7	0.56	V22.2445.02 M X800	AEFAX800	£44.50		

SIMTEK X800 GRADIUM Inserts

- High performance coating developed by Simtek
- Ultra wear resistant carbide substrate
- Special cutting edge finish for each combination of tool and application
- Excellent performance machining steel, stainless steel, heat resistant super alloys, cast iron and aluminium
- Also available in uncoated grades on request

P M S K N

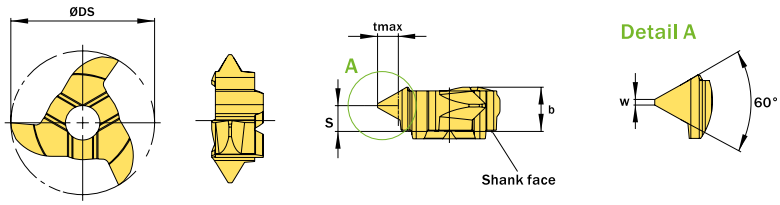


3 TOOTH INSERTS METRIC ISO PARTIAL PROFILE THREAD

Simmill® PX, SX, UX & VX

- For internal thread milling >Ø12mm bores
- 1mm-6.5mm pitch
- For easy ordering use **Short Code**



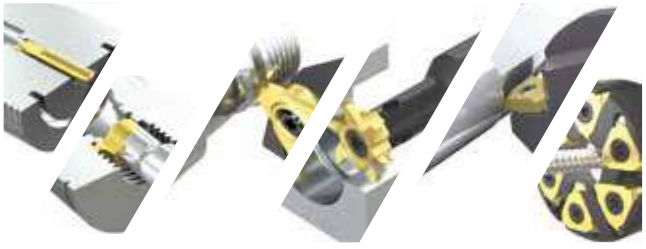


Pitch Min	Pitch Max	ØDS	b	S	w	t max	Order Code		Price	Holders	
							Description	Short Code		Connect Code	Series
1	1.75	11.7	3.6	2.8	0.13	1.08	P12.0510.01 M X800	ANQCX800	£47.17	PD06.0 PD07.3	PX
1	2			2.8	0.13	1.25	P12.0720.01 M X800	ANJZX800			
1.5	2.75			2.4	0.19	1.67	P12.0815.01 M X800	AC51X800			
2	3			2.2	0.25	1.78	P12.2530.01 M X800	ADMQX800			
1	1.75	15.7	4.6	3.8	0.12	1.08	S16.0510.01 M X800	AA4JX800	£47.17	SD08.0 SD09.5	SX
1	2			3.5	0.12	1.25	S16.0720.01 M X800	AJE4X800			
1.5	2.75			3.5	0.19	1.67	S16.0815.01 M X800	AGS8X800			
2.5	3			3.4	0.31	1.78	S16.2530.01 M X800	AEESX800			
1.04	1.75	17.7	5.85	5.0	0.12	1.03	U18.0510.01 M X800	ADHCX800	£50.59	UD09.0 UD12.0 UD13.0	UX
1	2			4.7	0.12	1.19	U18.0720.01 M X800	AA8MX800	£47.17		
1.5	2.75			4.6	0.19	1.62	U18.0815.01 M X800	AM2QX800	£47.17		
2	3.75			4.2	0.25	2.22	U18.1020.01 M X800	AN1SX800	£47.17		
2	3			4.4	0.25	1.73	U18.1325.01 M X800	AAUQX800	£47.17		
2.5	5	17.7	5.85	3.8	0.31	2.98	U18.1630.01 M X800	AH9GX800	£32.37	UD09.0	
3	5.5			3.6	0.38	3.25	U18.1835.01 M X800	ADW6X800	£47.17		
2	4	17.7	5.85	4.2	0.25	2.57	U18.2535.01 M X800	APTVX800	£47.17	UD09.0/UD12.0	
1	2	21.7	5.85	4.6	0.12	1.19	V22.0720.01 M X800	ABS8X800	£37.44	VD11.3 VD11.5 VD12.0	VX
1.5	2.75			4.5	0.18	1.62	V22.0815.01 M X800	AA9KX800			
2	3.75			4.2	0.25	2.22	V22.1020.01 M X800	ADZUX800			
2.5	5	21.7	5.85	3.8	0.31	2.98	V22.1630.01 M X800	AF00X800	£37.44	VD12.0	
3.5	6			3.4	0.44	3.52	V22.2140.01 M X800	AF72X800	£38.73		
3.5	6.5			3.2	0.44	3.84	V22.2445.01 M X800	ABAFX800	£38.73		
2.5	4.5			3.7	0.31	2.71	V22.2545.01 M X800	AEAAX800	£38.73		

SIMTEK SPECIAL TOOLS

- Special inserts and tools for applications including thread milling, groove milling, thread turning, groove turning, broaching, polygon milling, boring & form grooving
- Contact our technical team for support with your application

simmill simcut simturn

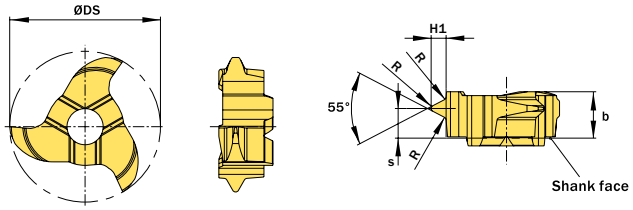


3 TOOTH INSERTS WHITWORTH FULL PROFILE THREAD

Simmill® PX, SX, UX & VX

- For internal thread milling >Ø10mm bores
- Suitable for Whitworth form threads including BSW, BSP(G), BSF
- For easy ordering use **Short Code**





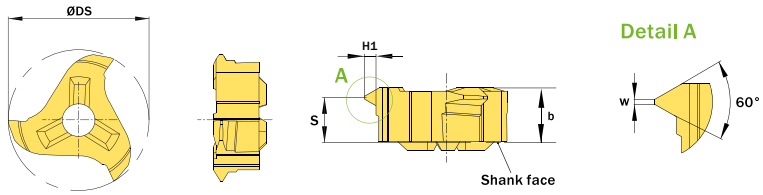
TPI	Nominal Thread Size BSP(G)	H1	S	ØDS	Order Code		Price	Holders	
					Description	Short Code		Connect Code	Series
19	G 1/4"	0.86	2.5	9.7	P10.0813.19 M X800	A1EKX800	£58.72	PD06.0 PD07.3	PX
19	G 3/8"	0.86	2.5	11.7	P12.0813.19 M X800	AC8HX800			
14	G 1/2"	1.16	2.3	11.7	P12.1118.14 M X800	AGX4X800			
11	G 1"	1.48	2.0	11.7	P12.1423.11 M X800	AC4KX800			
14	G 5/8"	1.17	3.0	15.7	S16.1118.14 M X800	AT8AX800	£60.51	SD08.0 SD09.5	SX
11	G 1"	1.48	2.8		S16.1423.11 M X800	AT79X800			
19	-	0.86	4.9	17.7	U18.BS19.02 M X800	AS05X800	£48.74	UD09.0 UD12.0 UD13.0	UX
14	G 3/4"	1.16	4.6		U18.BS14.02 M X800	AS06X800			
11	G 1"	1.48	4.4		U18.BS11.02 M X800	AS07X800			
11	G 1"	1.48	4.0	21.7	V22.5511.02 M X800	ADVPX800	£45.90	VD11.3 VD11.5 VD12.0	VX
8	-	2.03	3.5		V22.5508.02 M X800	ANNKX800	£49.09	VD12.7 VD13.5 VD14.0	
6	BSW 1 1/2"	2.71	3.1		V22.5506.02 M X800	AMJFX800	£49.09	VD14.3 VD15.0 VD16.0	

3 TOOTH INSERTS UN FULL PROFILE THREAD

Simmill® UX

- For internal thread milling >Ø18mm bores
- Suitable for Unified form threads including UNC, UNF, UNEF
- For easy ordering use **Short Code**



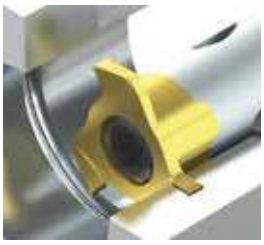


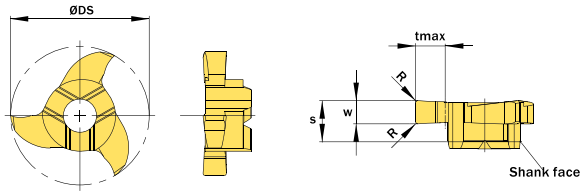
TPI	H1	b	S	ØDS	w	Order Code		Price	Holders	
						Description	Short Code		Connect Code	Series
24	0.572	5.85	5.2	17.7	0.13	U18.UN24.02 M X800	AS0WX800	£48.74	UD09.0 UD12.0 UD13.0	UX
20	0.687		5.2		0.16	U18.UN20.02 M X800	AS0XX800			
18	0.763		5.1		0.18	U18.UN18.02 M X800	AS0YX800			
16	0.859		5.0		0.2	U18.UN16.02 M X800	AS0ZX800			
14	0.981		5		0.23	U18.UN14.02 M X800	AS00X800			
12	1.146		4.85		0.27	U18.UN12.02 M X800	AS01X800			
11	1.25		4.8		0.29	U18.UN11.02 M X800	AS02X800			
10	1.375		4.65		0.32	U18.UN10.02 M X800	AS03X800			
8	1.718		4.4		0.4	U18.UN08.02 M X800	AS04X800			
6	2.29		4.2		0.53	U18.UN06.02 M X800	AS7QX800			

3 TOOTH INSERTS GENERAL GROOVE MILLING FOR 10MM BORES

Simmill® PX, SX & UX

- Available in insert widths 1.0-4.0mm
- For minimum bores >Ø10
- For easy ordering use **Short Code**



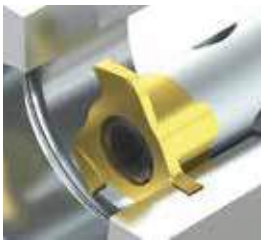


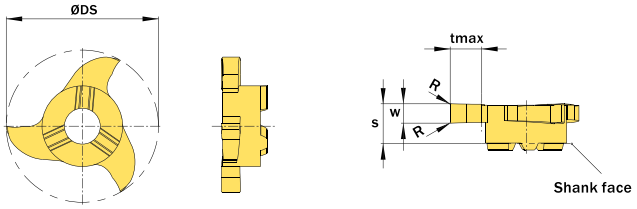
W +0.02	R	ØD Min Bore	t max	S	ØDS	Order Code		Price	Holders	
						Description	Short Code		Connect Code	Series
1	0.1	10	1.5	3.5	9.7	P10.0100.01 G X800	AVH5X800	**£41.90**	PD06.0	PX
1.5	0.2					P10.0150.02 G X800	APHMX800	**£35.58**		
1.57	-					P10.0157.00 G X800	APT8X800	**£34.42**		
2	0.2					P10.0200.02 G X800	ABGQX800	**£35.58**		
2.5	0.2					P10.0250.02 G X800	AM11X800	**£35.58**		
1.5	0.2	12	2.5	3.5	11.7	P12.0150.02 G X800	AM2NX800	**£35.58**		
1.57						P12.0157.02 G X800	APGWX800			
2						P12.0200.02 G X800	APVDX800			
2.5						P12.0250.02 G X800	ABHMX800			
1.04	-	14	2.5	4.5	13.7	S14.0100.00 G X800	AVH6X800	**£38.91**	SD08.0	SX
1	0.1					S14.0100.01 G X800	ADNZX800	**£40.60**		
1.17	-					S14.0117.00 G X800	AB4VX800	**£35.58**		
1.42	-					S14.0142.00 G X800	AAD1X800	**£35.58**		
1.5	0.2					S14.0150.02 G X800	AGJ3X800	**£36.47**		
1.57	0.2					S14.0157.02 G X800	AHP3X800	**£35.58**		
2	0.2					S14.0200.02 G X800	AMG7X800	**£36.47**		
2.39	0.2					S14.0239.02 G X800	APC6X800	**£36.47**		
2.5	0.2					S14.0250.02 G X800	ANZTX800	**£36.47**		
1.17	-	16	3.5	4.5	15.7	S16.0117.00 G X800	ABPSX800	**£36.47**		
1.42	-					S16.0142.00 G X800	AFV8X800	**£36.47**		
1.5	0.2					S16.0150.02 G X800	AMBCX800	**£36.47**		
1.57	0.2					S16.0157.02 G X800	ACMXX800	**£36.47**		
2	0.2					S16.0200.02 G X800	ABYCX800	**£36.47**		
2.39	0.2					S16.0239.02 G X800	AFN8X800	**£35.90**		
2.5	0.2					S16.0250.02 G X800	AF11X800	**£36.47**		
1.17	-	18	3.5	5.8	17.7	U18.0117.00 G X800	AAU0X800	**£37.11**	UD09.0	UX
1.42	-					U18.0142.00 G X800	ANB1X800			
1.5	0.2					U18.0150.02 G X800	AMW2X800			
1.55	0.2					U18.0157.02 G X800	AJ80X800			
2	0.2					U18.0200.02 G X800	AJXKX800			
2.39	0.2					U18.0239.02 G X800	AG6EX800			
2.5	0.2					U18.0250.02 G X800	ABXHX800			
3	0.2					U18.0300.02 G X800	ADJZX800			
3.18	0.2					U18.0318.02 G X800	AJZUX800			
4	0.2					U18.0400.02 G X800	AJUUX800			
1.5	0.2	20	4.5	5.8	19.7	U20.0150.02 G X800	AX11X800	**£38.75**		
2						U20.0200.02 G X800	AX13X800			
2.5						U20.0250.02 G X800	AX12X800			

3 TOOTH INSERTS GENERAL GROOVE MILLING FOR 22MM MIN BORES

Simmill® VX

- Available in insert widths 1.0-10.0mm
- For minimum bores ≥Ø22
- For easy ordering use **Short Code**





SIMTEK simmill

W +0.02	R	ØD Min Bore	t max	S	ØDS	Order Code		Price	Holders	
						Description	Short Code		Connect Code	Series
1	0.1	22	4.5	5.7	21.7	V22.0100.01 G X800	AEQMX800	**£29.80**	VD12.0	VX
1.5	0.2					V22.0150.02 G X800	AHH9X800	**£29.80**		
1.57	0.2					V22.0157.02 G X800	ANQXX800	**£28.99**		
2	0.2					V22.0200.02 G X800	ADNUX800	**£29.80**		
2.39	0.2					V22.0239.02 G X800	AHMNX800	**£29.24**		
2.5	0.2					V22.0250.02 G X800	AKKFX800	**£29.80**		
3	0.2					V22.0300.02 G X800	ABXXX800	**£29.80**		
3.18	0.2					V22.0318.02 G X800	AK1SX800	**£28.00**		
3.18	0.4					V22.0318.04 G X800	AB1PX800	**£29.80**		
3.5	0.2					V22.0350.02 G X800	AM6NX800	**£29.80**		
3.56	0.2					V22.0356.02 G X800	AD90X800	**£28.64**		
4	0.2					V22.0400.02 G X800	AF5NX800	**£29.80**		
4	0.4					V22.0400.04 G X800	AGMHX800	**£27.83**		
4.37	0.2					V22.0437.02 G X800	AHBPX800	**£29.24**		
4.37	0.4					V22.0437.04 G X800	AEPHX800	**£29.24**		
4.75	0.2					V22.0475.02 G X800	ADF7X800	**£29.24**		
2	0.2	25	5	6.6	24.8	V25.0200.02 G X800	AHS7X800	**£34.38**	VD14.0 VD14.3	
2.39						V25.0239.02 G X800	APTWX800	**£33.04**		
2.5						V25.0250.02 G X800	ACG1X800	**£34.38**		
3						V25.0300.02 G X800	AFPBX800	**£34.38**		
3.18						V25.0318.02 G X800	AAZ4X800	**£34.19**		
3.5						V25.0350.02 G X800	AKG8X800	**£34.38**		
4						V25.0400.02 G X800	AA9XX800	**£34.38**		
4.75						V25.0475.02 G X800	AMMVX800	**£34.38**		
1.5	0.2	28	6.5	6.6	27.7	V28.0150.02 G X800	AN4AX800	**£34.32**	VD14.0 VD14.3	
2				6.6		V28.0200.02 G X800	AG3VX800	**£34.32**		
2.5				6.6		V28.0250.02 G X800	AECZX800	**£34.32**		
3				6.6		V28.0300.02 G X800	ADQJX800	**£34.32**		
3.5				6.6		V28.0350.02 G X800	AP0WX800	**£34.32**		
4				6.6		V28.0400.02 G X800	AGNXX800	**£34.32**		
5				6.6		V28.0500.02 G X800	APSTX800	**£34.32**		
6				6.6		V28.0600.02 G X800	APNVX800	**£38.73**		
10				10		V28.1000.02 G X800	AXXPX800	**£44.68**		
1.5	0.2	28.3	9.3	6.5	28	V28.0150.02.09 G X800	AC15X800	**£40.04**	VD09.0	
2						V28.0200.02.09 G X800	AM94X800			
2.5						V28.0250.02.09 G X800	AD74X800			
2	0.2	32	8.5	6.5	31.7	V32.0200.02 G X800	AE2XX800	**£37.99**	VD14.0 VD14.3	
2			10			V32.0200.02.11 G X800	AX0GX800	**£43.75**		
2.5			8.5			V32.0250.02 G X800	AAPWX800	**£37.99**		
3			8.5			V32.0300.02 G X800	ACYJX800	**£37.76**		

SIMTEK X800 GRADIUM Inserts

- High performance coating developed by Simtek
- Ultra wear resistant carbide substrate
- Special cutting edge finish for each combination of tool and application
- Excellent performance machining steel, stainless steel, heat resistant super alloys, cast iron and aluminium
- Also available in uncoated grades on request

P M S K N

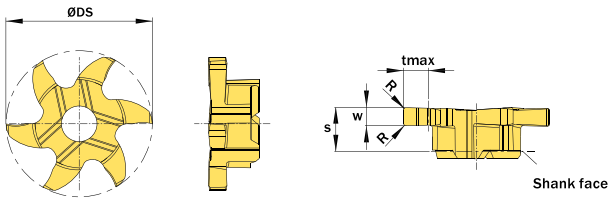


6 TOOTH INSERTS GENERAL GROOVE MILLING SMOOTH CUTTING

Simmill® PX, SX, UX & VX

- Special edge geometry for smoother cutting & better surface finish
- Available in insert widths 1.0-6.0mm
- For easy ordering use **Short Code**





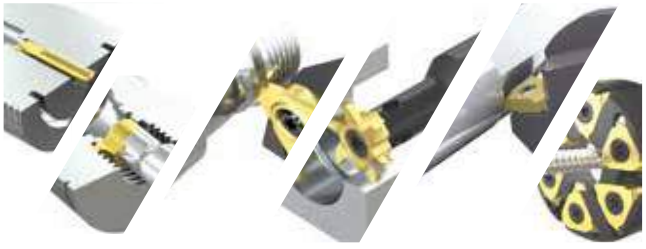
SIMTEK simmill

W +0.02	R	ØD Min Bore	t max	S	ØDS	Order Code		Price	Holders	
						Description	Short Code		Connect Code	Series
1.5	0.2	12	2	3.5	11.7	P06.0150.020.12 GY X800	AYF3X800	**£60.24**	PD06.0	PX
2						P06.0200.020.12 GY X800	AYF4X800		PD07.3	
1.5	0.2	16	3.5	4.5	15.7	S06.0150.020.16 GY X800	AYF0X800	**£61.07**	SD08.0	SX
2						S06.0200.020.16 GY X800	AYF1X800	**£61.39**		
2.5						S06.0250.020.16 GY X800	AYF2X800	**£61.39**		
2	0.2	18	4	5.8	17.7	U06.0200.020.18 GY X800	AYFPX800	**£67.16**	UD09.0	UX
2.5						U06.0250.020.18 GY X800	AYFSX800			
3						U06.0300.020.18 GY X800	AYFTX800			
1	0.1	22	4.5	6.2	21.7	V06.0100.010.22 G X800	AGZWX800	**£54.48**	VD12.0	VX
1.5	0.1					V06.0150.010.22 G X800	AGY6X800	**£50.69**		
2	0.2					V06.0200.020.22 G X800	AFJQX800	**£50.69**		
2.5	0.2					V06.0250.020.22 G X800	AKJ5X800	**£50.69**		
3	0.2					V06.0300.020.22 G X800	AFBBX800	**£50.69**		
4	0.2					V06.0400.020.22 G X800	APZWX800	**£50.69**		
2.5	0.2	28	6.5	6.2	27.7	V06.0250.020.28 GY X800	AYJCX800	**£58.02**	VD14.0 VD14.3	
2.76						V06.0265.020.28 GY X800	AYF8X800	**£58.02**		
3						V06.0300.020.28 GY X800	AYF9X800	**£58.65**		
4						V06.0400.020.28 GY X800	AYGAX800	**£59.87**		
5						V06.0500.020.28 GY X800	AYGBX800	**£61.96**		
6						V06.0600.020.28 GY X800	AYGCX800	**£65.84**		

SIMTEK SPECIAL TOOLS

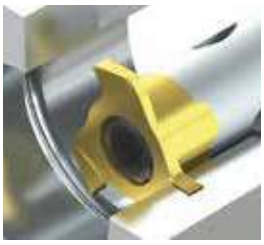
- Special inserts and tools for applications including thread milling, groove milling, thread turning, groove turning, broaching, polygon milling, boring & form grooving
- Contact our technical team for support with your application

simmill simcut simturn

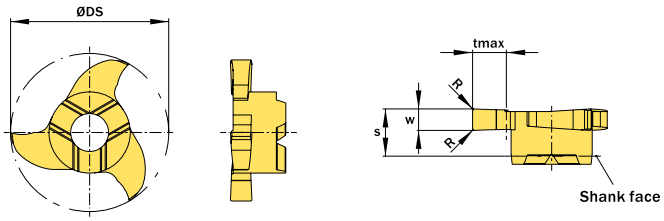


3 TOOTH INSERTS CIRCLIP GROOVE MILLING INTERNAL

Simmill® PX, UX & VX



- For circlip grooves 0.7mm - 5.15mm
- For minimum bores >Ø10
- For easy ordering use **Short Code**



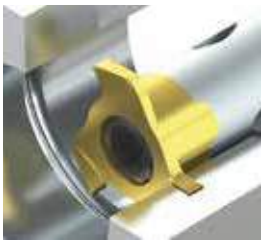
SIMTEK simmill

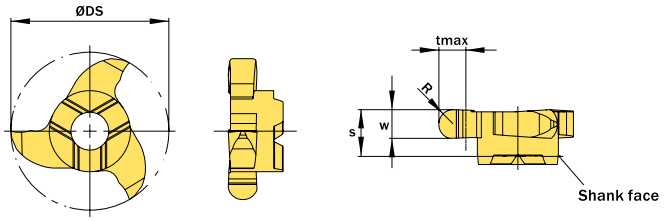
W +0.02	Nominal Groove Width	R	ØD Min Bore	t max	S	ØDS	Order Code		Price	Holders	
							Description	Short Code		Connect Code	Series
0.77	0.7	-			3.5		P10.0070.00 Z X800	AHB1X800	**£39.81**		
0.87	0.8	-			3.5		P10.0080.00 Z X800	AKU6X800	**£39.81**		
0.97	0.9	-			3.4		P10.0090.00 Z X800	AG93X800	**£39.81**		
1.07	1	-	10	1.5	3.4	9.7	P10.0100.00 G X800	AA4QX800	**£39.81**		
1.24	1.1	-			3.5		P10.0110.00 G X800	AJ8ZX800	**£35.83**	PD06.0	PX
1.44	1.3	0.1			3.5		P10.0130.01 G X800	AJVPX800	**£35.83**		
1.74	1.6	0.1			3.5		P10.0160.01 G X800	AGG7X800	**£35.83**		
1.21	1.1	-					P12.0110.00 G X800	ACHBX800			
1.41	1.3	0.1	12	2.5	3.5	11.7	P12.0130.01 G X800	AGB6X800	**£35.83**		
1.71	1.6	0.1					P12.0160.01 G X800	AK06X800			
1.24	1.1	-					U18.0110.00 G X800	AEQDX800			
1.44	1.3	0.1	18	3.5	5.8	17.7	U18.0130.01 G X800	AG1PX800	**£37.11**	UD09.0	UX
1.74	1.6	0.1					U18.0160.01 G X800	AKKZX800			
1.44	1.3	0.1					V22.0130.01 G X800	ACS5X800			
1.74	1.6	0.1					V22.0160.01 G X800	ABJ5X800			
1.96	1.85	0.2					V22.0185.02 G X800	AGKUX800			
2.29	2.15	0.2					V22.0215.02 G X800	AFGWX800			
2.79	2.65	0.2	22	4.5	5.7	21.7	V22.0265.02 G X800	ADKFX800	**£29.24**	VD12.0	VX
3.29	3.15	0.2					V22.0315.02 G X800	AMP1X800			
4.29	4.15	0.2					V22.0415.02 G X800	AE13X800			
5.29	5.15	0.2					V22.0515.02 G X800	AEK1X800			
5.29	5.15	0.4					V22.0515.04 G X800	AAG9X800			

3 TOOTH INSERTS FULL RADIUS GROOVE MILLING

Simmill® PX, SX, UX & VX

- Available in insert radii 0.5-2.5mm
- For easy ordering use **Short Code**





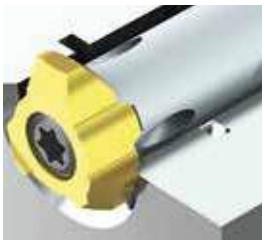
SIMTEK simmill

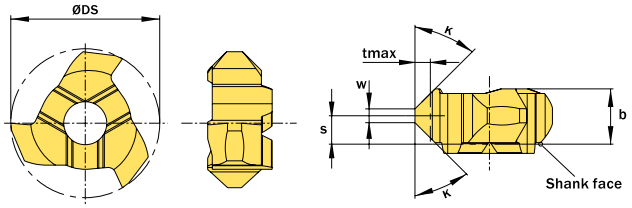
W +0.02	R	ØD Min Bore	t max	S	ØDS	Order Code		Price	Holders	
						Description	Short Code		Connect Code	Series
2.2	1.1	12	2.5	3.5	11.7	P12.0011.22 V X800	AC2HX800	**£44.76**	PD06.0	PX
2.2	1.1	16	3.5	4.5	15.7	S16.0011.22 V X800	ACJPX800	**£45.56**	SD08.0	SX
2	1	18	3.5	5.8	17.7	U18.0010.20 V X800	AAKMX800	**£45.56**	UD09.0	UX
2.2	1.1					U18.0011.22 V X800	AM4FX800	**£46.37**		
3	1.5					U18.0015.30 V X800	AEDUX800	**£46.37**		
1	0.5	22	4.5	5.8	21.7	V22.0005.10 V X800	AD2WX800	**£35.72**	VD12.0	VX
1.6	0.8					V22.0008.16 V X800	AFEEX800	**£35.72**		
2	1					V22.0010.20 V X800	ABHYX800	**£35.72**		
2.4	1.2					V22.0012.24 V X800	ACH9X800	**£36.40**		
2.8	1.4					V22.0014.28 V X800	ADDYX800	**£35.72**		
3	1.5					V22.0015.30 V X800	AF96X800	**£35.72**		
4.4	2.2					V22.0022.44 V X800	AC2YX800	**£36.05**		
5	2.5					V22.0025.50 V X800	AH32X800	**£37.44**		

3 TOOTH INSERTS CHAMFER MILLING 45°

Simmill® PX, SX, UX & VX

- For minimum bores >Ø10
- For easy ordering use **Short Code**



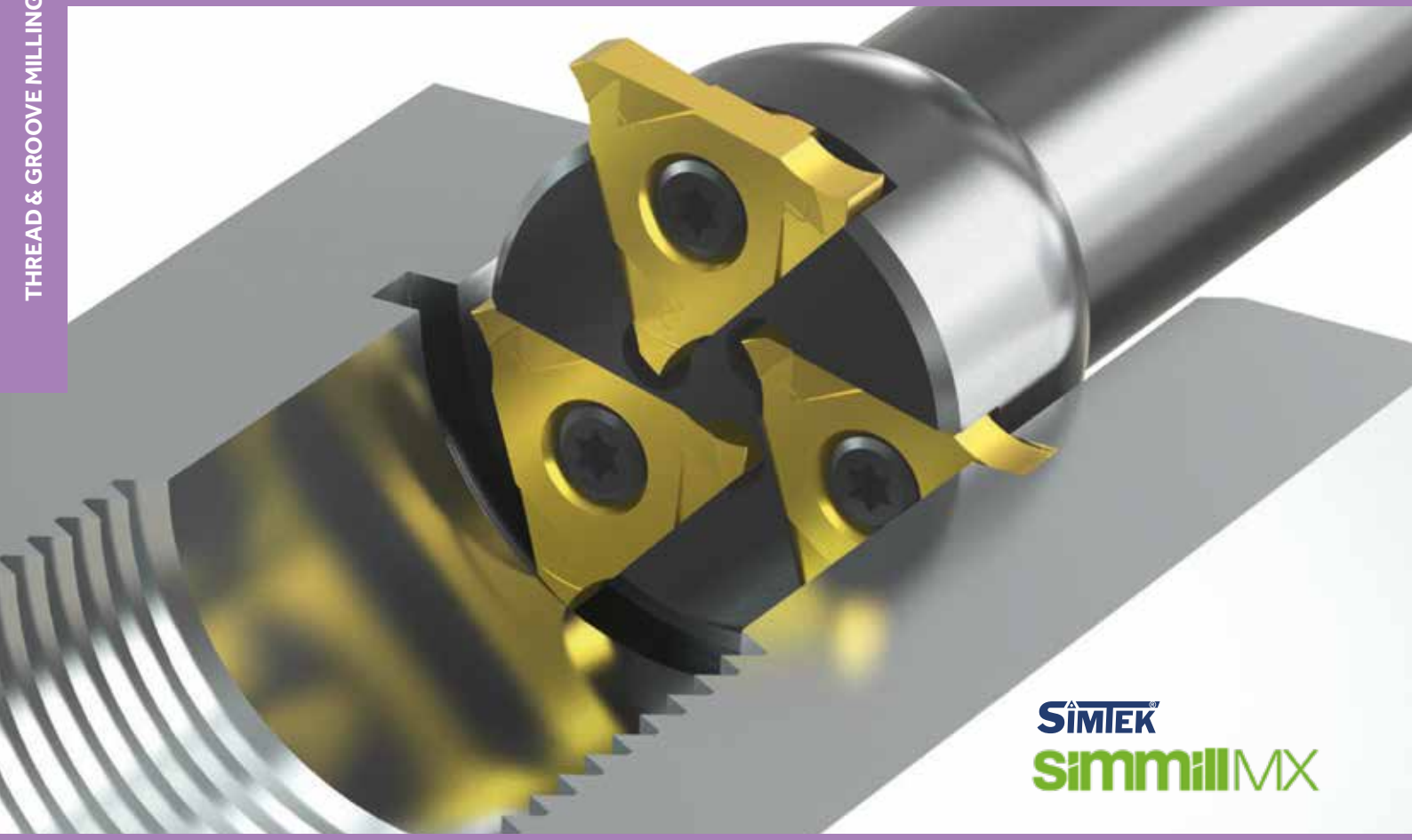


SIMTEK simmill

K	W +0.02	ØD Min Bore	t max	b	S	ØDS	Order Code		Price	Holders	
							Description	Short Code		Connect Code	Series
45°	0.2	9.6	3.4	1.7	1.4	9.3	P09.4545.02 F X800	AA0UX800	**£33.79**	PD06.0	PX
45°	0.9	10	3.5	1.8	1	9.7	P10.4545.35 F X800	AJHXX800	**£30.64**	PD06.0 PD07.3	
45°	1.2	12	3.5	1.8	0.8	11.7	P12.4545.35 F X800	ABG0X800	**£30.64**		
45°	0.2	16	1.8	2.3	1.8	15.7	S16.4545.02 F X800	AF2UX800	**£30.64**	SD08.0	SX
45°	1.4	16	1.4	2.3	1.4	15.7	S16.4545.45 F X800	AH98X800	**£30.64**	SD09.5	
45°	-	15	2.5	3	14.7	0.2	U15.4545.58 F X800	AGQFX800	**£33.38**	UD09.0	UX
45°	-	18	2.5	3	17.7	0.2	U18.4545.20 F X800	AHA2X800	**£31.51**	UD09.0 UD12.0 UD13.0	
45°	-	18	1.4	3	17.7	2.5	U18.4545.58 F X800	ACKWX800	**£31.83**		
45°	2	22	1.7	5.85	3	21.7	V22.4545.58 F X800	ADU1X800	**£25.19**	VD11.3 VD11.5 VD12.0 VD12.7 VD13.5 VD14.0 VD14.3 VD15.0 VD16.0	VX
45°	3	22	3	9.4	4.8	21.7	V22.4545.94 F X800	AH71X800	**£26.79**		

Simmill® MX
Thread & Groove Milling

P M S K N



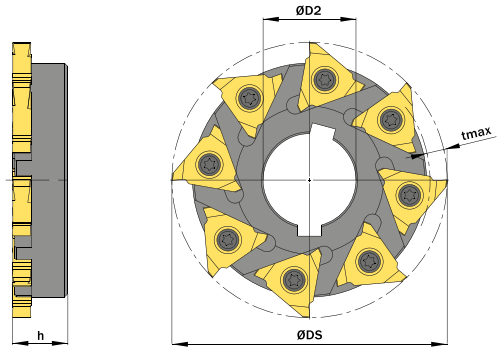
Multifunctional groove, thread & disk milling system in large diameters

simmill® MX is available from 39mm to 200mm diameter and insert widths between 1.17-5.29mm. simmill® MX can be used for groove milling, circlip grooving, thread milling and slotting with tools holding up to 20 teeth.

DISK MILL HOLDER BORE WITH KEYWAY FIXATION

Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters

- Use connect code to match inserts to holders
- For easy ordering use **Short Code**



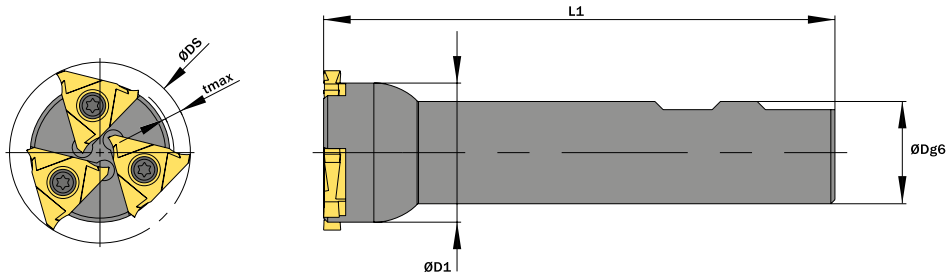
SIMTEK simmillMX

ØDS	Teeth	ØD2	h	t max	Order Code		Price	Inserts	Spares	
					Description	Short Code		Connect Code	Screw	Torx Key
63	5	22	14	5	M81.0063.05 R	AC39	**£267.92**	M14.R.6.0	MM5 x 13	T20R
80	8	27	16	5	M81.0080.08 R	AJCW	**£369.00**		MM5 x 13	
100	10	32	20	5	M81.0100.10 R	AB7G	**£414.48**		MM5 x 15	

TOOL HOLDER WELDON SHANK

Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters

- Optional through coolant
- Use connect code to match inserts to holders
- For easy ordering use **Short Code**

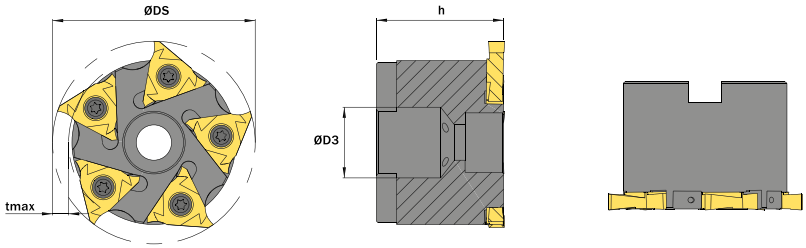


ØDg6	ØDS	Teeth	ØD1	L1	t max	Through Coolant	Order Code		Price	Inserts	Spares	
							Description	Short Code		Connect Code	Screw	Torx Key
25	39	2	32	125	3	-	M80.2539.02	AN3U	**£192.09**	M14.R.6.0	MM5 x 13	T20R
	39	2	32		3	-	M80.2539.02.07	AW02	**£212.31**	M14.R.7.0	MM5 x 15	
	39	2	32		3	●	M80.2539.02.IC	AXE0	**£292.49**	M14.R.6.0	MM5 x 13	
	44	3	34		4	-	M80.2544.03	AEPQ	**£192.09**	M14.R.6.0	MM5 x 13	
	44	3	34		4	-	M80.2544.03.07	AW03	**£222.41**	M14.R.7.0	MM5 x 15	
	44	3	34		4	●	M80.2544.03.IC	AXEZ	**£292.49**	M14.R.6.0	MM5 x 13	

TOOL HOLDER FACE MILL ARBOR FIXATION

Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters

- Use connect code to match inserts to holders
- For easy ordering use **Short Code**

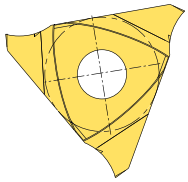


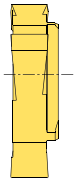
ØDS	Teeth	ØD3	h	t max	Through Coolant	Order Code		Price	Inserts	Spares	
						Description	Short Code		Connect Code	Screw	Torx Key
63	5	22	40	5	-	M80.0063.05 R	AHQX	**£252.75**	M14.R.6.0	MM5 x 13	T20R
63	5	22	40		-	M80.0063.05.07 R	AW0W	**£303.29**	M14.R.7.0	MM5 x 15	
63	5	22	40		●	M80.0063.05.07.IC R	AW0Y	**£454.92**	M14.R.7.0	MM5 x 15	
63	5	22	40		●	M80.0063.05.IC R	AUGS	**£404.38**	M14.R.6.0	MM5 x 13	
80	8	27	32		-	M80.0080.08 R	ADWY	**£353.85**	M14.R.6.0	MM5 x 13	
80	8	27	32		-	M80.0080.08.07 R	AW00	**£434.70**	M14.R.7.0	MM5 x 15	

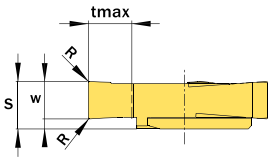
3 TOOTH INSERTS GROOVING, CIRCLIPS & DISK MILLING

Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters









SIMTEK simmillMX

W -0.02	Nominal Width of Groove	R	S	t max	Order Code		Price	Holders
					Description	Short Code		Connect Code
1.17	-	0.1	5.4	5	M14.0117.01 GR X800	AMF9X800	**£27.66**	
1.44	1.3	0.1	5.4	5	M14.0130.01 GR X800	AMMXX800	**£27.66**	
1.57	-	0.1	5.4	5	M14.0157.01 GR X800	AN5AX800	**£25.32**	
1.74	1.6	0.1	5.4	5	M14.0160.01 GR X800	AJE8X800	**£27.66**	
1.99	1.85	0.15	5.4	5	M14.0185.02 GR X800	AMGVX800	**£27.66**	
2	-	0.2	5.4	5	M14.0200.02 GR X800	AYQ8X800	**£27.66**	
2.99	2.15	0.15	5.4	5	M14.0215.02 GR X800	ADKSX800	**£27.66**	
2.39	-	0.2	5.4	5	M14.0239.02 GR X800	AJNNX800	**£27.66**	
2.5	-	0.2	5.4	5	M14.0250.02 GR X800	AYSBX800	**£27.66**	
2.79	2.65	0.15	5.4	5	M14.0265.02 GR X800	AENWX800	**£27.66**	M14.R.6.0
3	-	0.2	5.4	5	M14.0300.02 GR X800	AYSCX800	**£27.66**	
3.29	3.15	0.15	5.4	5	M14.0315.02 GR X800	AA0VX800	**£28.08**	
3.18	-	0.2	5.4	5	M14.0318.02 GR X800	ANFAX800	**£27.84**	
3.5	-	0.2	5.4	5	M14.0350.02 GR X800	AYSFX800	**£27.66**	
4	-	0.2	5.4	5	M14.0400.02 GR X800	AGDUX800	**£28.52**	
4.29	4.15	0.15	5.4	5	M14.0415.02 GR X800	APFYX800	**£28.52**	
4.37	-	0.2	5.4	5	M14.0437.02 GR X800	AGN0X800	**£28.52**	
4.75	-	0.2	5.4	5	M14.0475.02 GR X800	AKXFX800	**£28.52**	
5.29	5.15	0.15	5.4	5	M14.0515.02 GR X800	ADWDX800	**£29.17**	

SIMTEK X800 GRADIUM Inserts

- High performance coating developed by Simtek
- Ultra wear resistant carbide substrate
- Special cutting edge finish for each combination of tool and application
- Excellent performance machining steel, stainless steel, heat resistant super alloys, cast iron and aluminium
- Also available in uncoated grades on request

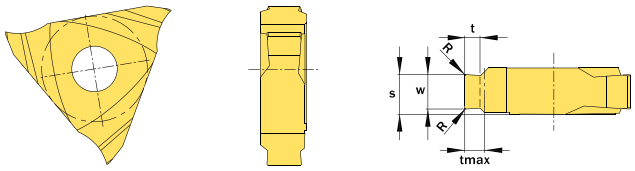
P M S K N



3 TOOTH INSERTS GROOVING, CIRCLIPS & DISK MILLING W/ CHAMFER

Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters





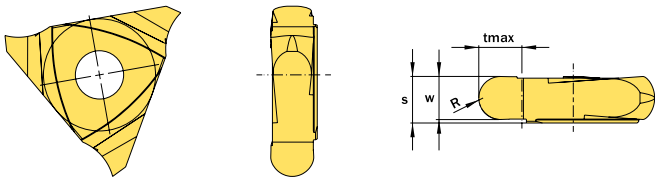
SIMTEK simmillMX

W -0.02	Nominal Width of Groove	R	S	t max	Order Code		Price	Holders
					Description	Short Code		Connect Code
1.24	1.1	0.1	4.4	0.49	M14.1105.54 FR X800	AJ5SX800	**£32.69**	
1.44	1.3	0.1	4.5	0.67	M14.1307.54 FR X800	AN4YX800	**£32.69**	
1.74	1.6	0.15	4.4	0.83	M14.1609.54 FR X800	ABX1X800	**£30.05**	
1.99	1.85	0.15	4.5	1.25	M14.1812.54 FR X800	AC89X800	**£29.79**	
1.99	2.15	0.15	4.7	1.47	M14.2115.54 FR X800	AMBFX800	**£29.79**	
1.99	2.65	0.15	4.4	1.47	M14.2616.54 FR X800	ACAPX800	**£29.79**	M14.R.6.0
1.99	2.65	0.15	4.4	1.72	M14.2617.54 FR X800	AFD5X800	**£29.79**	
1.99	3.15	0.15	4.7	1.72	M14.3118.54 FR X800	AF4SX800	**£29.79**	
1.99	4.15	0.15	4.9	1.97	M14.4120.54 FR X800	AKFUX800	**£29.79**	
1.99	4.15	0.15	4.9	2.47	M14.4125.54 FR X800	AAXYX800	**£31.88**	
1.99	5.15	0.15	5.8	2.97	M14.5130.61 FR X800	ABXBX800	**£29.79**	

3 TOOTH INSERTS FULL RADIUS GROOVING, CIRCLIPS & DISK MILLING

Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters





SIMTEK simmillMX

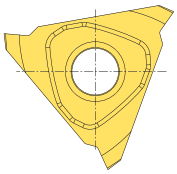
W +0.02	R	S	t max	Order Code		Price	Holders
				Description	Short Code		Connect Code
2.5	1.25	5.4	5	M14.0250.125 VR X800	A2UNX800	**£34.18**	M14.R.6.0
3	1.5			M14.0300.150 VR X800	AP15X800	**£35.92**	
4	2.0			M14.0400.200 VR X800	ABPUX800	**£35.92**	
5	2.5			M14.0500.250 VR X800	AJ3GX800	**£35.92**	

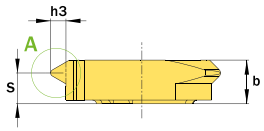
3 TOOTH INSERTS METRIC ISO FULL PROFILE THREAD EXTERNAL

Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters

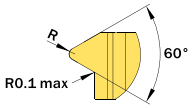
- For external thread milling
- For easy ordering use **Short Code**







Detail A



SIMTEK simmillMX

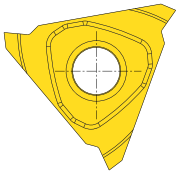
Pitch	R	h3	b	S	Order Code		Price	Holders
					Description	Short Code		Connect Code
1.5	0.22	0.92	5.25	4.4	M14.MT15.02 EM R X800	AQ6AX800	**£41.28**	M14.R.6.0
2	0.29	1.23	5.25	4.2	M14.MT20.02 EM R X800	AQ6CX800	**£41.28**	M14.R.6.0
2.5	0.36	1.53	5.25	3.9	M14.MT25.02 EM R X800	AT90X800	**£40.64**	M14.R.6.0
3	0.43	1.84	5.25	3.7	M14.MT30.02 EM R X800	AQ6EX800	**£41.28**	M14.R.6.0
3.5	0.52	2.15	5.25	3.5	M14.MT35.02 EM R X800	ASZ5X800	**£41.28**	M14.R.6.0
4	0.58	2.45	5.25	3.3	M14.MT40.02 EM R X800	AQ6GX800	**£41.28**	M14.R.6.0
4.5	0.65	2.76	5.25	3.1	M14.MT45.02 EM R X800	AS0AX800	**£44.80**	M14.R.6.0
5	0.72	3.06	5.85	3.4	M14.MT50.02 EM R X800	AQ6KX800	**£44.80**	M14.R.6.0
5.5	0.78	3.37	7.6	4.8	M14.MT55.02 EM R X800	AS0BX800	**£44.80**	M14.R.7.0
6	0.87	3.68	7.6	4.6	M14.MT60.02 EM R X800	AS0CX800	**£44.80**	M14.R.7.0

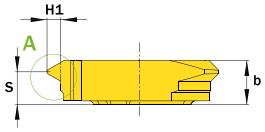
3 TOOTH INSERTS METRIC ISO FULL PROFILE THREAD INTERNAL

Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters

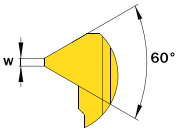
- For internal thread milling
- For easy ordering use **Short Code**







Detail A



SIMTEK simmillMX

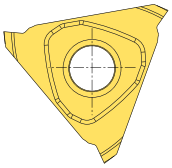
Pitch	H1	b	S	w	Order Code		Price	Holders
					Description	Short Code		Connect Code
1.5	0.81	5.25	4.4	0.19	M14.MT15.02 IM R	AT6JX800	**£41.28**	M14.R.6.0
2	1.08	5.25	4.2	0.25	M14.MT20.02 IM R	AT6KX800	**£41.28**	M14.R.6.0
3	1.62	5.25	3.9	0.38	M14.MT30.02 IM R	AT6MX800	**£41.28**	M14.R.6.0
3.5	1.89	5.25	3.7	0.44	M14.MT35.02 IM R	AT6NX800	**£41.28**	M14.R.6.0
4	2.17	5.25	3.5	0.5	M14.MT40.02 IM R	AT6PX800	**£41.28**	M14.R.6.0
4.5	2.44	5.25	3.3	0.56	M14.MT45.02 IM R	AT6QX800	**£44.80**	M14.R.6.0
5	2.71	5.85	3.8	0.62	M14.MT50.02 IM R	AT6SX800	**£44.80**	M14.R.6.0
5.5	2.98	5.85	3.6	0.69	M14.MT55.02 IM R	AT6TX800	**£44.80**	M14.R.6.0
6	3.25	7.6	5.2	0.75	M14.MT60.02 IM R	AT6UX800	**£44.80**	M14.R.7.0

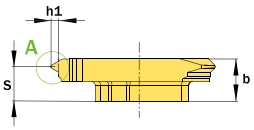
3 TOOTH INSERTS UN FULL PROFILE THREAD EXTERNAL

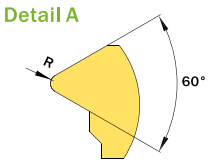
Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters

- For external thread milling
- For easy ordering use **Short Code**









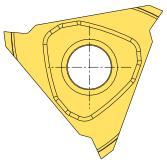
TPI	b	h1	R	S	Order Code		Price	Holders
					Description	Short Code		Connect Code
20	5.15	0.78	0.18	4.2	M14.UN20.02 MR X800	ASZ8X800	**£41.28**	M14.R.6.0
18	5.15	0.87	0.2	4.2	M14.UN18.02 MR X800	AS08X800	**£41.28**	M14.R.6.0
16	5.15	0.974	0.23	4.0	M14.UN16.02 MR X800	AS09X800	**£41.28**	M14.R.6.0
14	5.15	1.11	0.26	4.0	M14.UN14.02 MR X800	AS1AX800	**£41.28**	M14.R.6.0
12	5.15	1.3	0.3	3.9	M14.UN12.02 MR X800	AS1BX800	**£41.28**	M14.R.6.0
11	5.15	1.416	0.33	3.9	M14.UN11.02 MR X800	AS1CX800	**£41.28**	M14.R.6.0
10	5.15	1.56	0.37	3.6	M14.UN10.02 MR X800	AS1DX800	**£41.28**	M14.R.6.0
8	5.15	1.95	0.46	3.4	M14.UN08.02 MR X800	AS0DX800	**£44.80**	M14.R.6.0
6	7.6	2.6	0.61	5.3	M14.UN06.02 MR X800	AS0EX800	**£44.80**	M14.R.7.0
4	7.6	3.9	0.92	4.4	M14.UN04.02 MR X800	AS0FX800	**£44.80**	M14.R.7.0

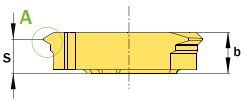
3 TOOTH INSERTS UN FULL PROFILE THREAD INTERNAL

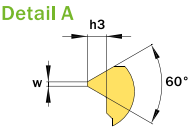
Simmill® MX Multifunctional Groove, Thread & Disk Milling System in Large Diameters

- For internal thread milling
- For easy ordering use **Short Code**









TPI	h3	b	S	w	Order Code		Price	Holders
					Description	Short Code		Connect Code
20	0.69	5.25	4.6	0.15	M14.UN20.02 IM R X800	AT7KX800	**£41.28**	M14.R.6.0
18	0.76	5.25	4.5	0.17	M14.UN18.02 IM R X800	AT7JX800	**£41.28**	M14.R.6.0
16	0.86	5.25	4.4	0.19	M14.UN16.02 IM R X800	AT7HX800	**£40.64**	M14.R.6.0
14	0.98	5.25	4.4	0.22	M14.UN14.02 IM R X800	AT7GX800	**£41.28**	M14.R.6.0
12	1.15	5.25	4.2	0.26	M14.UN12.02 IM R X800	AT7FX800	**£41.28**	M14.R.6.0
11	1.25	5.25	4.2	0.29	M14.UN11.02 IM R X800	AT7EX800	**£40.64**	M14.R.6.0
10	1.37	5.25	4.1	0.32	M14.UN10.02 IM R X800	AT7DX800	**£40.64**	M14.R.6.0
8	1.72	5.25	3.8	0.4	M14.UN08.02 IM R X800	AT7CX800	**£44.80**	M14.R.6.0
6	2.29	5.25	3.4	0.52	M14.UN06.02 IM R X800	AT7BX800	**£44.80**	M14.R.6.0
4	3.44	7.6	5.0	0.79	M14.UN04.02 IM R X800	AT7AX800	**£44.80**	M14.R.7.0

Simmill® 4V T-Slot Milling

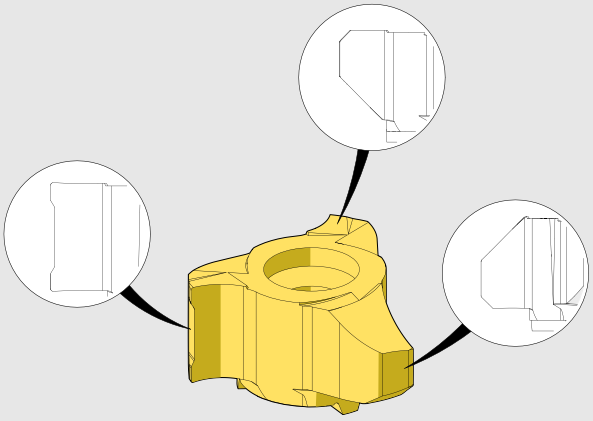
P M S K N

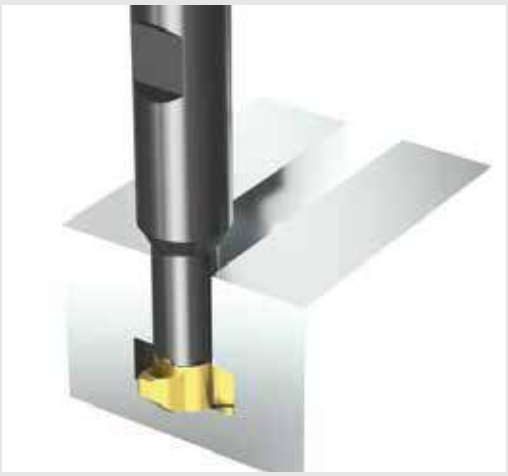


SIMTEK simmill 4V

Anti-vibration design & low cutting resistance

Simmill 4V utilises high quality micrograin carbide inserts, precision ground to the highest tolerances. The special seat design and vibration cushioned seating provides a stable cutting environment. Inserts have 3 cutting edges each with its own geometry - this ensures the lowest cutting resistance in what is typically a demanding application.

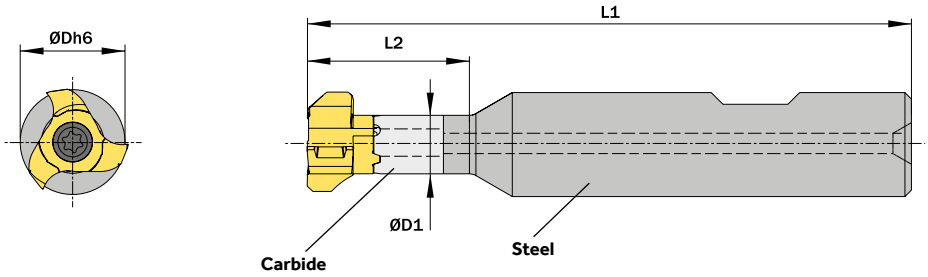




T-SLOT TOOL HOLDER CARBIDE AND STEEL SHANK

Simmill® 4V

- Through coolant
- Use connect code to match inserts to holders
- For easy ordering use **Short Code**



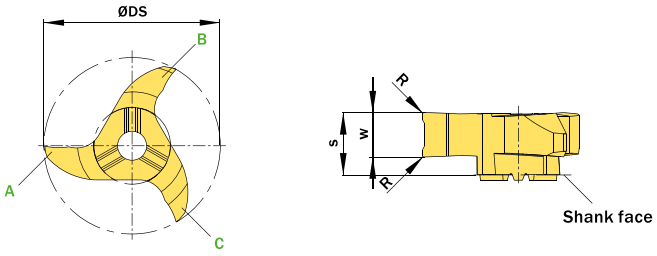
ØD h6	ØD1	L1	L2	Order Code		Price	Inserts	Spares	
				Description	Short Code		Connect Code	Screw	Torx Key
16	11.5	90	30	4V0.1611.30.IC B HM	AWKQ	**£208.73**	4V0D11.5	VM5X16ICT20T	T20T
20	13.5	104	35	4V0.2013.35.IC A HM	AWKS	**£276.70**	4V0D13.5		

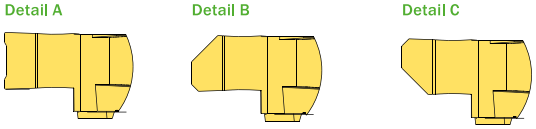
3 TOOTH T-SLOT INSERTS

Simmill® 4V

- Special cutting edge design for t-slotting
- For easy ordering use **Short Code**







W +0.02	Nominal Width of Groove	R	S	ØDS	Order Code		Price	Holders
					Description	Short Code		Connect Code
8.2	12	0.2	9.3	20	4V3.0820.11.20 T	AWKJX800	**£60.22**	4V0D11.5
9.2	14		10	24	4V3.0920.13.24 T	AV9VX800	**£69.20**	4V0D13.5
7.2	18		10	31	4V3.0720.13.31 T	AWKHX800	**£53.54**	4V0D13.5

Simmill® M4 Disk Milling

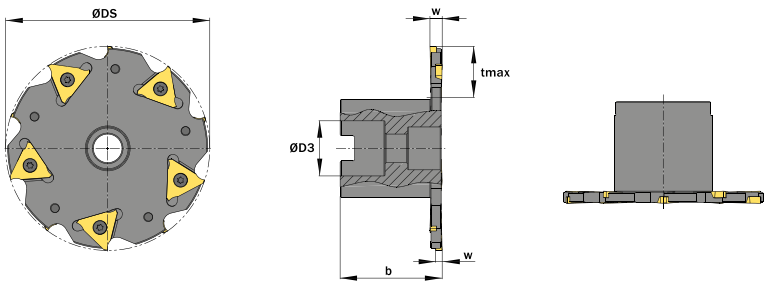


Indexable disk milling system for slotting operation from 6mm widths

simmill® M4 is available from 80mm to 200mm diameter with widths of 6, 8, 10 & 12mm. The inserts have 3 cutting edges and are made from high quality K grade micrograin carbide. Tool holders are available with a face mill arbor fixation or a bore with keyways.

DISK MILL HOLDER FACE MILL ARBOR FIXATION

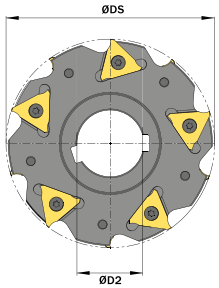
Simmill® M4 Indexable Disk Milling System for Slotting Operation from 6mm Widths

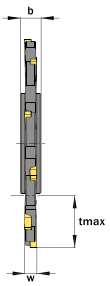


ØDS	ØD3	W +0.04	b	tmax	Teeth	Order Code		Price	Inserts	Spares	
						Description	Short Code		Connect Code	Screw	Torx Key
100	27	6	50	25	5R + 5L	MM4.83.0100.27.06 R	AYKH	£525.85	MM4.82.3.2	MM5 x 5.3	T15F
		8				MM4.83.0100.27.08 R	AYKJ		MM4.82.4.3	MM5 x 6.5	T20R
		10				MM4.83.0100.27.10 R	AYKK		MM4.82.5.4	MM5 x 7.5	T20R

DISK MILL HOLDER BORE WITH KEYWAY FIXATION

Simmill® M4 Indexable Disk Milling System for Slotting Operation from 6mm



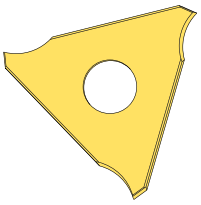


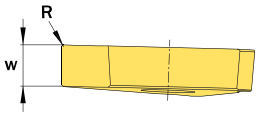
ØDS	ØD2	W ±0.04	b	t max	Teeth	Order Code		Price	Inserts	Spares	
						Description	Short Code		Connect Code	Screw	Torx Key
80	27	6	10	19	4R + 4L	MM4.82.0080.27.06	AYJ1	£312.40	MM4.82.3.2	MM5 x 5.3	T15F
		8	12			MM4.82.0080.27.08	AYJ2		MM4.82.4.3	MM5 x 6.5	T20R
		10	12			MM4.82.0080.27.10	AYJ3		MM4.82.5.4	MM5 x 7.5	T20R
100	32	6	10	26	5R + 5L	MM4.82.0100.32.06	AYJ5	£380.07	MM4.82.3.2	MM5 x 5.3	T15F
		8	12			MM4.82.0100.32.08	AYJ6		MM4.82.4.3	MM5 x 6.5	T20R
		10	12			MM4.82.0100.32.10	AYJ7		MM4.82.5.4	MM5 x 7.5	T20R
125	40	6	10	34.5	6R + 6L	MM4.82.0125.40.06	AYJ9	£505.02	MM4.82.3.2	MM5 x 5.3	T15F
		8	12			MM4.82.0125.40.08	AYKA		MM4.82.4.3	MM5 x 6.5	T20R
		10	14			MM4.82.0125.40.10	AYKB		MM4.82.5.4	MM5 x 7.5	T20R
		12	14			MM4.82.0125.40.12	AYKC		MM4.82.6.5	MM5 x 10.5	T20R
160	40	6	10	50	8R + 8L	MM4.82.0160.40.06	AYKD	£666.41	MM4.82.3.2	MM5 x 5.3	T15F
		8	12			MM4.82.0160.40.08	AYKE		MM4.82.4.3	MM5 x 6.5	T20R
		10	14			MM4.82.0160.40.10	AYDV		MM4.82.5.4	MM5 x 7.5	T20R
		12	14			MM4.82.0160.40.12	AYKF		MM4.82.6.5	MM5 x 10.5	T20R
200	50	6	10	70	10R + 10L	MM4.82.0200.50.06	AYKG	£911.11	MM4.82.3.2	MM5 x 5.3	T15F

3 TOOTH INSERTS DISK MILLING

Simmill® M4 Indexable Disk Milling System for Slotting Operation from 6mm

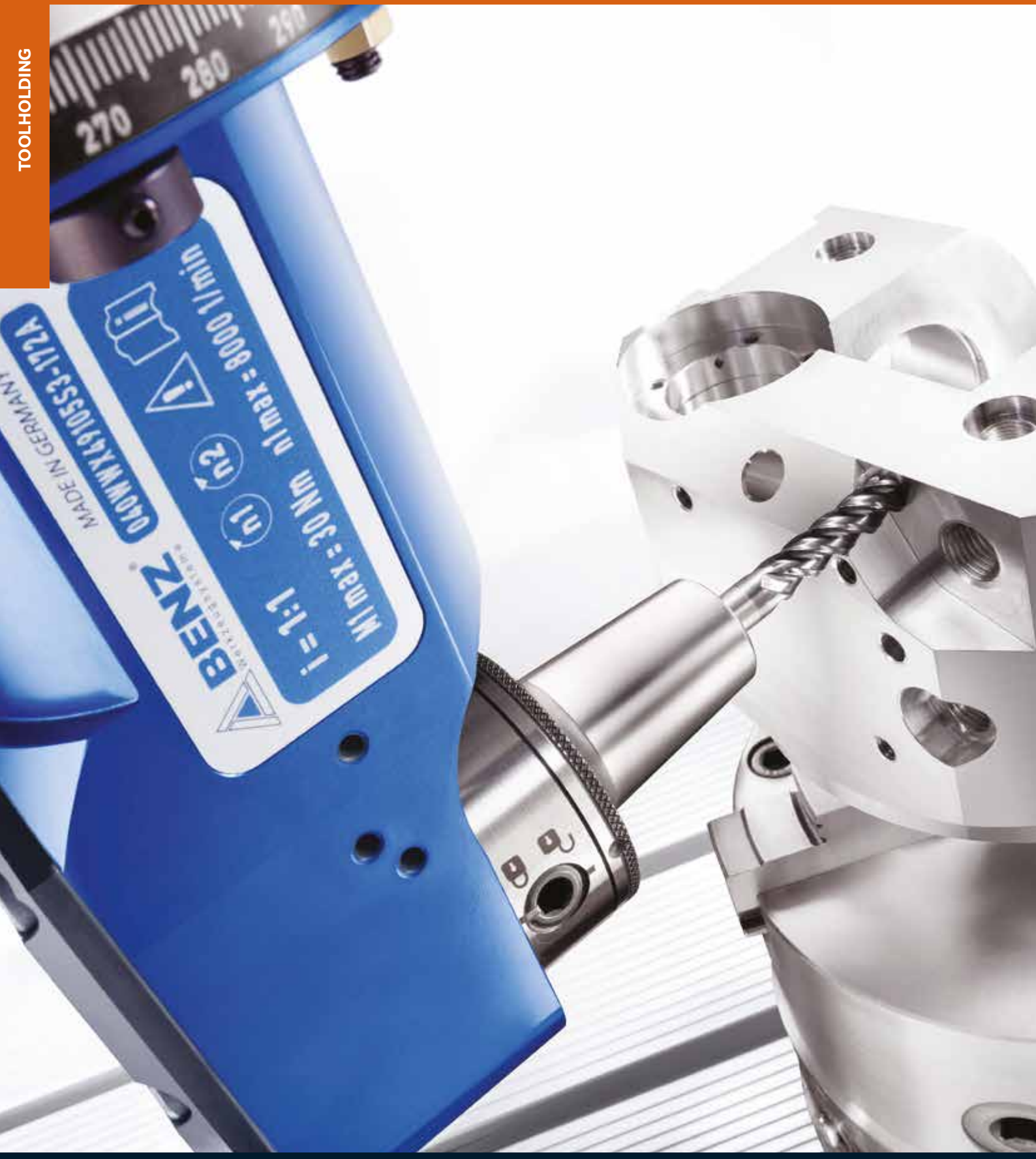






W +0.02	R	Order Code			Price	Holders
		Description	Short Code R	Short Code L		Connect Code
3.2	0.2	MM4.06.0320.02 GR/L X800	AYKPX800	AYKNX800	£27.34	MM4.82.3.2
4.3		MM4.08.0430.02 GR/L X800	AYKSX800	AYKQX800	£27.78	MM4.82.4.3
5.4		MM4.10.0545.02 GR/L X800	AYKUX800	AYKTX800	£20.70	MM4.82.5.4
6.5		MM4.12.0650.02 GR/L X800	AYKWX800	AYKVX800	£23.01	MM4.82.6.5

Toolholding



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1026



End Mill Holders
End mill holders / side lock arbors for weldon shank tools - Great protection & improved rigidity over ER collet chucks
1040



Slim Chucks
Dine GSK slim chucks. For high speed & high feed milling without deflection
1050



Hydraulic Chucks
Exceptional performance in drilling, reaming & milling applications - No reduction in clamping force at high speeds
1058



Shrink Fit Chucks
Ultra-long service life without distortion due to high quality hot work steel - Suitable for HSS & carbide shanks
1068



Face Mill Arbors
For general or performance indexable milling - Available in spigot drive, 4-bolt type or combination arbor
1080



Synchro Tap Chucks
The answer to broken taps, oversized or poor quality threads & insufficient tool life in rigid applications
1088



Tension, Compression & Quick Change Tap Chucks
Fast tool changes & reliable clamping systems for conventional CNC machine tapping
1094



Drill Chucks
High quality offering the best quality, accuracy & durability - Replace your ER collet chuck for HSS & carbide drilling
1100



Power Milling Chucks
High speed power milling chucks with high clamping torque suitable for solid & indexable tools
1108



Morse Taper Chucks
Suitable for clamping a wide range of morse taper tooling available in MT1 - MT5
1109



Coolant Feeders
Used to convert non-through coolant machines to have through coolant capabilities
1111



Tool Holding Accessories
Wide range including tool storage, tool holder assembly pots, setting tools, boring bar sleeves, workstops, test bars & pull studs
1112



PSC Tool Holders
High quality polygonal shank tool holders available in a wide variety of holder types for machining centres & lathes
1126



CNC Lathe Toolholders
Static toolholders & high performance driven tools for CNC lathes
1134



Spindle Speeders
Get maximum reliability & accuracy in milling & drilling applications from Benz & Gerardi
1152



Angle Heads
Customised solutions for any application from Benz & Gerardi
1154

ER Collet Chucks



From general purpose to high speed milling & drilling.

The Cutwel range of ER collet chucks is the biggest in the UK, with almost every taper, nut style and length available from stock. Our comprehensive range of ER collet chucks come balanced from 15,000RPM to 25,000RPM. For spindle speeds above 20,000RPM, we recommend shrink chucks or hydraulic chucks where run-out <0.005mm can be achieved.

Advantages

- The most flexible tool holding system.
- Suitable for a wide range of applications from milling to tapping.
- Economy (Cutwel Pro) and premium (YG-1) options available.

Features

- Balancing grades up to G2.5 30,000RPM.
- Gauge lengths up to 200mm from stock.
- Clamp up to 34mm diameter shanks.

KORLOY BISON CANELA WTO KINTEK CUTWEL PRO

Tool Selection

Description	Selection	Page
BT MAS	BT30, BT40, BT50	**1028**
DIN 69871	SK40, SK50	**1030**
HSK-A	HSK63-A, HSK100-A	**1032**
HSK-E	HSK32-E, HSK40-E, HSK50-E, HSK63-E	**1033**
HSK-F	HSK50-F, HSK63-F	**1033**
PSC CAPTO COMPATIBLE	PSC63	**1034**
DOUBLE CONTACT	DBT40, DSK40	**1034**
DIN 2080 & QUICK CHANGE	ISO30, ISO40, ISO50, QC30, QC40	**1034**
R8	Bridgeport Taper	**1035**
STRAIGHT SHANK	ER Collet Chuck Extensions	**1036**
MORSE TAPER	DIN 228-A Morse Taper with Thread	**1036**
ER COLLETS	Collets & Collet Sets	**1037**

GEOMETRIES

HEXAGON NUT



Supplied as standard on most ER16 collet chucks.

STANDARD (CASTELLATED) NUT



The strongest and most robust ER nut and is available in sizes ER16, ER20, ER25, ER32, ER40 & ER50.

MINI NUT (SLIMLINE)



Ieal for applications where space restrictions apply, such as machining in small pockets or bores. Available in ER11, ER16, ER20 & ER25.

GAUGE LENGTHS

Lengths	BT		SK	HSK-A		HSK-E			HSK-F		PSC	DBT DSK
	30	40/50	40/50	50/63	100	25/32	40	50/63	50	63		
Standard (60-80mm)	●	●	●	●	-	●	●	●	●	-	●	●
Long (90-100mm)	●	●	●	●	●	-	-	●	●	●	●	●
Extended (120-160mm)	-	●	●	●	●	-	●	●	●	●	●	●
Extra Long (200mm)	-	●	●	-	●	-	-	-	-	-	-	●

CLAMPING DIAMETER RANGE BY ER SIZE

ER11		ER16		ER20		ER25		ER32		ER40		ER50	
Cutters/ Drills	Taps*	Cutters/ Drills	Taps*	Cutters/ Drills	Taps*	Cutters/ Drills	Taps*	Cutters/ Drills	Taps*	Cutters/ Drills	Taps*	Cutters/ Drills	Taps*
0.5-7	-	0.5-10	M3-M8	0.5-13	M3-M12	0.5-16	M3-M16	1-20	M3-M20	3-30	M4.5-M27	6-34	M5-M42

*Recommended only to tap using ER collets with square drive. Larger diameter taps may be possible to clamp with standard ER collets, however taps are liable to slip in the collet under high torque.

ER COLLET TYPES

STANDARD (P1038)

- 10µm or 5µm run out



ANTI-CORROSION (P1038)

- 5µm or 2µm run out
- Special film to prevent corrosion
- 12 slot design for increased rigidity



THROUGH COOLANT (P1037)

- 10µm or 5µm run out
- Available in standard 30 bar pressure or 130 bar high pressure type



TENSION TAP TYPE (P1039)

- Designed for tapping
- Square drive to prevent tap from slipping
- Tension axial length compensation



FIXED TAP TYPE (P1037)

- Designed for tapping
- Square drive to prevent tap from slipping



ER COLLET CHUCK BT MAS
Standard Nut (G6.3 15,000RPM)

P1122 P1037

- Balanced to G6.3 15,000RPM
- ≤200mm gauge length
- AD/B through coolant (*AD through coolant)
- ER16 supplied with hexagon nut



G6.3 15000 | BT MAS

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
BT30	ER16	28	70	BT30-ER16-70*	£19.99
			100	BT30-ER16-100*	£24.99
	ER25	42	70	BT30-ER25-70*	£19.99
			100	BT30-ER25-100*	£24.99
	ER32	50	70	BT30-ER32-70*	£19.99
			100	BT30-ER32-100*	£24.99
BT40	ER16	28	70	BT40-ER16-70*	£19.99
			70	BT40AD/B-ER16-70	£24.99
			100	BT40-ER16-100*	£24.99
			100	BT40AD/B-ER16-100	£29.99
			160	BT40AD/B-ER16-160	£49.99
			200	BT40AD/B-ER16-200	£92.88
	ER20	35	70	BT40-ER20-70*	£19.99
			70	BT40AD/B-ER20-70	£24.99
			100	BT40-ER20-100*	£24.99
			100	BT40AD/B-ER20-100	£29.99
			160	BT40AD/B-ER20-160	£49.99
	ER25	42	70	BT40-ER25-70*	£19.99
			70	BT40AD/B-ER25-70	£24.99
			100	BT40-ER25-100*	£24.99
			100	BT40AD/B-ER25-100	£29.99
			160	BT40AD/B-ER25-160	£49.99
			200	BT40AD/B-ER25-200	£92.88
	ER32	50	70	BT40-ER32-70*	£19.99
			70	BT40AD/B-ER32-70	£24.99
			100	BT40-ER32-100*	£24.99
			100	BT40AD/B-ER32-100	£29.99
			160	BT40AD/B-ER32-160	£49.99
			200	BT40AD/B-ER32-200	£92.88
	ER40	63	70	BT40-ER40-70*	£19.99
			70	BT40AD/B-ER40-70	£24.99
			100	BT40-ER40-100*	£24.99
			100	BT40AD/B-ER40-100	£29.99
			160	BT40AD/B-ER40-160	£49.99
BT50	ER16	28	80	BT50AD/B-ER16-80	£39.99
			100	BT50AD/B-ER16-100	£49.99
			160	BT50AD/B-ER16-160	£75.00
	ER25	42	80	BT50AD/B-ER25-80	£39.99
			100	BT50AD/B-ER25-100	£49.99
			160	BT50AD/B-ER25-160	£75.00
			200	BT50AD/B-ER25-200	£99.00
	ER32	50	80	BT50AD/B-ER32-80	£39.99
			100	BT50AD/B-ER32-100	£49.99
			160	BT50AD/B-ER32-160	£75.00
			200	BT50AD/B-ER32-200	£99.00
	ER40	63	80	BT50AD/B-ER40-80	£39.99
			100	BT50AD/B-ER40-100	£49.99
			160	BT50AD/B-ER40-160	£75.00
	ER50	63	100	BT50AD/B-ER50-100	£134.34

ER COLLET CHUCK BT MAS
Mini Nut (G6.3 15,000RPM)

P1122 P1037

- Balanced to G6.3 15,000RPM
- ≤200mm gauge length
- AD/B through coolant (BT30 AD only)



G6.3 15000 | BT MAS

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
BT30	ER11	16	70	BT30H70ER11M	£35.00
			100	BT30H100ER11M	£39.00
	ER16	20	70	BT30H70ER16M	£35.00
			100	BT30H100ER16M	£39.00
BT40	ER11	16	70	BT40H70ER11M	£39.00
			100	BT40-H100ER11M	£39.00
			160	BT40-H160ER11M	£65.00
	ER16	20	70	BT40H70ER16M	£39.00
			100	BT40-H100ER16M	£39.00
			160	BT40-H160ER16M	£65.00
			200	BT40-H200ER16M	£122.07
	ER20	28	70	BT40H70ER20M	£39.00
	ER25	35	70	BT40H70ER25M	£39.00
			160	BT40-H100ER25M	£39.00
			160	BT40-H160ER25M	£65.00
			200	BT40-H200ER25M	£122.07
BT50	ER16	20	100	BT50-H100ER16M	£71.61
			160	BT50-H160ER16M	£94.60
	ER25	35	100	BT50-H100ER25M	£71.61
			160	BT50-H160ER25M	£94.60

WRENCHES & NUTS STANDARD ER COLLET CHUCKS (CUTWEL PRO)

	Hexagon Nut		Standard Nut					
	ER16	ER20	ER16	ER20	ER25	ER32	ER40	ER50
Wrench	WER16	WER20	WER16-2	WER20-2	WER25	WER32	WER40	WER50
Nut	CN16	CN20	CN16-2	CN20-2	CN25	CN32	CN40	CN50

WRENCHES & NUTS MINI NUT ER COLLET CHUCKS (CUTWEL PRO)

	Mini Nut			
	ER11	ER16	ER20	ER25
Wrench	WM11-2	WM16-2	WM20-2	WM25-2
Nut	CNM11-2	CNM16-2	CNM20-2	CNM25-2

ER COLLET CHUCK (PREMIUM LINE) BT MAS

Standard Nut (G6.3 15,000RPM)

P1122 P1037

- Balanced to G6.3 15,000RPM
- ≤165mm gauge length
- AD through coolant
- ER16 supplied with hexagon nut



G6.3 15000 | BT MAS

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
BT30	ER16	28	70	YG-P2772109	**£32.68**
			100	YG-P2772110	**£37.52**
	ER25	42	70	YG-P2772106	**£32.68**
			100	YG-P2772113	**£37.52**
	ER32	50	60	YG-P2772144	**£33.89**
			90	YG-P2772115	**£38.01**
BT40	ER16	28	75	YG-P2772101	**£24.48**
			100	YG-P2772118	**£27.19**
			120	YG-P2772119	**£36.95**
	ER25	42	75	YG-P2772103	**£25.29**
			100	YG-P2772122	**£27.95**
			135	YG-P2772123	**£37.35**
			150	YG-P2772124	**£45.10**
	ER32	50	60	YG-P2772104	**£26.68**
			100	YG-P2772125	**£29.37**
			120	YG-P2772105	**£41.76**
			150	YG-P2772126	**£50.39**
	ER40	63	80	YG-P2772127	**£29.89**
BT50	ER16	28	100	YG-P2772128	**£64.40**
			120	YG-P2772129	**£65.65**
			165	YG-P2772130	**£72.60**
	ER25	42	100	YG-P2772134	**£64.40**
			135	YG-P2772135	**£65.65**
			165	YG-P2772136	**£72.60**
	ER32	50	100	YG-P2772137	**£66.18**
			135	YG-P2772138	**£69.75**
			165	YG-P2772139	**£74.64**
	ER40	63	100	YG-P2772140	**£67.84**
			150	YG-P2772141	**£75.84**

ER COLLET CHUCK (PREMIUM LINE) BT MAS

Standard Nut (G2.5 25,000RPM)

P1122 P1037

- Balanced to G2.5 25,000RPM
- ≤165mm gauge length
- AD/B through coolant (except BT30)
- ER16 supplied with hexagon nut



G2.5 25000 | BT MAS

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
BT30	ER16	28	70	YG-P2776503A	**£43.46**
			100	YG-P2776506A	**£49.91**
	ER25	42	70	YG-P2776509A	**£43.46**
			100	YG-P2776510A	**£49.91**
	ER32	50	60	YG-P2776511A	**£45.07**
			90	YG-P2776512A	**£50.52**
BT40	ER16	28	75	YG-P2776504	£45.60
			100	YG-P2553021	£52.89
			120	YG-P2776515	£61.84
	ER25	42	75	YG-P2600012	£45.60
			100	YG-P2553018	£52.89
	ER32	50	60	YG-P2553501	£47.40
			100	YG-P2776505	£56.67
	ER40	63	80	YG-P2553004	£17.97
BT50	ER16	28	100	YG-P2776522	£87.68
			165	YG-P2776524	£98.88
	ER25	42	100	YG-P2776528	£87.68
			165	YG-P2776530	£98.88
	ER32	50	100	YG-P2600026	£90.11
			165	YG-P2776532	£101.64
	ER40	63	100	YG-P2600027	£92.39
			150	YG-P2776533	£103.28

ER COLLET CHUCK (PREMIUM LINE) BT MAS

Standard Nut (G2.5 25,000RPM)

P1122 P1037

DOUBLE CONTACT

- Face & taper contact
- Balanced to G2.5 25,000RPM
- ≤100mm gauge length
- AD/B through coolant
- ER16 supplied with hexagon nut



G2.5 25000 | DBT D.C.

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
DBT40	ER16	32	75	YG-P2772006	**£71.99**
			100	YG-P2772001	**£83.51**
	ER25	42	75	YG-P2772011	**£71.99**
			100	YG-P2772002	**£83.51**
	ER32	50	60	YG-P2772014	**£74.87**
			100	YG-P2772003	**£89.48**
	ER40	63	80	YG-P2772017	**£80.60**

WRENCHES & NUTS STANDARD ER COLLET CHUCKS

	Hexagon Nut		Standard Nut					
	ER16	ER20	ER16	ER20	ER25	ER32	ER40	ER50
Wrench	WER16	WER20	WER16-2	WER20-2	WER25	WER32	WER40	WER50
Nut	CN16	CN20	CN16-2	CN20-2	CN25	CN32	CN40	CN50

ER COLLET CHUCK DIN 69871
Standard Nut (G6.3 15,000RPM)

P1122 P1037

- Balanced to G6.3 15,000RPM
- ≤200mm gauge length
- AD/B through coolant (*AD through coolant)
- ER16 supplied with hexagon nut



*Coolant form AD
(no coolant supply through flange)

G6.3 15000 DIN 69871

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
SK40	ER16	28	70	SK40-ER16-70*	**£19.99**
			70	SK40AD/B-ER16-70	**£24.99**
			100	SK40-ER16-100*	**£24.99**
			100	SK40H100ER16	**£24.99**
			160	SK40AD/B-ER16-160	**£49.99**
			200	SK40AD/B-ER16-200	**£99.00**
	ER20	35	70	SK40-ER20-70*	**£19.99**
			70	SK40AD/B-ER20-70	**£24.99**
			100	SK40-ER20-100*	**£24.99**
	ER25	42	70	SK40-ER25-70*	**£19.99**
			70	SK40AD/B-ER25-70	**£24.99**
			100	SK40-ER25-100*	**£24.99**
			100	SK40AD/B-ER25-100	**£29.99**
			160	SK40AD/B-ER25-160	**£49.99**
			200	SK40AD/B-ER25-200	**£99.00**
	ER32	50	70	SK40-ER32-70*	**£19.99**
			70	SK40AD/B-ER32-70	**£24.99**
			100	SK40-ER32-100*	**£24.99**
			100	SK40AD/B-ER32-100	**£29.99**
			160	SK40AD/B-ER32-160	**£49.99**
			200	SK40AD/B-ER32-200	**£99.00**
	ER40	63	70	SK40-ER40-70*	**£19.99**
			70	SK40AD/B-ER40-70	**£24.99**
			100	SK40-ER40-100*	**£24.99**
			100	SK40AD/B-ER40-100	**£29.99**
			160	SK40AD/B-ER40-160	**£49.99**
SK50	ER16	28	70	SK50AD/B-ER16-70	**£39.99**
			100	SK50AD/B-ER16-100	**£49.99**
			160	SK50AD/B-ER16-160	**£75.00**
	ER25	42	70	SK50AD/B-ER25-70	**£39.99**
			100	SK50AD/B-ER25-100	**£49.99**
			160	SK50AD/B-ER25-160	**£75.00**
	ER32	50	70	SK50AD/B-ER32-70	**£39.99**
			100	SK50AD/B-ER32-100	**£49.99**
			160	SK50AD/B-ER32-160	**£75.00**
	ER40	63	80	SK50AD/B-ER40-80	**£39.99**
			100	SK50AD/B-ER40-100	**£49.99**
			160	SK50AD/B-ER40-160	**£75.00**
	ER50	63	100	SK50AD/B-ER50-100	**£134.31**

ER COLLET CHUCK DIN 69871
Mini Nut (G6.3 15,000RPM)

P1122 P1037

- Balanced to G6.3 15,000RPM
- ≤200mm gauge length
- AD/B through coolant



G6.3 15000 DIN 69871

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
SK40	ER11	16	70	SK40H70ER11M	**£35.00**
			100	SK40-H100ER11M	**£39.00**
			160	SK40-H160ER11M	**£65.00**
	ER16	20	70	SK40H70ER16M	**£35.00**
			100	SK40-H100ER16M	**£39.00**
			160	SK40-H160ER16M	**£65.00**
			200	SK40-H200ER16M	**£122.07**
	ER20	28	70	SK40H70ER20M	**£35.00**
	ER25	35	70	SK40H70ER25M	**£35.00**
			100	SK40-H100ER25M	**£39.00**
			160	SK40-H160ER25M	**£65.00**
			200	SK40-H200ER25M	**£122.07**
SK50	ER16	20	100	SK50-H100ER16M	**£71.61**
			160	SK50-H160ER16M	**£94.60**
	ER25	35	100	SK50-H100ER25M	**£71.61**
			160	SK50-H160ER25M	**£94.60**

WRENCHES & NUTS STANDARD ER COLLET CHUCKS

	Hexagon Nut		Standard Nut					
	ER16	ER20	ER16	ER20	ER25	ER32	ER40	ER50
Wrench	WER16	WER20	WER16-2	WER20-2	WER25	WER32	WER40	WER50
Nut	CN16	CN20	CN16-2	CN20-2	CN25	CN32	CN40	CN50

WRENCHES & NUTS MINI NUT ER COLLET CHUCKS (CUTWEL PRO)

	Mini Nut			
	ER11	ER16	ER20	ER25
Wrench	WM11-2	WM16-2	WM20-2	WM25-2
Nut	CNM11-2	CNM16-2	CNM20-2	CNM25-2

ER COLLET CHUCK (PREMIUM LINE) DIN 69871

Standard Nut (G6.3 15,000RPM)

P1122 P1037

- Balanced to G6.3 15,000RPM
- ≤160mm gauge length
- AD through coolant



G6.3 15000

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
SK40	ER16	28	70	YG-P2776417	£25.14
			100	YG-P2527018	£27.80
			160	YG-P2527029	£45.37
	ER25	42	70	YG-P2776419	£25.91
			100	YG-P2776429	£28.58
			160	YG-P2527033	£45.37
	ER32	50	60	YG-P2776420	£26.98
			100	YG-P2776430	£29.64
			160	YG-P2527035	£49.91
	ER40	63	80	YG-P2527011	£30.51
SK50	ER16	28	100	YG-P2527022	£57.24
			160	YG-P2527040	£71.55
	ER25	42	100	YG-P2527024	£57.24
			160	YG-P2527044	£71.55
	ER32	50	70	YG-P2776425	£53.44
			100	YG-P2527025	£58.82
			160	YG-P2527046	£73.53

ER COLLET CHUCK (PREMIUM LINE) DIN 69871

Standard Nut (G2.5 25,000RPM)

P1122 P1037

- Balanced to G2.5 25,000RPM
- ≤100mm gauge length
- AD/B through coolant



G2.5 25000

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
SK40	ER16	28	70	YG-P2774801	£45.60
			100	YG-P2774804	£52.89
	ER25	42	70	YG-P2774802	£45.60
			100	YG-P2774805	£52.89
	ER32	50	70	YG-P2774803	£47.40
			100	YG-P2774806	£56.67
SK50	ER16	25	70	YG-P2774815	£79.49
	ER25	42	100	YG-P2774823	£99.62
	ER32	50	100	YG-P2774824	£90.11

ER COLLET CHUCK DIN 69871

Standard Nut (G2.5 25,000RPM)

P1122 P1037

- Face & taper contact
- Balanced to G2.5 25,000RPM
- ≤200mm gauge length
- AD/B through coolant

DOUBLE CONTACT



G2.5 25000 | <5µm Run-out | DSK D.C.

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
DSK40	ER16	32	70	DSK40-ER16-70	£86.79
			100	DSK40-ER16-100	£94.21
	ER25	42	70	DSK40-ER25-70	£86.79
			100	DSK40-ER25-100	£94.21
	ER32	50	70	DSK40-ER32-70	£86.79
			100	DSK40-ER32-100	£94.21
	ER40	63	70	DSK40-ER40-70	£101.63
			100	DSK40-ER40-100	£119.98
DSK50	ER32	50	70	DSK50-ER32-70	£171.37
			100	DSK50-ER32-100	£198.36
			160	DSK50-ER32-160	£335.60
			200	DSK50-ER32-200	£409.03
	ER40	63	80	DSK50-ER40-80	£184.86
			100	DSK50-ER40-100	£211.87

WRENCHES & NUTS STANDARD ER COLLET CHUCKS

	Hexagon Nut		Standard Nut					
	ER16	ER20	ER16	ER20	ER25	ER32	ER40	ER50
Wrench	WER16	WER20	WER16-2	WER20-2	WER25	WER32	WER40	WER50
Nut	CN16	CN20	CN16-2	CN20-2	CN25	CN32	CN40	CN50

ER COLLET CHUCK HSK-A

Standard Nut (G6.3 15,000RPM)

P1037



- Balanced to G6.3 15,000RPM
- ≤200mm gauge length
- AD through coolant
- ER16 supplied with hexagon nut



G6.3 15000 | HSK A

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
HSK50 A	ER16	32	70	HSK50-ER16-70A	£71.25
			100	HSK50-ER16-100A	£74.12
			160	HSK50-ER16-160A	£92.62
	ER25	42	70	HSK50-ER25-70A	£71.25
			100	HSK50-ER25-100A	£74.12
			160	HSK50-ER25-160A	£92.62
	ER32	50	70	HSK50-ER32-70A	£71.25
			100	HSK50-ER32-100A	£78.37
			160	HSK50-ER32-160A	£92.62
	ER40	63	100	HSK50-ER40-100A	£89.77
			160	HSK50-ER40-160A	£98.48
HSK63 A	ER16	32	80	HSK63-ER16-80A	£60.39
			100	HSK63-ER16-100A	£64.35
			160	HSK63-ER16-160A	£77.97
	ER25	42	80	HSK63-ER25-80A	£61.88
			100	HSK63-ER25-100A	£64.35
			160	HSK63-ER25-160A	£77.97
	ER32	50	80	HSK63-ER32-80A	£64.35
			100	HSK63-ER32-100A	£66.33
			160	HSK63-ER32-160A	£77.97
	ER40	63	80	HSK63-ER40-80A	£76.34
			100	HSK63-ER40-100A	£115.42
			160	HSK63-ER40-160A	£147.47
HSK100 A	ER16	32	100	HSK100-ER16-100A	£100.76
	ER25	42	100	HSK100-ER25-100A	£100.76
			160	HSK100-ER25-160A	£137.40
			200	HSK100-ER25-200A	£171.76
	ER32	50	100	HSK100-ER32-100A	£100.76
			160	HSK100-ER32-160A	£137.40
			200	HSK100-ER32-200A	£171.76
	ER40	63	100	HSK100-ER40-100A	£109.91
			160	HSK100-ER40-160A	£145.04
			200	HSK100-ER40-200A	£302.15

COOLANT TUBES & KEYS HSK-A

- For through coolant supply on HSK tool holders (sold separately)





	HSK50-A	HSK63-A	HSK100-A
C	950APR01	963APR01	910APR01
COOLANT TUBE	950CHVAR	963CHVAR	910CHVAR

ER COLLET CHUCK (PREMIUM LINE) HSK-A

Standard Nut (G2.5 25,000RPM)

P1122 P1037



- Balanced to G2.5 25,000RPM
- ≤120mm gauge length
- AD through coolant



G2.5 25000 | HSK A

YG

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
HSK63 A	ER16	32	100	YG-P2774901	£89.84
	ER25	42	100	YG-P2774902	£89.84
	ER32	50	100	YG-P2774903	£93.20
	ER40	63	120	YG-P2774904	£115.56
HSK100 A	ER16	25	100	YG-P2774905	£111.08
	ER25	42	100	YG-P2774906	£111.08
	ER32	50	100	YG-P2774907	£115.32
	ER40	63	120	YG-P2774947	£140.21

ER COLLET CHUCK HSK-A

Mini Nut (G6.3 15,000RPM / G2.5 3000RPM)

P1037



- Balanced to G6.3 15,000RPM or G2.5 3000RPM
- ≤160mm gauge length
- AD through coolant



G6.3 15000 | G2.5 30000 | HSK A

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
G6.3 15,000RPM					
HSK50 A	ER11	16	100	HSK50-ER11M-100A	£106.86
			160	HSK50-ER11M-160A	£128.24
	ER25	35	100	HSK50-ER25M-100A	£106.86
			160	HSK50-ER25M-160A	£128.24
HSK63 A	ER11	16	100	HSK63-ER11M-100A	£102.92
			160	HSK63-ER11M-160A	£135.37
	ER16	20	100	HSK63-ER16M-100A	£102.92
			160	HSK63-ER16M-160A	£135.37
	ER20	28	100	HSK63-ER20M-100A	£102.92
			160	HSK63-ER20M-160A	£135.37
	ER25	35	100	HSK63-ER25M-100A	£102.92
			160	HSK63-ER25M-160A	£135.37
HSK100 A	ER16	20	100	HSK100-ER16M-100A	£128.25
			160	HSK100-ER16M-160A	£145.04
	ER20	28	100	HSK100-ER20M-100A	£128.25
			160	HSK100-ER20M-160A	£145.04
	ER25	35	100	HSK100-ER25M-100A	£128.25
			160	HSK100-ER25M-160A	£145.04
G2.5 30,000RPM					
HSK63 A	ER11	16	100	HSK63AH100ER11M	£130.59
			160	HSK63AH160ER11M	£147.27
	ER16	20	100	HSK63AH100ER16M	£120.76
			160	HSK63AH160ER16M	£127.65
	ER20	28	100	HSK63AH100ER20M	£120.76
			160	HSK63AH160ER20M	£139.41
	ER25	35	100	HSK63AH100ER25M	£120.76
			160	HSK63AH160ER25M	£127.65
HSK100A	ER16	20	100	HSK100AH100ER16M	£235.63

WRENCHES & NUTS STANDARD ER COLLET CHUCKS

	Hexagon Nut		Standard Nut					
	ER16	ER20	ER16	ER20	ER25	ER32	ER40	ER50
Wrench	WER16	WER20	WER16-2	WER20-2	WER25	WER32	WER40	WER50
Nut	CN16	CN20	CN16-2	CN20-2	CN25	CN32	CN40	CN50

WRENCHES & NUTS MINI NUT ER COLLET CHUCKS (CUTWEL PRO)

	Mini Nut			
	ER11	ER16	ER20	ER25
Wrench	WM11-2	WM16-2	WM20-2	WM25-2
Nut	CNM11-2	CNM16-2	CNM20-2	CNM25-2

ER COLLET CHUCK HSK-E

Standard Nut (G2.5 20,000RPM)

P1037



- Balanced to G2.5 20,000RPM
- ≤160mm gauge length
- AD through coolant
- ER16 supplied with hexagon nut



G2.5 20000 | HSK E

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
HSK50 E	ER16	32	100	HSK50-ER16-100E	£149.81
			160	HSK50-ER16-160E	£188.64
	ER25	42	100	HSK50-ER25-100E	£149.81
			160	HSK50-ER25-160E	£188.64
	ER32	50	100	HSK50-ER32-100E	£149.81
			160	HSK50-ER32-160E	£188.64
	ER40	63	100	HSK50-ER40-100E	£166.46
			160	HSK50-ER40-160E	£202.52
HSK63 E	ER16	32	75	HSK63-ER16-75E	£100.46
			100	HSK63-ER16-100E	£111.17
			160	HSK63-ER16-160E	£130.11
	ER25	42	75	HSK63-ER25-75E	£100.46
			100	HSK63-ER25-100E	£111.17
			160	HSK63-ER25-160E	£130.11
	ER32	50	75	HSK63-ER32-75E	£100.46
			100	HSK63-ER32-100E	£111.17
			160	HSK63-ER32-160E	£130.11
	ER40	63	80	HSK63-ER40-80E	£76.34
			100	HSK63-ER40-100E	£115.42
			160	HSK63-ER40-160E	£148.67

ER COLLET CHUCK HSK-F

Standard Nut (G2.5 20,000RPM)

P1037



- Balanced to G2.5 20,000RPM
- ≤160mm gauge length
- AD through coolant
- ER16 supplied with hexagon nut



G2.5 20000 | HSK F

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
HSK50 F	ER16	32	100	HSK50-ER16-100F	£165.68
			160	HSK50-ER16-160F	£216.41
	ER25	42	100	HSK50-ER25-100F	£145.02
			160	HSK50-ER25-160F	£166.69
	ER32	50	100	HSK50-ER32-100F	£145.02
			160	HSK50-ER32-160F	£216.41
	ER40	63	100	HSK50-ER40-100F	£162.19
			160	HSK50-ER40-160F	£235.82
HSK63 F	ER16	32	100	HSK63-ER16-100F	£127.80
			160	HSK63-ER16-160F	£149.58
	ER25	42	100	HSK63-ER25-100F	£127.80
			160	HSK63-ER25-160F	£149.58
	ER32	50	100	HSK63-ER32-100F	£127.80
			160	HSK63-ER32-160F	£149.58
	ER40	63	100	HSK63-ER40-100F	£132.70
			160	HSK63-ER40-160F	£170.95

ER COLLET CHUCK HSK-E

Mini Nut (G2.5 20,000RPM)

P1037



- Balanced to G2.5 20,000RPM
- ≤160mm gauge length
- AD through coolant



G2.5 20000 | HSK E

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
HSK25 E	ER16	22	43	HSK25-ER16M-43E	£204.87
HSK32 E	ER16	22	60	HSK32-ER16M-60E	£177.09
	ER25	35	60	HSK32-ER25M-60E	£183.72
HSK40 E	ER16	22	70	HSK40-ER16M-70E	£128.20
			120	HSK40-ER16M-120E	£150.67
	ER25	35	80	HSK40-ER25M-80E	£128.20
HSK50 E	ER16	22	80	HSK50-ER16M-80E	£122.91
			150	HSK50-ER16M-150E	£144.21
HSK63 E	ER16	22	90	HSK63-ER16M-90E	£126.87
			160	HSK63-ER16M-160E	£155.93

ER COLLET CHUCK HSK-F

Mini Nut (G2.5 20,000RPM)

P1037



- Balanced to G2.5 20,000RPM
- ≤160mm gauge length
- AD through coolant



G2.5 20000 | HSK F

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
HSK50 F	ER16	22	80	HSK50-ER16M-80F	£131.81
	ER25	35	160	HSK50-ER25M-160F	£204.08
HSK63 F	ER16	22	100	HSK63-ER16M-100F	£161.47
	ER25	35	160	HSK63-ER25M-160F	£204.08

ER COLLET CHUCK PSC
With Standard Nut

P1037

- Compatible with Capto turrets



PSC

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
PSC40	ER16	32	70	C40H70ER16	£157.84
	ER25	42	52	C40H52ER25	£157.84
	ER32	50	54	C40H54ER32	£162.57
PSC50	ER16	32	60	C50H60ER16	£126.45
			100	C50H100ER16	£149.14
	ER20	35	60	C50H60ER20	£126.45
	ER25	42	60	C50H60ER25	£126.45
			100	C50H100ER25	£149.14
	ER32	50	60	C50H60ER32	£126.45
			100	C50H100ER32	£149.14
	ER40	63	65	C50H65ER40	£126.45
			100	C50H100ER40	£149.14
PSC63	ER16	32	60	C63H60ER16	£126.98
			100	C63H100ER16	£152.42
	ER20	35	60	C63H60ER20	£130.79
			100	C63H100ER20	£156.99
	ER25	42	60	C63H60ER25	£126.98
			100	C63H100ER25	£152.42
	ER32	50	60	C63H60ER32	£126.98
			100	C63H100ER32	£152.42
	ER40	63	70	C63H70ER40	£126.98
PSC80	ER25	42	70	C80H70ER25	£216.14
	ER32	50	70	C80H70ER32	£216.14
	ER40	63	70	C80H70ER40	£216.14
PSC100	ER32	50	100	18.453.100.32	£324.29
			160	18.453.100.32/160	£355.95
	ER40	63	100	18.453.100.40	£324.29
			160	18.453.100.40/160	£355.95

ER COLLET CHUCK PSC
With Mini Nut

P1037

- Compatible with Capto turrets



PSC

CANELA

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
PSC63	ER16	22	60	C63H60ER16M	£224.43
			100	C63H100ER16M	£224.43
	ER20	28	60	C63H60ER20M	£224.43
			100	C63H100ER20M	£307.40

DOUBLE ASSEMBLY POT PSC

- For vertical and horizontal assembly



KINTEK

Taper	Capto Ref.	Order Code	Price
PSC40	C4	237-33210	£456.59
PSC50	C5	237-33310	£456.59
PSC63	C6	237-33410	£498.90
PSC80	C8	237-33510	£758.45

ER COLLET CHUCK ISO
DIN 2080

P1037

- For metric draw bars
- ER16 supplied with hexagon nut
- Balanced to G6.3 8,000RPM



G6.3 8000

DIN 2080

CUTWEL PRO

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
ISO30	ER16	28	70	ISO30-ER16-70	£35.93
	ER32	50	70	ISO30-ER32-70	£35.93
ISO40	ER16	28	50	ISO40-ER16-50	£24.99
			100	ISO40-ER16-100	£29.99
			160	ISO40-ER16-160	£49.99
	ER25	42	70	ISO40-ER25-50	£39.80
			100	ISO40-ER25-100	£29.99
			160	ISO40-ER25-160	£49.99
	ER32	50	70	ISO40-ER32-70	£24.99
			100	ISO40-ER32-100	£29.99
			160	ISO40-ER32-160	£49.99
	ER40	63	70	ISO40-ER40-70	£39.80
			100	ISO40-ER40-100	£29.99
ISO50	ER16	28	100	ISO50-ER16-100	£96.99
	ER25	42	100	ISO50-ER25-100	£96.99
	ER32	50	100	ISO50-ER32-100	£96.99
	ER40	63	100	ISO50-ER40-100	£109.52

ER COLLET CHUCK ISO
DIN 2080 Quick Change

- Quick change 30 & 40 taper
- Compatible with Bristol Erickson quick change tooling system
- Balanced to G6.3 8,000RPM



G6.3 8000

QC

BISON

Taper	ER	Nut Dia.	Gauge Length	Order Code	Price
QC30	ER16	32	50	ISO30-ER16-50QC	£78.00
	ER32	50	50	ISO30-ER32-50QC	£69.50
QC40	ER16	32	100	7616-40-16-100QC	£94.59
	ER32	50	60	7616-40-32-60QC	£90.21

DOUBLE ASSEMBLY POT DIN 2080

- For vertical and horizontal assembly



KINTEK

Taper	Order Code	Price
ISO30	237-32110	£283.74
ISO40	237-32310	
ISO50	237-32510	

ER COLLET CHUCK R8

P1037



- For bridgeport & conventional milling machines



R8

CUTWEL PRO

Taper	ER	Keyway	Drawbar	Nut Diameter	Order Code	Price
R8	ER16	5mm	7/16 x 20UNF	32	R8-ER16	£52.68
	ER25			42	R8-ER25	
	ER32			50	R8-ER32	
	ER40			63	R8-ER40	

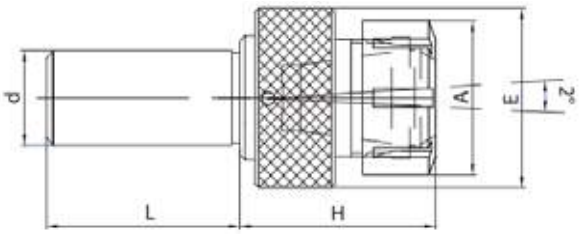
FLOATING TOOLHOLDERS FOR ER COLLETS

P1037



- For bridgeport & conventional milling machines





KINTEK

d	L	H	Clamping Range	ER	E	Order Code	Price
16	46	40	2-7	ER11	40	832-021184	£209.25
25	46	48	2-13	ER20	40	832-021185	
25	46	50	2-16	ER25	61	832-021186	
25	50	58	3-20	ER32	61	832-021187	

WRENCHES & NUTS STANDARD ER COLLET CHUCKS

	Hexagon Nut		Standard Nut					
	ER16	ER20	ER16	ER20	ER25	ER32	ER40	ER50
Wrench	WER16	WER20	WER16-2	WER20-2	WER25	WER32	WER40	WER50
Nut	CN16	CN20	CN16-2	CN20-2	CN25	CN32	CN40	CN50

WRENCHES & NUTS MINI NUT ER COLLET CHUCKS (CUTWEL PRO)

	Mini Nut			
	ER11	ER16	ER20	ER25
Wrench	WM11-2	WM16-2	WM20-2	WM25-2
Nut	CNM11-2	CNM16-2	CNM20-2	CNM25-2

ER COLLET CHUCK EXTENSIONS R8
With Standard Nut

P1037

- Straight cylindrical shank DIN 6499
- ER16 supplied with hexagon nut



DIN 6499

CUTWEL PRO

Shank Dia.	ER	Nut Dia.	Shank Length	Head Length	Order Code	Price
16	ER16	32	60	36	C16-ER16-60	£24.99
			100		C16-ER16-100	
	ER25	42	35	46	C16-ER25-35	£24.99
			70		C16-ER25-70	
20	ER16	32	50	31	C20-ER16-50	£24.99
			100		C20-ER16-100	
			160		C20-ER16-160	
	ER25	42	50	46	C20-ER25-50	£24.99
			100		C20-ER25-100	
			150		C20-ER25-150	
	ER32	50	50	54	C20-ER32-50	£24.99
			100		C20-ER32-100	
			160		C20-ER32-160	
25	ER25	42	100	46	C25-ER25-100	£29.99
			150		C25-ER25-150	
	ER32	50	50	54	C25-ER32-50	£29.99
			70		C25-ER32-70	
			80		C25-ER32-80	
			160		C25-ER32-160	
	ER40	63	50	60	C25-ER40-50	£29.99
			100		C25-ER40-100	
32	ER25	42	60	28	C32-ER25-60	£29.99
			120		C32-ER25-120	
	ER32	50	50	38	C32-ER32-50	£29.99
			100		C32-ER32-100	
			150		C32-ER32-150	
	ER40	63	100	60	C32-ER40-100	£29.99
40	ER25	42	70	42	C40-ER25-70	£39.00
			120		C40-ER25-120	
	ER32	50	100	30	C40-ER32-100	£39.00
			130		C40-ER32-130	
	ER40	63	80	60	C40-ER40-80	£39.00
			130		C40-ER40-130	
50	ER32	50	155	32	C50-ER32-155	£57.93
	ER40	63	160	37	C50-ER40-160	£57.93

ER COLLET CHUCK EXTENSIONS
With Mini Nut

P1037

- Straight cylindrical shank DIN 6499



DIN 6499

CUTWEL PRO

Shank Dia.	ER	Nut Dia.	Shank Length	Head Length	Order Code	Price
6	ER11	16	45	30	C6-ER11-45M	£35.01
8	ER11	16	55	30	C8-ER11-55M	£35.01
			100		C8-ER11-100M	
10	ER11	16	55	30	C10-ER11-55M	£24.99
			100		C10-ER11-100M	
	ER16	22	60	39	C10-ER16-60M	£24.99
			100		C10-ER16-100M	
12	ER11	16	55	30	C12-ER11-55M	£24.99
			100		C12-ER11-100M	
	ER16	22	80	37	C12-ER16-80M	£24.99
			120		C12-ER16-120M	
16	ER11	16	50	22	C16-ER11-50M	£24.99
			100		C16-ER11-100M	
			160		C16-ER11-160M	
	ER16	22	100	40	C16-ER16-100M	£24.99
	ER20	28	55	42	C16-ER20-55M	£24.99
			130		C16-ER20-130M	
20	ER11	16	50	22	C20-ER11-50M	£24.99
			100		C20-ER11-100M	
	ER16	22	100	30	C20-ER16-100M	£24.99
			150		C20-ER16-150M	
	ER20	28	60	42	C20-ER20-60M	£24.99
			100		C20-ER20-100M	
			200		C20-ER20-200M	
	ER25	35	60	46	C20-ER25-60M	£24.99
			100		C20-ER25-100M	
25	ER16	22	60	27	C25-ER16-60M	£29.99
			100		C25-ER16-100M	
			160		C25-ER16-160M	
	ER20	28	100	28	C25-ER20-100M	£24.99
			160		C25-ER20-160M	
	ER25	35	120	32	C25-ER25-120M	£29.99
32	ER16	22	90	30	C32-ER16-90M	£29.99
	ER20	28	90	27	C32-ER20-90M	£29.99

ER COLLET CHUCK MORSE TAPER
With Standard Nut

P1037

- DIN 228-A morse taper with thread
- ER16 supplied with hexagon nut



DIN 228-A 1 ~ 4

CUTWEL PRO

Shank Dia.	ER	Nut Dia.	Head Length	Order Code	Price
MT1	ER16	32	40	CM1H40ER16	£55.08
MT2	ER16	32	42	CM2H42ER16	£55.08
	ER20	35	50	CM2H50ER20	
MT3	ER25	42	53	CM3H53ER25	£63.53
	ER32	50	70	CM3H70ER32	
MT4	ER32	50	60	CM4H60ER32	£75.57
	ER40	63	81	CM4H81ER40	£77.18

ER COLLET CHUCK MORSE TAPER
With Mini Nut

P1037

- DIN 228-A morse taper with thread



DIN 228-A 1 ~ 3

CUTWEL PRO

Shank Dia.	ER	Nut Dia.	Head Length	Order Code	Price
MT1	ER11	40	22	CM1H25ER11M	£55.08
	ER16	25	16	CM1H40ER16M	
MT2	ER16	42	22	CM2H42ER16M	£55.08
	ER25	54	35	CM2H54ER25M	
MT3	ER16	43	22	CM3H43ER16M	£66.73
	ER25	58	35	CM3H58ER25M	

ER COLLET SETS

- Run-out <0.01µm or <0.005µm

Type A



Type B



Type C&D



CUTWEL PRO

ER	No. of Collets	Sizes Included	Order Code					
			0.01mm Run Out Type A	Price	0.005mm Run Out Type B	Price	0.005mm - Type C 0.002mm - Type D (HP)	Price
ER11	7	1, 2, 3, 4, 5, 6, 7	-	-	ER11-7HPC	£76.23	-	-
	13	1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7	ER11-13PCS	£63.86	ER11-13HPC	£141.57	GERC11(SET)	£324.12
ER16	5	2, 4, 6, 8, 10	-	-	ER16-5HPC	£54.45	GERC16-HP(SET)	£299.00
	10	1, 2, 3, 4, 5, 6, 7, 8, 9, 10	ER16-10PCS	£52.07	ER16-10HPC	£108.90	GERC16(SET)	£251.28
ER20	6	2, 4, 6, 8, 10, 12	-	-	ER20-6HPC	£65.34	GERC20-HP(SET)	£325.00
	12	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	ER20-12PCS	£65.18	ER20-12HPC	£130.68	GERC20(SET)	£245.00
ER25	6	4, 6, 8, 10, 12, 16	-	-	ER25-6HPC	£67.12	GERC25-HP(SET)	£375.00
	15	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	ER25-15PCS	£82.17	ER25-15HPC	£167.81	GERC25(SET)	£325.00
ER32	7	4, 6, 8, 10, 12, 16, 20	-	-	ER32-7HPC	£79.70	GERC32-HP(SET)	£399.00
	18	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	ER32-18PCS	£98.60	ER32-18HPC	£204.93	GERC32(SET)	£399.00
ER40	8	4, 6, 8, 10, 12, 16, 20, 25	-	-	ER40-8HPC	£118.80	-	-
	23	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	ER40-23PCS	£134.24	ER40-23HPC	£345.86	GERC40(SET)	£599.00

THROUGH COOLANT ER COLLET SETS

- Run-out <0.005µm or <0.01µm
- For through coolant tools



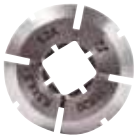


KINTEK

ER	No. of Collets	Sizes Included	Order Code			
			0.01mm Run Out - Type E	Price	0.005mm Run Out - Type F	Price
ER16	4	4, 6, 8, 10	ER16-4VGD	£91.28	ER16-4VGD-HP	£200.57
	8	3, 4, 5, 6, 7, 8, 9, 10	ER16-8VGD	£87.12	ER16-8VGD-HP	£408.56
ER20	5	4, 6, 8, 10, 12	ER20-5VGD	£55.44	ER20-5VGD-HP	£97.02
	11	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13	ER20-11VGD	£223.14	ER20-11VGD-HP	£255.95
ER25	6	4, 6, 8, 10, 12, 16	ER25-6VGD	£68.90	ER25-6VGD-HP	£300.87
	14	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	ER25-14VGD	£160.78	ER25-14VGD-HP	£715.00
ER32	7	4, 6, 8, 10, 12, 16, 20	ER32-7VGD	£85.77	ER32-7VGD-HP	£141.37
	18	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	ER32-18VGD	£212.06	ER32-18VGD-HP	£892.50
ER40	8	4, 6, 8, 10, 12, 16, 20, 25	ER40-8VGD	£213.58	ER40-8VGD-HP	£433.96
	23	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	ER40-23VGD	£609.14	ER40-23VGD-HP	£1,270.77

TAPPING ER COLLET SETS

- With square drive for tapping







CUTWEL PRO

ER	No. of Collets	Sizes Included	Order Code	Price
ER16	4	3.5, 4.5, 6, 7	ER16MD-4PCS	£55.44
ER20	7	3.5, 4.5, 6, 7, 8, 9, 10	ER20MD-7PCS	£183.20
ER25	9	3.5, 4.5, 6, 7, 8, 9, 10, 11, 12	ER25MD-9PCS	£122.96
ER32	10	4.5, 6, 7, 8, 9, 10, 11, 12, 14, 16	ER32MD-10PCS	£140.58
ER40	11	6, 7, 8, 9, 10, 11, 12, 14, 16, 18, 20	ER40MD-11PCS	£316.56

STANDARD PRECISION <0.01MM TYPE A

- Spring type (0.5-2mm collapse)
- DIN 6499/R
- Run-out <0.01mm*

*ER50 run-out <0.015mm



DIN 6499/R | <10µm Run-out

CUTWEL PRO

ER	Clamping Range	Collet Size Range	Collapsing Range	Order Code	Price
ER11	0.5-7	1-7 (0.5 incs.)	0.5	ER11-_	**£6.90**
ER16	0.5-3.5 3-10	1-3.5 (0.5 incs.) 4-10 (1 incs.)	0.5 1.0	ER16-_	**£5.99**
ER20	0.5-3 3-13	1-3 (0.5 incs.) 4-13 (1 incs.)	0.5 1.0	ER20-_	**£6.99**
ER25	0.5-3 3-16	1-3 (0.5 incs.) 4-16 (1 incs.)	0.5 1.0	ER25-_	**£6.99**
ER32	1-2.5 2.5-20	2-2.5 (0.5 incs.) 3-20 (1 incs.)	0.5 1.0	ER32-_	**£7.45**
ER40	2-30	3-26 (1 incs.) +30	1.0	ER40-_	**£8.50**
ER50	4-34	6-34 (1 incs.)	2.0	ER50-_	**£19.00**

HIGH PRECISION <0.005MM TYPE B

- Nominal diameter clamping only
- DIN 6499/B
- Run-out <0.005mm
- Improve tool life with higher precision ER collets



DIN 6499/B | <5µm Run-out

CUTWEL PRO

ER	Clamping Range	Collet Size Range	Order Code	Price
ER11	1-7	1-7 (0.5 incs.)	ER11HPD-_	**£14.00**
ER16	1-10	1-2.5 (0.5 incs.) 3-10 (1 incs.)	ER16HPD-_	**£12.90**
ER20	1-13	1-13 (1 incs.)	ER20HPD-_	**£14.00**
ER25	1-16	1-16 (1 incs.)	ER25HPD-_	**£15.00**
ER32	2-20	2-20 (1 incs.)	ER32HPD-_	**£15.00**
ER40	3-30	3-30 (1 incs.)	ER40HPD-_	**£18.00**

ANTI-CORROSION HIGH PRECISION <0.005MM TYPE C



Microfilm coating prevents rust or corrosion from coolant, cleaning solutions, salts or gases.

- Special 12 slot design for increased accuracy & higher clamping forces
- Spring type (0.5-1mm collapse)
- Microfilm anti-corrosion coating
- Made in Germany
- Run-out <0.005mm



<5µm Run-out

KORLOY

ER	Clamping Range	Collet Size Range	Collapsing Range	Order Code	Price
ER11	0.5-7	1-7 (0.5 incs.)	0.5	GERC11-_ _	**£26.21**
ER16	1-10	1-2 (1 incs.) 3-10 (1 incs.)	0.5 1.0	GERC16-_ _	**£24.99**
ER20	1.5-13	2 (1 incs.) 3-13 (1 incs.)	0.5 1.0	GERC20-_ _	**£22.00**
ER25	1.5-16	2 (1 incs.) 3-16 (1 incs.)	0.5 1.0	GERC25-_ _	**£22.00**
ER32	2-20	3-20 (1 incs.)	1.0	GERC32-_ _	**£23.00**
ER40	3-26	4-26 (1 incs.)	1.0	GERC40-_ _	**£29.00**

ANTI-CORROSION ULTRA PRECISION <0.002MM TYPE D



Microfilm coating prevents rust or corrosion from coolant, cleaning solutions, salts or gases.

- Special 12 slot design for increased accuracy & higher clamping forces
- Nominal diameter clamping only
- Microfilm anti-corrosion coating
- Made in Germany
- Run-out <0.002mm



<2µm Run-out

KORLOY

ER	Clamping Range	Collet Size Range	Order Code	Price
ER16	3-10	3-6 (1 incs.) 8-10 (2 incs.)	GERC16-_ _HP	**£55.00**
ER20	3-13	3-6 (1 incs.) 8-12 (2 incs.)	GERC20-_ _HP	
ER25	4-16	4-16 (2 incs.)	GERC25-_ _HP	
ER32	4-20	4-20 (2 incs.)	GERC32-_ _HP	

STANDARD PRECISION <0.01MM TYPE E MAX PRESSURE 30 BAR

- Nominal diameter clamping only
- DIN 6499/A
- Run-out <0.01mm



DIN 6499/A | <10µm Run-out

CUTWEL PRO

ER	Collet Size Range	Order Code	Price
ER11	1-7 (0.5 incs.)	ER11VGD-_ _	£35.00
ER16	1-10 (1 incs.)	ER16VGD-_ _	£19.99
ER20	3-13 (1 incs.)	ER20VGD-_ _	£19.99
ER25	2-16 (1 incs.)	ER25VGD-_ _	£19.99
ER32	3-20 (1 incs.)	ER32VGD-_ _	£19.99
ER40	4-26 (1 incs.)	ER40VGD-_ _	£25.00

STANDARD PRECISION <0.01MM TYPE G HIGH PRESSURE MAX 130 BAR

- Nominal diameter clamping only
- DIN 6499/A
- Run-out <0.01mm



DIN 6499/A | <10µm Run-out

CUTWEL PRO

ER	Collet Size Range	Order Code	Price
ER16	1-10 (1 incs.)	ERC16D-_ _	£18.21
ER20	3-13 (1 incs.)	ERC20D-_ _	£18.21
ER25	2-16 (1 incs.)	ERC25D-_ _	£19.33
ER32	3-20 (1 incs.)	ERC32D-_ _	£20.48
ER40	4-26 (1 incs.)	ERC40D-_ _	£21.61

TYPE MD SQUARE DRIVE

- Nominal diameter clamping only
- Square drive prevents tap from slipping in ER collet



CUTWEL PRO

ER	Shank Range	Square Range	Order Code	Price
ER16	3.5-8	2.7-6.2	ER16MD-_ _	£20.97
ER20	3.5-10	2.7-8	ER20MD-_ _	£20.97
ER25	3.5-12	2.7-9	ER25MD-_ _	£20.97
ER32	3.5-14	3.5-2.7	ER32MD-_ _	£22.27
ER40	6-20	4.9-16	ER40MD-_ _	£24.90

HIGH PRECISION <0.005MM TYPE F MAX PRESSURE 30 BAR

- Nominal diameter clamping only
- DIN 6499/A
- Run-out <0.005mm



DIN 6499/A | <5µm Run-out

CUTWEL PRO

ER	Collet Size Range	Order Code	Price
ER11	1-7 (0.5 incs.)	ER11VGHPD-_ _	£45.00
ER16	1-10 (1 incs.)	ER16VGHPD-_ _	£35.00
ER20	3-13 (1 incs.)	ER20VGHPD-_ _	£35.00
ER25	2-16 (1 incs.)	ER25VGHPD-_ _	£35.00
ER32	3-20 (1 incs.)	ER32VGHPD-_ _	£35.00
ER40	4-26 (1 incs.)	ER40VGHPD-_ _	£45.00

TYPE ERB SQUARE DRIVE WITH TENSION

- With tension length compensation
- Nominal diameter clamping only
- Square drive prevents tap from slipping in ER collet



CUTWEL PRO

ER	Shank Range	Square Range	Tension	Order Code	Price
ER16	2.5-6	2.1-4.9	7mm	ERB16	£77.28
ER20	2.5-7	2.1-5.5	7mm	ERB20	£77.28
ER25	2.5-9	2.1-7	8mm	ERB25	£77.28
ER32	4.5-12	3.4-9	10mm	ERB32	£77.28
ER40	6-16	4.9-12	13mm	ERB40	£155.87

SYNCHRO ER TAP CHUCKS P1088



TENSION & COMPRESSION ER TAP CHUCKS P1094



End Mill Holders



End mill holders / side lock arbors for weldon shank tools.

Our comprehensive range of end mill holders cover all major taper types and sizes, with gauge lengths available up to 200mm. Our side lock arbors are available balanced from 15,000RPM G6.3 to 25,000RPM G2.5. Side lock arbors offer excellent protection against tool pull out and offer increased rigidity compared to ER collet chucks in roughing operations.

Advantages

- Excellent rigidity.
- Excellent protection against tool pull out.
- Economy (Cutwel Pro) and premium (YG-1) ranges available.

Features

- Balanced to minimum 15,000RPM G6.3 on most tapers.
- Side locking screw for weldon shank tools.
- For clamping shank diameters 6-50mm.

YG CANELA KINTEK CUTWEL PRO

Tool Selection

Description	Selection	Page
BT MAS	BT30, BT40, BT50	**1042**
DIN 69871	SK40, SK50	**1044**
HSK-A	HSK40-A, HSK50-A, HSK63-A, HSK100-A	**1046**
HSK-E	HSK50-E, HSK63-E	**1047**
HSK-F	HSK50-F, HSK63-F	**1047**
PSC CAPTO COMPATIBLE	PSC40, PSC50, PSC63, PSC80, PSC100	**1048**
DOUBLE CONTACT DBT	DBT30, DBT40, DBT50	**1043**
DOUBLE CONTACT DSK	DSK40, DSK50	**1043**
DIN 2080	ISO30, ISO40, ISO50	**1049**
QUICK CHANGE	QC30, QC40	**1049**
R8	Bridgeport Taper	**1049**

LENGTHS

Lengths	BT30	BT40/50	SK40/50	HSK-A 40/50	HSK-A 63/100	HSK-E	HSK-F	PSC	DBT DSK	DIN2080 ISO30/40/50	QC 30/40	R8
Extra Short	●	●	●	-	-	-	-	●	●	●	●	●
Standard (60-80mm)	●	●	●	●	●	●	●	●	●	●	●	●
Long (100-120mm)	-	●	●	-	●	-	-	-	-	-	-	-
Extended (160mm)	-	●	●	-	●	-	-	-	-	-	-	-
Extra Long (200mm)	-	●	●	-	-	-	-	-	-	-	-	-

END MILL HOLDER BT MAS

Standard Type (G6.3 15,000RPM)

P1122



- Balanced to G6.3 15,000RPM
- ≤200mm gauge length
- AD/B through coolant





G6.3 15000 | BT MAS

CUTWEL PRO

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT30	6	25	50	BT30-EMH6-50	**£24.99**
	8	28	50	BT30-EMH8-50	**£24.99**
	10	35	50	BT30-EMH10-50	**£24.99**
	12	42	55	BT30-EMH12-55	**£24.99**
	16	48	63	BT30-EMH16-63	**£24.99**
	20	52	63	BT30-EMH20-63	**£24.99**
BT40	6	25	50	BT40AD/B-EMH6-50	**£24.99**
			100	BT40H100-WE06	**£39.27**
			160	BT40H160-WE06	**£64.27**
			200	BT40H200-WE06	**£142.37**
	8	28	50	BT40AD/B-EMH8-50	**£24.99**
			100	BT40H100-WE08	**£39.27**
			160	BT40H160-WE08	**£61.41**
			200	BT40H200-WE08	**£142.37**
	10	35	63	BT40AD/B-EMH10-63	**£24.99**
			100	BT40H100-WE10	**£39.27**
			160	BT40H160-WE10	**£61.41**
			200	BT40H200-WE10	**£142.37**
	12	42	63	BT40AD/B-EMH12-63	**£24.99**
			100	BT40H100-WE12	**£39.27**
			160	BT40H160-WE12	**£61.41**
			200	BT40H200-WE12	**£142.37**
	14	44	63	BT40AD/B-EMH14-63	**£24.99**
			100	BT40H100-WE14	**£39.27**
			160	BT40H160-WE14	**£61.41**
			200	BT40H200-WE14	**£142.37**
	16	44	35	BT40AD/B-EMH16-35	**£47.55**
		48	63	BT40AD/B-EMH16-63	**£24.99**
		48	100	BT40H100-WE16	**£39.27**
		48	160	BT40H160-WE16	**£61.41**
		48	200	BT40H200-WE16	**£142.37**
	18	50	63	BT40AD/B-EMH18-63	**£24.99**
			100	BT40H100-WE18	**£41.13**
			160	BT40H160-WE18	**£61.41**
			200	BT40H200-WE18	**£142.37**
	20	44	35	BT40AD/B-EMH20-35	**£47.55**
		52	63	BT40AD/B-EMH20-63	**£24.99**
		52	100	BT40H100-WE20	**£41.13**
		52	160	BT40H160-WE20	**£61.41**
		52	200	BT40H200-WE20	**£142.37**
	25	44	35	BT40AD/B-EMH25-35	**£24.99**
		65	90	BT40AD/B-EMH25-90	**£24.99**
		50	100	BT40-SLA25-100	**£26.18**
		65	160	BT40H160-WE25	**£66.81**
		65	200	BT40H200-WE25	**£155.62**
	32	72	100	BT40AD/B-EMH32-100	**£24.99**
			160	BT40H160-WE32	**£71.85**
			200	BT40H200-WE32	**£175.51**
	40	90	120	BT40AD/B-EMH40-120	**£35.00**

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT50	6	25	63	BT50AD/B-EMH6-63	**£39.99**
			100	BT50H100-WE06	**£67.31**
			160	BT50H160-WE06	**£118.17**
			200	BT50H200-WE06	**£219.46**
	8	28	63	BT50AD/B-EMH8-63	**£39.99**
			100	BT50H100-WE08	**£67.31**
			160	BT50H160-WE08	**£118.17**
			200	BT50H200-WE08	**£219.46**
	10	35	65	BT50AD/B-EMH10-65	**£39.99**
			100	BT50H100-WE10	**£67.31**
			160	BT50H160-WE10	**£118.17**
			200	BT50H200-WE10	**£219.46**
	12	42	80	BT50AD/B-EMH12-80	**£39.99**
			100	BT50H100-WE12	**£67.31**
			160	BT50H160-WE12	**£118.17**
			200	BT50H200-WE12	**£219.46**
	14	44	80	BT50AD/B-EMH14-80	**£39.99**
			100	BT50H100-WE14	**£67.31**
			160	BT50H160-WE14	**£118.17**
	16	70	44	BT50AD/B-EMH16-44	**£122.03**
		48	80	BT50AD/B-EMH16-80	**£39.99**
		48	100	BT50H100-WE16	**£67.31**
		48	160	BT50H160-WE16	**£118.17**
	18	50	80	BT50AD/B-EMH18-80	**£39.99**
			100	BT50H100-WE18	**£67.31**
			160	BT50H160-WE18	**£118.17**
			200	BT50H200-WE16	**£219.46**
	20	70	44	BT50AD/B-EMH20-44	**£122.03**
		52	80	BT50AD/B-EMH20-80	**£39.99**
		52	100	BT50H100-WE20	**£67.31**
		52	160	BT50H160-WE20	**£118.17**
		52	200	BT50H200-WE20	**£219.46**
	25	70	44	BT50AD/B-EMH25-44	**£80.24**
		65	100	BT50AD/B-EMH25-100	**£39.99**
		65	160	BT50H160-WE25	**£118.17**
		65	200	BT50H200-WE25	**£228.93**
	32	80	44	BT50AD/B-EMH32-44	**£80.24**
		72	105	BT50AD/B-EMH32-105	**£39.99**
		72	160	BT50H160-WE32	**£118.17**
		72	200	BT50H200-WE32	**£244.05**
	40	90	120	BT50AD/B-EMH40-120	**£45.00**
		80	160	BT50H160-WE40	**£138.74**
		80	200	BT50H200-WE40	**£244.05**
	50	95	125	BT50AD/B-EMH50-125	**£314.45**

END MILL HOLDER (PREMIUM LINE) BT MAS

P1122

Standard Type (G6.3 15,000RPM)

- Balanced to G6.3 15,000RPM
- Standard gauge length
- AD/B through coolant



G6.3 15000 | BT MAS

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT40	6	25	50	YG-P2780301	£27.83
	8	28	50	YG-P2780302	£27.83
	10	35	63	YG-P2780303	£27.83
	12	42	63	YG-P2780304	£27.83
	14	44	63	YG-P2780305	£27.83
	16	48	63	YG-P2780306	£27.83
	18	50	63	YG-P2780307	£27.83
	20	52	63	YG-P2780308	£27.83
	25	65	90	YG-P2780309	£27.83
	32	72	100	YG-P2780310	£29.53
BT50	6	25	63	YG-P2780311	£47.15
	8	28	63	YG-P2780312	£44.11
	10	35	65	YG-P2780313	£44.11
	12	42	80	YG-P2780314	£44.11
	14	44	80	YG-P2780315	£44.11
	16	48	80	YG-P2780316	£44.11
	18	50	80	YG-P2780317	£44.11
	20	52	80	YG-P2780318	£44.11
	25	65	100	YG-P2780319	£47.75
	32	72	105	YG-P2780320	£50.67
	40	80	120	YG-P2780321	£60.28

END MILL HOLDER (PREMIUM LINE) BT MAS

P1122

Spray Nozzle Type (G6.3 15,000RPM)

- Balanced to G6.3 15,000RPM
- Standard gauge length
- AD/B through coolant
- With spray nozzles for peripheral tool coolant



G6.3 15000 | BT MAS

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT40	6	25	50	YG-P2778001	£35.00
	8	28	50	YG-P2778002	
	10	35	63	YG-P2778003	
	12	42	63	YG-P2778004	
	14	44	63	YG-P2778005	
	16	48	63	YG-P2778006	
	18	50	63	YG-P2778007	
	20	52	63	YG-P2778008	
	25	65	90	YG-P2778009	
	32	72	100	YG-P2778010	

END MILL HOLDER (PREMIUM LINE) BT MAS

P1122

Standard Type (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- Standard gauge length
- AD/B through coolant



G2.5 25000 | BT MAS

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT40	6	25	50	YG-P2773031	£29.00
	8	28	50	YG-P2773032	£29.00
	10	35	63	YG-P2773033	£29.00
	12	42	63	YG-P2773034	£29.00
	16	48	63	YG-P2773036	£29.00
	20	52	63	YG-P2773038	£29.00
	25	65	90	YG-P2773039	£29.00
	32	72	100	YG-P2773040	£35.00
BT50	16	48	80	YG-P2773046	£42.34
	20	52	80	YG-P2773048	£42.34
	25	65	100	YG-P2773049	£46.00
	32	72	100	YG-P2773050	£47.98

END MILL HOLDER (PREMIUM LINE) BT MAS

P1122

Standard Type (G6.3 15,000RPM)

DOUBLE CONTACT

- Face & taper contact
- Balanced to G6.3 15,000RPM
- Standard gauge length
- AD through coolant



G6.3 15000 | CBT

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
CBT40	6	25	60	YG-P2772927	£64.07
	8	28		YG-P2772928	£54.92
	10	35		YG-P2772929	£52.33
	12	42		YG-P2772930	£52.33
	16	48	90	YG-P2772931	£54.64
	20	52		YG-P2772901	£85.13
	25	65		YG-P2772902	£98.50
	32	72		YG-P2772903	£105.95
	40	80		YG-P2772904	£120.09

END MILL HOLDER DIN 69871

Standard Type (G6.3 15,000RPM)

P1122



- Balanced to G6.3 15,000RPM
- ≤200mm gauge length
- AD/B through coolant





G6.3 15000 | DIN 69871

CUTWEL PRO

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	6	25	50	SK40AD/B-EMH6-50	**£24.99**
			100	SK40H100-WE06	**£27.43**
			160	SK40H160-WE06	**£67.36**
			200	SK40H200-WE06	**£142.37**
	8	28	50	SK40AD/B-EMH8-50	**£24.99**
			100	SK40H100-WE08	**£27.43**
			160	SK40H160-WE08	**£64.37**
			200	SK40H200-WE08	**£142.37**
	10	35	50	SK40AD/B-EMH10-50	**£24.99**
			100	SK40H100-WE10	**£27.43**
			160	SK40H160-WE10	**£64.37**
			200	SK40H200-WE10	**£142.37**
	12	42	50	SK40AD/B-EMH12-50	**£24.99**
			100	SK40H100-WE12	**£27.43**
			160	SK40H160-WE12	**£64.37**
			200	SK40H200-WE12	**£142.37**
	14	44	50	SK40AD/B-EMH14-50	**£24.99**
			100	SK40H100-WE14	**£41.13**
			160	SK40H160-WE14	**£64.37**
			200	SK40H200-WE14	**£142.37**
	16	44	35	SK40AD/B-EMH16-35	**£24.99**
		48	63	SK40AD/B-EMH16-63	**£24.99**
		48	100	SK40H100-WE16	**£27.43**
		48	160	SK40H160-WE16	**£64.37**
		48	200	SK40H200-WE16	**£142.37**
	18	50	63	SK40AD/B-EMH18-63	**£24.99**
			100	SK40H100-WE18	**£41.13**
			160	SK40H160-WE18	**£64.37**
			200	SK40H200-WE18	**£142.37**
	20	44	35	SK40AD/B-EMH20-35	**£24.99**
		52	63	SK40AD/B-EMH20-63	**£24.99**
		52	100	SK40H100-WE20	**£27.43**
		52	160	SK40H160-WE20	**£64.37**
		52	200	SK40H200-WE20	**£142.37**
	25	44	35	SK40AD/B-EMH25-35	**£24.99**
		65	100	SK40AD/B-EMH25-100	**£24.99**
		65	160	SK40H160-WE25	**£70.02**
		65	200	SK40H200-WE25	**£142.37**
	32	72	100	SK40AD/B-EMH32-100	**£24.99**
			160	SK40H160-WE32	**£75.31**
			200	SK40H200-WE32	**£175.51**
	40	90	120	SK40AD/B-EMH40-120	**£35.00**

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK50	6	25	63	SK50AD/B-EMH6-63	**£39.99**
			100	SK50H100-WE06	**£70.54**
			160	SK50H160-WE06	**£123.84**
			200	SK50H200-WE06	**£232.72**
	8	28	63	SK50AD/B-EMH8-63	**£39.99**
			100	SK50H100-WE08	**£70.54**
			160	SK50H160-WE08	**£123.84**
			200	SK50H200-WE08	**£228.93**
	10	35	63	SK50AD/B-EMH10-63	**£39.99**
			100	SK50H100-WE10	**£70.54**
			160	SK50H160-WE10	**£123.84**
			200	SK50H200-WE10	**£228.93**
	12	42	63	SK50AD/B-EMH12-63	**£39.99**
			100	SK50H100-WE12	**£70.54**
			160	SK50H160-WE12	**£123.84**
			200	SK50H200-WE12	**£228.93**
	14	44	63	SK50AD/B-EMH14-63	**£39.99**
			100	SK50H100-WE14	**£70.54**
			160	SK50H160-WE14	**£123.84**
	16	48	63	SK50AD/B-EMH16-63	**£39.99**
			100	SK50H100-WE16	**£70.54**
			160	SK50H160-WE16	**£123.84**
	18	50	63	SK50AD/B-EMH18-63	**£39.99**
			100	SK50H100-WE18	**£70.54**
			160	SK50H160-WE18	**£123.84**
			200	SK50H200-WE16	**£228.93**
	20	52	63	SK50AD/B-EMH20-63	**£39.99**
			100	SK50H100-WE20	**£70.54**
			160	SK50H160-WE20	**£123.84**
			200	SK50H200-WE20	**£228.93**
	25	65	80	SK50AD/B-EMH25-80	**£39.99**
			160	SK50H160-WE25	**£123.84**
			200	SK50H200-WE25	**£240.29**
	32	72	100	SK50AD/B-EMH32-100	**£45.00**
			160	SK50H160-WE32	**£123.84**
			200	SK50H200-WE32	**£255.43**
	40	80	120	SK50AD/B-EMH40-120	**£45.00**
			160	SK50H160-WE40	**£152.97**
			200	SK50H200-WE40	**£244.05**
	50	95	125	SK50AD/B-EMH50-125	**£237.76**

END MILL HOLDER (PREMIUM LINE) DIN 69871

Standard Type (G6.3 15,000RPM)

P1122

- Balanced to G6.3 15,000RPM
- Standard gauge length
- AD/B through coolant



G6.3 150000 | DIN 69871

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	6	25	50	YG-P2531009	£27.83
	8	28	50	YG-P2531010	£27.83
	10	35	50	YG-P2531011	£27.83
	12	42	50	YG-P2531012	£27.83
	16	48	63	YG-P2531013	£27.83
	20	52	63	YG-P2531014	£27.83
	25	65	100	YG-P2531015	£27.83
	32	72	100	YG-P2531016	£29.53
SK50	6	25	63	YG-P2531017	£42.60
	8	28	63	YG-P2531018	£39.85
	10	35	63	YG-P2531019	£39.85
	12	42	63	YG-P2531020	£39.85
	16	48	63	YG-P2531021	£39.85
	20	52	63	YG-P2531022	£39.85
	25	65	80	YG-P2531023	£43.13
	32	72	100	YG-P2531024	£45.77
	40	80	100	YG-P2531025	£54.45

END MILL HOLDER (PREMIUM LINE) DIN 69871

Spray Nozzle Type (G6.3 15,000RPM)

P1122

- Balanced to G6.3 15,000RPM
- Standard gauge length
- AD/B through coolant
- With spray nozzles for peripheral tool coolant



G6.3 15000 | DIN 69871

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	6	25	50	YG-P2779001	£35.00
	8	28	50	YG-P2779002	
	10	35	50	YG-P2779003	
	12	42	50	YG-P2779004	
	16	48	63	YG-P2779006	
	20	52	63	YG-P2779008	
	25	65	100	YG-P2779009	
	32	72	100	YG-P2779010	

END MILL HOLDER (PREMIUM LINE) DIN 69871

Standard Type (G2.5 25,000RPM)

P1122

- Balanced to G2.5 25,000RPM
- Standard gauge length
- AD/B through coolant



G2.5 25000 | DIN 69871

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	6	25	50	YG-P2779030	£29.00
	8	28	50	YG-P2779031	£29.00
	10	35	50	YG-P2779032	£29.00
	12	42	50	YG-P2779033	£29.00
	16	48	63	YG-P2779034	£29.00
	20	52	63	YG-P2779035	£29.00
	25	65	100	YG-P2779036	£29.00
	32	72	100	YG-P2779037	£34.44
SK50	16	48	63	YG-P2779042	£41.35
	20	52	63	YG-P2779043	£41.35
	25	65	80	YG-P2779044	£45.03
	32	72	100	YG-P2779045	£47.98

END MILL HOLDER DIN 69871

Standard Type (G6.3 15,000RPM)

P1122

DOUBLE CONTACT

- Face & taper contact
- Balanced to G6.3 15,000RPM
- Standard gauge length
- AD through coolant



G6.3 15000 | DSK

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
DSK40	6	25	50	DSK40-EMH6-50	£89.00
	8	28		DSK40-EMH8-50	
	10	35		DSK40-EMH10-50	
	12	42		DSK40-EMH12-50	
	16	48	63	DSK40-EMH16-63	£89.00
	18	50		DSK40-EMH18-63	
	20	52		DSK40-EMH20-63	
	25	65	100	DSK40-EMH25-100	£89.00
	32	72		DSK40-EMH32-100	
DSK50	6	25	63	DSK50-EMH6-63	£165.00
	8	28		DSK50-EMH8-63	
	10	35		DSK50-EMH10-63	
	12	42		DSK50-EMH12-63	
	16	48		DSK50-EMH16-63	
	18	50		DSK50-EMH18-63	
	20	52		DSK50-EMH20-63	
	25	65	80	DSK50-EMH25-80	£165.00
	32	72	100	DSK50-EMH32-100	
	40	80	120	DSK50-EMH40-120	

END MILL HOLDER HSK-A

Standard Type (G6.3 15,000RPM)

- Balanced to G6.3 15,000RPM
- ≤200mm gauge length
- AD/B through coolant





G6.3 15000 | HSK A

CUTWEL PRO

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK40A	6	25	60	HSK40-EMH6-60A	**£121.44**
	8	28	60	HSK40-EMH8-60A	**£120.07**
	10	35	65	HSK40-EMH10-65A	**£120.07**
	12	42	70	HSK40-EMH12-70A	**£120.07**
	16	48	80	HSK40-EMH16-80A	**£120.07**
	20	52	80	HSK40-EMH20-80A	**£120.07**
HSK50A	6	25	65	HSK50-EMH6-65A	**£102.98**
	8	28		HSK50-EMH8-65A	**£96.84**
	10	35		HSK50-EMH10-65A	**£96.84**
	12	42	80	HSK50-EMH12-80A	**£96.84**
	14	42		HSK50-EMH14-80A	**£96.84**
	16	48		HSK50-EMH16-80A	**£96.84**
	18	48		HSK50-EMH18-80A	**£96.84**
	20	52		HSK50-EMH20-80A	**£96.84**
	25	65	105	HSK50-EMH25-105A	**£148.48**
HSK63A	6	25	65	HSK63-EMH6-65A	**£64.06**
			100	HSK63-EMH6-100A	**£75.68**
			160	HSK63-EMH6-160A	**£100.23**
	8	28	65	HSK63-EMH8-65A	**£60.19**
			100	HSK63-EMH8-100A	**£74.84**
			160	HSK63-EMH8-160A	**£96.94**
	10	35	65	HSK63-EMH10-65A	**£60.19**
			100	HSK63-EMH10-100A	**£74.84**
			160	HSK63-EMH10-160A	**£96.94**
	12	42	80	HSK63-EMH12-80A	**£60.19**
			100	HSK63-EMH12-100A	**£74.84**
			160	HSK63-EMH12-160A	**£96.94**
	14	42	80	HSK63-EMH14-80A	**£60.19**
			100	HSK63-EMH14-100A	**£74.84**
			160	HSK63-EMH14-160A	**£96.94**
	16	48	80	HSK63-EMH16-80A	**£60.19**
			100	HSK63-EMH16-100A	**£74.84**
			160	HSK63-EMH16-160A	**£96.94**
	18	48	80	HSK63-EMH18-80A	**£60.19**
			100	HSK63-EMH18-100A	**£74.84**
			160	HSK63-EMH18-160A	**£96.94**
	20	52	80	HSK63-EMH20-80A	**£60.19**
			100	HSK63-EMH20-100A	**£74.84**
			160	HSK63-EMH20-160A	**£96.94**
	25	65	105	HSK63-EMH25-105A	**£68.80**
			160	HSK63-EMH25-160A	**£102.64**
	32	72	110	HSK63-EMH32-110A	**£75.68**

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK100A	6	25	80	HSK100-EMH6-80A	**£99.88**
			160	HSK100-EMH6-160A	**£128.18**
			200	HSK100-EMH6-200A	**£183.09**
	8	28	80	HSK100-EMH8-80A	**£98.09**
			160	HSK100-EMH8-160A	**£123.68**
			200	HSK100-EMH8-200A	**£175.57**
	10	35	80	HSK100-EMH10-80A	**£98.09**
			160	HSK100-EMH10-160A	**£123.68**
			200	HSK100-EMH10-200A	**£175.57**
	12	42	80	HSK100-EMH12-80A	**£98.09**
			160	HSK100-EMH12-160A	**£123.68**
			200	HSK100-EMH12-200A	**£175.57**
	14	42	80	HSK100-EMH14-80A	**£98.09**
			160	HSK100-EMH14-160A	**£123.68**
			200	HSK100-EMH14-200A	**£175.57**
	16	48	100	HSK100-EMH16-100A	**£98.09**
			160	HSK100-EMH16-160A	**£123.68**
			200	HSK100-EMH16-200A	**£175.57**
	18	48	100	HSK100-EMH18-100A	**£98.09**
			160	HSK100-EMH18-160A	**£123.68**
			200	HSK100-EMH18-200A	**£175.57**
	20	52	100	HSK100-EMH20-100A	**£98.09**
			160	HSK100-EMH20-160A	**£123.68**
			200	HSK100-EMH20-200A	**£175.57**
	25	65	100	HSK100-EMH25-100A	**£108.92**
			160	HSK100-EMH25-160A	**£136.28**
			200	HSK100-EMH25-200A	**£190.89**
	32	72	100	HSK100-EMH32-100A	**£109.07**
			160	HSK100-EMH32-160A	**£155.61**
			200	HSK100-EMH32-200A	**£207.13**
	40	80	105	HSK100-EMH40-105A	**£120.81**
		105	160	HSK100-EMH40-160A	**£175.57**
			200	HSK100-EMH40-200A	**£222.89**
	50	100	160	HSK100-EMH50-160A	**£160.31**
			200	HSK100-EMH50-200A	**£238.81**

COOLANT TUBES & KEYS HSK-A

- For through coolant supply on HSK tool holders (sold separately)





	HSK50-A	HSK63-A	HSK100-A
Coolant Tube	950APR01	963APR01	910APR01
Coolant Tube Key	950CHVAR	963CHVAR	910CHVAR

END MILL HOLDER (PREMIUM LINE) HSK-A
Standard Type (G6.3 15,000RPM)

- Balanced to G6.3 15,000RPM
- AD through coolant



G6.3 15000 | HSK A

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK63A	6	25	65	YG-P2563001	£59.00
	8	28		YG-P2563002	
	10	35		YG-P2563003	
	12	42	80	YG-P2563004	
	16	48		YG-P2563006	
	20	52		YG-P2563008	
	25	65	110	YG-P2563009	
	32	25		YG-P2563010	

END MILL HOLDER (PREMIUM LINE) HSK-A
Standard Type (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- AD through coolant



G2.5 25000 | HSK A

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK63A	6	25	65	YG-P2775501	£65.00
	8	28		YG-P2775502	
	10	35		YG-P2775503	
	12	42	80	YG-P2775504	
	16	48		YG-P2775506	
	20	52		YG-P2775508	
	25	65	110	YG-P2775509	
	32	25		YG-P2775510	

END MILL HOLDER (PREMIUM LINE) HSK-A
Spray Nozzle Type (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- AD through coolant
- With spray nozzles for peripheral tool coolant



G2.5 25000 | HSK A

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK63A	6	25	65	YG-P2777201	£79.00
	8	28		YG-P2777202	
	10	35		YG-P2777203	
	12	42	80	YG-P2777204	
	16	48		YG-P2777205	
	20	52		YG-P2777208	
	25	65	110	YG-P2777209	
	32	25		YG-P2777210	

END MILL HOLDER HSK-E
Standard Type (G2.5 20,000RPM)

- Balanced to G2.5 20,000RPM



G2.5 20000 | HSK E

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK50E	6	25	65	HSK50-EMH6-65E	£100.19
	8	28		HSK50-EMH8-65E	£94.23
	10	35		HSK50-EMH10-65E	£94.23
	12	42	80	HSK50-EMH12-80E	£94.23
	14	42		HSK50-EMH14-80E	£94.23
	16	48		HSK50-EMH16-80E	£94.23
	18	48		HSK50-EMH18-80E	£94.23
	20	52		HSK50-EMH20-80E	£94.23
	25	65	105	HSK50-EMH25-105E	£144.47
HSK63E	6	25	65	HSK63-EMH6-65E	£87.93
	8	28		HSK63-EMH8-65E	£70.30
	10	35		HSK63-EMH10-65E	£70.30
	12	42	80	HSK63-EMH12-80E	£70.30
	14	42		HSK63-EMH14-80E	£70.30
	16	48		HSK63-EMH16-80E	£70.30
	20	52		HSK63-EMH20-80E	£70.30
	25	65	105	HSK63-EMH25-105E	£79.11
	32	72	110	HSK63-EMH32-110E	£84.06

END MILL HOLDER HSK-F
Standard Type (G2.5 20,000RPM)

- Balanced to G2.5 20,000RPM



G2.5 20000 | HSK F

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK50F	6	25	65	HSK50-EMH6-65F	£112.39
	8	28		HSK50-EMH8-65F	£106.41
	10	35		HSK50-EMH10-65F	£106.41
	12	42	80	HSK50-EMH12-80F	£106.41
	14	42		HSK50-EMH14-80F	
	16	48		HSK50-EMH16-80F	
	18	48		HSK50-EMH18-80F	
	20	52		HSK50-EMH20-80F	
	25	65	105	HSK50-EMH25-105F	£118.77
HSK63F	6	25	65	HSK63-EMH6-65F	£90.20
	8	28		HSK63-EMH8-65F	£86.07
	10	35		HSK63-EMH10-65F	£86.07
	12	42	80	HSK63-EMH12-80F	£86.07
	14	42		HSK63-EMH14-80F	
	16	48		HSK63-EMH16-80F	
	20	52		HSK63-EMH20-80F	

END MILL HOLDER PSC POLYGON SHANK

PSC ISO 26623

- Compatible with Capto



PSC

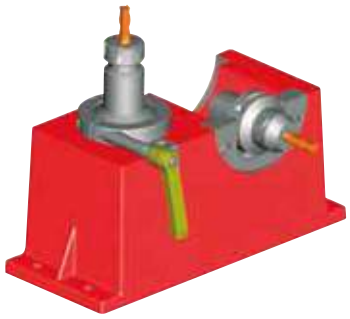
CANELA CUTWEL PRO

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
PSC40	6	25	50	C40H50WE06	
	8	28		C40H50WE08	£143.45
	10	35		C40H50WE10	
	12	42	55	C40H55WE12	
	14	44		C40H55WE14	£143.45
	16	48		C40H55WE16	
PCS50	6	25	55	C50H55WE06	£155.20
	8	28		C50H55WE08	
	10	35	65	C50H65WE10	£155.20
	12	42		C50H65WE12	
	14	42		C50H65WE14	
	16	48		C50H65WE16	
	18	48		C50H65WE18	
	20	52		C50H65WE20	
	25	65	80	C50H80WE25	£155.20
PSC63	6	25	55	C63H55WE06	£143.81
	8	28		C63H55WE08	
	10	35	60	C63H60WE10	£143.81
	12	42		C63H60WE12	
	14	44		C63H60WE14	
	16	48	65	C63H65WE16	£143.81
	20	52		C63H65WE20	
	25	64	80	C63H80WE25	£143.81
	32	72	90	C63H90WE32	£143.81
	40	92	80	18.306.063.40	£261.61

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
PSC80	6	25	70	C80H70WE06	£202.65
	8	28		C80H70WE08	
	10	35		C80H70WE10	
	12	42		C80H70WE12	
	14	44		C80H70WE14	
	16	48		C80H70WE16	
	20	50		C80H70WE20	
	25	52	80	C80H80WE25	£202.65
	32	72		C80H80WE32	
	40	80	110	C80H110WE40	
PSC100	12	42	100	18.306.100.12	£303.19
	16	48		18.306.100.16	
	20	52		18.306.100.20	
	25	65		18.306.100.25	
	32	72		18.306.100.32	
	40	80	120	18.306.100.40	£303.19
	50	100	130	18.306.100.50	

DOUBLE ASSEMBLY POT PSC

- For vertical and horizontal assembly



KINTEK

Taper	Capto Ref.	Order Code	Price
PSC40	C4	237-33210	£456.59
PSC50	C5	237-33310	£456.59
PSC63	C6	237-33410	£498.90
PSC80	C8	237-33510	£758.45

FULL RANGE OF PSC TAPER HOLDERS AT **CUTWEL.CO.UK**

- Milling, drilling & tapping holders
- Turning holders
- Adapters & extensions



Turning Tools & Boring Bars



Test Bars



Blanks



Boring Bar Holders



Turning Tool Holders



END MILL HOLDER ISO
DIN 2080

- For metric draw bars
- Balanced to 15,000RPM • G6.3 for metric draw bars
- Thread size - ISO30 - M12, ISO40 - M16, ISO50 - M24



G6.3 15000 | DIN 2080

CUTWEL PRO

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
ISO30	6	25	40	ISO30-EM6-40	£54.00
	8	28		ISO30-EM8-40	
	10	35		ISO30-EM10-40	
	12	42		ISO30-EM12-40	
	16	48	50	ISO30-EM16-50	£54.00
	20	52	63	ISO30-EM20-63	£54.00
	25	65	68	ISO30-EM25-68	£61.00
ISO40	6	25	50	ISO40-EM6-50	£39.19
	8	28		ISO40-EM8-50	
	10	35		ISO40-EM10-50	
	12	42		ISO40-EM12-50	
	16	48	63	ISO40-EM16-63	£39.19
	20	52		ISO40-EM20-63	
	25	65	80	ISO40-EM25-80	£39.19
	32	72	90	ISO40-EM32-90	£61.15
	40	80	100	ISO40-EM40-100	£82.17
ISO50	6	25	63	ISO50-EM6-63	£76.08
	8	28		ISO50-EM8-63	
	10	35		ISO50-EM10-63	
	12	42		ISO50-EM12-63	
	16	48		ISO50-EM16-63	
	20	52		ISO50-EM20-63	
	25	65	80	ISO50-EM25-80	
	32	72		ISO50-EM32-80	
	40	90	90	ISO50-EM40-90	

DOUBLE ASSEMBLY POT DIN 2080

- For vertical and horizontal assembly



KINTEK

Taper	Order Code	Price
ISO30	237-32110	£283.74
ISO40	237-32310	
ISO50	237-32510	

END MILL HOLDER ISO
DIN 2080 QC

- Compatible with Erickson Quick Change system
- Balanced to 15,000RPM • G6.3 for metric draw bars
- Thread size - ISO30 - M12, ISO40 - M16



G6.3 15000 | QC

CUTWEL PRO

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
QC30	6	25	50	ISO30-EM6-50QC	£70.00
	8	28		ISO30-EM8-50QC	
	10	35		ISO30-EM10-50QC	
	12	42		ISO30-EM12-50QC	
	16	48	63	ISO30-EM16-63QC	£70.00
	20	52		ISO30-EM20-63QC	
QC40	6	25	50	ISO40-EM6-50QC	£67.00
	8	28		ISO40-EM8-50QC	£63.00
	10	35		ISO40-EM10-50QC	£63.00
	12	42		ISO40-EM12-50QC	£63.00
	16	48	63	ISO40-EM16-63QC	£63.00
	20	52		ISO40-EM20-63QC	
	25	65	85	ISO40-EM25-85QC	£75.00
	32	72	90	ISO40-EM32-90QC	£94.00

END MILL HOLDERS R8

- R8 for bridgeport conventional milling machines
- Draw bar thread 7/16 -20 UNF



R8

CUTWEL PRO

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
R8	6	25	55	R8-SLA6-55	£25.00
	8	28	55	R8-SLA8-55	
	10	35	55	R8-SLA10-55	
	12	42	55	R8-SLA12-55	
	16	48	60	R8-SLA16-60	
	20	52	65	R8-SLA20-65	
	25	65	65	R8-SLA25-65	
	32	72	100	R8-SLA32-100	

Slim Chucks



For high speed & high precision machining without deflection.

Dine GSK Slim Collet chucks offer the flexibility of an ER collet chuck with the rigidity, precision and performance that is associated with high performance tool holders such as hydraulic or shrink fit chucks. Slim chucks are designed with an 8 degree collet taper angle (vs 16 degree for ER collets). This eliminates deflection and vibration commonly associated with ER collet chucks.

Advantages

- Versatility of an ER chuck without the deflection.
- Improved workpiece access due to the slimmer design.
- Increased tool life, accuracy & better surface finish.

Features

- More than twice the accuracy of standard ER collet chucks when used with <3µm ultra-precision through coolant collets.
- Balanced up to G2.5 25,000RPM.
- <5um run-out at 4xD.

Tool Selection

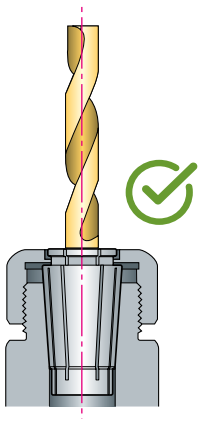
Description	Selection	Page
BT MAS	BT30, BT40, BT50	**1052**
DIN 69871	SK40, SK50	**1053**
HSK-A	HSK63-A, HSK100-A	**1054**
SLIM COLLETS	HC Series	**1055**

IMPROVED CONCENTRICITY & DEFLECTION

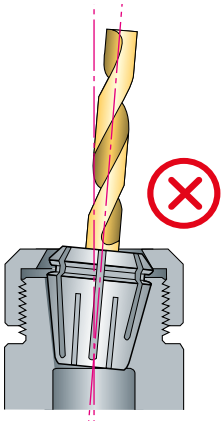
The 8° taper means the collet sits deeper in the body of the chuck which results in a number of benefits over standard ER collets.

POWERFUL CLAMPING WITH LESS EFFORT Double the clamping force can be produced what is possible with standard ER collet chucks while using a lower tightening torque.

HIGHER ACCURACY because clamping force is distributed equally at the circumference of the collet, tool deflection is greatly reduced, resulting in more than double the accuracy and rigidity of standard ER collets with run-out of less than 5µm.



SLIM COLLET CHUCK
8° Taper

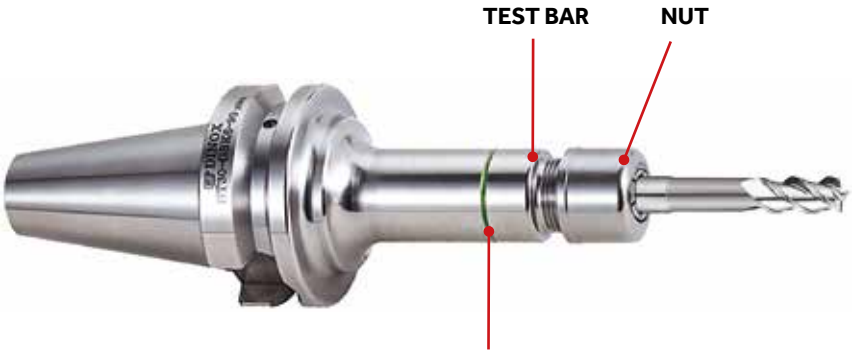


ER COLLET CHUCK
12°/16° Taper

CAN BE USED AS A TEST BAR



GSK collet chucks can be used as a test bar because both the chuck body and nuts are high quality ground to ensure micron repeatability and location accuracy.



GAUGE LENGTHS

Lengths	BT			SK		HSK-A	
	30	40	50	40	50	63	100
Standard (60-80mm)	●	-	-	●	-	-	-
Long (90-115mm)	●	●	●	●	●	●	-
Long (120-150mm)	-	●	●	●	-	●	●
Extended (155-170mm)	-	-	●	-	●	-	●

APPLICATION GUIDE

✓✓✓ 1st choice ✓✓ Highly suitable ✓ Only suitable in some applications ✕ Not recommended

MILLING					HOLE MAKING			PROPERTIES		
HPC	Rough	General	HSC	Finish	Drilling	Reaming	Tapping	Max. RPM	Run Out at 4xD	Damping
✓✓	✓✓	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✕	25000 G2.5	<5µm	-

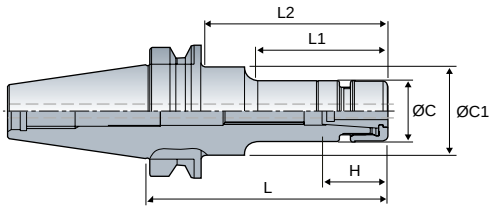
GSK SLIM CHUCKS BT MAS

P1055



- Balanced up to G2.5 25,000RPM
- Slim type collet chuck for high precision & high speed machining
- Run out <5µm with standard collets
- <3µm ultra-precision through coolant collets available on request
- 8° slim collets for minimised & reduced vibration





G2.5 <25000 | <5µm Run-out | BT MAS

KORLOY

Taper	Clamping Range	L	L1	L2	H	Collet	ØC	ØC1	Max. RPM	Order Code	Price
BT30	1 - 6	60	33	33	35	HC6	19.5	19.5	G2.5 25,000	BT30-GSK6-60	£147.00
		90	56	65				32		BT30-GSK6-90	£152.12
	2 - 10	60	35	35	50	HC10	27.5	27.5		BT30-GSK10-60	£153.14
		90	65	65						BT30-GSK10-90	£156.23
	3 - 16	60	37	37	60	HC16	40	40		BT30-GSK16-60	£163.44
		90	67	67						BT30-GSK16-90	£166.52
	16 - 25	90	67.5	67.5	63.5	HC25	55	55		BT30-GSK25-90	£177.82
BT40	1 - 6	90	51	61	35	HC6	19.5	32	G2.5 20,000	BT40-GSK6-90	£160.36
		120	60	90				32		BT40-GSK6-120	£165.49
		150	60	120				25		BT40-GSK6-150	£170.64
	2 - 10	90	48	60	50	HC10	27.5	40		BT40-GSK10-90	£160.36
		120	73	90				40		BT40-GSK10-120	£167.54
		150	73	118				34.5		BT40-GSK10-150	£171.66
	3 - 16	90	58	58	60	HC16	40	40		BT40-GSK16-90	£169.60
		120	88	88						BT40-GSK16-120	£169.60
		150	118	118						BT40-GSK16-150	£248.85
	4 - 20	90	60	60	70	HC20	48	48		BT40-GSK20-90	£172.68
		120	90	90						BT40-GSK20-120	£176.81
	16 - 25	90	61	61	75	HC25	55	55		BT40-GSK25-90	£181.93
		120	91	91						BT40-GSK25-120	£187.09
BT50	1 - 6	105	55	64	35	HC6	19.5	32	G2.5 15,000	BT50-GSK6-105	£192.21
		135	60	92						BT50-GSK6-135	£196.33
		165	60	114						BT50-GSK6-165	£241.15
	2 - 10	105	57	57	50	HC10	27.5	27.5		BT50-GSK10-105	£194.27
		135	70	92				32		BT50-GSK10-135	£215.84
		165	75	114				36		BT50-GSK10-165	£228.19
	3 - 16	105	62	62	60	HC16	40	40		BT50-GSK16-105	£211.74
		135	92	92				40		BT50-GSK16-135	£232.31
		165	40	122				50		BT50-GSK16-165	£245.68
	4 - 20	105	62	62	70	HC20	48	40		BT50-GSK20-105	£218.93
		135	92	92						BT50-GSK20-135	£218.93
		165	122	122						BT50-GSK20-165	£249.77
	16 - 25	105	62	62	85	HC25	55	55		BT50-GSK25-105	£229.21
		135	92	92						BT50-GSK25-135	£249.77
		165	122	122						BT50-GSK25-165	£260.00

WRENCH GSK SLIM CHUCKS

Chuck	GSK6	GSK10	GSK16	GSK20	GSK25
Wrench	GSK6SPANNER	GSK10SPANNER	GSK16SPANNER	GSK20SPANNER	GSK25SPANNER



cutwel

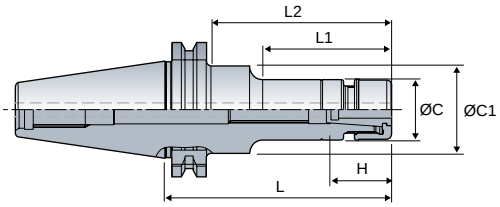
GSK SLIM CHUCKS DIN 69871 (SK)

P1055



- Slim type collet chuck for high precision & high speed machining
- Balanced up to G2.5 20,000RPM
- Run out <5µm with standard collets
- <3µm ultra-precision through coolant collets available on request
- 8° slim collets for minimised & reduced vibration





G2.5 <20000 | <5µm Run-out | DIN 69871

KORLOY

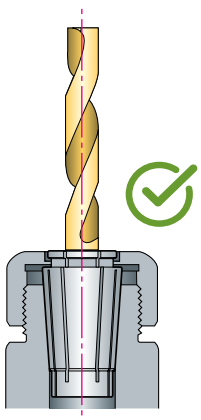
Taper	Clamping Range	L	L1	L2	Collet	D	Max. RPM	Order Code	Price
SK40	2.8 - 6	60	-	-	HC6	19.5	G2.5 20,000	SK40-GSK6-60	£157.28
		90	51	61				SK40-GSK6-90	£160.36
	1.75 - 10	90	48	60	HC10	27.5		SK40-GSK10-90	£160.36
		150	73	118				SK40-GSK10-150	£171.66
	2.75 - 16	90	58	58	HC16	40		SK40-GSK16-90	£169.60
		150	118	118				SK40-GSK16-150	£176.81
	3.6 - 20	90	60	60	HC20	48		SK40-GSK20-90	£172.68
	7.6 - 25	90	61	61	HC25	55		SK40-GSK25-90	£181.93
SK50	2.8 - 6	105	55	64	HC6	19.5	G2.5 15,000	SK50-GSK6-105	£192.21
		165	60	114				SK50-GSK6-165	£228.19
	1.75 - 10	105	57	57	HC10	27.5		SK50-GSK10-105	£205.31
		165	75	114				SK50-GSK10-165	£228.19
	2.75 - 16	105	62	62	HC16	40		SK50-GSK16-105	£211.74
		165	40	122				SK50-GSK16-165	£245.68
	3.6 - 20	105	62	62	HC20	48		SK50-GSK20-105	£218.93
		165	122	122				SK50-GSK20-165	£249.77
	7.6 - 25	105	62	62	HC25	55		SK50-GSK25-105	£229.21
		165	122	122				SK50-GSK25-165	£261.08

IMPROVED CONCENTRICITY & DEFLECTION

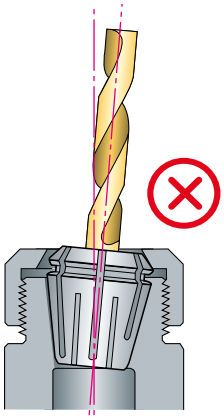
The 8° taper means the collet sits deeper in the body of the chuck which results in a number of benefits over standard ER collets.

POWERFUL CLAMPING WITH LESS EFFORT Double the clamping force can be produced what is possible with standard ER collet chucks while using a lower tightening torque.

HIGHER ACCURACY Because clamping force is distributed equally at the circumference of the collet, tool deflection is greatly reduced, resulting in more than double the accuracy and rigidity of standard ER collets with run-out of less than 5µm.



SLIM COLLET CHUCK
8° Taper



ER COLLET CHUCK
12°/16° Taper

WRENCH GSK SLIM CHUCKS

Chuck	GSK6	GSK10	GSK16	GSK20	GSK25
Wrench	GSK6SPANNER	GSK10SPANNER	GSK16SPANNER	GSK20SPANNER	GSK25SPANNER



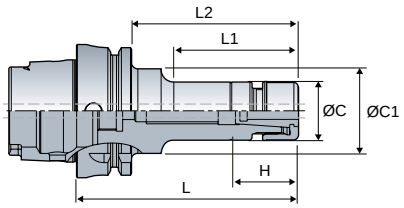
GSK SLIM CHUCKS HSK-A

P1055



- Slim type collet chuck for high precision & high speed machining
- Run out <5µm with standard collets, <3µm with ultra-precision collets
- 8° slim collets for minimised & reduced vibration
- Balanced up to G2.5 20,000RPM





G2.5 20000 | <5µm Run-out | HSK A

KORLOY

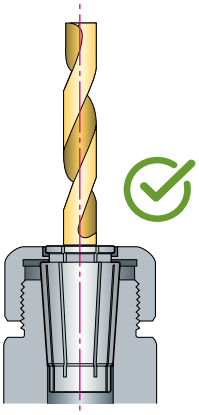
Taper	Clamping Range	L	L1	L2	H	Collet	ØC	ØC1	Max. RPM	Order Code	Price
HSK63A	1 - 6	100	51	61	35	HC6	19.5	32	G2.5 20,000	HSK63A-GSK6-100	**£226.13**
	2 - 6	105	73	118	50	HC10	27.5	34.5		HSK63A-GSK10-105	**£226.13**
	3 - 16	120	58	58	60	HC16	40	40		HSK63A-GSK16-120	**£236.43**
	4 - 20	120	60	60	70	HC20	48	48		HSK63A-GSK20-120	**£246.69**
HSK100A	1 - 6	120	55	64	35	HC6	19.5	32	G2.5 15,000	HSK100A-GSK6-120	**£253.95**
	2 - 10	120	57	57	50	HC10	27.5	27.5		HSK100A-GSK10-120	**£253.95**
	3 - 16	140	62	62	60	HC16	40	40		HSK100A-GSK16-140	**£355.52**
	16 - 25	155	62	62	85	HC25	55	55		HSK100A-GSK25-155	**£355.52**

IMPROVED CONCENTRICITY & DEFLECTION

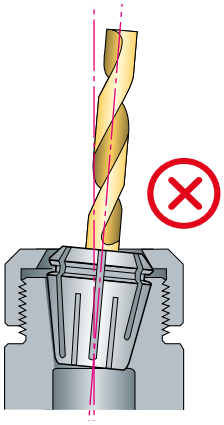
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SLIM COLLET CHUCK
8° Taper



ER COLLET CHUCK
12°/16° Taper

COOLANT TUBES & KEYS HSK-A

- For through coolant supply on HSK tool holders (sold separately)





	HSK50-A	HSK63-A	HSK100-A
Coolant Tube	950APR01	963APR01	910APR01
Coolant Tube Key	950CHVAR	963CHVAR	910CHVAR

WRENCH GSK SLIM CHUCKS

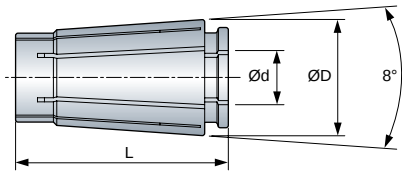
Chuck	GSK6	GSK10	GSK16	GSK20	GSK25
Wrench	GSK6SPANNER	GSK10SPANNER	GSK16SPANNER	GSK20SPANNER	GSK25SPANNER



HC SERIES SLIM COLLETS WITHOUT THROUGH COOLANT

- Run out <5µm
- <3µm ultra-precision through coolant collets available on request





<5µm Run-out

CUTWEL PRO

Ød Max.	Clamping Range	ØD	L	Order Code	Price
HC6					
6	1.8 - 2	10.5	18	HC6-2.0	£19.00
	2.3 - 2.5			HC6-2.5	
	2.8 - 3			HC6-3.0	
	3.3 - 3.5			HC6-3.5	
	3.6 - 4			HC6-4.0	
	4.1 - 4.5			HC6-4.5	
	4.6 - 5			HC6-5.0	
	5.1 - 5.5			HC6-5.5	
	5.6 - 6			HC6-6.0	
HC10					
10	1.75 - 2	15.5	25	HC10-2.0	£22.00
	2.3 - 2.5			HC10-2.5	
	2.8 - 3			HC10-3.0	
	3.3 - 3.5			HC10-3.5	
	3.6 - 4			HC10-4.0	
	4.1 - 4.5			HC10-4.5	
	4.6 - 5			HC10-5.0	
	5.1 - 5.5			HC10-5.5	
	5.6 - 6			HC10-6.0	
	6.1 - 6.5			HC10-6.5	
	6.6 - 7			HC10-7.0	
	7.1 - 7.5			HC10-7.5	
	7.6 - 8			HC10-8.0	
	8.1 - 8.5			HC10-8.5	
	8.6 - 9			HC10-9.0	
	9.1 - 9.5			HC10-9.5	
	9.6 - 10			HC10-10.0	
HC16					
16	2.75 - 3	24.6	36	HC16-3.0	£25.00
	3.2 - 3.5			HC16-3.5	
	3.6 - 4			HC16-4.0	
	4.1 - 4.5			HC16-4.5	
	4.6 - 5			HC16-5.0	
	5.1 - 5.5			HC16-5.5	
	5.6 - 6			HC16-6.0	
	6.1 - 6.5			HC16-6.5	
	6.6 - 7			HC16-7.0	
	7.1 - 7.5			HC16-7.5	
	7.6 - 8			HC16-8.0	
	8.1 - 8.5			HC16-8.5	
	8.6 - 9			HC16-9.0	
	9.1 - 9.5			HC16-9.5	
	9.6 - 10			HC16-10.0	
	10.6 - 11			HC16-11.0	
	11.6 - 12			HC16-12.0	
	12.6 - 13			HC16-13.0	
	13.6 - 14			HC16-14.0	
	14.6 - 15			HC16-15.0	
	15.6 - 16			HC16-16.0	

Ød Max.	Clamping Range	ØD	L	Order Code	Price
HC20					
20	3.6 - 4	29.1	45	HC20-4.0	£29.00
	4.1 - 4.5			HC20-4.5	
	4.6 - 5			HC20-5.0	
	5.1 - 5.5			HC20-5.5	
	5.6 - 6			HC20-6.0	
	6.1 - 6.5			HC20-6.5	
	6.6 - 7			HC20-7.0	
	7.1 - 7.5			HC20-7.5	
	7.6 - 8			HC20-8.0	
	8.1 - 8.5			HC20-8.5	
	8.6 - 9			HC20-9.0	
	9.1 - 9.5			HC20-9.5	
	9.6 - 10			HC20-10.0	
	10.6 - 11			HC20-11.0	
	11.6 - 12			HC20-12.0	
	12.6 - 13			HC20-13.0	
	13.6 - 14			HC20-14.0	
	14.6 - 15			HC20-15.0	
	15.6 - 16			HC20-16.0	
	16.6 - 17			HC20-17.0	
	17.6 - 18			HC20-18.0	
	18.6 - 19			HC20-19.0	
	19.6 - 20			HC20-20.0	
HC25					
25	7.6 - 8	35.6	48	HC25-8.0	£29.00
	9.6 - 10			HC25-10.0	
	11.6 - 12			HC25-12.0	
	15.6 - 16			HC25-16.0	
	16.6 - 17			HC25-17.0	
	17.6 - 18			HC25-18.0	
	18.6 - 19			HC25-19.0	
	19.6 - 20			HC25-20.0	
	20.6 - 21			HC25-21.0	
	21.6 - 22			HC25-22.0	
	22.6 - 23			HC25-23.0	
	23.6 - 24			HC25-24.0	
	24.6 - 25			HC25-25.0	

CUTWEL PRO

EZ CHANGE®

Quick change tooling system, ideal for conventional milling machines without automatic tool change.

- Change adapters in less than 5 seconds, no wrenches required
- Master shank available in R8, DIN2080, morse taper or straight shank
- Adapters available in ER collet chuck, sidelock arbor, jacobs taper drill chuck mount & face mill arbor
- Run-out <0.015mm
- Can also be used as a quick change system for CNC or conventional lathes using the 25mm or 32mm straight shank master



<5 SECOND TOOL CHANGE



Step 1 - Load the master shank into the machine.

Step 2 - Load the adapter into the master shank (no wrenches required) and start machining.

Step 3 - Remove adapter by pressing the brass locking button and rotate the collar to unlock.

Step 4 - Place new holder into the master shank.



Master Shank

R8
ISO30/40 (DIN 2080)
Straight (25mm & 32mm)
Morse Taper (MT2 & MT3)



Side Lock Adapter

6-25mm



ER Collet Chuck

ER16, ER25 & ER32



Face Mill Arbor

16 & 22mm spigot



Drill Chuck Mount

JT6

Scan to Watch

PLEASE NOTE: The Cutwel EZchange® system is designed for light or medium-duty applications where the ability to change tools quickly outweighs the need for extreme rigidity. We do not recommend using this system for heavy milling or high-production applications.

QUICK CHANGE MASTER SHANKS

- Change adapters in less than 5 seconds, no wrenches required
- Run-out <0.015mm



CUTWEL PRO

Shank / Taper	Standard	Order Code	Price
R8	R8	EZC-R8	£118.11
ISO30	DIN 2080	EZC-ISO30	
ISO40		EZC-ISO40	
25mm	Straight Shank (With Flats)	EZC-25	
32mm		EZC-32	
MT2	Morse Taper	EZC-MT2	
MT3		EZC-MT3	

END MILL HOLDER

- Change adapters in less than 5 seconds, no wrenches required
- Run-out <0.015mm



CUTWEL PRO

Clamping Diameter	Order Code	Price
6	EZC-EMH6	£73.27
8	EZC-EMH8	
10	EZC-EMH10	
12	EZC-EMH12	
16	EZC-EMH16	
20	EZC-EMH20	
25	EZC-EMH25	

ER COLLET CHUCK

- Change adapters in less than 5 seconds, no wrenches required
- Run-out <0.015mm



CUTWEL PRO

ER	Clamping Range	Order Code	Price
ER16	1-10	EZC-ER16	£73.27
ER25	1-16	EZC-ER25	
ER32	2-20	EZC-ER32	
ER40	2-30	EZC-ER40	

JACOBS TAPER DRILL CHUCK

- Change adapters in less than 5 seconds, no wrenches required
- Run-out <0.015mm



CUTWEL PRO

Jacobs Taper	Order Code	Price
JT6	EZC-JT6	£73.27

FACE MILL ARBOR

- Change adapters in less than 5 seconds, no wrenches required
- Run-out <0.015mm



CUTWEL PRO

Spigot	Face Mill Diameter	Order Code	Price
16	32/40	EZC-SMA16	£73.27
22	50/63	EZC-SMA22	

JACOBS TAPER DRILL CHUCK

- High precison
- Heavy duty type



Jacobs Taper	Diameter Range	Order Code	Price
JT6	1-13	5133-13-J6KL.II	£142.00
	3-16	5133-16-J6KL.II	£162.00

Hydraulic Chucks



High Performance Hydraulic Chucks from WTE & YG-1.

WTE hydraulic chucks are 100% made in Germany and are used by the world's leading automotive, aerospace and mould & die manufacturers. They offer market leading performance and the very best machining results. The YG-1 hydraulic chucks offer exceptional value on the most popular tapers of BT, DIN69871 and HSK-A whilst maintaining exceptional quality and performance.

Advantages

- No reduction in clamping force at high spindle speeds.
- Exceptional performance in drilling, reaming and high speed machining.
- Quick setup times, high run-out accuracy and increased tool life.

Features

- Flexible clamping range using reduction sleeves or possible to directly clamp the tool in the chuck.
- Vibration damping effect
- High radial stiffness.

Tool Selection

Description	Selection	Page
BT MAS	BT30, BT40, BT50	**1060**
DIN 69871	SK40, SK50	**1062**
HSK-A	HSK50-A, HSK63-A, HSK100-A	**1064**
HSK-E	HSK40-E, HSK50-E	**1066**
HSK-F	HSK63-F	**1066**
DOUBLE CONTACT DBT	DBT40	**1066**
EXTENSIONS	Hydraulic Chuck Extensions	**1066**
HYDRAULIC CHUCK SLEEVES	Open Type, Closed Type & Coolant Jets	**1067**

GEOMETRIES

SHORT & RIGID



Rigid, heavy duty model. Ideal for use with sleeves.

SLIM



Slimmer nose profile, ideal for nominal diameter clamping.

ULTRA SHORT



For extra long length drills.

LONG, SLIM & TAPERED



Ideal for 5 axis machining or mould and die.

ULTRA SLIM & TAPERED



Slimmest nose profile with long reach for 5 axis.

MAXIMUM TRANSFERABLE TORQUE WITH SLIM TYPE HYDRAULIC CHUCKS

Clamping Diameter	6	8	10	12	14	16	18	20	25	32
Minimum clamping depth	27	27	31	36	36	39	39	41	47	51
Torque Nm	30	45	85	140	160	230	270	400	470	730

MAXIMUM TRANSFERABLE TORQUE WITH HIGH TORQUE HYDRAULIC CHUCKS (POWER-E & HPH)

Clamping Diameter	6	8	10	12	14	16	18	20	25	32
Minimum clamping depth	27	27	31	36	36	39	39	41	47	51
Transferable torque (minimum value h6)	30	50	100	150	210	280	360	550	650	800
Transferable torque (maximum value h6)	40	65	135	190	280	380	450	650	750	890

APPLICATION GUIDE

✓✓✓ 1st choice ✓✓ Highly suitable ✓ Only suitable in some applications ✕ Not recommended

Geometry	MILLING					HOLE MAKING		
	HPC	Rough	General	HSC	Finish	Drilling	Reaming	Tapping
Short & Heavy (High Torque)	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓
Slim (High Torque)	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓			
Slim	✓	✓	✓✓✓	✓✓	✓✓✓			
Ultra Short	✕	✕	✓	✓	✓✓			
Long, Slim & Tapered	✕	✕	✓✓	✓✓	✓✓✓			
Long & Narrow	✓	✓	✓✓✓	✓✓	✓✓✓			

POWER-E HYDRO HYDRAULIC CHUCK BT MAS

Short & Heavy High Torque (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- High torque type for extreme clamping forces
- Short & heavy type for nominal diameter clamping or use with sleeves
- Excellent performance in rough milling, finishing, drilling, reaming & thread milling
- AD/B through coolant
- Up to 900Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | BT MAS

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
BT30	12	32	69	YG-P2776604P	£160.49
	20	38	90	YG-P2776602P	
BT40	12	42	58	YG-P2776601P	£127.73
	20	49.25	72.5	YG-P2554001P	
BT50	20	49.25	83.5	YG-P2755010P	£192.73
	32	72	90	YG-P2558001P	

HYDRAULIC CHUCK BT MAS

Slim Profile (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- Slim type for nominal diameter clamping
- Excellent performance in high speed milling, drilling & reaming
- AD/B through coolant (except BT30)
- Excellent performance in rough milling, finishing, drilling & reaming
- Up to 650Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | BT MAS

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT30	6	26	70	YG-P2770604A	£163.52
	8	28		YG-P2770605A	
	10	30	75	YG-P2770606A	
	12	32	85	YG-P2770607A	
	14	34		YG-P2770608A	
	16	38	90	YG-P2770601A	
	18	40		YG-P2770609A	
	20	42		YG-P2770602A	
BT40	6	26	90	YG-P2554003	£168.51
	8	28		YG-P2554021	
	10	30		YG-P2554005	
	12	32		YG-P2554002	
	16	38		YG-P2554006	
	20	42		YG-P2554007	
	25	50	100	YG-P2770641	£180.06
	32	60	105	YG-P2770612	£186.35
BT50	6	26	90	YG-P2770613	£229.51
	8	28		YG-P2770616	£229.51
	10	30		YG-P2770619	£229.51
	12	32		YG-P2770622	£224.08
	16	38		YG-P2770628	£224.08
	20	42		YG-P2770634	£224.08
	25	50	105	YG-P2770637	£242.61
	32	60	115	YG-P2770639	£248.17

HPH HYDRAULIC CHUCK BT MAS

Short & Heavy High Torque (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- High torque type for extreme clamping forces
- Short & heavy type for nominal diameter clamping or use with sleeves
- Excellent performance in rough milling, finishing, drilling, reaming & thread milling
- AD/B through coolant
- Up to 890Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | BT MAS

WTE MAPAL GROUP

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
Standard Type (Through Coolant)					
BT40	12	42	58	22.408.40.12.Z	£233.98
	20	49	72.5	22.408.40.20.Z	£233.98
BT50	12	42	46	22.408.50.12.Z	£310.25
	20	49	51	22.408.50.20.Z	£283.13
	32	72	61	22.408.50.32.Z	£283.13
KKB Type (Through Coolant + Resealable Coolant Bores)					
BT40	12	42	58	22.408.40.12.KKB	£322.46
	20	49	72.5	22.408.40.20.KKB	

HPH HYDRAULIC CHUCK BT MAS

Slim Type High Torque (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- Slim type for nominal diameter clamping
- High torque type for extreme clamping forces
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | BT MAS

WTE MAPAL GROUP

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
BT40	6	32	80	22.407.40.06.Z	£409.96
	8	34	80	22.407.40.08.Z	
	10	36	85	22.407.40.10.Z	
	12	38	90	22.407.40.12.Z	
	14	40	90	22.407.40.14.Z	
	16	42	95	22.407.40.16.Z	
	18	44	95	22.407.40.18.Z	
	20	48	100	22.407.40.20.Z	
	25	57	110	22.407.40.25.Z	
	32	63	120	22.407.40.32.Z	

HYDRAULIC CHUCK BT MAS
Slim Tapered Type (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- Slim 3° taper type, ideal for 5 axis machining or moulds
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | BT MAS

Taper	Dia.	Nose Dia.	Taper Length	Gauge Length	Order Code	Price
BT40	6	20	70	120	YG-P2770903	£223.62
	6	20	100	150	YG-P2770904	£248.69
	8	22	70	120	YG-P2770905	£223.62
	8	22	100	150	YG-P2770906	£248.69
	10	24	70	120	YG-P2770907	£223.62
	10	24	100	150	YG-P2770908	£248.69
	12	25	70	120	YG-P2770901	£220.67
	12	25	100	150	YG-P2770909	£245.73
	16	32	70	120	YG-P2770910	£220.67
	16	32	100	150	YG-P2770911	£245.73
	20	34	93	120	YG-P2770902	£220.67

HYDRAULIC CHUCK BT MAS
Ultra Short (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- Ultra-short gauge length for extra long length tools
- Excellent performance in high speed milling, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | BT MAS

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT40	20	49.5	32.5	YG-P2770642	£253.55

POWER-E HYDRO HYDRAULIC CHUCK KIT
Short & Heavy High Torque (G2.5 25,000RPM)

- Contains tool holder, 5 sleeves: 6, 8, 10, 12, 16 & wrench





Taper	Clamping Diameter	Chuck Included	Order Code	Price
BT40	20	BT40AD/B-HC20P-72.5	YG-P2770972	£349.00

HYDRAULIC CHUCK BT MAS
HPH Ultra-Slim Type (G2.5 25,000RPM)

P1122

- Balanced to G2.5 25,000RPM
- Ultra slim 3° taper type, ideal for 5 axis machining or moulds
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | BT MAS

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
BT30	3	10	85	22.404.30.03.Z/85	£420.77
	4	12		22.404.30.04.Z/85	
	5	13		22.404.30.05.Z/85	
	6	14		22.404.30.06.Z/85	
	8	16		22.404.30.08.Z/85	
	10	18		22.404.30.10.Z/85	
	12	20		22.404.30.12.Z/85	
	14	24		22.404.30.14.Z/85	
	16	26		22.404.30.16.Z/85	
	18	28		22.404.30.18.Z/85	
	20	30		22.404.30.20.Z/85	
BT40	3	9	120	22.404.40.03.Z/120	£437.48
	4	10		22.404.40.04.Z/120	
	5	11		22.404.40.05.Z/120	
	6	12	120	22.404.40.06.Z/120	£502.94
		16	160	22.404.40.06.Z/160	£589.85
		16	200	22.404.40.06.Z/200	£645.90
	8	14	120	22.404.40.08.Z/120	£437.48
		18	160	22.404.40.08.Z/160	£529.19
		18	200	22.404.40.08.Z/200	£645.90
	10	16	120	22.404.40.10.Z/120	£437.48
		20	160	22.404.40.10.Z/160	£589.85
		20	200	22.404.40.10.Z/200	£645.90
	12	18	120	22.404.40.12.Z/120	£437.48
		22	160	22.404.40.12.Z/160	£589.85
		22	200	22.404.40.12.Z/200	£645.90
	14	22	120	22.404.40.14.Z/120	£437.48
	16	24		22.404.40.16.Z/120	
	18	26		22.404.40.18.Z/120	
	20	28		22.404.40.20.Z/120	

SLEEVES FOR YG-1 HYDRAULIC CHUCKS — P1067

OPEN TYPE - HK	CLOSED TYPE - HS	COOLANT JETS - HF
		
Open sleeves for non-through coolant cutting tools.	Closed sleeves for through coolant drills.	Sleeves with coolant grooves in the bore. Directs coolant jets directly to the cutting edge.

SLEEVES FOR WTE HYDRAULIC CHUCKS — P1067

OPEN TYPE - Z	COOLANT JETS - KKB
	
With slits, for flexible diameter application. For through or non-through coolant tools.	Sleeves with coolant grooves in the bore. Directs coolant jets directly to the cutting edge.

POWER-E HYDRO HYDRAULIC CHUCK DIN 69871

P1122 P1067

Short & Heavy High Torque (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- High torque type for extreme clamping forces
- Short & heavy type for nominal diameter clamping or use with sleeves
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant
- Up to 900Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
SK40	12	42	48	YG-P2776651P	£127.73
	20	49.25	58	YG-P2534001P	
SK50	12	49.25	58	YG-P2756010P	£192.73
	32	72	36	YG-P2534002P	

HYDRAULIC CHUCK DIN 69871

P1122 P1067

Slim Profile (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- Slim type for nominal diameter clamping
- AD/B through coolant
- Excellent performance in rough milling, finishing, drilling & reaming
- Up to 650Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	6	26	80.5	YG-P2554017	£168.51
	8	28		YG-P2554025	£168.51
	10	30		YG-P2554004	£168.51
	12	32		YG-P2554011	£168.51
	16	38		YG-P2554013	£168.51
	20	42		YG-P2554015	£168.51
	25	50		YG-P2770103	£175.50
	32	60	110	YG-P2770126	£193.09
SK50	6	26	80.5	YG-P2770104	£229.51
	8	28		YG-P2770116	£229.51
	10	30		YG-P2770106	£229.51
	12	32		YG-P2770118	£224.08
	16	38		YG-P2770108	£224.08
	20	42		YG-P2770119	£224.08

HPH HYDRAULIC CHUCK DIN 69871

P1122 P1067

Short & Heavy High Torque (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- High torque type for extreme clamping forces
- Short & heavy type for nominal diameter clamping or use with sleeves
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant
- Up to 890Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
Standard Type (Throught Coolant)					
SK40	12	42	50	15.408.40.12.Z	£233.98
	20	49	64.5	15.408.40.20.Z	£233.98
SK50	12	42	50	15.408.50.12.Z	£270.35
	20	49	64.5	15.408.50.20.Z	£310.25
	32	72	81	15.408.50.32.Z	£270.35
KKB Type (Through Coolant + Resealable Coolant Bores)					
	16	46	64.5	15.408.40.16.KKB	£322.46
	20	49	64.5	15.408.40.20.KKB	£265.53

HPH HYDRAULIC CHUCK DIN 69871

P1122 P1067

Slim Type High Torque (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- Slim type for nominal diameter clamping
- High torque type for extreme clamping forces
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
SK40	6	32	75	15.407.40.06.Z	£409.96
	8	34	75	15.407.40.08.Z	
	10	36	80	15.407.40.10.Z	
	12	38	85	15.407.40.12.Z	
	14	40	85	15.407.40.14.Z	
	16	42	90	15.407.40.16.Z	
	18	44	90	15.407.40.18.Z	
	20	48	95	15.407.40.20.Z	
	25	57	110	15.407.40.25.Z	
	32	63	120	15.407.40.32.Z	

HYDRAULIC CHUCK DIN 69871
Slim Tapered Type (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- Slim 3° taper type, ideal for 5 axis machining or moulds
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

Taper	Dia.	Nose Dia.	Taper Length	Gauge Length	Order Code	Price
SK40	6	20	70	120	YG-P2770701	£223.62
			100	150	YG-P2770702	£248.69
	8	22	70	120	YG-P2770703	£223.62
			100	150	YG-P2770704	£248.69
	10	24	70	120	YG-P2770705	£223.62
			100	150	YG-P2770706	£248.69
	12	25	70	120	YG-P2770707	£220.67
			100	150	YG-P2770708	£245.73
	16	32	70	120	YG-P2770709	£220.67
			100	150	YG-P2770710	£245.73
	20	34	70	120	YG-P2770711	£220.67
			100	150	YG-P2770712	£245.73

HYDRAULIC CHUCK DIN 69871
Ultra Short (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- Ultra-short gauge length for extra long length tools
- Excellent performance in high speed milling, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	20	48	24.6	YG-P2770120	£253.55

POWER-E HYDRO HYDRAULIC CHUCK KIT
Short & Heavy High Torque (G2.5 25,000RPM)

- Contains tool holder, 5 sleeves: 6, 8, 10, 12, 16 & wrench





Taper	Clamping Diameter	Chuck Included	Order Code	Price
SK40	20	SK40AD/B-HC20P-64.5	YG-P2770971	£349.00

HYDRAULIC CHUCK DIN 69871
HPH Ultra-Slim Type (G2.5 25,000RPM)

P1122

- Balanced to G2.5 25,000RPM
- Ultra slim 3° taper type, ideal for 5 axis machining or moulds
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | DIN 69871

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
SK40	3	9	120	15.404.40.03.Z/120	£426.66
	4	10	120	15.404.40.04.Z/120	
	5	11	120	15.404.40.05.Z/120	
	6	12	120	15.404.40.06.Z/120	£426.66
		16	160	15.404.40.06.Z/160	£579.04
		16	200	15.404.40.06.Z/200	£634.10
	8	14	120	15.404.40.08.Z/120	£426.66
		18	160	15.404.40.08.Z/160	£579.04
		18	200	15.404.40.08.Z/200	£634.10
	10	16	120	15.404.40.10.Z/120	£426.66
		20	160	15.404.40.10.Z/160	£665.32
		20	200	15.404.40.10.Z/200	£634.10
	12	18	120	15.404.40.12.Z/120	£426.66
		22	160	15.404.40.12.Z/160	£579.04
		22	200	15.404.40.12.Z/200	£634.10
	14	22	120	15.404.40.14.Z/120	£426.66
	16	24	120	15.404.40.16.Z/120	
	18	26	120	15.404.40.18.Z/120	
	20	28	120	15.404.40.20.Z/120	

SLEEVES FOR YG-1 HYDRAULIC CHUCKS — P1067

OPEN TYPE - HK	CLOSED TYPE - HS	COOLANT JETS - HF
		
Open sleeves for non-through coolant cutting tools.	Closed sleeves for through coolant drills.	Sleeves with coolant grooves in the bore. Directs coolant jets directly to the cutting edge.

SLEEVES FOR WTE HYDRAULIC CHUCKS — P1067

OPEN TYPE - Z	COOLANT JETS - KKB
	
With slits, for flexible diameter application. For through or non-through coolant tools.	Sleeves with coolant grooves in the bore. Directs coolant jets directly to the cutting edge.

POWER-E HYDRO HYDRAULIC CHUCK HSK-A

Short & Heavy High Torque (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- High torque type for extreme clamping forces
- Short & heavy type for nominal diameter clamping or use with sleeves
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant
- Up to 900Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | HSK A

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
HSK63A	12	42	80	YG-P2770302P	**£149.71**
	20	49.25		YG-P2770301P	
HSK100A	20	49.25	90	YG-P2770303P	**£228.67**
	32	72	100	YG-P2770304P	

SLIM HYDRAULIC CHUCK HSK-A

Short & Heavy High Torque (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- High torque type for extreme clamping forces
- Short & heavy type for nominal diameter clamping or use with sleeves
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant
- Up to 650Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | HSK A

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
HSK63A	6	26	70	YG-P2567001	**£205.69**
	8	28	70	YG-P2567002	**£205.69**
	10	30	80	YG-P2567003	**£205.69**
	12	32	85	YG-P2567004	**£205.69**
	14	34	85	YG-P2567005	**£205.69**
	16	38	90	YG-P2567006	**£205.69**
	20	42	90	YG-P2567008	**£205.69**
	25	50	120	YG-P2567009	**£216.88**
	32	60	125	YG-P2567010	**£216.88**
HSK100A	6	26	75	YG-P2770420	**£276.42**
	8	28	75	YG-P2770421	**£276.42**
	10	30	90	YG-P2770422	**£269.75**
	12	32	95	YG-P2770410	**£269.75**
	14	34	95	YG-P2770423	**£269.75**
	16	38	100	YG-P2770411	**£269.75**
	18	40	100	YG-P2770424	**£269.75**
	20	42	105	YG-P2757010	**£269.75**
	25	50	110	YG-P2770412	**£303.13**
	32	60	100	YG-P2757020	**£306.13**

HYDRAULIC CHUCK HSK-A

Short & Heavy High Torque (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- High torque type for extreme clamping forces
- Short & heavy type for nominal diameter clamping or use with sleeves
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant
- *Through Coolant with KKB resealable coolant bores
- Up to 890Nm clamping force



G2.5 25000 | <3µm Run-out | h6 | HSK A

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
HSK63A	20	49	80	16.408.63.20.Z	**£244.80**
HSK63A*	12	42		16.408.63.12.KKB	**£190.05**
	20	49		16.408.63.20.KKB	**£190.05**
HSK100A	12	42	85	16.408.100.12.Z	**£322.46**
	20	49		16.408.100.20.Z	
	32	68	100	16.408.100.32.Z	**£322.46**

SHORT & NARROW HYDRAULIC CHUCK HSK-A

Short & Narrow High Torque (G2.5 25,000RPM)

P1122 P1067

- Balanced to G2.5 25,000RPM
- High torque type for extreme clamping forces
- Short & narrow type for nominal diameter clamping or use with sleeves
- Excellent performance in rough milling, finishing, drilling & reaming
- Standard through coolant



G2.5 25000 | <3µm Run-out | h6 | HSK A

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
HSK63A	6	32	80	16.407.63.06.Z	**£415.85**
	8	34	80	16.407.63.08.Z	
	10	36	85	16.407.63.10.Z	
	12	38	90	16.407.63.12.Z	
	14	40	90	16.407.63.14.Z	
	16	42	95	16.407.63.16.Z	
	18	44	95	16.407.63.18.Z	
	20	48	100	16.407.63.20.Z	
	25	57	120	16.407.63.25.Z	
	32	63	125	16.407.63.32.Z	
HSK100A	6	32	85	16.407.63.06.Z	**£569.22**
	8	34	85	16.407.63.08.Z	
	10	36	90	16.407.63.10.Z	
	12	38	95	16.407.63.12.Z	
	14	40	95	16.407.63.14.Z	
	16	42	100	16.407.100.16.Z	
	18	44	100	16.407.100.18.Z	
	20	48	105	16.407.100.20.Z	
	25	57	115	16.407.100.25.Z	
	32	63	120	16.407.100.32.Z	

HYDRAULIC CHUCK DIN 69871

Slim Tapered Type (G2.5 25,000RPM)

P1122 P1067



- Balanced to G2.5 25,000RPM
- Slim 3° taper type, ideal for 5 axis machining or moulds
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

Taper	Dia.	Nose Dia.	Taper Length	Gauge Length	Order Code	Price
HSK63A	6	20	90	145	YG-P2770801	£345.06
	8	22	90	145	YG-P2770802	£345.06
	10	24	90	145	YG-P2770803	£345.06
	12	25	90	150	YG-P2770804	£338.36
	16	32	90	150	YG-P2770805	£338.36
	20	34	90	150	YG-P2770806	£338.36

POWER-E HYDRO HYDRAULIC CHUCK KIT

Short & Heavy High Torque (G2.5 25,000RPM)

- Contains tool holder, 5 sleeves: 6, 8, 10, 12, 16 & wrench



Taper	Clamping Diameter	Chuck Included	Order Code	Price
HSK63A	20	HSK63A-HC20P-80	YG-P2770973	£375.00

HYDRAULIC CHUCK HSK-A

HPH Ultra-Slim Type (G2.5 25,000RPM)

P1122



- Balanced to G2.5 25,000RPM
- Ultra slim 3° taper type, ideal for 5 axis machining or moulds
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | HSK A

Taper	Clamping Diameter	Nose Diameter	Gauge Length	Order Code	Price
HSK63A	3	9	120	16.404.63.03.Z/120	£447.31
	4	10		16.404.63.04.Z/120	
	5	11		16.404.63.05.Z/120	
	6	12	120	16.404.63.06.Z/120	£447.31
		16	160	16.404.63.06.Z/160	£602.64
		16	200	16.404.63.06.Z/200	£655.73
	7	13	120	16.404.63.07.Z/120	£447.31
	8	14	120	16.404.63.08.Z/120	£447.31
		18	160	16.404.63.08.Z/160	£602.64
		18	200	16.404.63.08.Z/200	£655.73
	9	15	120	16.404.63.09.Z/120	£447.31
	10	16	120	16.404.63.10.Z/120	£447.31
		20	160	16.404.63.10.Z/160	£602.64
		20	200	16.404.63.10.Z/200	£655.73
	11	17	120	16.404.63.11.Z/120	£447.31
	12	18	120	16.404.63.12.Z/120	£447.31
		22	160	16.404.63.12.Z/160	£602.64
		22	200	16.404.63.12.Z/200	£655.73
	13	20	120	16.404.63.13.Z/120	£447.31
	14	22		16.404.63.14.Z/120	
	16	24		16.404.63.16.Z/120	
	20	28		16.404.63.20.Z/120	
HSK100A	3	9	120	16.404.100.03.Z/120	£825.79
	5	11		16.404.100.05.Z/120	
	6	12		16.404.100.06.Z/120	
	7	13		16.404.100.07.Z/120	
	8	14		16.404.100.08.Z/120	
	9	15		16.404.100.09.Z/120	
	10	16		16.404.100.10.Z/120	
	11	17		16.404.100.11.Z/120	
	12	18		16.404.100.12.Z/120	
	13	20		16.404.100.13.Z/120	
	14	22		16.404.100.14.Z/120	
	16	24		16.404.100.16.Z/120	
	18	26		16.404.100.18.Z/120	

SLEEVES FOR YG-1 HYDRAULIC CHUCKS P1067

OPEN TYPE - HK	CLOSED TYPE - HS	COOLANT JETS - HF
		
Open sleeves for non-through coolant cutting tools.	Closed sleeves for through coolant drills.	Sleeves with coolant grooves in the bore. Directs coolant jets directly to the cutting edge.

SLEEVES FOR WTE HYDRAULIC CHUCKS P1067

OPEN TYPE - Z	COOLANT JETS - KKB
	
With slits, for flexible diameter application. For through or non-through coolant tools.	Sleeves with coolant grooves in the bore. Directs coolant jets directly to the cutting edge.

HYDRAULIC CHUCK HSK-E
Slim Profile (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- Slim type for nominal diameter clamping
- Excellent performance in high speed milling, drilling & reaming
- AD through coolant



G2.5 25000 | <3µm Run-out | h6 | HSK E

WTE MAPAL GROUP

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK40E	6	26	70	18.507.40.06.Z	£388.32
	8	28	70	18.507.40.08.Z	
	10	30	75	18.507.40.10.Z	
	12	32	80	18.507.40.12.Z	
HSK50E	6	26	70	18.507.50.06.Z	£416.83
	8	28	70	18.507.50.08.Z	
	10	30	75	18.507.50.10.Z	
	12	32	85	18.507.50.12.Z	
	14	34	85	18.507.50.14.Z	
	16	38	90	18.507.50.16.Z	
	18	40	90	18.507.50.18.Z	
	20	42	90	18.507.50.20.Z	

HYDRAULIC CHUCK HSK-F
Slim Profile (G2.5 25,000RPM)

P1067



- Balanced to G2.5 25,000RPM
- Slim type for nominal diameter clamping
- Excellent performance in high speed milling, drilling & reaming
- AD through coolant



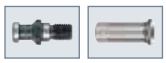
G2.5 25000 | <3µm Run-out | h6 | HSK F

WTE MAPAL GROUP

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK63F	6	26	70	17.507.63.06	£452.21
	8	28	70	17.507.63.08	
	10	30	80	17.507.63.10	
	12	32	85	17.507.63.12	
	14	34	85	17.507.63.14	
	16	38	90	17.507.63.16	
	18	40	90	17.507.63.18	
	20	42	90	17.507.63.20	
	25	57	120	17.507.63.25	

HYDRAULIC CHUCK - BT DOUBLE CONTACT
Slim Profile (G2.5 25,000RPM)

P1122 P1067



DOUBLE CONTACT

- Balanced to G2.5 25,000RPM
- Slim type for nominal diameter clamping
- Excellent performance in high speed milling, drilling, reaming & thread milling
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | CBT

YG

Taper	Dia.	Nose Dia.	Gauge Length	Order Code	Price
CBT40	6	26	90	YG-P2770511	£244.57
	8	28	90	YG-P2770512	£244.57
	10	30	90	YG-P2770513	£244.57
	12	32	90	YG-P2770501	£244.57
	16	38	90	YG-P2770515	£244.57
	20	42	90	YG-P2770502	£244.57
	25	50	100	YG-P2770517	£261.27
	32	60	105	YG-P2770518	£270.42

HYDRAULIC CHUCK EXTENSION SLEEVES COOLANT TUBES & KEYS HSK-A

- Balanced to G2.5 25,000RPM
- <3 micron run-out
- Made in Germany



G2.5 25000 | <3µm Run-out | h6 | HSK A

WTE MAPAL GROUP

Shank	Clamp Dia.	Nose Dia.	Head Length	Overall Length	Order Code	Price
20	12	25	100	150	40.557.20.12.Z	£326.38
	20	31.5			40.557.20.20.Z	
32	20	31.5	90	150	40.557.32.20.Z	£349.00
				200	40.557.32.20.Z/200	£369.64

SLEEVES FOR YG-1 HYDRAULIC CHUCKS

OPEN TYPE
HK
Open sleeves for non-through coolant cutting tools.

CLOSED TYPE
HS
Closed sleeves for through coolant drills.

COOLANT JETS
HF
Sleeves with coolant grooves. Directs coolant to the cutting edge.







Sleeve Dia.	Inside Dia.	Order Code					
		HK Series	Price	HS Series	Price	HF Series	Price
12	3	YG-P2569022	£64.87	YG-P2771101	£59.00	YG-P2771201	£75.00
	4	YG-P2569023	£64.87	YG-P2771102		YG-P2771202	
	5	YG-P2569024	£64.87	YG-P2771103		YG-P2771203	
	6	YG-P2569025	£64.87	YG-P2771104		YG-P2771204	
	7	YG-P2771001	£59.00	YG-P2771105		-	
	8	YG-P2569026	£64.87	YG-P2771106		YG-P2771206	
20	3	YG-P2569001	£64.87	YG-P2771107	£59.00	YG-P2771207	£75.00
	4	YG-P2569002	£64.87	YG-P2771108		YG-P2771208	
	5	YG-P2569003	£64.87	YG-P2771109		YG-P2771209	
	6	YG-P2569004	£64.87	YG-P2771110		YG-P2771210	
	7	YG-P2771002	£59.00	YG-P2771111		-	
	8	YG-P2569005	£64.87	YG-P2771112		YG-P2771212	
	9	YG-P2771003	£59.00	YG-P2771113		-	
	10	YG-P2569006	£64.87	YG-P2771114		YG-P2771214	
	11	YG-P2771004	£59.00	YG-P2771115		-	
	12	YG-P2569007	£64.87	YG-P2771116		YG-P2771216	
	13	YG-P2771005	£59.00	YG-P2771117		-	
	14	YG-P2569008	£64.87	YG-P2771118		YG-P2771218	
	15	YG-P2771006	£59.00	YG-P2771119		-	
	16	YG-P2569009	£71.36	YG-P2771120		YG-P2771220	
32	6	YG-P2569010	£64.87	YG-P2771121	£59.00	YG-P2771221	£75.00
	8	YG-P2569011		YG-P2771122		YG-P2771222	
	10	YG-P2569012		YG-P2771123		YG-P2771223	
	12	YG-P2569013		YG-P2771124		YG-P2771224	
	14	YG-P2569014		YG-P2771125		YG-P2771225	
	16	YG-P2569015		YG-P2771126		YG-P2771226	
	18	YG-P2569016		YG-P2771127		YG-P2771227	
	20	YG-P2569017		YG-P2771128		YG-P2771228	
	25	YG-P2569018		YG-P2771129		YG-P2771229	

SLEEVES FOR WTE HYDRAULIC CHUCKS

CLOSED TYPE
Z
With slits, for flexible diameter application. For through coolant or non-through coolant tools.

COOLANT JETS
KKB
Sleeves with coolant grooves in the bore. Directs coolant jets directly to the cutting edge.





Sleeve Dia.	Inside Dia.	Order Code			
		Z Series	Price	KKB Series	Price
12	2	40.456.12.02.Z	£261.43	-	-
	2.5	40.456.12.025.Z	£261.43	-	-
	3	40.456.12.03.Z	£120.89	40.456.12.03.KKB	£172.15
	4	40.456.12.04.Z	£114.33	40.456.12.04.KKB	£163.70
	5	40.456.12.05.Z	£114.33	40.456.12.05.KKB	£163.70
	6	40.456.12.06.Z	£109.23	40.456.12.06.KKB	£158.75
	7	40.456.12.07.Z	£117.39	-	-
	8	40.456.12.08.Z	£109.23	40.456.12.08.KKB	£158.75
	9	40.456.12.09.Z	£117.39	-	-
	10	40.456.12.10.Z	£109.23	-	-
20	3	40.456.20.03.Z	£117.39	40.456.20.03.KKB	£168.80
	4	40.456.20.04.Z	£112.29	40.456.20.04.KKB	£162.25
	5	40.456.20.05.Z	£112.29	40.456.20.05.KKB	£162.25
	6	40.456.20.06.Z	£105.74	40.456.20.06.KKB	£155.40
	7	40.456.20.07.Z	£112.29	-	-
	8	40.456.20.08.Z	£105.74	40.456.20.08.KKB	£155.40
	9	40.456.20.09.Z	£112.29	-	-
	10	40.456.20.10.Z	£105.74	40.456.20.10.KKB	£155.40
	11	40.456.20.11.Z	£112.29	-	-
	12	40.456.20.12.Z	£105.74	40.456.20.12.KKB	£155.40
	13	40.456.20.13.Z	£157.44	-	-
	14	40.456.20.14.Z	£105.74	40.456.20.14.KKB	£155.40
	15	40.456.20.15.Z	£157.44	-	-
	16	40.456.20.16.Z	£105.74	40.456.20.16.KKB	£155.40
25	3	40.456.25.03.Z	£158.75	-	-
	4	40.456.25.04.Z	£142.29	-	-
	5	40.456.25.05.Z	£142.29	-	-
	6	40.456.25.06.Z	£142.29	-	-
	7	40.456.25.07.Z	£124.09	-	-
	8	40.456.25.08.Z	£124.09	-	-
	9	40.456.25.09.Z	£124.09	-	-
	10	40.456.25.10.Z	£124.09	-	-
	12	40.456.25.12.Z	£124.09	-	-
	14	40.456.25.14.Z	£124.09	-	-
	16	40.456.25.16.Z	£124.09	-	-
	18	40.456.25.18.Z	£124.09	-	-
	20	40.456.25.20.Z	£124.09	-	-
32	6	40.456.32.06.Z	£130.64	40.456.32.06.KKB	£182.06
	7	40.456.32.07.Z	£148.70	-	-
	8	40.456.32.08.Z	£130.64	40.456.32.08.KKB	£182.06
	9	40.456.32.09.Z	£148.70	-	-
	10	40.456.32.10.Z	£130.64	40.456.32.10.KKB	£182.06
	11	40.456.32.11.Z	£197.05	-	-
	12	40.456.32.12.Z	£127.44	40.456.32.12.KKB	£178.71
	13	40.456.32.13.Z	£197.05	-	-
	14	40.456.32.14.Z	£127.44	40.456.32.14.KKB	£178.71
	15	40.456.32.15.Z	£197.05	-	-
	16	40.456.32.16.Z	£127.44	40.456.32.16.KKB	£178.71
	17	40.456.32.17.Z	£197.05	-	-
	18	40.456.32.18.Z	£127.44	40.456.32.18.KKB	£178.71
	19	40.456.32.19.Z	£197.05	-	-
	20	40.456.32.20.Z	£127.44	40.456.32.20.KKB	£178.71
	22	40.456.32.22.Z	£197.05	-	-
	25	40.456.32.25.Z	£127.44	40.456.32.25.KKB	£178.71

Shrink Fit Chucks



High Performance Shrink Fit Chucks from WTE & YG-1

WTE shrink chucks are 100% made in Germany and are used by the world's leading automotive, aerospace and mould & die manufacturers. They have one of the biggest shrink chuck ranges in the world. The YG-1 shrink chuck range offers exceptional value on the most popular tapers of BT, DIN69871 and HSK-A whilst maintaining exceptional quality and performance.

Advantages

- Ultra-long service life without distortion due to high quality hot work steel.
- Balanced to 25,000RPM G2.5 (up to 40,000RPM by request).
- Low power requirements for induction shrinking.

Features

- Different geometries to suit all applications.
- Shrink temperature 100-420°C.
- Coolant pressure maximum 80 bar.

Tool Selection

Description	Selection	Page
BT MAS	BT30, BT40, BT50	**1070**
DIN 69871	SK40, SK50	**1072**
HSK-A	HSK63-A, HSK100-A	**1074**
HSK-E	HSK32-E, HSK40-E, HSK50-E, HSK63-E	**1076**
PSC CAPTO COMPATIBLE	PSC63	**1077**
DOUBLE CONTACT BIG PLUS COMPATIBLE	DBT40, DSK40	**1077**
EXTENSIONS & ACCESSORIES	Extensions, Length Presetter	**1078**

GEOMETRIES

STANDARD 4.5°



The standard 4.5° profile is suitable for most milling & drilling requirements offering excellent clamping strength & rigidity with a much slimmer nose profile than side lock arbors or collet chucks.

ULTRA SLIM 3°



Ultra slim 3° nose profile for machining in narrow cavities or moulds. With as little as 3mm wall thickness, 3° shrink chucks can access places that are impossible with most other chucks.

COOLANT DUCTS



Standard geometry with resealable coolant ducts in the nose of the holder. Ideal for stainless steel, aluminium or HRSA milling.

See the range at www.cutwel.co.uk

VOLUME SHRINK



Ultra-heavy duty shrink chuck with excellent dampening properties. Ideal for heavy machining. Available in HSK100 & SK50.

See the range at www.cutwel.co.uk

GAUGE LENGTHS

Lengths	BT			SK		HSK-A		HSK-E				HSK40F		PSC	DBT DSK
	30	40	50	40	50	63	100	32	40	50	63	40	63		
Standard (60-100mm)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Long (120mm)	-	●	●	●	●	●	●	-	●	●	●	-	●	-	-
Extended (160mm)	-	●	●	●	●	●	●	-	●	●	●	-	●	-	-
Extra Long (200mm)	-	●	-	●	-	●	●	-	-	-	-	-	-	-	-

Where the required gauge length is not available, a wide range of shrink extensions are available on page 1078

TRANSFERABLE TORQUE WITH DIRECT CLAMPING

Clamping Diameter	3	4	5	6	8	10	12	14	16	18	20	25	32
Minimum clamping depth	12	16	20	26	26	31	37	37	40	40	42	48	52
Torque Nm*	4	11	17	24	45	82	145	190	200	290	450	530	700

*Torque figures stated apply to WTE shrink chucks used with induction heated shrinking, used on the correct power setting. Overheating can cause distortion to the holder and a loss of clamping torque. In high temperature milling (e.g. titanium, inconel), clamping forces can be reduced due to heat transfer from the tool to the holder.

APPLICATION GUIDE

✓✓✓ 1st choice ✓✓ Highly suitable ✓ Only suitable in some applications ✕ Not recommended

Geometry	MILLING					HOLE MAKING			PROPERTIES		
	HPC	Rough	General	HSC	Finish	Drilling	Reaming	Tapping	Max. RPM	Run Out at 3xD	Damping Qualities
Standard 4.5°	✓✓	✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓				✕
Slim 3°	✕	✕	✓✓	✓✓	✓✓	✓✓✓	✓✓✓	✕	25000 G2.5	0.003mm	✕
Volume Shrink	✓✓	✓✓	✓✓✓	✓✓✓	✓✓	✓✓	✓✓				✓✓

SHRINK FIT CHUCK BT MAS

4.5° Standard Profile (G2.5 25,000RPM)

P1122



- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | BT MAS

WTE MAPAL GROUP

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT30	3	10	85	22.306.30.03.Z	£156.68
	4	15		22.306.30.04.Z	£156.68
	5	15		22.306.30.05.Z	£156.68
	6	21		22.306.30.06.Z	£142.26
	8	21		22.306.30.08.Z	£142.26
	10	24		22.306.30.10.Z	£142.26
	12	24		22.306.30.12.Z	£142.26
	14	27		22.306.30.14.Z	£142.26
	16	27		22.306.30.16.Z	£142.26
	18	33		22.306.30.18.Z	£142.26
	20	33		22.306.30.20.Z	£142.26
BT40	3	10	90	22.306.40.03.Z	£168.22
			120	22.306.40.03.Z/120	£197.05
			160	22.306.40.03.Z/160	£216.28
	4	15	90	22.306.40.04.Z	£168.22
			120	22.306.40.04.Z/120	£197.05
			160	22.306.40.04.Z/160	£216.28
	5	15	90	22.306.40.05.Z	£168.22
			120	22.306.40.05.Z/120	£197.05
			160	22.306.40.05.Z/160	£216.28
	6	21	90	22.306.40.06.Z	£143.22
			120	22.306.40.06.Z/120	£178.79
			160	22.306.40.06.Z/160	£200.90
	8	21	90	22.306.40.08.Z	£143.22
			120	22.306.40.08.Z/120	£178.79
			160	22.306.40.08.Z/160	£200.90
	10	24	90	22.306.40.10.Z	£143.22
			120	22.306.40.10.Z/120	£178.79
			160	22.306.40.10.Z/160	£200.90
	12	24	90	22.306.40.12.Z	£143.22
			120	22.306.40.12.Z/120	£178.79
			160	22.306.40.12.Z/160	£200.90
	14	27	90	22.306.40.14.Z	£143.22
			120	22.306.40.14.Z/120	£178.79
			160	22.306.40.14.Z/160	£200.90
	16	27	90	22.306.40.16.Z	£143.22
			120	22.306.40.16.Z/120	£178.79
			160	22.306.40.16.Z/160	£200.90
	18	33	90	22.306.40.18.Z	£143.22
			120	22.306.40.18.Z/120	£178.79
			160	22.306.40.18.Z/160	£200.90
	20	33	90	22.306.40.20.Z	£143.22
			120	22.306.40.20.Z/120	£178.79
			160	22.306.40.20.Z/160	£200.90
	25	44	100	22.306.40.25.Z	£143.22
			120	22.306.40.25.Z/120	£178.79
			160	22.306.40.25.Z/160	£200.90
	32	44	100	22.306.40.32.Z	£143.22
			120	22.306.40.32.Z/120	£178.79
			160	22.306.40.32.Z/160	£200.90

SHRINK FIT CHUCK BT MAS

4.5° Standard Profile (G2.5 25,000RPM)

P1122



- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | BT MAS

YG

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT30	3	11	60	P2776703A	£94.09
	4	11		P2776702A	£89.52
	5	11		P2776704A	£85.03
	6	21		P2776701A	£79.10
	8	21		P2776705A	£79.10
	10	24	80	P2776706A	£79.10
	12	24		P2776707A	£79.10
	14	27		P2776708A	£79.10
	16	27		P2776709A	£79.10
	18	33		P2776710A	£79.10
	20	33	90	P2776711A	£79.10
BT40	3	11	90	P2776712	£92.14
	4			P2776713	£92.14
	5			P2776714	£87.57
	6	21	90	P2771601	£81.52
			160	P2771602	£118.85
	8	21	90	P2771603	£81.52
			160	P2771604	£118.85
	10	24	90	P2771605	£81.52
			160	P2771606	£118.85
	12	24	90	P2771607	£81.52
			160	P2771608	£118.85
	14	27	90	P2771611	£81.52
			160	P2771612	£118.85
	16	27	90	P2771609	£81.52
			160	P2771610	£118.85
	18	33	90	P2771613	£81.52
			160	P2771614	£118.85
	20	33	90	P2771615	£81.52
			160	P2771616	£118.85
	25	44	100	P2771617	£82.95
			160	P2771618	£118.85
BT50	3	11	100	P2771619	£159.39
	4			P2771620	£151.47
	5			P2771621	£143.90
	6	21	100	P2771622	£132.37
			160	P2771623	£164.44
	8	21	100	P2771624	£132.37
			160	P2771625	£164.44
	10	24	100	P2771626	£132.37
			160	P2771627	£164.44
	12	24	100	P2771628	£132.37
			160	P2771629	£164.44
	14	27	100	P2771630	£132.37
			160	P2771631	£164.44
	16	27	100	P2771632	£132.37
			160	P2771633	£164.44
	18	33	100	P2771634	£132.37
			160	P2771635	£164.44
	20	33	100	P2771636	£132.37
			160	P2771637	£164.44
	25	44	100	P2771638	£132.37
			160	P2771639	£164.44

SHRINK FIT CHUCK BT MAS

3° Slim Profile (G2.5 25,000RPM)

P1122



- Balanced to G2.5 25,000RPM
- 3° ultra-slim profile taper
- Suitable for HSS & carbide shanks
- Ideal for 5 axis machining or moulds
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | BT MAS

WTE MAPAL GROUP

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT40	3	9	90	22.304.40.03.Z	£182.64
			120	22.304.40.03.Z/120	£225.89
			160	22.304.40.03.Z/160	£234.54
			200	22.304.40.03.Z/200	£282.60
	4	10	90	22.304.40.04.Z	£182.64
			120	22.304.40.04.Z/120	£225.89
			160	22.304.40.04.Z/160	£234.54
			200	22.304.40.04.Z/200	£308.55
	5	11	90	22.304.40.05.Z	£182.64
			120	22.304.40.05.Z/120	£225.89
			160	22.304.40.05.Z/160	£234.54
			200	22.304.40.05.Z/200	£308.55
	6	12	90	22.304.40.06.Z	£164.37
			120	22.304.40.06.Z/120	£199.94
			160	22.304.40.06.Z/160	£223.97
			200	22.304.40.06.Z/200	£282.60
	8	14	90	22.304.40.08.Z	£164.37
			120	22.304.40.08.Z/120	£199.94
			160	22.304.40.08.Z/160	£223.97
			200	22.304.40.08.Z/200	£282.60
	10	16	90	22.304.40.10.Z	£164.37
			120	22.304.40.10.Z/120	£199.94
			160	22.304.40.10.Z/160	£223.97
			200	22.304.40.10.Z/200	£282.60
	12	18	90	22.304.40.12.Z	£164.37
			120	22.304.40.12.Z/120	£199.94
			160	22.304.40.12.Z/160	£223.97
			200	22.304.40.12.Z/200	£282.60
	14	20	90	22.304.40.14.Z	£164.37
			120	22.304.40.14.Z/120	£199.94
			160	22.304.40.14.Z/160	£223.97
			200	22.304.40.14.Z/200	£282.60
	16	22	90	22.304.40.16.Z	£164.37
			120	22.304.40.16.Z/120	£199.94
			160	22.304.40.16.Z/160	£223.97
			200	22.304.40.16.Z/200	£282.60
	18	24	90	22.304.40.18.Z	£164.37
			120	22.304.40.18.Z/120	£199.94
			160	22.304.40.18.Z.160	£259.39
			200	22.304.40.18.Z/200	£282.60
	20	26	90	22.304.40.20.Z	£164.37
			120	22.304.40.20.Z/120	£199.94
			160	22.304.40.20.Z/160	£223.97
			200	22.304.40.20.Z/200	£243.30

SHRINK FIT CHUCK BT MAS

3° Slim Profile (G2.5 25,000RPM)

P1122



- Balanced to G2.5 25,000RPM
- 3° ultra-slim profile taper
- Suitable for HSS & carbide shanks
- Ideal for 5 axis machining or moulds
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | BT MAS

YG

Taper	Shank Dia.	Nose Dia.	Nose Length	Gauge Length	Order Code	Price
BT40	3	6	42	95	P2779860S	£109.69
			67	120	P2779861S	£137.10
			97	160	P2779862S	£155.19
	4	7	42	95	P2779863S	£109.69
			67	120	P2779864S	£137.10
			97	160	P2779865S	£155.19
	6	9	42	95	P2779866S	£97.06
			67	120	P2779867S	£121.34
			97	160	P2779868S	£137.34
	8	11	42	95	P2779869S	£97.06
			67	120	P2779870S	£121.34
			97	160	P2779871S	£137.34
	10	13	42	95	P2779872S	£97.06
			67	120	P2779873S	£121.34
			97	160	P2779874S	£137.34
	12	15	42	95	P2779875S	£97.06
			67	120	P2779876S	£121.34
			97	160	P2779877S	£137.34

SHRINK FIT CHUCK BT MAS

4.5° Standard Profile with Coolant Nozzles (G2.5 25,000RPM)

P1122



- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant & peripheral coolant nozzles



G2.5 25000 | <3µm Run-out | h6 | BT MAS

YG

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
BT40	6	21	90	YG-P2862085C	£97.83
			160	YG-P2862086C	£142.61
	8	21	90	YG-P2862087C	£97.83
			160	YG-P2862088C	£142.61
	10	24	90	YG-P2862089C	£97.83
			160	YG-P2862090C	£142.61
	12	24	90	YG-P2862091C	£97.83
			160	YG-P2862092C	£142.61
	16	27	90	YG-P2862095C	£97.83
			160	YG-P2862096C	£142.61
	20	33	90	YG-P2862099C	£97.83
			160	YG-P2862100C	£142.61
	25	44	100	YG-P2862101C	£99.56
			160	YG-P2862102C	£142.61

SHRINK FIT CHUCK DIN 69871

4.5° Standard Profile (G2.5 25,000RPM)

P1122



- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

WTE MAPAL GROUP

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	3	10	80	15.306.40.03.Z	£159.56
			120	15.306.40.03.Z/120	£188.40
			160	15.306.40.03.Z/160	£209.56
			200	15.306.40.03.Z/200	£234.54
	4	15	80	15.306.40.04.Z	£159.56
			120	15.306.40.04.Z/120	£188.40
			160	15.306.40.04.Z/160	£209.56
			200	15.306.40.04.Z/200	£234.54
	5	15	80	15.306.40.05.Z	£159.56
			120	15.306.40.05.Z/120	£188.40
			160	15.306.40.05.Z/160	£209.56
			200	15.306.40.05.Z/200	£234.54
	6	21	80	15.306.40.06.Z	£129.76
			120	15.306.40.06.Z/120	£173.99
			160	15.306.40.06.Z/160	£196.10
			200	15.306.40.06.Z/200	£216.28
	8	21	80	15.306.40.08.Z	£129.76
			120	15.306.40.08.Z/120	£173.99
			160	15.306.40.08.Z/160	£196.10
			200	15.306.40.08.Z/200	£216.28
	10	24	80	15.306.40.10.Z	£129.76
			120	15.306.40.10.Z/120	£173.99
			160	15.306.40.10.Z/160	£196.10
			200	15.306.40.10.Z/200	£216.28
	12	24	80	15.306.40.12.Z	£129.76
			120	15.306.40.12.Z/120	£173.99
			160	15.306.40.12.Z/160	£196.10
			200	15.306.40.12.Z/200	£216.28
	14	27	80	15.306.40.14.Z	£129.76
			120	15.306.40.14.Z/120	£173.99
			160	15.306.40.14.Z/160	£196.10
			200	15.306.40.14.Z/200	£216.28
	16	27	80	15.306.40.16.Z	£129.76
			120	15.306.40.16.Z/120	£173.99
			160	15.306.40.16.Z/160	£196.10
			200	15.306.40.16.Z/200	£216.28
	18	33	80	15.306.40.18.Z	£129.76
			120	15.306.40.18.Z/120	£173.99
			160	15.306.40.18.Z/160	£196.10
			200	15.306.40.18.Z/200	£216.28
	20	33	80	15.306.40.20.Z	£129.76
			120	15.306.40.20.Z/120	£173.99
			160	15.306.40.20.Z/160	£196.10
			200	15.306.40.20.Z/200	£216.28
	25	44	100	15.306.40.25.Z	£129.76
			120	15.306.40.25.Z/120	£173.99
			160	15.306.40.25.Z/160	£196.10
			200	15.306.40.25.Z/200	£216.28
	32	44	100	15.306.40.32.Z	£129.76
			120	15.306.40.32.Z/120	£173.99
			160	15.306.40.32.Z/160	£196.10
			200	15.306.40.32.Z/200	£216.28

SHRINK FIT CHUCK DIN 69871

4.5° Standard Profile (G2.5 25,000RPM)

P1122



- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

YG

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	3	11	80	YG-P2771301	£92.14
	4			YG-P2771302	£92.14
	5			YG-P2771303	£87.57
	6	21	80	YG-P2554058	£81.52
			160	YG-P2771304	£118.85
	8	21	80	YG-P2600009	£81.52
			160	YG-P2771305	£118.85
	10	24	80	YG-P2554052	£81.52
			160	YG-P2771306	£118.85
	12	24	80	YG-P2600008	£81.52
			160	YG-P2771307	£118.85
	14	27	80	YG-P2771319	£81.52
			160	YG-P2771320	£118.85
	16	27	80	YG-P2554054	£81.52
			160	YG-P2554053	£118.85
	18	33	80	YG-P2771321	£81.52
			160	YG-P2771322	£118.85
	20	33	80	YG-P2554056	£81.52
			160	YG-P2554055	£118.85
	25	44	90	YG-P2771323	£82.95
			160	YG-P2771324	£118.85
SK50	3	11	80	YG-P2771325	£159.39
	4			YG-P2771326	£151.47
	5			YG-P2771327	£143.90
	6	21	80	YG-P2771328	£129.37
			160	YG-P2771329	£164.44
	8	21	80	YG-P2760010	£129.37
			160	YG-P2760015	£164.44
	10	24	80	YG-P2761010	£129.37
			160	YG-P2761015	£164.44
	12	24	80	YG-P2762010	£129.37
			160	YG-P2762015	£164.44
	14	27	80	YG-P2763010	£129.37
			160	YG-P2763015	£164.44
	16	27	80	YG-P2764010	£129.37
			160	YG-P2764015	£164.44
	18	33	80	YG-P2765010	£129.37
			160	YG-P2765015	£164.44
	20	33	80	YG-P2766010	£129.37
			160	YG-P2766015	£164.44
	25	44	90	YG-P2771330	£129.37
			160	YG-P2771331	£164.44

SHRINK FIT CHUCK DIN 69871

3° Slim Profile (G2.5 25,000RPM)

P1122

- Balanced to G2.5 25,000RPM
- 3° ultra-slim profile taper
- Suitable for HSS & carbide shanks
- Ideal for 5 axis machining or moulds
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

WTE MAPAL GROUP

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	3	9	80	15.304.40.03.Z	£172.06
			120	15.304.40.03.Z/120	£214.36
			160	15.304.40.03.Z/160	£225.89
			200	15.304.40.03.Z/200	£297.02
	4	10	80	15.304.40.04.Z	£172.06
			120	15.304.40.04.Z/120	£214.36
			160	15.304.40.04.Z/160	£225.89
			200	15.304.40.04.Z/200	£297.02
	5	11	80	15.304.40.05.Z	£172.06
			120	15.304.40.05.Z/120	£214.36
			160	15.304.40.05.Z/160	£225.89
			200	15.304.40.05.Z/200	£297.02
	6	12	80	15.304.40.06.Z	£152.84
			120	15.304.40.06.Z/120	£188.40
			160	15.304.40.06.Z/160	£213.39
			200	15.304.40.06.Z/200	£272.03
	8	14	80	15.304.40.08.Z	£152.84
			120	15.304.40.08.Z/120	£188.40
			160	15.304.40.08.Z/160	£213.39
			200	15.304.40.08.Z/200	£272.03
	10	16	80	15.304.40.10.Z	£152.84
			120	15.304.40.10.Z/120	£188.40
			160	15.304.40.10.Z/160	£213.39
			200	15.304.40.10.Z/200	£272.03
	12	18	80	15.304.40.12.Z	£152.84
			120	15.304.40.12.Z/120	£188.40
			160	15.304.40.12.Z/160	£213.39
			200	15.304.40.12.Z/200	£272.03
	14	20	80	15.304.40.14.Z	£152.84
			120	15.304.40.14.Z/120	£188.40
			160	15.304.40.14.Z/160	£213.39
			200	15.304.40.14.Z/200	£272.03
	16	22	80	15.304.40.16.Z	£152.84
			120	15.304.40.16.Z/120	£188.40
			160	15.304.40.16.Z/160	£213.39
			200	15.304.40.16.Z/200	£272.03
	18	24	80	15.304.40.18.Z	£152.84
			120	15.304.40.18.Z/120	£188.40
			160	15.304.40.18.Z/160	£213.39
			200	15.304.40.18.Z/200	£272.03
	20	26	80	15.304.40.20.Z	£152.84
			120	15.304.40.20.Z/120	£188.40
			160	15.304.40.20.Z/160	£213.39
			200	15.304.40.20.Z/200	£272.03

SHRINK FIT CHUCK DIN 69871

3° Slim Profile (G2.5 25,000RPM)

P1122

- Balanced to G2.5 25,000RPM
- 3° ultra-slim profile taper
- Suitable for HSS & carbide shanks
- Ideal for 5 axis machining or moulds
- AD/B through coolant



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

YG

Taper	Shank Dia.	Nose Dia.	Nose Length	Gauge Length	Order Code	Price
SK40	3	6	42	95	YG-P2771338S	£118.44
			67	120	YG-P2771339S	£148.06
	4	7	42	95	YG-P2771340S	£118.44
			67	120	YG-P2771341S	£148.06
	6	9	42	95	YG-P2771342S	£104.82
			67	120	YG-P2771343S	£139.97
	8	11	42	95	YG-P2771344S	£104.82
			67	120	YG-P2771345S	£139.97
	10	13	42	95	YG-P2771346S	£104.82
			67	120	YG-P2771347S	£139.97
	12	15	42	95	YG-P2771348S	£104.82
			67	120	YG-P2771349S	£139.97

SHRINK FIT CHUCK DIN 69871

4.5° Standard Profile With Coolant Nozzles (G2.5 25,000RPM)

P1122

- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD/B through coolant & periperhal coolant nozzles



G2.5 25000 | <3µm Run-out | h6 | DIN 69871

YG

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
SK40	6	21	80	YG-P2801301C	£97.83
			160	YG-P2801302C	£142.61
	8	21	80	YG-P2801303C	£97.83
			160	YG-P2801304C	£142.61
	10	24	80	YG-P2801305C	£97.83
			160	YG-P2801306C	£142.61
	12	24	80	YG-P2801307C	£97.83
			160	YG-P2801308C	£142.61
	16	27	80	YG-P2801311C	£97.83
			160	YG-P2801312C	£142.61
	20	33	80	YG-P2801315C	£97.83
			160	YG-P2801316C	£142.61
	25	44	90	YG-P2801317C	£99.56
			160	YG-P2801318C	£142.61

SHRINK FIT CHUCK HSK-A

4.5° Standard Profile (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD through coolant



G2.5 25000 | <3µm Run-out | h6 | DATA CHIP | HSK A

WTE MAPAL GROUP

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK63A	3	10	80	16.306.63.03.Z	£165.33
			120	16.306.63.03.Z/120	£203.78
	4	15	80	16.306.63.04.Z	£165.33
			120	16.306.63.04.Z/120	£203.78
	5	15	80	16.306.63.05.Z	£165.33
			120	16.306.63.05.Z/120	£203.78
	6	21	80	16.306.63.06.Z	£138.42
			120	16.306.63.06.Z/120	£188.40
			160	16.306.63.06.Z/160	£209.56
			200	16.306.63.06.Z/200	£230.71
	8	21	80	16.306.63.08.Z	£138.42
			120	16.306.63.08.Z/120	£188.40
			160	16.306.63.08.Z/160	£209.56
			200	16.306.63.08.Z/200	£230.71
	10	24	85	16.306.63.10.Z	£138.42
			120	16.306.63.10.Z/120	£188.40
			160	16.306.63.10.Z/160	£209.56
			200	16.306.63.10.Z/200	£230.71
	12	24	90	16.306.63.12.Z	£138.42
			120	16.306.63.12.Z/120	£188.40
			160	16.306.63.12.Z/160	£209.56
			200	16.306.63.12.Z/200	£230.71
	14	27	120	16.306.63.14.Z/120	£188.40
			160	16.306.63.14.Z/160	£209.56
			200	16.306.63.14.Z/200	£230.71
	16	27	120	16.306.63.16.Z/120	£188.40
			160	16.306.63.16.Z/160	£209.56
			200	16.306.63.16.Z/200	£230.71
	18	33	120	16.306.63.18.Z/120	£188.40
			160	16.306.63.18.Z/160	£209.56
			200	16.306.63.18.Z/200	£230.71
	20	33	100	16.306.63.20.Z	£138.42
			120	16.306.63.20.Z/120	£188.40
			160	16.306.63.20.Z/160	£209.56
			200	16.306.63.20.Z/200	£230.71
	25	44	120	16.306.63.25.Z/120	£188.40
			160	16.306.63.25.Z/160	£209.56
			200	16.306.63.25.Z/200	£230.71
	32	44	160	16.306.63.32.Z/160	£209.56
			200	16.306.63.32.Z/200	£230.71

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK100A	6	21	85	16.306.100.06.Z	£231.65
			120	16.306.100.06.Z/120	£300.87
			160	16.306.100.06.Z/160	£329.71
			200	16.306.100.06.Z/200	£372.96
	8	21	85	16.306.100.08.Z	£231.65
			120	16.306.100.08.Z/120	£300.87
			160	16.306.100.08.Z/160	£329.71
	10	24	90	16.306.100.10.Z	£231.65
			120	16.306.100.10.Z/120	£300.87
			160	16.306.100.10.Z/160	£329.71
			200	16.306.100.10.Z/200	£372.96
	12	24	95	16.306.100.12.Z	£231.65
			120	16.306.100.12.Z/120	£300.87
			160	16.306.100.12.Z/160	£329.71
	14	27	95	16.306.100.14.Z	£231.65
			120	16.306.100.14.Z/120	£300.87
			160	16.306.100.14.Z/160	£329.71
			200	16.306.100.14.Z/200	£372.96
	16	27	100	16.306.100.16.Z	£231.65
			120	16.306.100.16.Z/120	£300.87
			160	16.306.100.16.Z/160	£329.71
			200	16.306.100.16.Z/200	£372.96
	18	33	100	16.306.100.18.Z	£231.65
			120	16.306.100.18.Z/120	£300.87
			160	16.306.100.18.Z/160	£329.71
			200	16.306.100.18.Z/200	£372.96
	20	33	105	16.306.100.20.Z	£231.65
			120	16.306.100.20.Z/120	£300.87
			160	16.306.100.20.Z/160	£329.71
			200	16.306.100.20.Z/200	£372.96
	25	44	115	16.306.100.25.Z	£231.65
			120	16.306.100.25.Z/120	£300.87
			160	16.306.100.25.Z/160	£329.71
			200	16.306.100.25.Z/200	£372.96
	32	44	120	16.306.100.32.Z	£231.65
			160	16.306.100.32.Z/160	£329.71
			200	16.306.100.32.Z/200	£372.96

SHRINK FIT CHUCK HSK-A

4.5° Standard Profile (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD through coolant



G2.5 25000 | <3µm Run-out | h6 | HSK A

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK63A	3	11	80	YG-P2771401	£99.74
	4			YG-P2771402	
	5			YG-P2771403	
	6	21	80	YG-P2565057	£86.24
			160	YG-P2771404	£130.24
	8	21	80	YG-P2600007	£86.24
			160	YG-P2771405	£130.24
	10	24	85	YG-P2565052	£86.24
			160	YG-P2771406	£130.24
	12	24	90	YG-P2600003	£86.24
			160	YG-P2771407	£130.24
	14	27	90	YG-P2771454	£86.24
			160	YG-P2771455	£130.24
	16	27	95	YG-P2565054	£86.24
			160	YG-P2565053	£130.24
	18	33	95	YG-P2771456	£86.24
			160	YG-P2771457	£130.24
	20	33	100	YG-P2600005	£86.24
			160	YG-P2565055	£130.24
	25	44	115	YG-P2771458	£91.61
			160	YG-P2771459	£130.24
HSK100A	3	11	85	YG-P2771469	£181.25
			85	YG-P2771470	£181.25
			85	YG-P2771471	£181.25
	6	21	85	YG-P2777301	£144.56
			160	YG-P2771472	£200.15
	8	21	85	YG-P2777302	£144.56
			160	YG-P2771473	£200.15
	10	24	90	YG-P2777303	£144.56
			160	YG-P2771474	£200.15
	12	24	95	YG-P2777304	£144.56
			160	YG-P2771475	£200.15
	14	27	95	YG-P2771476	£144.56
			160	YG-P2771477	£200.15
	16	27	100	YG-P2771478	£144.56
			160	YG-P2771479	£200.15
	18	33	100	YG-P2771480	£144.56
			160	YG-P2771481	£200.15
	20	33	100	YG-P2771482	£148.20
			160	YG-P2771483	£200.15
	25	44	115	YG-P2771484	£148.20
			160	YG-P2771485	£200.15

SHRINK FIT CHUCK HSK-A

3° Slim Profile (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- 3° ultra-slim profile taper
- Suitable for HSS & carbide shanks
- Ideal for 5 axis machining or moulds
- AD/B through coolant



G2.5 20000 | <3µm Run-out | h6 | DATA CHIP | HSK A

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK63A	3	9	80	16.304.63.03.Z	£187.45
			120	16.304.63.03.Z/120	£228.77
			160	16.304.63.03.Z/160	£240.31
			200	16.304.63.03.Z/200	£312.41
	4	10	80	16.304.63.04.Z	£187.45
			120	16.304.63.04.Z/120	£228.77
			160	16.304.63.04.Z/160	£240.31
			200	16.304.63.04.Z/200	£312.41
	5	11	80	16.304.63.05.Z	£187.45
			120	16.304.63.05.Z/120	£228.77
			160	16.304.63.05.Z/160	£240.31
			200	16.304.63.05.Z/200	£312.41
	6	12	80	16.304.63.06.Z	£168.22
			120	16.304.63.06.Z/120	£203.78
			160	16.304.63.06.Z/160	£227.82
			200	16.304.63.06.Z/200	£286.45
	8	14	80	16.304.63.08.Z	£168.22
			120	16.304.63.08.Z/120	£203.78
			160	16.304.63.08.Z/160	£227.82
			200	16.304.63.08.Z/200	£286.45
	10	16	85	16.304.63.10.Z	£168.22
			120	16.304.63.10.Z/120	£203.78
			160	16.304.63.10.Z/160	£227.82
			200	16.304.63.10.Z/200	£286.45
	12	18	90	16.304.63.12.Z	£168.22
			120	16.304.63.12.Z/120	£203.78
			160	16.304.63.12.Z/160	£227.82
			200	16.304.63.12.Z/200	£286.45
	14	20	90	16.304.63.14.Z	£168.22
			120	16.304.63.14.Z/120	£203.78
			160	16.304.63.14.Z/160	£227.82
			200	16.304.63.14.Z/200	£286.45
	16	22	95	16.304.63.16.Z	£168.22
			120	16.304.63.16.Z/120	£203.78
			160	16.304.63.16.Z/160	£227.82
			200	16.304.63.16.Z/200	£286.45
	18	24	95	16.304.63.18.Z	£168.22
			120	16.304.63.18.Z/120	£203.78
			160	16.304.63.18.Z/160	£227.82
			200	16.304.63.18.Z/200	£286.45
	20	26	100	16.304.63.20.Z	£168.22
			120	16.304.63.20.Z/120	£203.78
			160	16.304.63.20.Z/160	£227.82
			200	16.304.63.20.Z/200	£286.45

COOLANT TUBES & KEYS HSK-A

- For through coolant supply on HSK tool holders (sold separately)





	HSK50-A	HSK63-A	HSK100-A
Coolant Tube	950APR01	963APR01	910APR01
Coolant Tube Key	950CHVAR	963CHVAR	910CHVAR

SHRINK FIT CHUCK HSK-E

4.5° Standard Profile (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD through coolant



G2.5 25000 | <3µm Run-out | h6 | HSK E

WTE MAPAL GROUP

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
HSK32E	3	10	60	18.306.32.03.Z	**£162.45**
	4	10	60	18.306.32.04.Z	**£162.45**
	5	10	60	18.306.32.05.Z	**£162.45**
	6	21	70	18.306.32.06.Z	**£139.38**
	8	21	70	18.306.32.08.Z	**£139.38**
	10	24	75	18.306.32.10.Z	**£139.38**
	12	24	80	18.306.32.12.Z	**£139.38**
HSK40E	3	10	60	18.306.40.03.Z	**£147.07**
	4	10	60	18.306.40.04.Z	**£147.07**
	5	10	60	18.306.40.05.Z	**£147.07**
	6	21	80	18.306.40.06.Z	**£124.96**
	8	21	80	18.306.40.08.Z	**£124.96**
	10	24	80	18.306.40.10.Z	**£124.96**
	12	24	90	18.306.40.12.Z	**£124.96**
	14	27	90	18.306.40.14.Z	**£124.96**
	16	27	90	18.306.40.16.Z	**£124.96**
HSK50E	3	10	80	18.306.50.03.Z	**£164.37**
	4	15	80	18.306.50.04.Z	**£164.37**
	5	15	80	18.306.50.05.Z	**£164.37**
	6	21	80	18.306.50.06.Z	**£142.26**
	8	21	80	18.306.50.08.Z	**£142.26**
	10	24	85	18.306.50.10.Z	**£142.26**
	12	24	90	18.306.50.12.Z	**£142.26**
	14	27	90	18.306.50.14.Z	**£142.26**
	16	27	95	18.306.50.16.Z	**£142.26**
	18	33	95	18.306.50.18.Z	**£142.26**
	20	33	100	18.306.50.20.Z	**£142.26**

COOLANT TUBES & KEYS HSK-E

- For through coolant supply on HSK tool holders (sold separately)

	HSK40-E	HSK50-E	HSK63-E
Coolant Tube	832-016020	950APR01	963APR01
Coolant Tube Key	816-204022	950CHVAR	963CHVAR

SHRINK FIT CHUCK PSC

4.5° Standard Profile (G2.5 25,000RPM)

- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD through coolant



G2.5 25000 | <3µm Run-out | h6 | PSC

CUTWEL PRO

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
PSC63	3	10	80	C63H80K03-HTT	£229.28
	4			C63H80K04-HTT	
	5			C63H80K05-HTT	
	6	21	80	C63H80K06-HTT	£192.65
			100	C63H100K06-HTT	£329.84
	8	21	80	C63H80K08-HTT	£192.65
			100	C63H100K08-HTT	£329.84
	10	24	80	C63H80K10-HTT	£192.65
			100	C63H100K10-HTT	£329.84
	12	24	80	C63H80K12-HTT	£192.65
			100	C63H100K12-HTT	£329.84
	14	27	85	C63H85K14-HTT	£192.65
			100	C63H100K14-HTT	£329.84
	16	27	85	C63H85K16-HTT	£192.65
			100	C63H100K16-HTT	£329.84
	18	33	85	C63H85K18-HTT	£192.65
			100	C63H100K18-HTT	£329.84
	20	33	85	C63H85K20-HTT	£192.65
			100	C63H100K20-HTT	£329.84
	25	44	90	C63H90K25-HTT	£201.42
			95	C63H95K32-HTT	£226.10

SHRINK FIT CHUCK BT DOUBLE CONTACT

4.5° Standard Profile (G2.5 25,000RPM)

P1122



DOUBLE CONTACT

- Balanced to G2.5 25,000RPM
- 4.5° standard profile taper
- Suitable for HSS & carbide shanks
- Excellent performance in rough milling, finishing, drilling & reaming
- AD through coolant



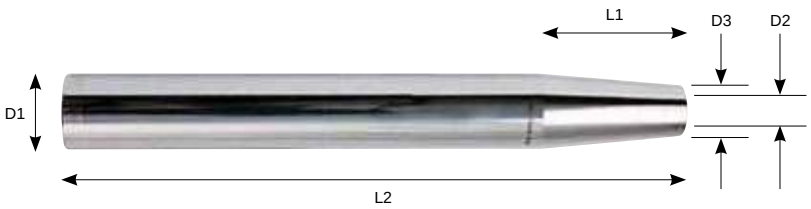
G2.5 25000 | <3µm Run-out | h6 | DBT

CUTWEL PRO

Taper	Shank Dia.	Nose Dia.	Gauge Length	Order Code	Price
DBT40 (BT MAS)	6	21	90	DBT40H90K06-HTT	£200.63
	8	21	90	DBT40H90K08-HTT	
	10	24	90	DBT40H90K10-HTT	
	12	24	90	DBT40H90K12-HTT	
	16	27	90	DBT40H90K16-HTT	
	20	33	100	DBT40H100K20-HTT	
	25	44	100	DBT40H100K25-HTT	
	32	44	100	DBT40H100K32-HTT	
DSK40 (DIN 69871)	6	21	90	DSK40H90K06-HTT	
	8	21	90	DSK40H90K08-HTT	
	10	24	90	DSK40H90K10-HTT	
	12	24	90	DSK40H90K12-HTT	
	16	27	90	DSK40H90K16-HTT	
	20	33	100	DSK40H100K20-HTT	
	25	44	100	DSK40H100K25-HTT	
	32	44	100	DSK40H100K32-HTT	

SHRINK FIT CHUCK EXTENSIONS 4.5°

- For carbide and HSS shanks
- Slim nose profile
- Available in 120mm or 160mm lengths



D1	D2	D3	L1	L2	Order Code	Price
12	3	8	19	120	YG-P2767010	**£67.26**
				160	YG-P2767020	**£74.85**
	4	8	22	120	YG-P2767015	**£67.26**
				160	YG-P2767025	**£74.85**
	5	10	28	120	YG-P2771701	**£67.26**
				160	YG-P2771706	**£74.85**
	6	10	36	120	YG-P2771709	**£61.18**
				160	YG-P2767030	**£68.57**
16	3	10	19	120	YG-P2767110	**£80.01**
				160	YG-P2767120	**£89.91**
	4	10	22	120	YG-P2767115	**£80.01**
				160	YG-P2767125	**£89.91**
	5	10	28	120	YG-P2771702	**£80.01**
				160	YG-P2771707	**£89.91**
	6	10	36	120	YG-P2771710	**£73.19**
				160	YG-P2767130	**£82.16**
	8	12	36	120	YG-P2771711	**£73.19**
				160	YG-P2767135	**£82.16**
20	3	10	19	120	YG-P2771703	**£80.01**
				160	YG-P2767210	**£89.91**
	4	10	22	120	YG-P2771704	**£80.01**
				160	YG-P2767215	**£89.91**
	5	10	28	120	YG-P2771705	**£80.01**
				160	YG-P2771708	**£89.91**
	6	10	36	120	YG-P2771712	**£73.19**
				160	YG-P2767220	**£82.16**
	8	12	36	120	YG-P2771713	**£73.19**
				160	YG-P2767225	**£82.16**
	10	14	42	120	YG-P2771714	**£73.19**
				160	YG-P2767230	**£82.16**
	12	16	47	120	YG-P2771715	**£73.19**
				160	YG-P2767235	**£82.16**
25	3	10	19	160	YG-P2771716	**£92.55**
	4	10	22		YG-P2771717	**£92.55**
	5	15	28		YG-P2771718	**£92.55**
	6	20	36		YG-P2771719	**£84.64**
	8	20	36		YG-P2771720	**£84.64**
	10	20	42		YG-P2771721	**£84.64**
	12	20	47		YG-P2771722	**£84.64**
	14	20	47		YG-P2771723	**£84.64**
	16	22	50		YG-P2771724	**£84.64**
32	6	20	36	160	YG-P2771725	**£88.15**
	8	20	36		YG-P2771726	
	10	24	42		YG-P2771727	
	12	24	47		YG-P2771728	
	14	27	47		YG-P2771729	
	16	27	50		YG-P2771730	
	18	27	50		YG-P2771731	
	20	27	52		YG-P2771732	

INDUCTION SHRINK MACHINES

FROM ENTRY LEVEL TO PROFESSIONAL



bilz

Contact Cutwel today for a quotation

Demonstrations available on request

Face Mill Arbors



Face Mill Arbors for general or performance indexable milling

Available in standard spigot drive, 4-bolt type or combination face mill arbor. The range includes gauge lengths up to 200mm in standard type or 500mm in the SSSHHH! anti-vibration face mill arbors.

Advantages

- Vibration reduction by up to 60% with anti-vibration holders.
- High quality general holders.
- Wide range includes economy (Cutwel Pro). premium (YG-1) and anti-vibration (Canela) types.

Features

- Available in 3 clamping styles.
- Suitable for indexable face mills.
- New anti-vibration range.

CUTWEL PRO YG CANELA

Tool Selection

Description	Selection	Page
BT MAS	BT30, BT40, BT50	**1082**
DIN 69871	SK40, SK50	**1084**
HSK-A	HSK50-A, HSK63-A, HSK100-A	**1086**
HSK-E	HSK50-E, HSK63-E	**1087**
HSK-F	HSK50-F, HSK63-F	**1087**
PSC CAPTO COMPATIBLE	PSC40, PSC50, PSC63, PSC80, PSC100	**1087**
DOUBLE CONTACT	CBT40	**1082**
DIN 2080	ISO30, ISO40, ISO50	**1087**
R8	Bridgeport Taper	**1086**

CANELA

SSSHHH! ANTI-VIBRATION FACE MILL ARBOR

Special damped design reduces vibration by up to 60% in long reach milling applications.



Reducing vibration results in:

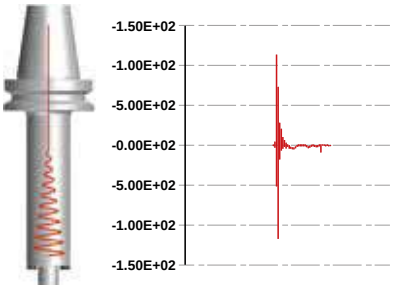
- Less noise
- Increased tool life
- Higher cutting performance (up to 3 times)
- Improved surface finish and a more stable machining process
- Reduced spindle wear

COMPARISON OF VIBRATION DAMPING TIME

CUTWEL SSSHHH! ARBOR

SHORTER VIBRATION DAMPING TIME!

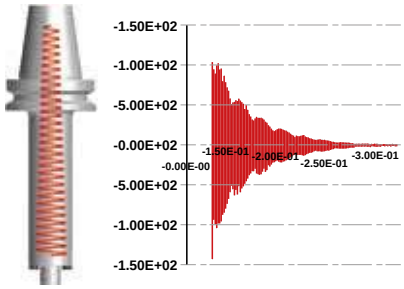
2~3 times better performance than standard arbors



STANDARD ARBOR

LONGER VIBRATION DAMPING TIME!

Chattering is causes reduced performance and tool life



GAUGE LENGTHS

Lengths	BT			SK		HSK-A	
	30	40	50	40	50	63	100
Standard (45-80mm)	●	●	●	●	●	●	●
Long (90-160mm)	-	●	●	●	●	●	●
Extended (165-200mm)	-	●	●	●	●	-	-
SSSHHH! Arbors (150-500mm)	-	●	●	●	●	●	●

FACE MILL ARBOR BT MAS
Standard Type (G6.3 15,000RPM)

P1122

- Balanced to G6.3 15,000RPM
- Tenon drive



G6.3 15000 | BT MAS

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
BT30	16	50	BT30-SMA16-50	£35.93
	22	50	BT30-SMA22-50	£35.93
	27	50	BT30-SMA27-50	£35.93
BT40	16	60	BT40AD/B-SMA16-60	£29.99
		100	BT40-H100D16F	£48.31
		160	BT40-H160D16F	£97.81
		200	BT40-H200D16F	£148.05
	22	50	BT40AD/B-SMA22-50	£29.99
		100	BT40-H100D22F	£48.31
		160	BT40-H160D22F	£97.81
		200	BT40-H200D22F	£170.26
	27	45	BT40AD/B-SMA27-45	£29.99
		100	BT40-H100D27F	£48.31
		160	BT40H160D27F	£97.81
		200	BT40-H200D27F	£170.26
	32	60	BT40AD/B-SMA32-60	£29.99
		100	BT40-H100D32F	£48.31
		160	BT40H160D32F	£122.58
	40	60	BT40AD/B-SMA40-60	£39.99
		100	BT40-H100D40F	£61.74
		160	BT40H160D40F	£122.58
BT50	16	45	BT50AD/B-SMA16-45	£70.54
		100	BT50-H100D16F	£108.19
		160	BT50-H160D16F	£140.10
		200	BT50H200D16F	£223.78
	22	60	BT50AD/B-SMA22-60	£70.54
		100	BT50-H100D22F	£108.19
		160	BT50-H160D22F	£140.10
		200	BT50H200D22F	£221.67
	27	60	BT50AD/B-SMA27-60	£70.54
		100	BT50-H100D27F	£108.19
		160	BT50-H160D27F	£140.10
		200	BT50H200D27F	£221.67
	32	60	BT50AD/B-SMA32-60	£70.54
		100	BT50-H100D32F	£108.19
		160	BT50-H160D32F	£140.10
		200	BT50H200D32F	£223.78
	40	60	BT50AD/B-SMA40-60	£70.54
		100	BT50-H100D40F	£108.19

FACE MILL ARBOR BT MAS
4 Bolt Type (G6.3 12,000RPM)

P1122

- Balanced to G6.3 12,000RPM
- 4 clamping bolts for large diameter face mills



G6.3 12000 | BT MAS

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
BT50	40	70	BT50-SMD40-70	£201.97
	60	80	BT50-SMD60-80	£250.98

FACE MILL ARBOR (PREMIUM LINE) BT MAS
Standard Type (G6.3 15,000RPM)

P1122

- Balanced to G6.3 15,000RPM
- Tenon drive



G6.3 15000 | BT MAS

YG

Taper	Spigot	Gauge Length	Order Code	Price
BT40	16	60	YG-P2778804	£33.81
	22		YG-P2778805	£33.81
	27		YG-P2778806	£33.81
	32		YG-P2778807	£34.63
	40		YG-P2778808	£43.11
BT50	16	75	YG-P2778809	£65.15
	22		YG-P2778810	£65.15
	27		YG-P2778811	£65.99
	32		YG-P2778812	£70.37
	40		YG-P2778813	£81.22

FACE MILL ARBOR BT MAS
Combination Type (G6.3 12,000RPM)

P1122

- Balanced to G6.3 12,000RPM
- For clamping face mills & DIN841 or DIN1880 shell end mills
- Supplied with removable drive ring



G6.3 12000 | BT MAS

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
BT30	16	50	BT30-SMC16-50	£67.46
	22	50	BT30-SMC22-50	
	27	55	BT30-SMC27-55	
BT40	16	55	BT40-SMC16-55	£39.65
	22	55	BT40-SMC22-55	£39.65
	27	55	BT40-SMC27-55	£39.65
	32	60	BT40-SMC32-60	£39.65
	40	60	BT40-SMC40-60	£48.31
BT50	16	70	BT50-SMC16-70	£121.24
	22	70	BT50-SMC22-70	
	27	70	BT50-SMC27-70	
	32	70	BT50-SMC32-70	

FACE MILL ARBOR (PREMIUM LINE) BT MAS
Standard Type (G2.5 25,000RPM)

DOUBLE CONTACT

- Balanced to G2.5 25,000RPM
- Tenon drive
- BT MAS double contact



G2.5 25000 | BT MAS

YG

Taper	Spigot	Gauge Length	Order Code	Price
CBT40	16	60	YG-P2778704	£64.73
		120	YG-P2778715	£88.63
	22	60	YG-P2778705	£65.28
		120	YG-P2778716	£89.48
	27	60	YG-P2778706	£60.27
		120	YG-P2778717	£91.96
	32	60	YG-P2778707	£68.55
		120	YG-P2778718	£106.83
	40	60	YG-P2778708	£85.38

ANTI-VIBRATION FACE MILL ARBOR BT MAS

P1122

Standard Type (G6.3 15,000RPM)

- Balanced to G6.3 15,000RPM
- Tenon drive
- <500mm gauge length



G6.3 15000 BT MAS

CANELA

Taper	Spigot	Neck Dia	Gauge Length	Order Code	Price
BT40	16	38	150	A20.160.40.16/150-38	£242.32
			200	A20.160.40.16/200-38	£253.98
			250	A20.160.40.16/250-38	£280.96
			300	A20.160.40.16/300-38	£324.71
	22	48	150	A20.160.40.22/150-48	£247.16
			200	A20.160.40.22/200-48	£258.81
			250	A20.160.40.22/250-48	£284.66
			300	A20.160.40.22/300-48	£327.26
	27	54	150	A20.160.40.27/150-54	£225.68
			200	A20.160.40.27/200-54	£222.56
			250	A20.160.40.27/250-54	£262.60
			300	A20.160.40.27/300-54	£288.35
BT50	16	38	150	A20.160.50.16/150-38	£311.09
			200	A20.160.50.16/200-38	£322.17
			250	A20.160.50.16/250-38	£344.03
			300	A20.160.50.16/300-38	£395.48
			400	A20.160.50.16/400-38	£515.34
	22	48	200	A20.160.50.22/200-48	£359.75
			250	A20.160.50.22/250-48	£440.81
			300	A20.160.50.22/300-48	£440.81
			400	A20.160.50.22/400-48	£519.32
			500	A20.160.50.22/500-48	£674.72
	22	60	200	A20.160.50.22/200-60	£286.76
			250	A20.160.50.22/250-60	£316.58
			300	A20.160.50.22/300-60	£393.67
			400	A20.160.50.22/400-60	£449.07
			500	A20.160.50.22/500-60	£624.35
	27	60	200	A20.160.50.27/200-60	£286.76
			250	A20.160.50.27/250-60	£312.05
			300	A20.160.50.27/300-60	£377.28
			400	A20.160.50.27/400-60	£485.56
			500	A20.160.50.27/500-60	£609.01
	32	76	200	A20.160.50.32/200-76	£316.42
			250	A20.160.50.32/250-76	£336.38
			300	A20.160.50.32/300-76	£421.72
			400	A20.160.50.32/400-76	£469.27
			500	A20.160.50.32/500-76	£609.98

ANTI-VIBRATION FACE MILL ARBOR BT MAS

P1122

Tapered Neck (G6.3 12,000RPM)

- Balanced to G6.3 12,000RPM
- Tenon drive
- <500mm gauge length



G6.3 12000 BT MAS

CANELA

Taper	Spigot	Neck Dia Min	Neck Dia Max	Gauge Length	Order Code	Price
BT40	16	38	50	150	A20.160.40.16/150	£242.32
				200	A20.160.40.16/200	£253.98
				250	A20.160.40.16/250	£280.96
				300	A20.160.40.16/300	£324.71
	22	44	50	150	A20.160.40.22/150	£247.16
				200	A20.160.40.22/200	£258.81
				250	A20.160.40.22/250	£284.66
				300	A20.160.40.22/300	£327.26
BT50	16	38	80	150	A20.160.50.16/150	£311.09
				200	A20.160.50.16/200	£322.17
				250	A20.160.50.16/250	£344.03
				300	A20.160.50.16/300	£395.48
				400	A20.160.50.16/400	£515.34
	22	48	80	200	A20.160.50.22/200	£325.84
				250	A20.160.50.22/250	£753.33
				300	A20.160.50.22/300	£399.14
				400	A20.160.50.22/400	£519.32
				500	A20.160.50.22/500	£674.72
	27	60	80	200	A20.160.50.27/200	£328.41
				250	A20.160.50.27/250	£351.71
				300	A20.160.50.27/300	£403.98
				400	A20.160.50.27/400	£525.01
				500	A20.160.50.27/500	£682.67

CANELA

SSSHHH! ANTI-VIBRATION FACE MILL ARBOR

Special damped design reduces vibration by up to 60% in long reach milling applications.

Reducing vibration results in:

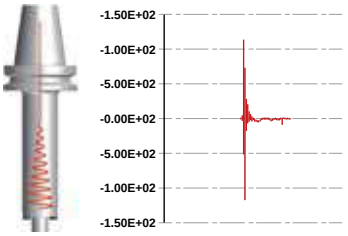
- Less noise
- Increased tool life
- Reduced spindle wear
- Higher cutting performance (up to 3 times)
- Improved surface finish and a more stable machining process

COMPARISON OF VIBRATION DAMPING TIME

CUTWEL SSSHHH! ARBOR

SHORTER VIBRATION DAMPING TIME!

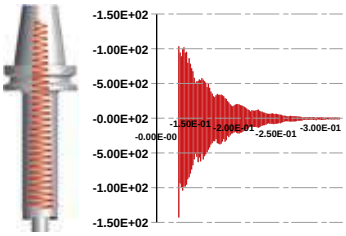
2 ~ 3 times better performance than standard arbors



STANDARD ARBOR

LONGER VIBRATION DAMPING TIME!

Chattering is caused reducing performance and tool life.



FACE MILL ARBOR DIN 69871

Standard Type (G6.3 15,000RPM)

P1122

- Balanced to G6.3 15,000RPM
- Tenon drive



G6.3 15000 | DIN 69871

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
SK40	16	45	SK40AD/B-SMA16-35	£29.99
		100	SK40-H100D16F	£55.20
		160	SK40-H160D16F	£111.78
		200	SK40-H200D16F	£194.58
	22	45	SK40AD/B-SMA22-60	£29.99
		100	SK40-H100D22F	£55.20
		160	SK40-H160D22F	£111.78
		200	SK40-H200D22F	£194.58
	27	45	SK40AD/B-SMA27-40	£29.99
		100	SK40-H100D27F	£55.20
		160	SK40-H160D27F	£111.78
	32	50	SK40AD/B-SMA32-50	£29.99
		100	SK40-H100D32F	£55.20
		160	SK40-H160D32F	£111.78
	40	50	SK40AD/B-SMA40-60	£35.00
		100	SK40-H100D40F	£82.68
SK50	16	60	SK50AD/B-SMA16-45	£76.87
		100	SK50-H100D16F	£117.83
		160	SK50-H160D16F	£154.13
		200	SK50-H200D16F	£221.67
	22	60	SK50AD/B-SMA22-60	£77.62
		100	SK50-H100D22F	£118.99
		160	SK50-H160D22F	£154.13
		200	SK50-H200D22F	£221.67
	27	60	SK50AD/B-SMA27-60	£77.62
		100	SK50-H100D27F	£118.99
		160	SK50-H160D27F	£154.13
		200	SK50-H200D27F	£221.67
	32	60	SK50AD/B-SMA32-60	£77.62
		100	SK50-H100D32F	£118.99
		160	SK50-H160D32F	£154.13
		200	SK50-H200D32F	£223.78
	40	60	SK50AD/B-SMA40-60	£77.62
		100	SK50-H100D40F	£118.99

FACE MILL ARBOR DIN 69871

4 Bolt Type (G6.3 12,000RPM)

P1122

- Balanced to G6.3 12,000RPM
- 4 clamping bolts for large diameter face mills



G6.3 12000 | DIN 69871

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
SK50	40	70	SK50-SMD40-70	£176.73
	60	70	SK50-SMD60-70	£219.60

FACE MILL ARBOR (PREMIUM LINE) DIN 69871

Standard Type (G6.3 15,000RPM)

P1122

- Balanced to G6.3 15,000RPM
- Tenon drive



G6.3 15000 | DIN 69871

YG

Taper	Spigot	Gauge Length	Order Code	Price
SK40	16	60	YG-P2778904	£32.69
	22	60	YG-P2778905	£32.96
	27	60	YG-P2778906	£33.81
	32	60	YG-P2778907	£35.68
	40	60	YG-P2778908	£39.00
SK50	16	75	YG-P2778909	£65.15
	22	75	YG-P2778910	£65.15
	27	75	YG-P2778911	£65.99
	32	75	YG-P2778912	£70.37
	40	75	YG-P2778913	£81.22

FACE MILL ARBOR DIN 69871

Combination Type (G6.3 12,000RPM)

P1122

- Balanced to G6.3 12,000RPM
- For clamping face mills & DIN841 or DIN1880 shell end mills
- Supplied with removable drive ring



G6.3 12000 | DIN 69871

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
SK40	16	55	SK40-SMC-16-55	£55.87
	22	55	SK40-SMC-22-55	£55.87
	27	55	SK40-SMC-27-55	£55.87
	32	60	SK40-SMC-32-60	£60.96
	40	60	SK40-SMC-40-60	£89.70
SK50	16	55	SK50-SMC-16-55	£126.02
	22	55	SK50-SMC-22-55	£99.75
	27	55	SK50-SMC-27-55	£99.75
	32	55	SK50-SMC-32-55	£103.12
	40	70	SK50-SMC-40-55	£123.87

FACE MILL ARBOR (PREMIUM LINE) DIN 69871

Standard Type (G2.5 25,000RPM)

DOUBLE CONTACT

- Balanced to G2.5 25,000RPM
- Tenon drive
- DIN 69871 double contact



G2.5 25000 | DIN 69871

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
DSK40	16	35	DSK40-SMA16-35	£110.00
	22	35	DSK40-SMA22-35	£110.00
	27	60	DSK40-SMA27-60	£110.34
DSK50	16	45	DSK50-SMA16-45	£291.03
	22	45	DSK50-SMA22-45	
	27	60	DSK50-SMA27-60	

ANTI-VIBRATION FACE MILL ARBOR DIN 69871

P1122

Standard Neck (G6.3 12,000RPM)

- Balanced to G6.3 12,000RPM
- Tenon drive
- <500mm gauge length



G6.3 12000 DIN 69871

CANELA

Taper	Spigot	Neck Dia	Gauge Length	Order Code	Price
SK40	16	38	150	A11.160.40.16/150-38	£242.32
			200	A11.160.40.16/200-38	£253.98
			250	A11.160.40.16/250-38	£280.96
			300	A11.160.40.16/300-38	£324.71
	22	48	150	A11.160.40.22/150-48	£247.16
			200	A11.160.40.22/200-48	£258.81
			250	A11.160.40.22/250-48	£284.66
			300	A11.160.40.22/300-48	£327.26
	27	54	150	A11.160.40.27/150-54	£217.93
			200	A11.160.40.27/200-54	£228.10
			250	A11.160.40.27/250-54	£251.91
			300	A11.160.40.27/300-54	£331.54
SK50	16	38	150	A11.160.50.16/150-38	£311.09
			200	A11.160.50.16/200-38	£322.17
			250	A11.160.50.16/250-38	£344.03
			300	A11.160.50.16/300-38	£395.48
			400	A11.160.50.16/400-38	£515.34
	22	48	200	A11.160.50.22/200-48	£325.84
			250	A11.160.50.22/250-48	£348.01
			300	A11.160.50.22/300-48	£399.14
			400	A11.160.50.22/400-48	£519.32
			500	A11.160.50.22/500-48	£674.72
	22	60	200	A11.160.50.22/200-60	£325.84
			250	A11.160.50.22/250-60	£348.01
			300	A11.160.50.22/300-60	£399.14
			400	A11.160.50.22/400-60	£519.32
			500	A11.160.50.22/500-60	£674.72
	27	60	200	A11.160.50.27/200-60	£290.49
			250	A11.160.50.27/250-60	£308.25
			300	A11.160.50.27/300-60	£354.93
			400	A11.160.50.27/400-60	£476.85
			500	A11.160.50.27/500-60	£590.78
	32	76	200	A11.160.50.32/200-76	£293.27
			250	A11.160.50.32/250-76	£314.31
			300	A11.160.50.32/300-76	£361.16
			400	A11.160.50.32/400-76	£469.27
			500	A11.160.50.32/500-76	£609.98

ANTI-VIBRATION FACE MILL ARBOR DIN 69871

P1122

Tapered Neck (G6.3 12,000RPM)

- Balanced to G6.3 12,000RPM
- Tenon drive
- <500mm gauge length



G6.3 12000 DIN 69871

CANELA

Taper	Spigot	Neck Dia		Gauge Length	Order Code	Price
		Min.	Max.			
SK40	16	38	50	150	A11.160.40.16/150	£242.32
				200	A11.160.40.16/200	£253.98
				250	A11.160.40.16/250	£280.96
				300	A11.160.40.16/300	£324.71
	22	44	50	150	A11.160.40.22/150	£247.16
				200	A11.160.40.22/200	£258.81
				250	A11.160.40.22/250	£331.80
				300	A11.160.40.22/300	£381.47
SK50	16	38	80	150	A11.160.50.16/150	£311.09
				200	A11.160.50.16/200	£322.17
				250	A11.160.50.16/250	£344.03
				300	A11.160.50.16/300	£395.48
				400	A11.160.50.16/400	£515.34
	22	48	80	200	A11.160.50.22/200	£325.84
				250	A11.160.50.22/250	£348.01
				300	A11.160.50.22/300	£399.14
				400	A11.160.50.22/400	£519.32
				500	A11.160.50.22/500	£674.72
	27	60	80	200	A11.160.50.27/200	£328.41
				250	A11.160.50.27/250	£351.71
				300	A11.160.50.27/300	£403.98
				400	A11.160.50.27/400	£525.01
				500	A11.160.50.27/500	£682.67

CANELA

SSSHHH! ANTI-VIBRATION FACE MILL ARBOR

Special damped design reduces vibration by up to 60% in long reach milling applications.

Reducing vibration results in:

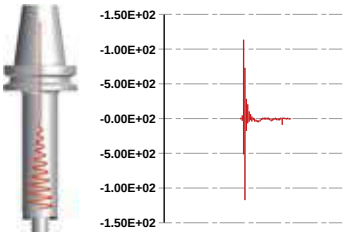
- Less noise
- Increased tool life
- Reduced spindle wear
- Higher cutting performance (up to 3 times)
- Improved surface finish and a more stable machining process

COMPARISON OF VIBRATION DAMPING TIME

CUTWEL SSSHHH! ARBOR

SHORTER VIBRATION DAMPING TIME!

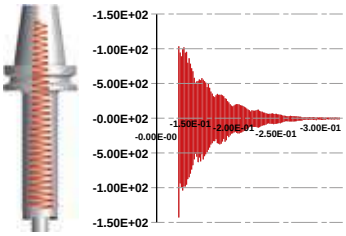
2 ~ 3 times better performance than standard arbors.



STANDARD ARBOR

LONGER VIBRATION DAMPING TIME!

Chattering is caused reducing performance and tool life.



FACE MILL ARBOR - HSK-A
Standard Type (G6.3 15,000RPM)

- Balanced to G6.3 15,000RPM
- Tenon drive



G6.3 15000 | HSK A

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
HSK50A	16	50	HSK50-SMA16-50A	£210.23
	22	60	HSK50-SMA22-60A	£210.23
	27	60	HSK50-SMA27-60A	£210.23
	32	60	HSK50-SMA32-60A	£220.36
	40	70	HSK50-SMA40-70A	£237.29
HSK63A	16	50	HSK63-SMA16-50A	£84.80
		100	HSK63-SMA16-100A	£113.54
		160	HSK63-SMA16-160A	£105.97
	22	50	HSK63-SMA22-50A	£84.80
		100	HSK63-SMA22-100A	£113.54
		160	HSK63-SMA22-160A	£105.97
	27	60	HSK63-SMA27-60A	£84.80
		100	HSK63-SMA27-100A	£113.54
		160	HSK63-SMA27-160A	£110.50
	32	60	HSK63-SMA32-60A	£90.83
		100	HSK63-SMA32-100A	£121.11
		160	HSK63-SMA32-160A	£115.07
	40	70	HSK63-SMA40-70A	£99.92
		100	HSK63-SMA40-100A	£128.69
		160	HSK63-SMA40-160A	£124.15
HSK100A	16	50	HSK100-SMA16-50A	£121.11
		100	HSK100-SMA16-100A	£148.39
		160	HSK100-SMA16-160A	£172.60
	22	50	HSK100-SMA22-50A	£121.11
		100	HSK100-SMA22-100A	£148.39
		160	HSK100-SMA22-160A	£172.60
	27	50	HSK100-SMA27-60A	£121.11
		100	HSK100-SMA27-100A	£148.39
		160	HSK100-SMA27-160A	£172.60
	32	50	HSK100-SMA32-50A	£127.18
		100	HSK100-SMA32-100A	£154.44
		160	HSK100-SMA32-160A	£181.69
	40	60	HSK100-SMA40-60A	£134.74
		100	HSK100-SMA40-100A	£166.53
		160	HSK100-SMA40-160A	£196.81

FACE MILL ARBOR - HSK-A
Combination Type (G6.3 8, 000RPM)

- Balanced to G6.3 8,000RPM
- For clamping face mills & DIN841 or DIN1880 shell end mills
- Supplied with removable drive ring



G6.3 8000 | HSK A

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
HSK63A	16	60	HSK63AH60D16C	£175.25
	22	60	HSK63AH60D22C	£175.25
	27	60	HSK63AH60D27C	£175.25
	32	65	HSK63AH65D32C	£187.95
	40	70	HSK63AH70D40C	£196.43

FACE MILL ARBOR (PREMIUM LINE) - HSK-A
Standard Type (G6.3 15,000RPM)

P1122



- Balanced to G6.3 15,000RPM
- Tenon drive



G6.3 15000 | DIN 69871

YG

Taper	Spigot	Gauge Length	Order Code	Price
HSK63A	16	50	YG-P2566001C	£84.18
	22	50	YG-P2566002C	£85.91
	27	60	YG-P2566003C	£90.00
	32	60	YG-P2566004C	£94.02
	40	60	YG-P2566005C	£102.75

ANTI-VIBRATION FACE MILL ARBOR - HSK-A
Straight Neck (G6.3 12,000RPM)

- Balanced to G6.3 12,000RPM
- Tenon drive
- <300mm gauge length



G6.3 12000 | HSK A

CANELA

Taper	Spigot	Neck Dia	Gauge Length	Order Code	Price
HSK63A	16	38	200	A16.160.63.16/200-38	£342.16
			300	A16.160.63.16/300-38	£421.01
	22	48	200	A16.160.63.22/200-48	£338.32
			300	A16.160.63.22/300-48	£415.93
	27	58	200	A16.160.63.27/200-58	£338.32
HSK100A	16	38	200	A16.160.100.16/200-3	£428.98
			300	A16.160.100.16/300-3	£540.63
	22	48	200	A16.160.100.22/200-4	£428.98
			300	A16.160.100.22/300-4	£540.63
	27	58	200	A16.160.100.27/200-5	£428.98
			300	A16.160.100.27/300-5	£540.63
	32	78	300	A16.160.100.32/300-7	£540.63

FACE MILL ARBOR - R8

- For Bridgeport / conventional milling machines
- Draw bar thread 7/6" - 20 UNF



R8

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
R8	16	19	R8H19D16F	£43.63
	22	23	R8H23D22F	
	27	23	R8H23D27F	
	32	24	R8H24D32F	

FACE MILL ARBOR - HSK-E
Standard Type (G2.5 20,000RPM)

- Balanced to G2.5 20,000RPM
- Tenon drive



G2.5 20000 | HSK E

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
HSK50-E	16	50	HSK50-SMA16-50E	£130.37
	22	60	HSK50-SMA22-60E	£130.37
	27	60	HSK50-SMA27-60E	£130.37
	32	60	HSK50-SMA32-60E	£141.36
	40	70	HSK50-SMA40-70E	£175.43
HSK63-E	16	50	HSK63-SMA16-50E	£127.21
		100	HSK63-SMA16-100E	£163.25
		160	HSK63-SMA16-160E	£233.53
	22	50	HSK63-SMA22-50E	£127.21
		100	HSK63-SMA22-100E	£163.25
		160	HSK63-SMA22-160E	£233.53
	27	60	HSK63-SMA27-60E	£127.21
		100	HSK63-SMA27-100E	£163.25
		160	HSK63-SMA27-160E	£233.53
	32	60	HSK63-SMA32-60E	£135.31
		100	HSK63-SMA32-100E	£170.61
		160	HSK63-SMA32-160E	£241.44
	40	70	HSK63-SMA40-70E	£155.69
		100	HSK63-SMA40-100E	£182.75
		160	HSK63-SMA40-160E	£251.30

FACE MILL ARBOR - HSK-F
Standard Type (G2.5 20,000RPM)

- Balanced to G2.5 20,000RPM
- Tenon drive



G2.5 20000 | HSK F

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
HSK50-F	16	50	HSK50-SMA16-50F	£148.67
	22	60	HSK50-SMA22-60F	£148.67
	27	60	HSK50-SMA27-60F	£148.67
	32	60	HSK50-SMA32-60F	£166.98
	40	70	HSK50-SMA40-70F	£193.74
HSK63-F	16	50	HSK63-SMA16-50F	£142.54
		100	HSK63-SMA16-100F	£165.66
		160	HSK63-SMA16-160F	£228.61
	22	50	HSK63-SMA22-50F	£142.54
		100	HSK63-SMA22-100F	£165.66
		160	HSK63-SMA22-160F	£228.61
	27	60	HSK63-SMA27-60F	£142.54
		100	HSK63-SMA27-100F	£165.66
		160	HSK63-SMA27-160F	£228.61
	32	60	HSK63-SMA32-60F	£158.43
		100	HSK63-SMA32-100F	£171.80
		160	HSK63-SMA32-160F	£236.38
	40	70	HSK63-SMA40-70F	£176.63
		100	HSK63-SMA40-100F	£199.55
		160	HSK63-SMA40-160F	£246.47

FACE MILL ARBOR - DIN 2080
Standard Type (G6.3 15,000RPM)

- Balanced to G6.3 15,000RPM
- Tenon drive



G6.3 15000 | DIN 2080

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
ISO30	16	35	ISO30-SMA16-35	£75.00
	22		ISO30-SMA22-35	£77.00
	27		ISO30-SMA27-35	£79.00
ISO40	16	45	ISO40-SMA16-45	£37.37
	22		ISO40-SMA22-45	£37.37
	27		ISO40-SMA27-45	£37.37
	32		ISO40-SMA32-45	£42.57
	40		ISO40-SMA40-45	£47.01
ISO50	22	45	ISO50-H45D22F	£155.17
	27		ISO50-H45D27F	£163.24
	32	50	ISO50-H50D32F	£163.24
	40		ISO50-H50D40F	£189.97

FACE MILL ARBOR - PSC
Standard Type

PSC ISO 26623

- Capto compatible
- Tenon drive



PSC

CUTWEL PRO

Taper	Spigot	Gauge Length	Order Code	Price
PSC40	16	55	18.160.040.16	£254.71
	22		18.160.040.22	
PSC50	16	60	18.160.050.16	£271.97
	22		18.160.050.22	
	27		18.160.050.27	
	32		18.160.050.32	
PSC63	16	63	18.160.063.16	£285.78
	22	25	18.160.063.22	£285.78
		100	18.160.063.22/100	£337.58
	27	25	18.160.063.27	£285.78
		100	18.160.063.27/100	£360.94
	32	25	18.160.063.32	£236.30
		100	18.160.063.32/100	£337.58
	40	40	18.160.063.40	£285.78
		100	18.160.063.40/100	£337.58
PSC80	16	50	18.160.080.16	£312.54
	22	30	18.160.080.22	£312.54
		100	18.160.080.22/100	£355.71
	27	30	18.160.080.27	£312.54
		100	18.160.080.27/100	£355.71
	32	30	18.160.080.32	£342.49
		100	18.160.080.32/100	£389.79
	40	30	18.160.080.40	£254.65
		100	18.160.080.40/100	£289.83
	60	60	18.160.080.60	£289.83
PSC100	16	50	18.160.100.16	£292.64
	22	50	18.160.100.22	£292.64
		100	18.160.100.22/100	£319.38
	27	50	18.160.100.27	£292.64
		100	18.160.100.27/100	£319.38
	32	50	18.160.100.32	£292.64
		100	18.160.100.32/100	£319.38
	40	50	18.160.100.40	£292.64
		100	18.160.100.40/100	£319.38
	60	70	18.160.100.60	£319.38

Synchro Tap Chucks



High Performance Synchro Tap Chucks for rigid tapping.

Synchro Tap Chucks are the simple answer to the problem of broken taps, oversized or poor quality threads and insufficient tool life in rigid tapping applications. The special design has ±0.5mm tension and compression which compensates for any error in the synchronisation cycle or backlash in the spindle. The result is reliable tapping, with better quality threads and longer tool life.

Advantages

- Possible to use synchro taps for high speed tapping.
- Better quality threads.
- Prevention of broken taps.

Features

- ±0.5mm length compensation which reduces synchronization errors.
- ER collet output.
- Available with taper shank (e.g. BT40) or weldon shank (for use with side lock arbor).

Tool Selection

Description	Selection	Page
BT MAS	BT30, BT40, BT50	**1090**
DIN 69871	SK40, SK50	**1091**
HSK-A	HSK63-A	**1092**
WELDON	SYTER Series	**1092**
TAPPING ER COLLETS	ER-MD Series	**1093**
TAPPING ER COLLET SETS	ER-MD Series	**1093**

HIGH PERFORMANCE SYNCHRO TAP CHUCKS FOR RIGID TAPPING

Modern CNC machines allow synchronous thread tapping without a tension & compression chuck, also called rigid tapping. The backlash of the spindle causes stress to one side of the tap. This may result in reduced tool life and lack of quality in the thread form.

Synchro tapping chucks compensate for the length errors caused by backlash and achieve optimum performance from your taps.

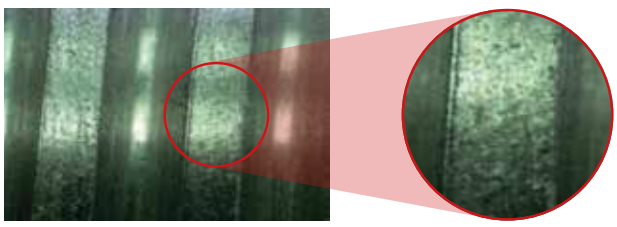
- For tapping with synchronized feed mechanism
- For high speed tapping or normal speed rigid tapping
- Reduced tapping load during inversion phase
- Minimal synchronization error by special design
- Minimum length compensation (+/-<0.5mm)
- Through coolant
- For use with ER-MD square drive tapping ER collets



COMPARISON OF THREAD FORMS

When tapping under the same cutting conditions, threads formed using an ER Collet Chuck appear damaged and out of form due to a synchronization error, compared with those machinined using a synchro tap chuck.

SYNCHRO TAP CHUCK



Excellent cutting face

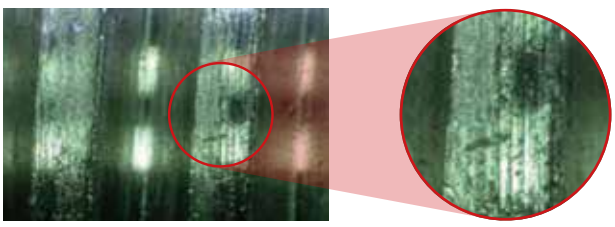


Intro part after 1 time use



End part after 1 time use

ER COLLET CHUCK



Poor cutting face



Intro part after 1 time use



End part after 1 time use

SYNCHRO TAP CHUCK - BT MAS SYTER SERIES

P1122 P1093

- ER output - use with ER-MD style collets
- AD/B through coolant
- BT MAS taper
- +/- 0.5mm axial compensation



BT MAS SR

YG

Taper	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
BT40	ER16MD	28	79	3.5 - 8	M2 - M8	Hex	YG-P2776301	£199.00
	ER20MD	34	85	3.5 - 10	M3 - M10	Hex	YG-P2776302	
	ER25MD	42	90	3.5 - 12	M3 - M14	Std	YG-P2776303	
	ER32MD	50	100	3.5 - 16	M4 - M18	Std	YG-P2776304	
	ER40MD	63	125	6 - 20	M8 - M24	Std	YG-P2776305	
BT50	ER16MD	28	100	3.5 - 8	M2 - M8	Hex	YG-P2776306	£249.00
	ER20MD	34	100	3.5 - 10	M3 - M10	Hex	YG-P2776307	
	ER25MD	42	100	3.5 - 12	M3 - M14	Std	YG-P2776308	
	ER32MD	50	110	3.5 - 16	M4 - M18	Std	YG-P2776309	
	ER40MD	63	125	6 - 20	M8 - M24	Std	YG-P2776310	

SYNCHRO TAP CHUCK - BT MAS DST SERIES

P1122 P1093

- ER output - use with ER-MD style collets
- AD through coolant
- BT MAS taper



BT MAS SR

DINE

Taper	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
BT30	ER16MD	28	100	3.5 - 8	M3 - M8	Hex	BT30-DST10-100	£169.52
BT40	ER16MD	28	100	3.5 - 8	M3 - M8	Hex	BT40-DST10-100	£184.55
	ER32MD	50	110	3.5 - 16	M3 - M20	Std	BT40-DST22-110	£200.45
BT50	ER16MD	28	110	3.5 - 8	M3 - M8	Hex	BT50-DST10-110	£266.42
	ER32MD	50	125	3.5 - 16	M3 - M20	Std	BT50-DST22-130	£275.50

SYNCHRO TAP CHUCK - BT MAS ECONOMY SERIES

P1122 P1093

- Increases tap tool life by 100-400% compared to standard ER collet chucks
- Designed for rigid tapping on CNC machining centres
- Improves thread quality and consistency
- AD/B through coolant
- Reduces tapping torque
- Suitable for use with application machine taps or high speed synchro machine taps
- Always use with ER-MD style collets for best results
- See the instant performance, tool life and thread quality improvements in extreme production
- +/- 0.5mm axial compensation



BT MAS SR

CUTWEL PRO

Taper	Tap Shank Range	Tap Size Range	Gauge Length	Nut Type	Order Code	Price
BT40	3.5-12	M3 - M16	89	Std	BT40-SYNC-ER25	£158.48

SYNCHRO TAP CHUCK - DIN 69871
SYTER SERIES

P1122 P1093

- ER output - use with ER-MD style collets
- AD/B through coolant
- DIN 69871 taper
- +/- 0.5mm axial compensation



DIN 69871 S R

YG

Taper	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
SK40	ER16MD	28	79	3.5 - 8	M3 - M12	Hex	YG-P2773701	£199.00
	ER20MD	34	85	3.5 - 10	M3 - M16	Hex	YG-P2773702	
	ER25MD	42	90	3.5 - 12	M3 - M20	Std	YG-P2773703	
	ER32MD	50	100	3.5 - 16	M4 - M27	Std	YG-P2773704	
	ER40MD	63	120	6 - 20	M4 - M33	Std	YG-P2773705	
SK50	ER16MD	28	79	3.5 - 8	M3 - M8	Hex	YG-P2773706	£249.00
	ER20MD	34	85	3.5 - 10	M3 - M10	Hex	YG-P2773707	
	ER25MD	42	90	3.5 - 12	M3 - M16	Std	YG-P2773708	
	ER32MD	50	100	3.5 - 16	M3 - M20	Std	YG-P2773709	
	ER40MD	63	105	6 - 20	M4.5 - M27	Std	YG-P2773710	

SYNCHRO TAP CHUCK - DIN 69871
ECONOMY SERIES

P1122 P1093

- ER output - use with ER-MD style collets
- AD through coolant



DIN 69871 S R

DINE

Taper	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
SK40	ER16MD	28	100	3.5 - 8	M3 - M8	Hex	SK40-DST10-110	£184.55
	ER32MD	50	110	3.5 - 16	M3 - M20	Std	SK40-DST22-120	£200.45
SK50	ER16MD	28	110	3.5 - 8	M3 - M8	Hex	SK50-DST10-110	£266.42
	ER32MD	50	125	3.5 - 16	M3 - M20	Std	SK50-DST22-120	£275.50

SYNCHRO TAP CHUCK - DIN 69871
ECONOMY SERIES

P1122 P1093

- Increases tap tool life by 100-400% compared to standard ER collet chucks
- Designed for rigid tapping on CNC machining centres
- Improves thread quality and consistency
- AD/B through coolant
- Reduces tapping torque
- Suitable for use with application machine taps or high speed synchro machine taps
- Always use with ER-MD style collets for best results
- See the instant performance, tool life and thread quality improvements in extreme production
- +/- 0.5mm axial compensation



DIN 69871 S R

CUTWEL PRO

Taper	Tap Shank Range	Tap Size Range	Gauge Length	Nut Type	Order Code	Price
SK40	3.5-12	M3 - M16	84	Std	SK40-SYNC-ER25	£158.48

SYNCHRO TAP CHUCK - HSK-A SYTER SERIES

P1093

- ER output - use with ER-MD style collets
- AD through coolant
- HSK-A taper*
- +/- 0.5mm axial compensation



Taper	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
HSK63A	ER20MD	34	90	3.5 - 10	M3 - M10	Hex	YG-P2773801	**£226.38**
	ER25MD	42	94	3.5 - 12	M3 - M14	Std	YG-P2773802	**£228.57**
	ER32MD	50	105	3.5 - 16	M4 - M20	Std	YG-P2773803	**£233.97**

*For HSK100, use weldon shank Synchro Tap chuck and side lock arbor

SYNCHRO TAP CHUCK - HSK-A DST SERIES

P1093

- ER output - use with ER-MD style collets
- AD through coolant
- HSK-A taper*



Taper	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
HSK63A	ER16MD	28	100	3.5 - 8	M3 - M8	Hex	HSK63A-DST10-100	**£247.25**
	ER32MD	50	130	3.5 - 16	M3 - M20	Std	HSK63A-DST22-130	**£262.38**

*For HSK100, use weldon shank Synchro Tap chuck and side lock arbor

SYNCHRO TAP CHUCK - WELDON ECONOMY SERIES

P1093

- ER output - use with ER-MD style collets
- Through coolant
- Can be used on lathes or combined with side lock arbor on milling machines
- +/- 0.5mm axial compensation



Shank	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
20	ER20MD	34	58	3.5 - 10.0	M3 - M16	Hex	YG-P2773901	**£165.03**
25	ER20MD	34	61	3.5 - 10.0	M3 - M16	Hex	YG-P2773902	**£167.77**
25	ER32MD	50	69	3.5 - 16.0	M3 - M20	Std	YG-P2773903	**£198.39**

ER WRENCHES & NUTS SYNCHRO TAP CHUCKS

	Hexagon Nut		Standard Nut	
	ER16	ER20	ER25	ER32
Wrench	WER16	WER20	WER25	WER32
Nut	CN16	CN20	CN25	CN32

COOLANT TUBES & KEYS HSK-A

- For through coolant supply on HSK tool holders (sold separately)

	HSK50-A	HSK63-A	HSK100-A
Coolant Tube	950APR01	963APR01	910APR01
Coolant Tube Key	950CHVAR	963CHVAR	910CHVAR

ER-MD SETS

- Square drive prevents tap from slipping
- Recommended for use with all synchro tap chucks for maximum reliability
- Recommended for all tapping applications when using standard ER collet chucks and synchro tap chucks for maximum reliability



CUTWEL PRO

ER	Shank & Square	Square	Order Code	Price
ER16	3.5	2.7	ER16MD03.5	
	4	3	ER16MD04	
	4.5	3.4	ER16MD04.5	
	5	4	ER16MD05	
	5.5	4.3	ER16MD05.5	
	6	4.9	ER16MD06	
	7	5.5	ER16MD07	
	8	6.2	ER16MD08	
ER20	3.5	2.7	ER20MD03.5	
	4	3	ER20MD04	
	4.5	3.4	ER20MD04.5	
	5	4	ER20MD05	
	5.5	4.3	ER20MD05.5	
	6	4.9	ER20MD06	
	7	5.5	ER20MD07	
	8	6.2	ER20MD08	
	9	7	ER20MD09	
	10	8	ER20MD10	
ER25	3.5	2.7	ER25MD03.5	
	4	3	ER25MD04	
	4.5	3.4	ER25MD04.5	
	5	4	ER25MD05	
	5.5	4.3	ER25MD05.5	
	6	4.9	ER25MD06	
	7	5.5	ER25MD07	
	8	6.2	ER25MD08	
	9	7	ER25MD09	
	10	8	ER25MD10	
	11	9	ER25MD11	
	12	9	ER25MD12	

£20.97

ER	Shank Ø	Square	Order Code	Price
ER32	3.5	2.7	ER32MD03.5	**£22.27**
	4	3	ER32MD04	**£22.27**
	4.5	3.4	ER32MD04.5	**£22.27**
	5	4	ER32MD05	**£22.27**
	5.5	4.3	ER32MD05.5	**£22.27**
	6	4.9	ER32MD06	**£22.27**
	7	5.5	ER32MD07	**£22.27**
	8	6.2	ER32MD08	**£22.27**
	9	7	ER32MD09	**£22.27**
	10	8	ER32MD10	**£22.27**
	11	9	ER32MD11	**£22.27**
	12	9	ER32MD12	**£22.27**
	14	11	ER32MD14	**£22.27**
	16	12	ER32MD16	**£50.13**
ER40	6	4.9	ER40MD06	
	7	5.5	ER40MD07	
	8	6.2	ER40MD08	
	9	7	ER40MD09	
	10	8	ER40MD10	
	11	9	ER40MD11	**£24.90**
	12	9	ER40MD12	
	14	11	ER40MD14	
	16	12	ER40MD16	
	18	14.5	ER40MD18	
	20	16	ER40MD20	

TAPPING ER COLLET SETS ER-MD SERIES

- Square drive prevents tap from slipping
- Recommended for use with all synchro tap chucks for maximum reliability



CUTWEL PRO

ER	No of Collets	Sizes Included	Order Code	Price
ER16	4	3.5, 4.5, 6, 7	ER16MD-4PCS	**£55.44**
ER20	7	3.5, 4.5, 6, 7, 8, 9, 10	ER20MD-7PCS	**£183.20**
ER25	9	3.5, 4.5, 6, 7, 8, 9, 10, 11, 12	ER25MD-9PCS	**£122.96**
ER32	10	4.5, 6, 7, 8, 9, 10, 11, 12, 14, 16	ER32MD-10PCS	**£140.58**
ER40	11	6, 7, 8, 9, 10, 11, 12, 14, 16, 18, 20	ER40MD-11PCS	**£316.56**

Tension, Compression & Quick Change Tap Chucks



Tension & compression, quick change or ER type tap chucks.

Quick change tap chucks offer the fastest tool changes and one of the most reliable clamping systems for conventional or CNC machine tapping. With a wide range of adapters, taps can be clamped from M2-M48. The YG-1 TER tap chuck system offers tension and compression axial length compensation with the use of ER collets.

Advantages

- Reduced risk of oversized threads.
- Reduced risk of tap breakages.
- Zero chance of tap slipping.

Features

- Adapters with fixed drive or torque control.
- ER collet or quick change system.
- Axial length compensation.

Tool Selection

Description	Selection	Page
BT MAS	BT40, BT50	**1096**
DIN 69871	SK40, SK50	**1096**
HSK-A	HSK50-A, HSK63-A, HSK100-A	**1096**
DIN 2080 & PSC	ISO40/50, PSC40/50/63/80/100	**1097**
WELDON	Straight Shank	**1097**
MORSE TAPER	MT 2-4	**1097**
TAPERING ER COLLET SETS	ER-MD Series	**1099**
QUICK CHANGE TAP ADAPTERS	Fixed & Clutch Drive	**1099**
TAPPING ER COLLETS	ER-MD Series	**1099**

BENEFITS OF TENSION & COMPRESSION TAP CHUCKS

The axial length compensation prevents oversized threads and helps prevent tap breakage from over travel, e.g. when the tap hits the bottom of the hole. Tension and compression tap chucks are also ideal for high-end tapping applications in modern CNC machine tools, where the workpiece is of high value, or where difficult materials require high torque loads.

Compression tap chuck's include extra safety mechanisms compared to other chucks, such as ER collet chucks, make issues such as taps slipping impossible.

TENSION & COMPRESSION QUICK CHANGE TAP CHUCKS

- Axial length compensation (tension & compression)
- Quick change system
- Adapters available in 3 sizes for different thread sizes
- Adapters available in fixed drive or clutch type
- Taps or adapters cannot slip in chuck
- Taps can be changed quickly whilst on the machine



CUTWEL PRO

QUICK CHANGE TAP ADAPTERS - WITH TORQUE CONTROL OR FIXED DRIVE



WITH TORQUE CONTROL

- Adjustable torque control
- Ideal for materials with high tensile strength or that are difficult to tap
- Helps prevent broken taps, especially in smaller diameters
- Improved thread quality
- Recommended for high value workpieces



FIXED DRIVE

- No torque control
- Ideal for materials that are easier to tap
- Low cost
- Recommended for lower value workpieces

SQUARE DRIVE
prevents the tap from slipping in the adapter



DRIVE KEYS
prevent the adapter from slipping in the chuck

TENSION & COMPRESSION TER (ER) TAP CHUCK

- Axial length compensation (tension & compression)
- ER collet system
- Collets can be readily interchanged with solid ER collet chucks
- Available in ER16 or ER32





YG

QUICK CHANGE TAP CHUCK - BT MAS

Tension & Compression

- Quick change system - use with quick change tap adapters
- With axial length compensation

P1122 P1099



BT MAS

CUTWEL PRO

Taper	Adapter Size	Adapter	Tap Shank Range	Tap Size Range	Range	Order Code	Price
BT40	1	IBC1 / IBS1	2.8 - 12	M2 - M14	+/-9	BT40-ATP312	**£107.26**
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	BT40-ATP822	**£119.87**
BT50	1	IBC1 / IBS1	2.8 - 12	M3 - M12	+/-9	BT50-ATP312	**£194.68**
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	BT50-ATP822	**£194.68**
	3	IBC3 / IBS3	11 - 36	M14 - M33	+/-24	BT50H135GR3DC	**£475.00**

QUICK CHANGE TAP CHUCK - DIN 69871

Tension & Compression

- Quick change system - use with quick change tap adapters
- With axial length compensation

P1122 P1099



DIN 69871

CUTWEL PRO

Taper	Adapter Size	Adapter	Tap Shank Range	Tap Size Range	Range	Order Code	Price
SK40	1	IBC1 / IBS1	2.8 - 12	M3 - M12	+/-9	SK40-ATP312	**£107.26**
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	SK40-ATP822	**£119.87**
	3	IBC3 / IBS3	11 - 36	M14 - M33	+/-24	SK40H138GR3DC	**£306.12**
SK50	1	IBC1 / IBS1	2.8 - 12	M3 - M12	+/-9	SK50-ATP312	**£194.68**
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	SK50-ATP822	**£194.68**
	3	IBC3 / IBS3	11 - 36	M14 - M33	+/-24	SK50H133GR3.DC	**£437.79**

QUICK CHANGE TAP CHUCK - HSK-A

Tension & Compression

- Quick change system - use with quick change tap adapters
- With axial length compensation

P1099



HSK A

CUTWEL PRO

Taper	Adapter Size	Adapter	Tap Shank Range	Tap Size Range	Tension / Compression Range	Order Code	Price
HSK50A	1	IBC1 / IBS1	2.8 - 12	M2 - M12	+/-9	HSK50-TCC-1	**£352.36**
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	HSK50-TCC-2	**£398.31**
HSK63A	1	IBC1 / IBS1	2.8 - 12	M3 - M12	+/-9	HSK63-TCC-1	**£183.53**
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	HSK63-TCC-2	**£198.21**
HSK100A	1	IBC1 / IBS1	2.8 - 12	M3 - M12	+/-9	HSK100-TCC-1	**£408.32**
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	HSK100-TCC-2	**£431.62**

QUICK CHANGE TAP CHUCK - DIN 2080

Tension & Compression

- Quick change system - use with quick change tap adapters
- With axial length compensation

P1099



DIN 2080

CUTWEL PRO

Taper	Adapter Size	Adapter	Tap Shank Range	Tap Size Range	Tension / Compression Range	Order Code	Price
ISO40	1	IBC1 / IBS1	2.8 - 12	M3 - M12	+/-9	ISO40-H52GR1DC	**£122.57**
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	ISO40-H77GR2DC	**£136.99**
ISO50	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	ISO50-H79GR2DC	**£185.67**

QUICK CHANGE TAP CHUCK - WELDON SHANK

Tension & Compression

P1042 P1099

- Quick change system - use with quick change tap adapters
- With axial length compensation



WE

CUTWEL PRO

Shank Diameter	Adapter Size	Adapter	Tap Shank Range	Tap Size Range	Tension / Compression Range	Order Code	Price
20	1	IBC1 / IBS1	2.8 - 12	M2 - M16	+/-9	M3-M12CIL.D20GR1	£128.34
25	1	IBC1 / IBS1	2.8 - 12	M2 - M16	+/-9	M3-M12CIL.D25GR1	£128.34
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	M6-M20CIL.D25GR2	
32	1	IBC1 / IBS1	2.8 - 12	M2 - M16	+/-9	M3-M12CIL.D32GR1	£128.34
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	M6-M20CIL.D32GR2	£128.34
	3	IBC3 / IBS3	11 - 36	M14 - M33	+/-24	M14-M33CIL.D32GR3	£350.00
40	1	IBC1 / IBS1	2.8 - 12	M2 - M16	+/-9	M3-M12CIL.D40GR1	£132.20
	2	IBC2 / IBS2	6 - 20	M4.5 - M27	+/-15	M6-M20CIL.D40GR2	£132.20
	3	IBC3 / IBS3	11 - 36	M14 - M33	+/-24	M14-M33CIL.D40GR3	£350.00

QUICK CHANGE TAP CHUCK - MORSE TAPER

Tension & Compression

P1099

- Quick change system - use with quick change tap adapters
- With axial length compensation



MT 2~4

KINTEK

Taper	Adapter Size	Adapter	Tap Shank Range	Tap Size Range	Tension / Compression Range	Order Code	Price
MT2	1	IBC1 / IBS1	3.5 - 9	M3 - M12	+/-9	M3-M12CM2BGR1	£213.03
MT3	1	IBC1 / IBS1	3.5 - 9	M3 - M12	+/-9	M3-M12CM3BGR1	£193.38
MT3	2	IBC2 / IBS2	6 - 16	M6 - M20	+/-15	M6-M20CM3BGR2	£231.12
MT4	2	IBC2 / IBS2	6 - 16	M6 - M20	+/-15	M6-M20CM4BGR2	£308.77

QUICK CHANGE TAP CHUCK - PSC

Tension & Compression

P1099

- Quick change system - use with quick change tap adapters
- With axial length compensation

PSC ISO 26623



PSC

CANELA

Taper	Adapter Size	Adapter	Tap Shank Range	Tap Size Range	Tension / Compression Range	Order Code	Price
PSC40	1	IBC1 / IBS1	3.5 - 9	M3 - M12	+/-9	18.620.040.12	£539.57
PSC50	1	IBC1 / IBS1	3.5 - 9	M3 - M12	+/-9	18.620.050.12	£566.98
PSC63	1	IBC1 / IBS1	3.5 - 9	M3 - M12	+/-9	18.620.063.12	£597.97
	2	IBC2 / IBS2	8 - 16	M8 - M20	+/-15	18.620.063.20	£683.06
	3	IBC3 / IBS3	11 - 22.4	M14 - M33	+/-24	18.620.063.33	£877.22
PSC80	1	IBC1 / IBS1	3.5 - 9	M3 - M12	+/-9	18.620.080.12	£652.11
	2	IBC2 / IBS2	8 - 16	M8 - M20	+/-15	18.620.080.20	£753.42
	3	IBC3 / IBS3	11 - 22.4	M14 - M33	+/-24	18.620.080.33	£970.79
PSC100	1	IBC1 / IBS1	3.5 - 9	M3 - M12	+/-9	18.620.100.12	£724.57
	2	IBC2 / IBS2	8 - 16	M8 - M20	+/-15	18.620.100.20	£832.22
	3	IBC3 / IBS3	11 - 22.4	M14 - M33	+/-24	18.620.100.33	£1,077.72

ER TAP CHUCK - BT MAS

Tension & Compression

P1122 P1037

- ER output - use with ER-MD style collets
- With axial length compensation
- BT MAS taper



BT MAS

Taper	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
BT40	ER16MD	28	100	3.5 - 8	M3 - M8	Hex	YG-P2774159	**£180.61**
	ER16MD	28	150	3.5 - 8	M3 - M8	Hex	YG-P2774160	**£185.87**
	ER32MD	50	110	3.5 - 16	M3 - M20	Std	YG-P2774161	**£205.93**
	ER32MD	50	150	3.5 - 16	M3 - M20	Std	YG-P2774162	**£213.81**
BT50	ER16MD	28	115	3.5 - 8	M3 - M8	Hex	YG-P2774163	**£221.68**
	ER16MD	25	150	3.5 - 8	M3 - M8	Hex	YG-P2774164	**£216.45**
	ER32MD	50	120	3.5 - 16	M3 - M20	Std	YG-P2774165	**£274.69**
	ER32MD	50	150	3.5 - 16	M3 - M20	Std	YG-P2774166	**£280.53**

ER TAP CHUCK - DIN 69871

Tension & Compression

P1122 P1037

- ER output - use with ER-MD style collets
- With axial length compensation
- DIN 69871



DIN 69871

Taper	ER	Nut Dia.	Gauge Length	Tap Shank Range	Tap Size Range	Nut Type	Order Code	Price
SK40	ER16MD	28	100	3.5 - 8	M3 - M8	Hex	YG-P2774001	**£118.54**
	ER16MD	28	150	3.5 - 8	M3 - M8	Hex	YG-P2774002	**£123.30**
	ER32MD	50	110	3.5 - 16	M3 - M20	Std	YG-P2774003	**£136.61**
	ER32MD	50	150	3.5 - 16	M3 - M20	Std	YG-P2774004	**£141.83**
SK50	ER16MD	28	115	3.5 - 8	M3 - M8	Hex	YG-P2774005	**£147.02**
	ER16MD	25	150	3.5 - 8	M3 - M8	Hex	YG-P2774006	**£143.55**
	ER32MD	50	120	3.5 - 16	M3 - M20	Std	YG-P2774007	**£182.20**
	ER32MD	50	150	3.5 - 16	M3 - M20	Std	YG-P2774008	**£186.07**

QUICK CHANGE TAP ADAPTERS

- Clutch type (with torque control)
- Fixed drive (no torque control)

Fixed Drive



Clutch Drive



CUTWEL PRO

Adapter	Tap Shank	Tap Square	Order Code			
			Fixed Drive	Price	Clutch Drive	Price
1	2.8	2.1	IBC1-2.8X2.1	£27.35	IBS1-2.8X2.1	£61.74
	3.5	2.7	IBC1-3.5X2.7		IBS1-3.5X2.7	
	4	3	-		-	
	4.5	3.4	IBC1-4.5X3.4		IBS1-4.5X3.4	
	5.5	4.3	-		IBS1-5.5X4.3	
	6.3	5	IBC1-6.3X5		-	
	6	4.9	IBC1-6X4.9		IBS1-6X4.9	
	7	5.5	IBC1-7X5.5		IBS1-7X5.5	
	8	6.2	IBC1-8X6.2		IBS1-8X6.2	
	9	7	IBC1-9X7		IBS1-9X7	
	10	8	IBC1-10X8		IBS1-10X8	
	11	9	IBC1-11X9		-	
2	6	4.9	IBC2-6X4.9	£34.62	IBS2-6X4.9	£82.69
	7	5.5	IBC2-7X5.5		IBS2-7X5.5	
	8	6.2	IBC2-8X6.2		IBS2-8X6.2	
	9	7	IBC2-9X7		IBS2-9X7	
	10	8	IBC2-10X8		IBS2-10X8	
	11	9	IBC2-11X9		IBS2-11X9	
	12	9	IBC2-12X9		IBS2-12X9	
	14	11	IBC2-14X11		IBS2-14X11	
	16	12	IBC2-16X12		IBS2-16X12	
	18	14.5	IBC2-18X14.5		IBS2-18X14.5	
3	11	9	IBC3-11X9	£70.28	IBS3-11X9	£135.15
	12	9	IBC3-12X9	£70.28	IBS3-12X9	
	14	11	IBC3-14X11	£70.28	IBS3-14X11	
	16	12	IBC3-16X12	£70.28	IBS3-16X12	
	18	14.5	IBC3-18X14.5	£70.28	IBS3-18X14.5	
	20	16	IBC3-20X16	£70.28	IBS3-20X16	
	22	18	IBC3-22X18	£70.28	IBS3-22X18	
	25	20	IBC3-25X20	£70.28	IBS3-25X20	
	28	22	IBC3-28X22	£70.28	IBS3-28X22	
	32	24	IBC3-32X24	£112.14	-	
	36	29	IBC3-36X29	£112.14	-	

TAPPING ER COLLET SETS ER-MD SERIES

- Square drive prevents tap from slipping
- Recommended for use with all synchro tap chucks for maximum reliability



CUTWEL PRO

ER	No of Collets	Sizes Included	Order Code	Price
ER16	4	3.5, 4.5, 6, 7	ER16MD-4PCS	£55.44
ER20	7	3.5, 4.5, 6, 7, 8, 9, 10	ER20MD-7PCS	£183.20
ER25	9	3.5, 4.5, 6, 7, 8, 9, 10, 11, 12	ER25MD-9PCS	£122.96
ER32	10	4.5, 6, 7, 8, 9, 10, 11, 12, 14, 16	ER32MD-10PCS	£140.58
ER40	11	6, 7, 8, 9, 10, 11, 12, 14, 16, 18, 20	ER40MD-11PCS	£316.56

TAPPING ER COLLETS ER-MD SERIES

- Square drive prevents tap from slipping in ER collet
- Nominal diameter clamping only



CUTWEL PRO

ER	Shank Ø	Square	Order Code	Price
ER16	3.5	2.7	ER16MD03.5	£20.97
	4	3	ER16MD04	
	4.5	3.4	ER16MD04.5	
	5	4	ER16MD05	
	5.5	4.3	ER16MD05.5	
	6	4.9	ER16MD06	
	7	5.5	ER16MD07	
	8	6.2	ER16MD08	
ER20	3.5	2.7	ER20MD03.5	£20.97
	4	3	ER20MD04	
	4.5	3.4	ER20MD04.5	
	5	4	ER20MD05	
	5.5	4.3	ER20MD05.5	
	6	4.9	ER20MD06	
	7	5.5	ER20MD07	
	8	6.2	ER20MD08	
	9	7	ER20MD09	
	10	8	ER20MD10	
ER25	3.5	2.7	ER25MD03.5	£20.97
	4	3	ER25MD04	
	4.5	3.4	ER25MD04.5	
	5	4	ER25MD05	
	5.5	4.3	ER25MD05.5	
	6	4.9	ER25MD06	
	7	5.5	ER25MD07	
	8	6.2	ER25MD08	
	9	7	ER25MD09	
	10	8	ER25MD10	
	11	9	ER25MD11	
	12	9	ER25MD12	
ER32	3.5	2.7	ER32MD03.5	£22.27
	4	3	ER32MD04	
	4.5	3.4	ER32MD04.5	
	5	4	ER32MD05	
	5.5	4.3	ER32MD05.5	
	6	4.9	ER32MD06	
	7	5.5	ER32MD07	
	8	6.2	ER32MD08	
	9	7	ER32MD09	
	10	8	ER32MD10	
	11	9	ER32MD11	
	12	9	ER32MD12	
	14	11	ER32MD14	
ER40	6	4.9	ER40MD06	£24.90
	7	5.5	ER40MD07	
	8	6.2	ER40MD08	
	9	7	ER40MD09	
	10	8	ER40MD10	
	11	9	ER40MD11	
	12	9	ER40MD12	
	14	11	ER40MD14	
	16	12	ER40MD16	
	18	14.5	ER40MD18	
	20	16	ER40MD20	

Drill Chucks



Drill chucks are a useful addition to any machine tool, CNC or manual.

WTE drill chucks are made in Germany and offer the very best quality, accuracy and durability of any drill chuck on the market. The CNC drill chuck from WTE is a cost effective tool holder which is capable of replacing the ER collet chuck for both HSS or carbide drilling. It is available with through coolant and eliminates the need for many different collets.

Advantages

- If the chuck breaks due to over tightening you only need to replace a low cost gear, not the entire chuck.
- 1 holder for clamping a wide range of sizes, can clamp from as little as 0.3mm right up to 16mm.
- Simple to use.

Features

- Option of side screw clamping or c-spanner clamping.
- Chucks ranging from economy to high accuracy.
- WTE drill chucks made in Germany.

Tool Selection

Description	Selection	Page
BT MAS	BT30, BT40, BT50	**1102**
DIN 69871	SK40, SK50	**1103**
HSK-A	HSK32-A, HSK40-A, HSK50-A, HSK63-A, HSK80-A, HSK100-A	**1104**
HSK-E	HSK40-E, HSK50-E, HSK63-E	**1104**
HSK-F	HSK40-F, HSK50-F, HSK63-F	**1104**
PSC CAPTO COMPATIBLE	PSC32, PSC40, PSC50, PSC63, PSC80, PSC100	**1107**
DIN 2080	ISO30, ISO40, ISO50	**1105**
MORSE TAPER	With Tang or Thread	**1106**
WELDON	Straight Shank	**1106**

CHOOSING THE RIGHT DRILL CHUCK

We offer 4 drill chuck styles with different performance & accuracy levels to suit your requirements.

CNC DRILL CHUCK WTE

- Side clamping with allen key
- Available with or without through coolant or with coolant nozzles (ZBA type)
- Suitable for HSS & Carbide drills
- Balanced to 25,000RPM G6.3
- High precision 20 micron run-out



G6.3 25000 | <20µm Run-out

WTE MAPAL GROUP

NC DRILL CHUCK WTE

- Side clamping with allen key
- Suitable for HSS drills
- Unbalanced
- General precision 50 micron run-out
- High quality



<50µm Run-out

WTE MAPAL GROUP

CNC DRILL CHUCK CUTWEL PRO

- Side clamping with allen key
- Through coolant or with coolant nozzles (ZBA type)
- Suitable for HSS & Carbide drills
- Balanced to 7,000RPM G6.3
- General precision 50 micron run-out



G6.3 7000 | <50µm Run-out

CUTWEL PRO

APU DRILL CHUCK CUTWEL PRO

- Tightening by hand and with c-spanner
- Suitable for HSS drills
- Unbalanced
- General precision 50 micron run-out
- Economy



<50µm Run-out

CUTWEL PRO

HIGH SPEED CNC DRILL CHUCK HIGH ACCURACY - BT MAS

P1122

- Balanced to G6.3 25,000RPM
- <20 microns run-out
- Available with no through coolant, through tool coolant or resealable external coolant nozzles (ZBA type)
- For left & right rotation
- Made in Germany



G6.3 25000 | <20µm Run-out | BT MAS

WTE MAPAL GROUP

Taper	Size	Dia. Range	Gauge Length	Order Code					
				No Coolant	Price	Through Coolant	Price	With Coolant Nozzles (ZBA Type)	Price
BT30	WTE08	0.3 - 8	74	20.296.30.08	£298.86	-	-	-	-
	WTE13	0.5 - 13	96	20.296.30.13		-	-	-	-
BT40	WTE08	0.3 - 8	78	20.296.40.08	£287.06	22.296.40.08	£292.96	22.296.40.08.ZBA	£283.13
	WTE13	0.5 - 13	98	20.296.40.13	£245.77	22.296.40.13	£269.37	22.296.40.13.ZBA	£260.53
	WTE16	2.5 - 16	103	20.296.40.16	£259.54	22.296.40.16	£275.27	22.296.40.16.ZBA	£265.43
BT50	WTE13	0.5 - 13	110	20.296.50.13	£295.91	22.296.50.13	£306.72	22.296.50.13.ZBA	£298.86
	WTE16	2.5 - 16	115	20.296.50.16	£309.68	22.296.50.16	£322.46	22.296.50.16.ZBA	£312.63

GENERAL TYPE NC DRILL CHUCK - BT MAS

P1122

- <30 microns run-out
- Side clamping with hex key
- Made in Germany



<30µm Run-out | BT MAS

WTE MAPAL GROUP

Taper	Dia. Range	Gauge Length	Order Code	Price
BT40	0.5-13	94	20.297.40.13	£209.40
	2.5-16	94	20.297.40.16	£215.30

GENERAL TYPE CNC DRILL CHUCK - BT MAS

P1122

- Through coolant
- Side clamping with hex key
- For left & right rotation



G6.3 7000 | <50µm Run-out | BT MAS

CUTWEL PRO

Taper	Dia. Range	Gauge Length	Order Code	Price
BT40	1-13	98	BT40-340MAZ13	£191.70
	1-16	104	BT40-340MAZ16	£215.29
BT50	1-13	90	BT50-350MAZ13	£275.69
	1-16	95	BT50-350MAZ16	£301.30

GENERAL TYPE APU DRILL CHUCK ECONOMY - BT MAS

P1122

- Budget type



BT MAS | <50µm Run-out

CUTWEL PRO

Taper	Dia. Range	Gauge Length	Order Code	Price
BT40	1-13	98	BT40-APU13-110	£148.19
	1-16	98	BT40-APU16-106	£154.22
BT50	1-13	109	BT50-APU13-120	£196.93
	1-16	109	BT50-APU16-130	£210.68

HIGH SPEED CNC DRILL CHUCK HIGH ACCURACY - DIN 69871

P1122

- Balanced to G6.3 25,000RPM
- <20 microns run-out
- Available with no through coolant, through tool coolant or resealable external coolant nozzles (ZBA type)
- For left & right rotation
- Made in Germany



G6.3 25000 | <20µm Run-out | DIN 69871

WTE MAPAL GROUP

Taper	Size	Dia. Range	Gauge Length	Order Code					
				No Coolant	Price	Through Coolant	Price	With Coolant Nozzles (ZBA Type)	Price
SK40	WTE13	0.5 - 13	90	11.296.40.13	**£285.19**	15.296.40.13	**£279.20**	15.296.40.13.ZBA	**£268.39**
	WTE16	2.5 - 16	95	11.296.40.16	**£324.43**	15.296.40.16	**£284.12**	15.296.40.16.ZBA	**£275.27**
SK50	WTE13	0.5 - 13	106	11.296.50.13	**£286.08**	15.296.50.13	**£319.50**	15.296.50.13.ZBA	**£309.68**
	WTE16	2.5 - 16	111	11.296.50.16	**£309.68**	15.296.50.16	**£334.25**	15.296.50.16.ZBA	**£325.41**

GENERAL TYPE NC DRILL CHUCK HIGH ACCURACY - DIN 69871

P1122

- <50 microns run-out
- Side clamping with hex key
- Made in Germany



<50µm Run-out | DIN 69871

WTE MAPAL GROUP

Taper	Dia Range	Gauge Length	Order Code	Price
SK40	0.5-13	84	11.297.40.13	**£209.40**
SK40	2.5-16	84	11.297.40.16	**£215.30**

GENERAL TYPE CNC DRILL CHUCK - DIN 69871

P1122

- Through coolant
- Side clamping with hex key
- For left & right rotation



G6.3 7000 | <50µm Run-out | DIN 69871

CUTWEL PRO

Taper	Dia Range	Gauge Length	Order Code	Price
SK40	1-13	88	SK40-140MAZ13	**£191.70**
	1-16	93	SK40-140MAZ16	**£215.29**
SK50	1-13	88	SK50-150MAZ13	**£275.69**
	1-16	97	SK50-150MAZ16	**£301.30**

GENERAL TYPE APU DRILL CHUCK ECONOMY - DIN 69871

P1122

- Budget type



DIN 69871 | <50µm Run-out

CUTWEL PRO

Taper	Dia Range	Gauge Length	Order Code	Price
SK40	1-13	85	SK40-APU13-100	**£148.19**
	1-16	106	SK40-APU16-120	**£154.22**
SK50	1-13	87	SK50-APU13-110	**£196.93**
	1-16	106	SK50-APU16-120	**£210.68**

HIGH SPEED CNC DRILL CHUCK HIGH ACCURACY TYPE - HSK

- Balanced to G6.3 25,000RPM
- <20 microns run-out
- Available with no through coolant, through tool coolant or resealable external coolant nozzles (ZBA type)
- For left & right rotation
- Made in Germany



G6.3 25000 | <20µm Run-out | HSK A | DATA CHIP

WTE MAPAL GROUP

Taper	Size	Dia. Range	Gauge Length	Order Code					
				No Coolant	Price	Through Coolant	Price	With Coolant Nozzles (ZBA Type)	Price
HSK32-A	WTE08	0.3 - 8	90	16.296.32.08	**£333.27**	16.296.32.08.Z	**£357.84**	16.296.32.08.ZBA	**£348.01**
HSK40-A	WTE08	0.3 - 8	91	16.296.40.08	**£397.17**	16.296.40.08.Z	**£427.64**	16.296.40.08.ZBA	**£416.83**
HSK50-A	WTE08	0.3 - 8	95	16.296.50.08	**£360.80**	16.296.50.08.Z	**£394.22**	16.296.50.08.ZBA	**£385.36**
	WTE13	0.5 - 13	116	16.296.50.13	**£306.72**	16.296.50.13.Z	**£340.15**	16.296.50.13.ZBA	**£332.28**
	WTE16	2.5 - 16	121	16.296.50.16	**£309.68**	16.296.50.16.Z	**£351.95**	16.296.50.16.ZBA	**£340.15**
HSK63-A	WTE08	0.3 - 8	96	16.296.63.08	**£367.68**	16.296.63.08.Z	**£398.15**	16.296.63.08.ZBA	**£389.30**
	WTE13	0.5 - 13	104	16.296.63.13	**£293.95**	16.296.63.13.Z	**£324.42**	16.296.63.13.ZBA	**£314.59**
	WTE16	2.5 - 16	109	16.296.63.16	**£303.78**	16.296.63.16.Z	**£333.27**	16.296.63.16.ZBA	**£324.42**
HSK80-A	WTE13	0.5 - 13	109	16.296.80.13	**£347.04**	16.296.80.13.Z	**£381.44**	16.296.80.13.ZBA	**£370.63**
	WTE16	2.5 - 16	114	16.296.80.16	**£351.95**	16.296.80.16.Z	**£401.10**	16.296.80.16.ZBA	**£391.27**
HSK100-A	WTE13	0.5 - 13	111	16.296.100.13	**£357.84**	16.296.100.13.Z	**£391.27**	16.296.100.13.ZBA	**£382.43**
	WTE16	2.5 - 16	116	16.296.100.16	**£387.33**	16.296.100.16.Z	**£416.83**	16.296.100.16.ZBA	**£407.99**

HIGH SPEED CNC DRILL CHUCK HIGH ACCURACY - HSK

- Balanced to G6.3 25,000RPM
- <20 microns run-out
- Available with no through coolant or through tool coolant
- For left & right rotation
- Made in Germany



G6.3 25000 | <20µm Run-out | HSK E

WTE MAPAL GROUP

Taper	Size	Dia. Range	Gauge Length	Order Code			
				No Coolant	Price	Through Coolant	Price
HSK40E	WTE08	0.3 - 8	91	18.296.40.08	**£397.17**	18.296.40.08.Z	**£427.64**
HSK50E	WTE08	0.3 - 8	95	18.296.50.08	**£362.76**	18.296.50.08.Z	**£394.22**
	WTE13	0.5 - 13	116	18.296.50.13	**£306.72**	18.296.50.13.Z	**£337.21**
	WTE16	2.5 - 16	121	18.296.50.16	**£309.68**	18.296.50.16.Z	**£340.15**
HSK63E	WTE08	0.3 - 8	96	18.296.63.08	**£367.68**	18.296.63.08.Z	**£398.15**
	WTE13	0.5 - 13	104	18.296.63.13	**£293.95**	18.296.63.13.Z	**£324.42**
	WTE16	2.5 - 16	109	18.296.63.16	**£303.78**	18.296.63.16.Z	**£333.27**

HIGH SPEED CNC DRILL CHUCK HIGH ACCURACY - DIN 2080

- Balanced to G6.3 25,000RPM
- <20 microns run-out
- For left & right rotation
- Made in Germany



G6.3 25000 | <20µm Run-out | DIN 2080

WTE MAPAL GROUP

Taper	Size	Dia. Range	Gauge Length	Order Code	Price
ISO30	WTE08	0.3 - 8	60	10.296.30.08	**£290.99**
	WTE13	0.5 - 13	98	10.296.30.13	**£265.43**
ISO40	WTE08	0.3 - 8	62	10.296.40.08	**£280.18**
	WTE13	0.5 - 13	83	10.296.40.13	**£238.90**
	WTE16	2.5 - 16	88	10.296.40.16	**£254.63**
ISO50	WTE13	0.5 - 13	100	10.296.50.13	**£267.39**
	WTE16	2.5 - 16	105	10.296.50.16	**£286.08**

GENERAL TYPE NC DRILL CHUCK HIGH ACCURACY - DIN 2080

- <50 microns run-out
- Side clamping with hex key
- Made in Germany



<50µm Run-out | DIN 2080

WTE MAPAL GROUP

Taper	Size	Dia. Range	Gauge Length	Order Code	Price
ISO40	WTE13	0.5 - 13	78	10.297.40.13	**£209.40**
	WTE16	2.5 - 16	78	10.297.40.16	**£215.30**

GENERAL TYPE NC DRILL CHUCK - DIN 2080

- Side clamping with hex key
- For left & right rotation



<50µm Run-out | DIN 2080

CUTWEL PRO

Taper	Dia. Range	Gauge Length	Order Code	Price
ISO40	1-13	90	252-11105	**£180.43**
	1-16	100	252-11106	**£191.07**

GENERAL TYPE APU DRILL CHUCK ECONOMY - DIN 2080

- Budget type



<50µm Run-out | DIN 2080

CUTWEL PRO

Taper	Dia. Range	Gauge Length	Order Code	Price
ISO40	1-13	88	ISO40-APU13-100	**£169.35**
	1-16	100	ISO40-APU16-110	**£176.24**
ISO50	1-13	85	ISO50-APU13-110	**£196.93**
	1-16	90	ISO50-APU16-120	**£210.68**

DOUBLE ASSEMBLY POT DIN 2080

- For vertical and horizontal assembly



CUTWEL PRO

Taper	Order Code	Price
ISO30	237-32110	**£283.74**
ISO40	237-32310	
ISO50	237-32510	

CNC DRILL CHUCKS WELDON, HIGH ACCURACY

- <20 microns run-out
- Available with or without through coolant
- For left & right rotation
- Made in Germany



<20µm Run-out | WE

WTE MAPAL GROUP

Shank mm	Size	Dia. Range	Gauge Length	Order Code			
				No Coolant	Price	Internal Coolant	Price
20	WTE08	0.3 - 8	59	40.296.20.08	**£275.27**	41.296.20.08.Z	**£281.16**
	WTE13	0.5 - 13	82	40.296.20.13	**£265.43**	41.296.20.13.Z	**£275.27**
25	WTE08	0.3 - 8	52	40.296.25.08	**£277.22**	41.296.25.08.Z	**£287.06**
	WTE13	0.5 - 13	82	40.296.25.13	**£266.42**	41.296.25.13.Z	**£280.18**
	WTE16	2.5 - 16	87	40.296.25.16	**£275.27**	41.296.25.16.Z	**£287.06**
32	WTE08	0.3 - 8	52	40.296.32.08	**£303.78**	41.296.32.08.Z	**£313.61**
	WTE13	0.5 - 13	82	40.296.32.13	**£269.37**	41.296.32.13.Z	**£280.18**
	WTE16	2.5 - 16	87	40.296.32.16	**£280.18**	41.296.32.16.Z	**£289.03**
40	WTE13	0.5 - 13	80	40.296.40.13	**£280.18**	41.296.40.13.Z	**£289.03**
	WTE16	2.5 - 16	85	40.296.40.16	**£290.01**	41.296.40.16.Z	**£299.85**
50	WTE13	0.5 - 13	80	40.296.50.13	**£295.91**	41.296.50.13.Z	**£304.75**
	WTE16	2.5 - 16	85	40.296.50.16	**£300.83**	41.296.50.16.Z	**£309.68**

GENERAL TYPE NC DRILL CHUCK WELDON

- Clockwise rotation only



WE

KINTEK

Shank mm	Dia. Range	Gauge Length	Order Code	Price
20	1 - 13	81	252-15701	**£192.52**
25	1 - 13	81	252-15702	**£192.52**
32	1 - 13	81	252-15703	**£192.52**
40	1 - 13	81	252-15705	**£222.78**
	3 - 16	85	252-15706	**£241.83**

CNC DRILL CHUCKS MORSE TAPER, HIGH ACCURACY

- <20 microns run-out
- Available with tang (DIN 228-B) or thread (DIN 228-A)
- For left & right rotation
- Made in Germany

DIN 228-B with tang



DIN 228-A with thread



<20µm Run-out | MT

WTE MAPAL GROUP

Morse Taper	Size	Dia. Range	Gauge Length	Order Code			
				With Tang (DIN 22 8-B)	Price	With Thread (DIN228-A)	Price
MT2	WTE08	0.3 - 8	73	37.296.02.08	**£309.68**	36.296.02.08	**£295.91**
	WTE13	0.5 - 13	99	37.296.02.13	**£308.69**	36.296.02.13	**£287.06**
MT3	WTE08	0.3 - 8	73	37.296.03.08	**£315.58**	36.296.03.08	**£289.03**
	WTE13	0.5 - 13	99	37.296.03.13	**£313.61**	36.296.03.13	**£289.03**
	WTE16	2.5 - 16	104	37.296.03.16	**£324.42**	36.296.03.16	**£295.91**
MT4	WTE13	0.5 - 13	104	37.296.04.13	**£336.21**	36.296.04.13	**£290.01**
	WTE16	2.5 - 16	109	37.296.04.16	**£343.11**	36.296.04.16	**£301.82**
MT5	WTE13	0.5 - 13	106	37.296.05.13	**£351.95**	36.296.05.13	**£334.25**
	WTE16	2.5 - 16	111	37.296.05.16	**£359.80**	36.296.05.16	**£343.11**

GENERAL TYPE NC DRILL CHUCK MORSE TAPER

- Clockwise rotation only
- With tang (DIN 228-B)



MT

KINTEK

Taper	Dia. Range	Gauge Length	Order Code	Price
MT2	1 - 13	86	CM2-DC13	**£194.37**
MT3	1 - 13	86	CM3-DC13	**£181.41**
	3 - 16	90	CM3-DC16	**£243.28**
MT4	1 - 13	86	CM4-DC13	**£202.98**
	3 - 16	90	CM4-DC16	**£244.76**

CNC DRILL CHUCKS HIGH ACCURACY

- <20 microns run-out
- Available with or without through coolant
- For left & right rotation
- Made in Germany



<20µm Run-out PSC

WTE MAPAL GROUP

Taper	Size	Dia. Range	Gauge Length	Order Code			
				No Coolant	Price	Through Coolant	Price
PSC32	WTE08	0.3 - 8	73	-	-	67.296.32.08.Z	**£583.15**
	WTE13	0.5 - 13	96	-	-	67.296.32.13.Z	**£560.43**
PSC40	WTE08	0.3 - 8	74	-	-	67.296.40.08.Z	**£649.41**
	WTE13	0.5 - 13	98	-	-	67.296.40.13.Z	**£627.65**
PSC50	WTE08	0.3 - 8	76	-	-	67.296.50.08.Z	**£618.18**
	WTE13	0.5 - 13	97	-	-	67.296.50.13.Z	**£595.46**
PSC63	WTE08	0.3 - 8	91	-	-	67.296.63.08.Z	**£546.59**
	WTE13	0.5 - 13	112	67.296.63.13	**£511.20**	67.296.63.13.Z	**£524.97**
	WTE16	2.5 - 16	117	67.296.63.16	**£521.03**	67.296.63.16.Z	**£534.80**
PSC80	WTE13	0.5 - 13	106	-	-	67.296.80.13.Z	**£584.10**
	WTE16	2.5 - 16	111	-	-	67.296.80.16.Z	**£593.57**

GENERAL TYPE CNC DRILL CHUCK - PSC

- Through coolant
- For left & right rotation



<50µm Run-out PSC

CANELA

Taper	Dia. Range	Gauge Length	Order Code	Price
PSC40	0.5 - 13	112	18.296.040.13	**£483.99**
PSC50	0.5 - 13		18.296.050.13	**£508.61**
PSC63	0.5 - 13		18.296.063.13	**£534.63**
	3.0 - 16		18.296.063.16	**£534.63**
PSC80	0.5 - 13	125	18.296.080.13	**£585.29**
	3.0 - 16		18.296.080.16	**£585.29**
PSC100	0.5 - 13	135	18.296.100.13	**£607.09**
	3.0 - 16		18.296.100.16	**£607.09**

POWER MILLING CHUCKS

- Available in BT MAS, DIN69871 & HSK-A tapers
- Available in balancing grade G6.3 20,000RPM

HIGH SPEED POWER MILLING CHUCKS - BT MAS

- Under 0.01mm run-out at 3xD
- Maximum torque power clamping
- Ideal for rough or indexable milling as well as high speed finishing
- For direct clamping or use with sleeves
- AD Through coolant
- AT3 taper tolerance for highest spindle rigidity
- Clamping torque ranging from 980Nm - 3,430Nm depending on clamping diameter



G6.3 25000

Taper	Clamping Diameter	Spare Spanner	Applicable Collet	Order Code	Price
BT30	20	C20SP	K20D_ _	P2546101	**£164.70**
	25	C25SP	K25D_ _	P2546102	**£169.27**
BT40	20	C20SP	K20D_ _	P2546103	**£169.75**
	25	C25SP	K25D_ _	P2546105	**£182.08**
	32	C32SP	K32D_ _	P2546106	**£177.08**
BT50	20	C20SP	K20D_ _	P2546109	**£211.81**
	25	C25SP	K25D_ _	P2546112	**£230.68**
	32	C32SP	K32D_ _	P2546115	**£243.93**

HIGH SPEED POWER MILLING CHUCKS - HSK-A

- Under 0.01mm run-out at 3xD
- Maximum torque power clamping
- Ideal for rough or indexable milling as well as high speed finishing
- For direct clamping or use with sleeves
- AD Through coolant
- AT3 taper tolerance for highest spindle rigidity
- Clamping torque ranging from 980Nm - 3,430Nm depending on clamping diameter



G6.3 25000

Taper	Clamping Diameter	Spare Spanner	Applicable Collet	Order Code	Price
HSK63A	20	C20SP	K20D_ _	P2562016	**£271.54**
	25	C25SP	K25D_ _	P2773103	**£278.19**
	32	C32SP	K32D_ _	P2562017	**£285.77**
HSK100A	20	C20SP	K20D_ _	P2773104	**£338.68**
	25	C25SP	K25D_ _	P2773105	**£346.93**
	32	C32SP	K32D_ _	P2773101	**£353.15**

HIGH SPEED POWER MILLING CHUCKS - DIN 69871

- Under 0.01mm run-out at 3xD
- Maximum torque power clamping
- Ideal for rough or indexable milling as well as high speed finishing
- For direct clamping or use with sleeves
- AD Through coolant
- AT3 taper tolerance for highest spindle rigidity
- Clamping torque ranging from 980Nm - 3,430Nm depending on clamping diameter



G6.3 25000

Taper	Clamping Diameter	Spare Spanner	Applicable Collet	Order Code	Price
SK40	20	C20SP	K20D_ _	P2526022	**£173.42**
	25	C25SP	K25D_ _	P2773001	**£182.08**
	32	C32SP	K32D_ _	P2526023	**£187.27**
SK50	20	C20SP	K20D_ _	P2773002	**£199.73**
	25	C25SP	K25D_ _	P2773003	**£211.81**
	32	C32SP	K32D_ _	P2773004	**£230.68**

POWER MILLING CHUCK KITS - BT MAS



Taper	Chuck Diameter	Sleeve Type	Order Code	Price
BT40	20	C20	KITBT40C20	**£278.96**
	32	C32	KITBT40C32	**£338.80**
BT50	20	C20	KITBT50C20	**£330.65**

POWER MILLING CHUCK KITS - DIN 69871



Taper	Chuck Diameter	Sleeve Type	Order Code	Price
SK40	20	C20	KITTC40C20	**£278.96**
	32	C32	KITTC40C32	**£338.80**
SK50	20	C20	KITTC50C20	**£330.65**

MORSE TAPER CHUCKS

- Available in BT, DIN 69871, HSK & DIN 2080 tapers
- Suitable for clamping morse taper tooling MT1 to MT5

BT MAS MORSE TAPER CHUCKS - TAPER

- Balanced to 15,000RPM G6.3



G6.3 15000

CUTWEL PRO

Taper	Morse Taper	Length	Nose Dia	Order Code	Price
BT30	MT1	50	25	BT30-MTA1-50	£63.38
	MT2	63	32	BT30-MTA2-63	
	MT3	80	40	BT30-MTA3-80	
BT40	MT1	45	25	BT40AD-MTA1-45	£24.99
	MT2	60	32	BT40AD-MTA2-60	
	MT3	75	40	BT40AD-MTA3-75	
	MT4	95	48	BT40AD-MTA4-95	
BT50	MT1	45	25	BT50AD-MTA1-45	£77.68
	MT2	60	32	BT50AD-MTA2-60	
	MT3	65	40	BT50AD-MTA3-65	
	MT4	95	48	BT50AD-MTA4-95	
	MT5	95	63	BT50AD-MTA5-95	

DIN 69871 MORSE TAPER CHUCKS - TAPER

- Balanced to 15,000RPM G6.3



G6.3 15000

CUTWEL PRO

Taper	Morse Taper	Length	Nose Dia	Order Code	Price
SK40	MT1	50	25	SK40AD-MTA1-50	£24.99
	MT2	50	32	SK40AD-MTA2-50	
	MT3	70	40	SK40AD-MTA3-70	
	MT4	95	48	SK40AD-MTA4-95	
SK50	MT1	50	25	SK50AD-MTA1-50	£71.35
	MT2	60	32	SK50AD-MTA2-60	£71.35
	MT3	65	40	SK50AD-MTA3-65	£71.35
	MT4	95	48	SK50AD-MTA4-95	£71.35
	MT5	95	63	SK50AD-MTA5-95	£77.68

DIN 2080 MORSE TAPER CHUCKS - TAPER

- ISO30 balanced to 8,000RPM G6.3
- ISO40 balanced to 15,000RPM G6.3



CUTWEL PRO

Taper	Morse Taper	Length	Nose Dia	Order Code	Price
QC30	MT1	50	25	ISO30MTA150QC	£67.00
	MT2	50	32	ISO30MTA250QC	
	MT3	72	40	ISO30MTA372QC	
QC40	MT1	50	25	ISO40H50CM1PQC	£66.00
	MT2	50	32	ISO40H50CM2PQC	£66.00
	MT3	75	40	ISO40H75CM3PQC	£66.00
	MT4	95	48	ISO40H95CM4PQC	£75.00
ISO30	MT1	50	25	ISO30MTA150	£62.00
	MT2	50	32	ISO30MTA250	
	MT3	72	40	ISO30MTA372	
ISO40	MT2	50	32	ISO40H50CM2P	£39.63
	MT3	75	40	ISO40H75CM3P	
	MT4	95	48	ISO40H95CM4P	

HSK MORSE TAPER CHUCKS - TAPER

- Balanced to G2.5 20,000RPM



G2.5 20000

CUTWEL PRO

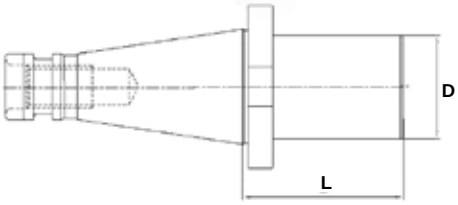
Taper	Morse Taper	Length	Nose Dia	Order Code	Price
HSK50A	MT1	100	25	HSK50-MTA1-100A	£84.92
	MT2	120	32	HSK50-MTA2-120A	£84.92
	MT3	140	40	HSK50-MTA3-140A	£88.18
HSK63A	MT1	100	25	HSK63-MTA1-100A	£81.68
	MT2	120	32	HSK63-MTA2-120A	£81.68
	MT3	140	40	HSK63-MTA3-140A	£84.92
	MT4	160	48	HSK63-MTA4-160A	£101.25
HSK100A	MT1	100	25	HSK100-MTA1-100A	£114.33
	MT2	120	32	HSK100-MTA2-120A	£114.33
	MT3	140	40	HSK100-MTA3-140A	£125.74
	MT4	160	48	HSK100-MTA4-160A	£130.65
HSK50E	MT1	105	25	HSK50-MTA1-100E	£93.10
	MT2	120	32	HSK50-MTA2-120E	£93.10
	MT3	140	40	HSK50-MTA3-140E	£101.25
HSK63E	MT1	100	25	HSK63-MTA1-100E	£87.10
	MT2	120	32	HSK63-MTA2-120E	£87.10
	MT3	140	40	HSK63-MTA3-140E	£91.48
HSK50F	MT1	100	25	HSK50-MTA1-100F	£101.25
	MT2	120	32	HSK50-MTA2-120F	£101.25
	MT3	140	40	HSK50-MTA3-140F	£111.04
HSK63F	MT1	100	25	HSK63-MTA1-100F	£87.10
	MT2	120	32	HSK63-MTA2-120F	£87.10
	MT3	140	40	HSK63-MTA3-140F	£91.48

MACHINABLE TOOL BLANKS

- Available in BT, DIN 69871, HSK, DIN 2080 & PSC Capto tapers
- Used for machining your own tool holders

MACHINABLE TOOL BLANKS





CUTWEL PRO CANELA

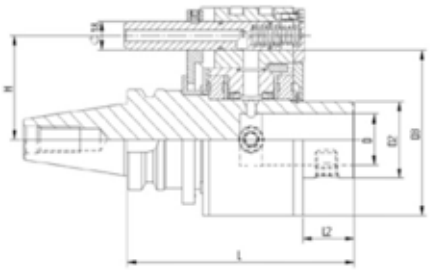
Taper	D	L	Order Code	Price
BT40 (BT MAS)	63	250	BT40-BD063250	£99.00
	80	250	BT40-BD080250	£110.00
BT50 (BT MAS)	80	250	BT50-BD080250	£187.52
	100	300	BT50-BD100300	£240.64
SK40 (DIN 69871)	63	250	SK40-BD063250	£99.00
	80	250	SK40-BD080250	£110.00
SK50 (DIN 69871)	80	250	SK50-BD080250	£197.39
	100	300	SK50-BD100300	£253.29
ISO40 (DIN 2080)	40.5	160	ISO40H16040.5SM	£143.11
	63.5	160	ISO40H16063.5SM	£143.11
	63.5	250	ISO40H25063.5SM	£141.76
HSK63-A	64	250	HSK63BD064250	£125.00
	80	200	HSK63BD080200	
PSC CAPTO	32	90	18.470.032.032/090	£95.53
	40	110	18.470.032.040/110	
	50	125	18.470.032.050/125	
	60	90	18.470.032.060/090	
	70	60	18.470.032.070/060	
	90	70	18.470.032.090/070	
	40	95	18.470.040.040/095	£100.94
	40	120	18.470.040.040/120	
	60	165	18.470.040.060/165	
	80	75	18.470.040.080/075	
	80	120	18.470.040.080/120	
	100	85	18.470.040.100/085	
	50	125	18.470.050.050/125	£105.86
	50	150	18.470.050.050/150	£105.86
	63	180	18.470.050.063/180	£105.86
	75	175	18.470.050.075/175	£105.86
	90	80	18.470.050.090/080	£105.86
	95	150	18.470.050.095/150	£113.75
	110	90	18.470.050.110/090	£105.86
	63	180	18.470.063.063/180	£128.51
	75	195	18.470.063.075/195	£168.64
	110	85	18.470.063.110/085	£128.51
	110	120	18.470.063.110/120	£183.61
	120	180	18.470.063.120/180	£269.43
	130	95	18.470.063.130/095	£244.81
	80	200	18.470.080.080/200	£237.07
	100	200	18.470.080.100/200	£237.07
	120	160	18.470.080.120/160	£237.07
	130	90	18.470.080.130/090	£237.07
	150	200	18.470.080.150/200	£415.75
	160	120	18.470.080.160/120	£363.35
	100	100	18.470.100.100/100	£265.91
	100	200	18.470.100.100/200	£301.09
	150	100	18.470.100.150/100	£404.92
	150	200	18.470.100.150/200	£505.09
	160	150	18.470.100.160/150	£505.09
	200	100	18.470.100.200/100	£505.09

COOLANT FEEDERS

- Available in BT & DIN 69871 (SK)
- Convert non-through coolant machines to through coolant

COOLANT FEEDER - BT MAS





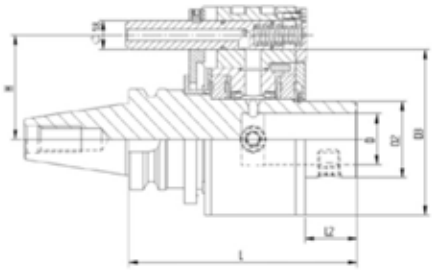
BT MAS

CUTWEL PRO

Taper	D	H	L	L2	D2	D3	Order Code	Price
BT40	32	65	150	34	48	95	BT40-340DRC32	**£425.00**
	40	65	160	44	58	110	BT40-340DRC40	**£499.00**
BT50	40	80	164	49	58	110	BT50-350DRC40	**£866.99**

COOLANT FEEDER - DIN 69871





CUTWEL PRO

Taper	D	H	L	L2	D2	D3	Order Code	Price
SK40	32	65	150	34	48	95	SK40-140DRC32	**£425.00**
SK50	40	80	164	49	58	110	SK50-150DRC40	**£866.99**

DOUBLE ASSEMBLY POT

- For vertical and horizontal assembly
- For specific tapers



CUTWEL PRO

Taper	Order Code	Price
BT30	237-32130	
BT40	237-32330	£375.25
BT50	237-32530	
SK40 DIN 69871	237-32320	£375.25
SK50 DIN 69871	237-32520	
HSK63A	237-32450	£434.38
HSK100A	237-32650	£495.37
HSK40E	237-32270	
HSK50E	237-32370	£416.38
HSK63E	237-32470	
HSK50F	237-32370	£416.38
HSK63F	237-32470	
CAPTO C4	237-33210	£456.59
CAPTO C5	237-33310	£456.59
CAPTO C6	237-33410	£498.90
CAPTO C8	237-33510	£758.45
ISO30 DIN2080	237-32110	
ISO40 DIN2080	237-32310	£283.74
ISO50 DIN2080	237-32510	
VDI30	237-32490	£387.27
VDI40	237-32590	£387.27
VDI50	237-32690	£581.86

ADJUSTABLE ASSEMBLY POT

- For vertical or horizontal assembly
- Universal (can be used for different tapers)
- Low cost version
- Can be rotated in either direction for flexible tool holder assembly



CUTWEL PRO

Taper	Order Code	Price
ISO40/BT40/SK40	FTTOOLBOY40	£151.08
ISO50/BT50/SK50	FTTOOLBOY50	£151.08
HSK63 A/E/F	FTTOOLBOYHSK63	£188.51
HSK100 A/E/F	FTTOOLBOYHSK100	£231.34

ADJUSTABLE ASSEMBLY POT

- For vertical and horizontal assembly
- Universal (can be used for different tapers)
- Can be rotated a full 180 degrees (90 degrees in either direction)



KINTEK

Taper	Order Code	Price
ISO40 / BT40 / SK40 / HSK63 A/E/F	268-30001	£163.17
ISO50 / BT50 / SK50 / HSK100 A/E/F	268-30002	

COMPACT TOOL TROLLEY

- Supplied complete with 6 sets of tool carriers or fully configurable
- 10 year guarantee
- Universal (can be used for different tapers)



Taper	No. Tool Pots	Order Code	Price
Kitted Trolley (With 6 Tool Carriers)			
ISO/SK/BT 40	36	CPTROLLEY-ISO40	**£1,022.22**
ISO/SK/BT 50	30	CPTROLLEY-ISO50	**£1,027.98**
HSK 63A	36	CPTROLLEY-HSK63	**£1,022.22**
HSK 100A	30	CPTROLLEY-HSK100	**£1,027.98**
Capto C6	36	CPTROLLEY-C6	**£1,005.54**
Trolley (Empty)			
-	-	10401030.16	**£837.04**
Tool Carriers			
ISO/SK/BT 30	10	15001012.16	**£90.62**
ISO/SK/BT 40	6	15001014.16	**£77.90**
ISO/SK/BT 50	5	15001016.16	**£79.23**
HSK 63A	6	15001024.16	**£77.90**
HSK 100A	5	15001026.16	**£79.23**
Capto C6	6	15001033	**£56.52**
VDI 30	6	15001017.16	**£77.90**
VDI 40	6	15001018.16	**£77.90**

HEAVY DUTY TOOL TROLLEY

- Supplied complete with 6 sets of tool carriers or fully configurable
- 10 year guarantee
- Shelf optional
- Heavy duty multi-position design for up to 6 tool carriers



Optional Shelf



Taper	No. Tool Pots	Order Code	Price
Kitted Trolley (With 6 Tool Carriers)			
ISO/SK/BT 40	36	HDTROLLEY-ISO40	**£1,013.61**
ISO/SK/BT 50	30	HDTROLLEY-ISO50	**£1,019.36**
HSK 63A	36	HDTROLLEY-HSK63	**£1,013.61**
HSK 100A	30	HDTROLLEY-HSK100	**£1,019.36**
Capto C6	36	HDTROLLEY-C6	**£996.94**
Trolley (Empty)			
-	-	10401029.16	**£712.37**
End Shelf			
-	-	12102084.16	**£114.52**
Tool Carriers			
ISO/SK/BT 30	10	15001012.16	**£90.62**
ISO/SK/BT 40	6	15001014.16	**£77.90**
ISO/SK/BT 50	5	15001016.16	**£79.23**
HSK 63A	6	15001024.16	**£77.90**
HSK 100A	5	15001026.16	**£79.23**
Capto C6	6	15001033	**£56.52**
VDI 30	6	15001017.16	**£77.90**
VDI 40	6	15001018.16	**£77.90**

BENCH STAND

- Supplied complete with 3 sets of tool carriers or fully configurable
- 10 year guarantee



Taper	No. Tool Pots	Order Code	Price
Kitted Stand (With 3 Tool Carriers)			
ISO/SK/BT 40	18	STAND-IS040	**£357.62**
ISO/SK/BT 50	15	STAND-IS050	
HSK 63A	18	STAND-HSK63	
HSK 100A	15	STAND-HSK100	
Capto C6	18	STAND-C6	
Stand			
-	-	15001003.16	**£206.44**
Tool Carriers			
ISO/SK/BT 30	10	15001012.16	**£90.62**
ISO/SK/BT 40	6	15001014.16	**£77.90**
ISO/SK/BT 50	5	15001016.16	**£79.23**
HSK 63A	6	15001024.16	**£77.90**
HSK 100A	5	15001026.16	**£79.23**
Capto C6	6	15001033	**£56.52**
VDI 30	6	15001017.16	**£77.90**
VDI 40	6	15001018.16	**£77.90**

HSK COOLANT TUBES



Size	Order Code	Price
HSK50A	950APR01	**£12.31**
HSK63A	963APR01	**£12.72**
HSK100A	910APR01	**£16.45**

CAPTO COOLANT TUBES



PSC	ØD1	Order Code	Price
32	M12x1.5P	RACCPT32	**£25.00**
40	M14x1.5P	RACCPT40	
50	M16x1.5P	RACCPT50	
63	M18x1.5P	RACCPT63	
80	M20x2.0P	RACCPT80	

HSK COOLANT TUBE KEYS



Size	Order Code	Price
HSK50A	950CHVAR	**£35.00**
HSK63A	963CHVAR	**£35.00**
HSK100A	910CHVAR	**£80.20**

CAPTO COOLANT TUBE KEYS



PSC	Order Code	Price
32	WR.CPT.32	**£30.00**
40	WR.CPT.40	
50	WR.CPT.50	
63	WR.CPT.63	
80	WR.CPT.80	

DRILL DRIFTS (FOR MORSE TAPER SHANKS)



Length	Order Code	Price
90	21160005	**£3.14**
140	21160010	**£3.65**
190	21160030	**£5.05**
225	21160040	**£6.82**
265	21160050	**£10.70**

TAPER WIPES



Taper	Order Code	Price
SK/BT/ISO30	832-021108	**£31.44**
SK/BT/ISO40	832-021109	**£33.85**
SK/BT/ISO50	832-021110	**£48.34**
HSK40	832-021100	**£99.10**
HSK50	832-021101	**£101.48**
HSK63	832-021102	**£101.48**
HSK100	832-021099	**£135.52**
MT1	832-021103	**£19.38**
MT2	832-021104	**£19.38**
MT3	832-021105	**£24.18**
MT4	832-021106	**£28.97**
MT5	832-021107	**£38.68**

R8 COLLETS

- Available in metric and imperial sizes



<10µm Run-out

CUTWEL PRO

Size	Order Code	Price
2mm	R8C-2	
3mm	R8C-3	
3/16"	R8C-3/16	
3/4"	R8C-3/4	
3/8"	R8C-3/8	
4mm	R8C-4	
5mm	R8C-5	
5/16"	R8C-5/16	
5/8"	R8C-5/8	
6mm	R8C-6	
7mm	R8C-7	
7/16"	R8C-7/16	
7/8"	R8C-7/8	
8mm	R8C-8	
9mm	R8C-9	
9/16"	R8C-9/16	
10mm	R8C-10	**£13.31**
11mm	R8C-11	
11/16"	R8C-11/16	
12mm	R8C-12	
1/2"	R8C-1/2	
13mm	R8C-13	
13/16"	R8C-13/16	
14mm	R8C-14	
1/4"	R8C-1/4	
15mm	R8C-15	
16mm	R8C-16	
17mm	R8C-17	
18mm	R8C-18	
1/8"	R8C-1/8	
19mm	R8C-19	
20mm	R8C-20	
25mm	R8C-25	

STRAIGHT SHANK TO MORSE TAPER SLEEVE TYPE 114

- With flange
- Hardened & ground
- Available in 32-50mm outside diameter
- For holding morse taper tools in boring bar holders



CUTWEL PRO

Outside Dia.	Internal MT	Length	Order Code	Price
32	1	90	114-33208	**£35.00**
32	2	90	114-33209	**£35.00**
32	3	100	114-33210	**£35.00**
40	2	110	114-34008	**£45.00**
40	3	110	114-34009	**£45.00**
40	4	125	114-34010	**£45.00**
50	2	130	114-35004	**£55.00**
50	3	130	114-35005	**£55.00**
50	4	130	114-35006	**£55.00**

STRAIGHT SHANK TO MORSE TAPER SLEEVE TYPE E3

- Without flange
- Hardened & ground



CUTWEL PRO

Outside Dia.	Internal MT	Length	Order Code	Price
20	1	60	E2-3-20X1	**£49.82**
20	2	90	E2-3-20X2	**£49.82**
32	1	60	E2-3-32X1	**£49.82**
32	2	90	E2-3-32X2	**£49.82**
32	3	100	E2-3-32X3	**£49.82**
40	2	90	E2-3-40X2	**£61.13**
40	3	100	E2-3-40X3	**£61.13**
40	4	120	E2-3-40X4	**£61.13**
50	2	90	E2-3-50X2	**£67.76**
50	3	100	E2-3-50X3	**£67.76**
50	4	120	E2-3-50X4	**£67.76**
60	3	160	E2-3-60X3	**£70.00**
60	4	160	E2-3-60X4	**£70.00**
60	5	160	E2-3-60X5	**£70.00**

MORSE TAPER REDUCTION SLEEVE



BISON

External MT	Internal MT	Order Code	Price
2	1	1751-2-1	**£15.80**
3	1	1751-3-1	**£16.30**
3	2	1751-3-2	**£16.30**
4	1	1751-4-1	**£20.50**
4	2	1751-4-2	**£20.50**
4	3	1751-4-3	**£20.50**
5	1	1751-5-1	**£36.70**
5	2	1751-5-2	**£36.70**
5	3	1751-5-3	**£35.60**
5	4	1751-5-4	**£35.60**

BORING BAR SLEEVE TYPE RZ

- With flange
- Hardened & ground
- Available in 20-60mm outside diameter
- Ideal for carbide shank boring bars



CUTWEL PRO

Outside Dia.	Inside Dia.	Length	Order Code	Price
20	8	30	RZ-20X08	£36.39
20	10	30	RZ-20X10	
20	12	30	RZ-20X12	
20	16	30	RZ-20X16	
25	8	40	RZ-25X08	£37.85
25	10	40	RZ-25X10	
25	12	40	RZ-25X12	
25	16	40	RZ-25X16	
25	20	40	RZ-25X20	
32	8	50	RZ-32X08	£40.75
32	10	50	RZ-32X10	
32	12	50	RZ-32X12	
32	16	50	RZ-32X16	
32	20	50	RZ-32X20	
32	25	50	RZ-32X25	
40	10	78	RZ-40X10	£53.38
40	12	78	RZ-40X12	
40	16	78	RZ-40X16	
40	20	78	RZ-40X20	
40	25	78	RZ-40X25	
40	32	78	RZ-40X32	
50	20	88	RZ-50X20	£61.14
50	25	88	RZ-50X25	
50	32	88	RZ-50X32	
50	40	88	RZ-50X40	
60	25	92	RZ-60X25	£61.14
60	32	92	RZ-60X32	
60	40	92	RZ-60X40	
60	50	92	RZ-60X50	

BORING BAR SLEEVE TYPE E2

- Without flange
- Hardened & ground
- Available in 20-60mm outside diameter
- Ideal for steel shank boring bars/drills



CUTWEL PRO

Outside Dia.	Inside Dia.	Length	Order Code	Price
20	6	60	E2-1-20X6	£36.03
20	8	60	E2-1-20X8	£34.98
20	10	60	E2-1-20X10	£34.98
20	12	60	E2-1-20X12	£34.98
25	6	60	E2-1-25X6	£36.53
25	8	60	E2-1-25X8	
25	10	60	E2-1-25X10	
25	12	60	E2-1-25X12	
32	6	70	E2-1-32X6	£37.62
32	8	70	E2-1-32X8	£36.53
32	10	70	E2-1-32X10	£36.53
32	12	70	E2-1-32X12	£36.53
32	16	70	E2-1-32X16	£36.53
32	20	70	E2-1-32X20	£36.53
40	6	80	E2-1-40X6	£42.69
40	8	80	E2-1-40X8	£41.45
40	10	80	E2-1-40X10	£41.45
40	12	80	E2-1-40X12	£41.45
40	16	80	E2-1-40X16	£41.45
40	20	80	E2-1-40X20	£41.45
40	25	80	E2-1-40X25	£41.45
50	12	90	E2-1 50X12	£50.05
50	16	90	E2-1 50X16	
50	20	90	E2-1 50X20	
50	25	90	E2-1 50X25	
50	32	90	E2-1 50X32	
60	16	160	E2-1 60X16	£65.00
60	20	160	E2-1 60X20	
60	25	160	E2-1 60X25	
60	32	160	E2-1 60X32	
60	40	160	E2-1 60X40	

BORING BAR SLEEVE TYPE 1 115/165

- With flange
- Hardened & ground
- Available in 25-80mm outside diameter
- Ideal for steel shank boring bars/drills
- Type A has clamping screws, Type B has slots



CUTWEL PRO

Outside Dia.	Inside Dia.	Length	Type	Order Code	Price
25	6	65	A	115-62573	**£41.92**
25	8	65	A	115-62538	**£40.70**
25	10	65	A	115-62539	**£40.70**
25	12	65	A	115-62540	**£40.70**
25	16	65	B	115-62541	**£40.70**
32	6	90	A	165-63222	**£41.92**
32	8	90	A	115-63260	**£44.88**
32	10	90	A	115-63261	**£44.88**
32	12	90	A	115-63211	**£44.88**
32	16	90	A	115-63212	**£44.88**
32	20	90	A	115-63213	**£44.88**
32	25	90	B	115-63214	**£44.88**
40	6	110	A	165-64074	**£53.38**
40	8	110	A	115-64043	**£44.88**
40	10	110	A	115-64044	**£44.88**
40	12	110	A	115-64045	**£44.88**
40	16	110	A	115-64046	**£44.88**
40	20	110	A	115-64047	**£44.88**
40	25	110	A	115-64048	**£44.88**
40	32	110	B	115-64049	**£44.88**
50	12	130	A	115-65053	**£61.24**
50	16	130	A	115-65013	
50	20	130	A	115-65014	
50	25	130	A	115-65015	
50	32	130	A	115-65016	
50	40	130	B	115-65017	
60	20	140	A	115-66017	**£86.36**
60	25	140	A	115-66018	
60	32	140	A	115-66019	
60	40	140	A	115-66020	
60	50	140	B	115-66021	
80	25	150	A	115-68006	**£90.00**
80	32	150	A	115-68007	
80	40	150	A	115-68008	
80	50	150	A	115-68009	
80	60	150	B	115-68010	

BORING BAR SLEEVE

- With flange
- Hardened & ground
- Available in 25-40mm outside diameter
- Ideal for steel shank boring bars/drills



CUTWEL PRO

Outside Dia.	Inside Dia.	Length	Order Code	Price
25	8	52	115-62574	**£43.66**
	10		115-62575	
	12		115-62576	
	16		115-62577	
	20		115-62578	
32	8	62	165-63223	**£47.56**
	10		165-63224	
	12		165-63225	
	16		165-63226	
	20		165-63227	
	25		165-63228	
40	8	62	165-64075	**£53.38**
	10		165-64076	
	12		165-64077	
	16		165-64078	
	20		165-64079	
	25		165-64080	
	32		165-64081	

TEST BARS

For Machining Centres & Lathes

- Hardened & ground on both diameter and length
- Available in BT, DIN 69871, HSK, Capto, ISO, Double Contact/Big Plus
- Supplied with test certificate & storage case



KINTEK

Machine Connection	Size	Diameter	Length	Order Code	Price
BT MAS	BT30	30	200	217-71506	**£415.00**
	BT40	40	300	217-71507	**£455.00**
	BT50	50	350	217-71202	**£585.00**
DIN 69871	SK30	30	200	217-71506	**£415.00**
	SK40	40	300	217-71201	**£480.00**
	SK50	50	350	217-71202	**£585.00**
BT MAS DBL CONTACT	BBT40	40	300	217-77204	**£710.00**
DIN 69871 DBL CONTACT	DSK40	40	300	217-77101	**£710.00**
	DSK50	50	350	217-77102	**£845.00**
PSC (CAPTO)	PSC40	35	300	C40H300D35BC	**£625.68**
	PSC50	40	300	C50H300D40BC	**£643.55**
	PSC63	40	180	C63H180D40BC	**£622.04**
	PSC63	40	346	C63H346D40BC	**£675.72**
	PSC80	40	346	C80H346D40BC	**£834.22**
HSK-A	HSK63A	40	180	217-71735	**£545.87**
	HSK63A	40	346	217-71724	**£570.00**
	HSK63A	40	380	217-71704	**£630.00**
	HSK100A	40	350	217-71705	**£740.00**
HSK-F	HSK63F	40	380	217-77402	**£634.49**
VDI DIN 69880	VDI30	40	230	118-53002	**£530.31**
	VDI40	50	300	118-54003	**£564.19**
	VDI50	50	300	118-55002	**£600.91**
	VDI60	60	300	118-56002	**£890.00**
BMT	BMT55	40	220	137-00198	**£652.24**
	BMT65	50	300	137-00199	**£700.73**

A2 SPINDLE TEST BARS

For CNC Lathes

- Test arbor for mounting to lathe spindle nose and measuring run-out
- Supplied with test certificate



CUTWEL PRO

Machine Connection	Size	Ball Diameter	Length	Order Code	Price
A2 SPINDLE	A2-5	50	300	490.610.A2-5	**POA**
	A2-6			490.610.A2-6	
	A2-8			490.610.A2-8	
	A2-11			490.610.A2-11	

TEST BAR FOR LATHE CENTRES

For CNC Lathes

- Test arbor for mounting to lathe spindle nose and measuring run-out
- Supplied with test certificate



CUTWEL PRO

Diameter	Length	Order Code	Price
32	300	490.520.032.300	**POA**
40	500	490.520.040.500	
50	600	490.520.050.600	

BALL END TEST BARS

For CNC 5 Axis Machining Centres

- Test arbor for testing RTCP (Rotation Centre Point) of 5-axis spindles
- Shaft can also be used as runout test arbor
- Supplied with test certificate & storage case
- Runout accuracy: taper to ball probe ≤ 0.003mm





diebold

Machine Connection	Size	Ball Diameter	Length	Order Code	Price
BT MAS	BT40	30	150	72.160.742.100	POA
	BT50	30	150	72.170.742.100	
DIN 69871	SK30	30	200	72.050.742.200	
	SK40	30	150	72.060.742.100	
	SK50	30	150	72.070.742.100	
HSK-A	HSK32A	30	150	72.560.742.100	
	HSK40A	30	150	72.565.742.100	
	HSK50A	30	150	72.570.742.100	
	HSK63A	30	150	72.575.742.100	
	HSK63A	30	200	72.575.742.200	
	HSK100A	30	150	72.585.742.100	
	HSK100A	30	200	72.585.742.200	
HSK-F	HSK63F	30	200	72.579.742.200	

TOOL CHANGER ARM POSITIONING KIT

For CNC Machining Centres

- Contains cone, flange and control pin

Instructions for use:

1. After assembling the pull stud, insert the cone into the spindle manually.
2. Set up the flange into the tool changer arm and go closer to the spindle.
3. After positioning, try to insert the double-diameter control pin between the two pieces. Adjust the arm accordingly until you get the perfect coaxiality so that the control bar enters the flange and the cone holes with no interference.



KINTEK

Machine Connection	Size	Order Code	Price
BT MAS	BT40	KIT.PRUEFD-BT40	**£686.74**
	BT50	KIT.PRUEFD-BT50	**£871.21**
DIN 69871	SK40	KIT.PRUEFD-TC40	**£686.74**
	SK50	KIT.PRUEFD-TC50	**£871.21**
HSK-A	HSK63A	KIT.PRUEFD-H63A	**£717.05**
	HSK100A	KIT.PRUEFD-H100A	**£795.76**
CAPTO	C6	KIT.PRUEFD-C6	**£927.46**

TEST BAR & TOOL CHANGER ARM POSITIONING KIT

For CNC Machining Centres

- Contains cone, flange and control pin for tool changer arm and calibrated test bar



KINTEK

Machine Connection	Size	Order Code	Price
BT MAS	BT40	KIT-BT40-CP-PR	**£1,022.13**
HSK-A	HSK63A	KIT-HSK63-CP-PR	**£1,142.29**

5-AXIS KINEMATIC TEST SET

For 5 Axis Machining Centres

- For precise calculation of the position of the machines axis
- With this set, you can check the status (machine geometries of the axes), document the details and perform calibration yourself as necessary
- Highly stable solid carbide reference measuring ball, diameter 25mm, withstands the high contact pressure of the measuring probe
- Measuring & shape tolerance to DIN 5401 GRADE 10 (0.001mm)
- Head piece can be turned
- Reference ball to be attached below 0°, 30° and 45°

Contains:

- Reference measuring ball Ø25 mm with switching magnetic base for probing with 3-D measuring probe in various axis and angle positions.
- 3-D magnetic measuring swivel tripod for mounting the dial gauge and for adjusting the measuring probe concentricity.
- Lever gauge probe Ø38 mm (scale interval 0.001 mm) for checking measuring probe concentricity and kinematic error.
- Parallel limit block for blocking the Z dimension and for calibrating the measuring probe.
- Setting ring Ø40 mm for diameter calibration of measuring probe.



Order Code	Price
23928550	**£1,337.91**

DRAWBAR PULL FORCE GAUGES

Mechanical Type

- The pull force gauges are built purely mechanically and therefore independent from the ambient temperature
- Just set the dial indicator to zero and you can read the pull-in force in kN with an accuracy of +/- 3%
- Supplied with test certificate & storage case





CUTWEL PRO

Machine Connection	Size	Order Code	Price
BT MAS	BT30	76.785.130.BT	**£1,114.33**
	BT40	76.785.140.BT	**£1,666.65**
	BT50	76.785.150	**£1,619.94**
DIN 69871	SK30	76.785.130	**£1,087.03**
	SK40	76.785.140	**£1,338.70**
	SK50	76.785.150	**£1,619.94**
HSK-A	HSK32A	76.785.032	**£1,298.69**
	HSK40A	76.785.040	**£1,298.69**
	HSK50A	76.785.050	**£1,441.47**
	HSK63A	76.785.063	**£1,412.72**
	HSK100A	76.785.100	**£1,647.39**
HSK-F	HSK63F	76.785.050	**£1,441.47**
PSC	C8	76.785.706	**£1,442.08**

5-AXIS KINEMATIC TEST SET LIGHT

For 5 Axis Machining Centres

- For precise calculation of the position of the machines axis
- With this set, you can check the status (machine geometries of the axes), document the details and perform calibration yourself as necessary
- Highly stable solid carbide reference measuring ball, diameter 25mm, withstands the high contact pressure of the measuring probe
- Measuring & shape tolerance to DIN 5401 GRADE 10 (0.001mm)
- Head piece can be turned
- Reference ball to be attached below 0°, 30° and 45°

Contains:

Reference measuring ball Ø25mm with switching magnetic base for probing with 3-D measuring probe in various axis and angle positions



Order Code	Price
23928500	**£742.13**

DRAWBAR, CHUCK & COLLET FORCE GAUGES

Digital Wired Type

- Modular wired digital force measuring system for checking drawbar pull back force, power chuck clamping force & work holding power collet chuck clamping force
- Digital head unit can be used for many different gauges
- Supplied with test certificate & storage case





Drawbar Force Gauges



Collet Chuck Force Gauges



Lathe Chuck Force Gauges

Digital Unit

CUTWEL PRO

Order Code	Price
461.310.000.000	**£819.68**

Drawbar Pull Back Force Gauges

Machine Connection	Size	Order Code	Price
BT MAS	BT30	461.200.730.000	POA
	BT40	461.200.740.000	
	BT50	461.200.750.000	
DIN 69871	SK40	461.200.840.000	
	SK50	461.200.850.000	
HSK-A	HSK32A	461.200.132.000	
	HSK40A	461.200.140.000	
	HSK50A	461.200.150.000	
	HSK63A	461.200.163.000	
	HSK100A	461.200.190.000	
HSK-F	HSK63F	461.200.663.000	
CAPTO	C3	461.200.C03.000	
	C4	461.200.C04.000	
	C5	461.200.C05.000	
	C6	461.200.C06.000	
	C8	461.200.C08.000	

Power Chuck Force Gauges

Diameter	Order Code	Price
72	495.200.072.003	POA
125	495.200.125.004	
200	495.200.200.006	

Collet Chuck Force Gauges

Diameter	Order Code	Price
8	495.245.08MM	POA
10	495.245.10MM	
12	495.245.12MM	
14	495.245.14MM	
16	495.245.16MM	
18	495.245.18MM	
20	495.245.20MM	
25	495.245.25MM	
30	495.245.30MM	
40	495.245.40MM	

MACHINE TOOL SERVICE KITS

- Machine tool service kits include all common preventive gauges for a specific machine tool taper in one convenient kit
- **BT MAS set contains:** Drawbar force gauge (Complete set with measuring bar, display, and connecting cable), spindle runout test bar, tool changer alignment tool, spindle taper gauge, spindle taper wiper & storage case
- **HSK-A set contains:** Drawbar force gauge (Complete set with measuring bar, display, and connecting cable), spindle runout test bar, tool changer alignment tool, balancing master, spindle taper wiper & storage case
- **CAPTO set contains:** Drawbar force gauge (Complete set with measuring bar, display, and connecting cable), spindle runout test bar, tool changer alignment tool, spindle taper wiper & storage case



CUTWEL PRO

Machine Connection	Size	Order Code	Price
BT MAS	BT30	403.730.SERVICEKIT	POA
	BT40	403.740.SERVICEKIT	
	BT50	403.750.SERVICEKIT	
HSK-A	HSK32A	403.132.SERVICEKIT	
	HSK40A	403.140.SERVICEKIT	
	HSK50A	403.150.SERVICEKIT	
	HSK63A	403.163.SERVICEKIT	
	HSK100A	403.190.SERVICEKIT	
CAPTO	C4	403.C04.SERVICEKIT	
	C5	403.C05.SERVICEKIT	
	C6	403.C06.SERVICEKIT	
	C8	403.C08.SERVICEKIT	

PULL STUD BT-MAS

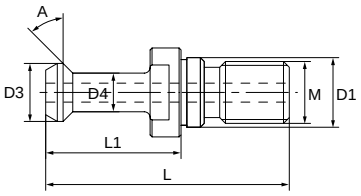
- Available with or without through coolant hole
- Optional o-ring style to prevent coolant leakage

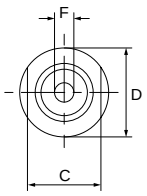
Without O-Ring



With O-Ring







CUTWEL PRO

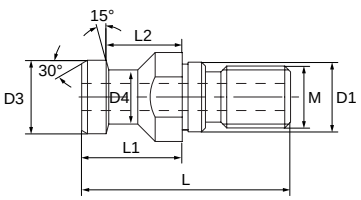
ISO	A	M	L1	L	D	D1	D3	D4	C	F	Through Coolant	O-Ring	Order Code	Price
30	30°	M12	23	43	16	12.5	11	7	13	-	-	-	BT30-30	£9.09
	45°	M12	23	43	16	12.5	11	7	13	-			BT30-45	
40	30°	M16	35	60	23	17	15	10	19	-	-	-	BT40-30	£9.36
	45°	M16	35	60	23	17	15	10	19	-			BT40-45	£9.36
	60°	M16	35	60	23	17	15	10	19	-			BT40-60	£8.19
	90°	M16	35	60	23	17	15	10	19	-			BT40-90	£8.19
	30°	M16	35	60	23	17	15	10	19	-	-	●	BT40-30-OR	£10.10
	45°	M16	35	60	23	17	15	10	19	-			BT40-45-OR	
	90°	M16	35	60	23	17	15	10	19	-			BT40-90-OR	
	30°	M16	35	60	23	17	15	10	19	4	●	-	BT40-30COOLANT	£8.48
	45°	M16	35	60	23	17	15	10	19	4			BT40-45COOLANT	£8.73
	60°	M16	35	60	23	17	15	10	19	4			BT40-60COOLANT	£8.73
	90°	M16	35	60	23	17	15	10	19	4			BT40-90COOLANT	£8.73
	30°	M16	35	60	23	17	15	10	19	4	●	●	BT40-30COOLANT-OR	£11.37
	45°	M16	35	60	23	17	15	10	19	4			BT40-45COOLANT-OR	
	90°	M16	35	60	23	17	15	10	19	4			BT40-90COOLANT-OR	
50	30°	M24	45	85	38	25	23	17	30	-	-	-	BT50-30	£13.38
	45°	M24	45	85	38	25	23	17	30	-			BT50-45	
	60°	M24	45	85	38	25	23	17	30	-			BT50-60	
	30°	M24	45	85	38	25	23	17	30	-	-	●	BT50-30-OR	£15.88
	45°	M24	45	85	38	25	23	17	30	-			BT50-45-OR	
	60°	M24	45	85	38	25	23	17	30	-			BT50-90-OR	
	30°	M24	45	85	38	25	23	17	30	6	●	-	BT50-30COOLANT	£12.68
	45°	M24	45	85	38	25	23	17	30	6			BT50-45COOLANT	
	60°	M24	45	85	38	25	23	17	30	6			BT50-60COOLANT	
	30°	M24	45	85	38	25	23	17	30	6	●	●	BT50-30COOLANT-OR	£17.31
	45°	M24	45	85	38	25	23	17	30	6			BT50-45COOLANT-OR	
	60°	M24	45	85	38	25	23	17	30	6			BT50-60COOLANT-OR	

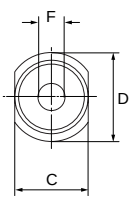
PULL STUD BRIDGEPORT

- Through coolant

Without O-Ring







CUTWEL PRO

ISO	M	D	D1	D3	D4	L	L1	L2	C	F	Through Coolant	Order Code	Price
40	M16	23	17	19	14	54	29	23	19	7	●	BRIDGEPORT-PS	£15.80

Scan QR code for help identifying which pull stud you need.

Please fill in all the details on our pull stud identification form and one of our expert team will get back to you with a quote.

PULL STUD MAZAK

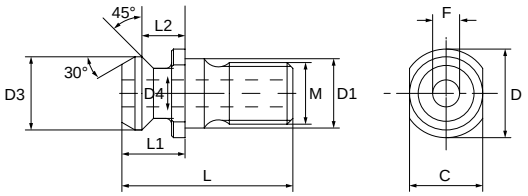
- Through coolant
- Optional o-ring style to prevent coolant leakage

Without O-Ring



With O-Ring





CUTWEL PRO

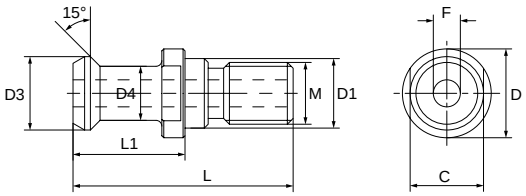
ISO	M	D	D1	D3	D4	L	L1	L2	C	F	Through Coolant	O-Ring	Order Code	Price
40	M16	21.8	17	18.79	12.44	41.25	16.25	11.17	19	7	●	-	BT40MAZAK	**£15.80**
	M16	21.8	17	18.79	12.44	41.25	16.25	11.17	19	7		●	BT40MAZAK-OR	**£16.27**
	M16	22	17	18.79	12.44	44.1	19.1	14.02	19	7		-	BT40MAZAK-2	**£18.40**
	M16	22	17	18.79	12.44	44.1	19.1	14.02	19	7		●	BT40MAZAK-2-OR	**£18.94**
50	M24	35.5	25	28.95	20.8	65.4	25.4	17.78	30	10	●	-	BT50MAZAK	**£20.54**
	M24	35.5	25	28.95	20.8	65.4	25.4	17.78	30	10		●	BT50MAZAK-OR	**£21.15**

PULL STUD JIS.B6339

- Through coolant
- Optional o-ring style to prevent coolant leakage

Without O-Ring





CUTWEL PRO

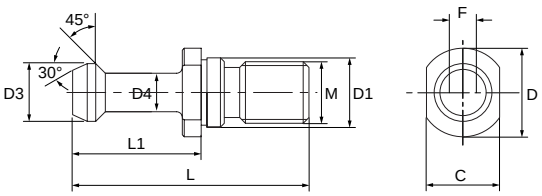
ISO	M	D	D1	D3	D4	L	L1	C	F	Through Coolant	O-Ring	Order Code	Price
30	M12	16.5	12.5	12	8	43	23.4	14	4	●	-	217-22325	**£17.34**
40	M16	23	17	19	14	54	29	19	7		-	217-22134	
	M16	23	17	19	14	54	29	19	4	●	●	217-22326	**£16.78**
	M16	23	17	19	14	54	29	19	7		●	217-22327	
50	M24	38	25	28	21	74	34	30	10	●	●	217-22328	**£21.85**

PULL STUD CINCINNATI

- Through coolant

Without O-Ring





CUTWEL PRO

ISO	M	D	D1	D3	D4	L	L1	C	F	Through Coolant	O-Ring	Order Code	Price
40	M16	22.2	17	15	10.3	67.3	39.4	19	3.8	●	-	CINCINATTI-PS1	**£19.36**
	M16	22.2	17	15	10.3	64.3	36.6	18	3.8		-	CINCINATTI-PS2	

PULL STUD DIN 69872

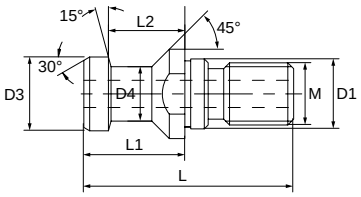
- Available with or without through coolant hole
- Optional o-ring style to prevent coolant leakage

Without O-Ring



With O-Ring





CUTWEL PRO

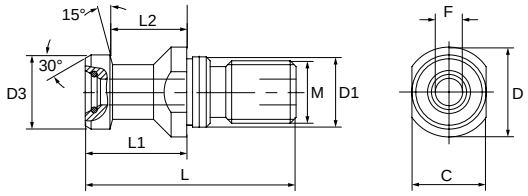
ISO	M	D	D1	D3	D4	L	L1	L2	C	F	Through Coolant	O-Ring	Order Code	Price
30	M12	17	13	13	9	44	24	19	14	-	-	-	DIN69872B-P12D	**£14.62**
40	M16	23	17	19	14	54	26	20	19	-	-	-	DIN69872B-P16D	**£9.36**
	M16	23	17	19	14	54	26	20	19	-	-	●	DIN69872C-P16D	**£13.94**
	M16	23	17	19	14	54	26	20	19	7	●	-	DIN69872A-P16D	**£10.32**
	M16	23	17	19	14	54	26	20	19	7	●	●	DIN69872D-P16D	**£14.40**
50	M24	36	25	28	21	74	34	25	30	-	-	-	DIN69872B-P24D	**£15.59**
	M24	36	25	28	21	74	34	25	30	-	-	●	DIN69872C-P24D	**£11.97**
	M24	36	25	28	21	74	34	25	30	11.5	●	-	DIN69872A-P24D	**£17.31**
	M24	36	25	28	21	74	34	25	30	11.5	●	●	DIN69872D-P24D	**£21.93**

PULL STUD DIN 69872, HIGH PRESSURE

- Through coolant hole
- With double o-ring for high pressure coolant

Double O-Ring





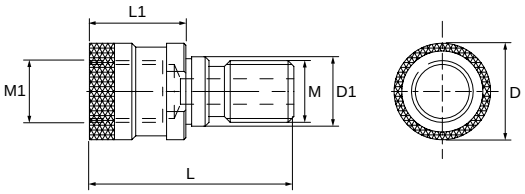
CUTWEL PRO

ISO	M	D	D1	D3	D4	L	L1	L2	C	F	Through Coolant	O-Ring	Order Code	Price
40	M16	23	17	19	14	54	26	20	19	7	●	●	DIN69872E-P16HP	**£22.14**
	M16	23	17	19	14	54	29	23	19	7			DIN69872F-P16HP	
50	M24	36	25	28	21	74	34	25	30	11.5	●	●	DIN69872E-P24HP	

ADAPTOR PULL STUDS DIN2080

- Convert BT or SK chucks for use on DIN2080 machines





CUTWEL PRO

ISO	M	M1	D	D1	L	L1	Order Code	Price
SK40	M16	M16	25.3	17	53	25	217-22025	**£14.88**
BT40	M16	M16	25.3	17	56	28	217-22040	**£14.88**
BT50	M24	M24	39.6	25	65	25	217-22024	**£28.67**

PULL STUD ISO 7388/2-B

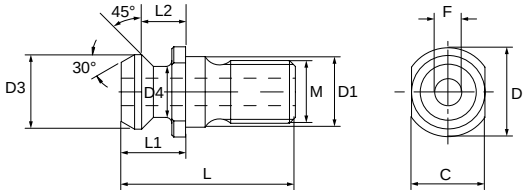
- Available with or without through coolant hole
- Optional o-ring style to prevent coolant leakage

Without O-Ring



With O-Ring





CUTWEL PRO

ISO	M	D	D1	D3	D4	L	L1	L2	C	F	Through Coolant	O-Ring	Order Code	Price
40	M16	22.5	17	18.9	12.9	44.5	16.4	11.2	18	-	-	-	217-21608	**£13.11**
	M16	22.5	17	18.9	12.9	44.5	16.4	11.2	18	-	-	●	217-21611	**£13.73**
	M16	22.5	17	18.9	12.9	44.5	16.4	11.2	18	7.3	●	-	217-21601	**£14.45**
	M16	22.5	17	18.9	12.9	44.5	16.4	11.2	18	7.3	●	●	217-21621	**£15.17**
50	M24	37	25	29.1	19.6	65.5	25.5	17.9	30	-	-	-	217-21609	**£16.03**
	M24	37	25	29.1	19.6	65.5	25.5	17.9	30	-	-	●	217-21612	**£16.74**
	M24	37	25	29.1	19.6	65.5	25.5	17.9	30	11.5	●	-	217-21602	**£17.31**
	M24	37	25	29.1	19.6	65.5	25.5	17.9	30	11.5	●	●	217-21622	**£18.76**

PULL STUD ISO 7388/2-A

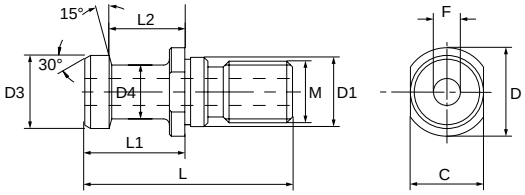
- Available with or without through coolant hole
- Optional o-ring style to prevent coolant leakage

Without O-Ring



With O-Ring





CUTWEL PRO

ISO	M	D	D1	D3	D4	L	L1	L2	C	F	Through Coolant	O-Ring	Order Code	Price
40	M16	23	17	19	14	54	26	20	19	-	-	●	217-21619	**£13.73**
	M16	23	17	19	14	54	26	20	19	7	●	-	217-21614	**£14.02**
	M16	23	17	19	14	54	26	20	19	7	●	●	217-21623	**£15.17**
50	M24	36	25	28	21	74	34	25	30	-	-	-	217-21618	**£16.03**
	M24	36	25	28	21	74	34	25	30	-	-	●	217-21620	**£16.74**
	M24	36	25	28	21	74	34	25	30	11.5	●	-	217-21615	**£17.31**
	M24	36	25	28	21	74	34	25	30	11.5	●	●	217-21624	**£18.94**

PSC Toolholders



CANELA

PSC (ISO 26623) TOOLHOLDERS

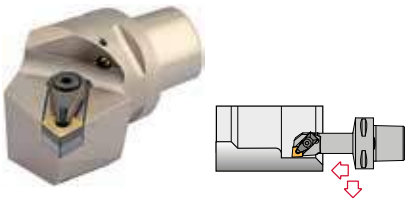
- Monoblock tools for internal machining
- Full details on all the tools below is available on our website cutwel.co.uk

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Scan to view full range

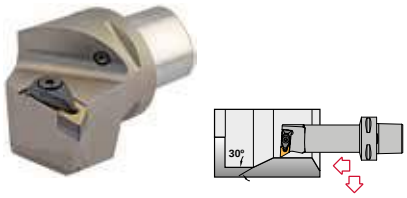
DCLN 95°

CNMG



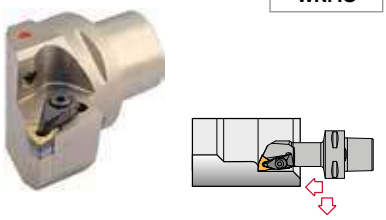
DDUN 93°

DNMG



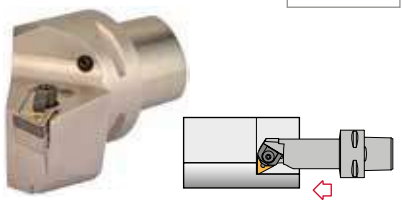
DWLN 95°

WNMG



MTFN 90°

TNMG



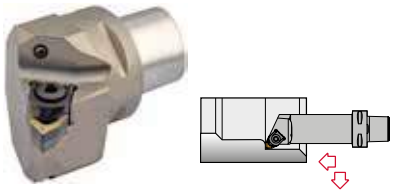
MVUN 93°

VNMG



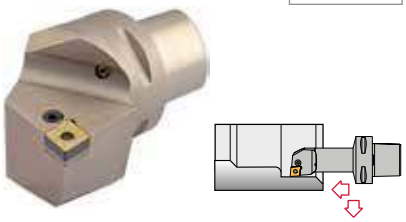
MWLN 95°

WNMG



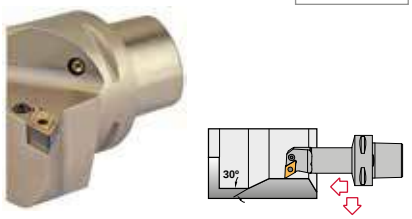
PCLN 95°

CNMG



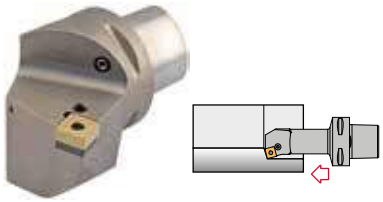
PDUN 93°

DNMG



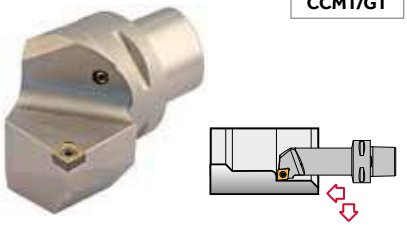
PSKN 75°

SNMG



SCLC 95°

CCMT/GT



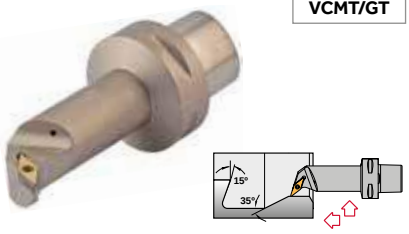
SDUC 93°

DCMT/GT



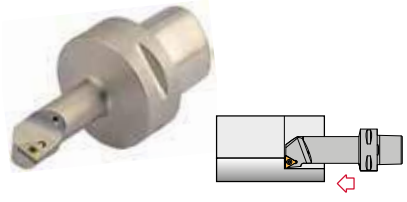
SVQC 107.5°

VCMT/GT



STFC 90°

TCMT/GT

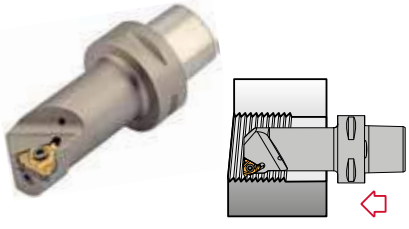


SVQB 107.5°

VBMT/GT



THREADING INTERNAL



PSC (ISO 26623) TOOLHOLDERS

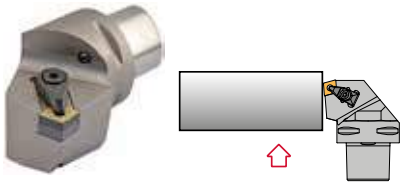
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CANELA

Scan to View Full Range

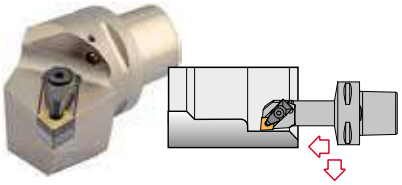
DCKN 75°

CNMG



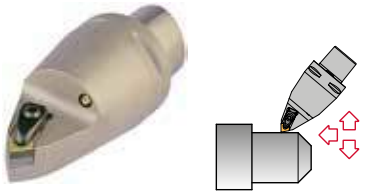
DCLN 95°

CNMG



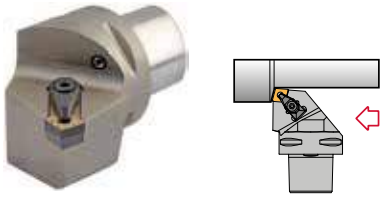
DCMN 50°

CNMG



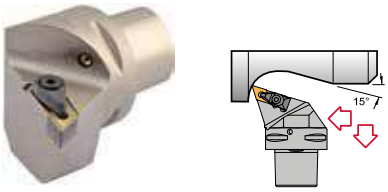
DCRN 75°

CNMG



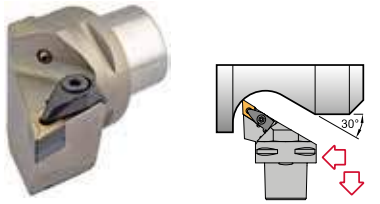
DDHN 107.5°

DNMG



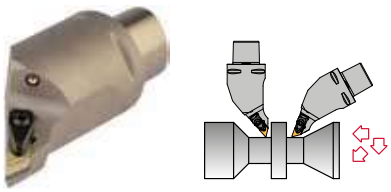
DDJN 93°

DNMG



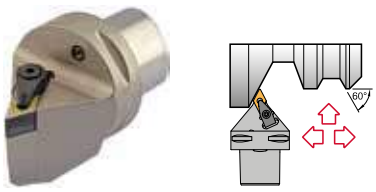
DDMN 48°

DNMG



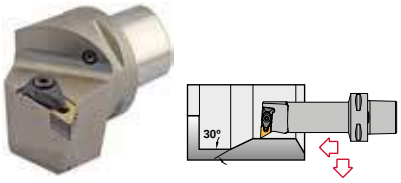
DDNN 63°

DNMG



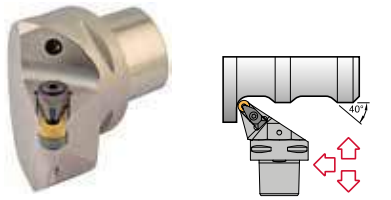
DDUN 93°

DNMG



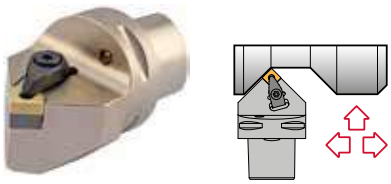
DRSN

RNMG



DSDN 45°

SNMG



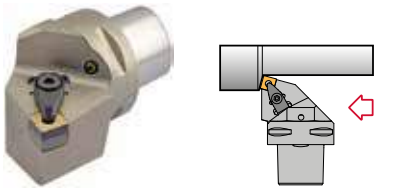
DSKN 75°

SNMG



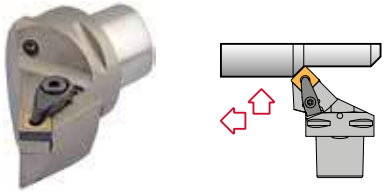
DSRN 75°

SNMG



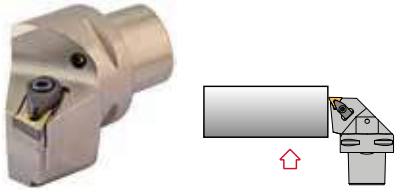
DSNN 45°

SNMG



DTFN 90°

TNMG



PSC (ISO 26623) TOOLHOLDERS

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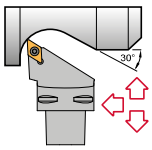
CANELA

Scan to View Full Range

SDJC 93°

DCMT/GT

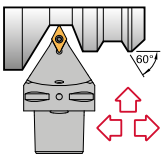




SDNC 62°30'

DCMT/GT

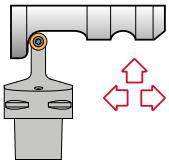




SRDC

RCMT/GT

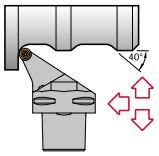




SRSC 45°

RCMT/GT

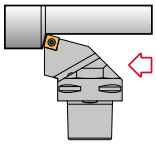




SSRC 75°

SCMT/GT

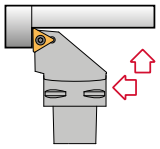




STGC 90°

TCMT/GT

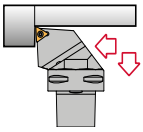




STJC 93°

TCMT/GT

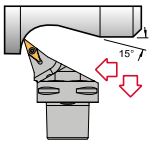




SVHB 107°30'

VBMT/GT

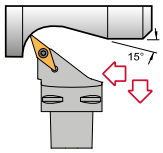




SVHC 107°30

VCMT/GT

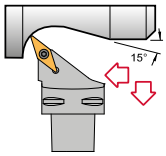




SVJB 93°

VBMT/GT

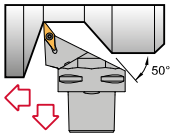




SVJC 93°

VCMT/GT

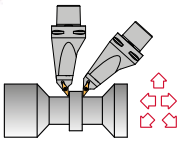




SVMB 50°

VBMT/GT

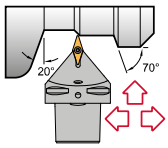




SVVB 72.5°

VBMT/GT

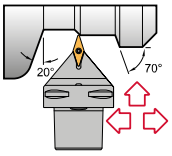




SVVC 72.5°

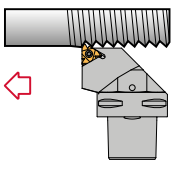
VCMT/GT





THREADING EXTERNAL





PSC (ISO 26623) TOOLHOLDERS

- Monoblock tools for external machining
- Full details on all the tools below is available on our website cutwel.co.uk

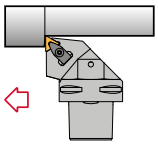
CANELA

Scan to View Full Range

DTGN 90°

TNMG

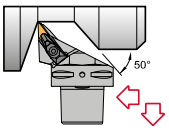




DVJN 93°

VNMG

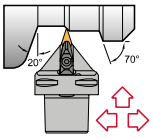




DVVN 73°30'

VNMG

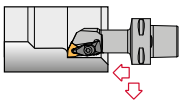




DWLN 95°

WNMG

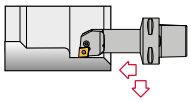




PCLN 95°

CNMG

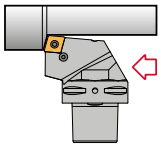




PCRN 75°

CNMG

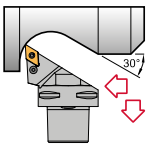




PDJN 93°

DNMG

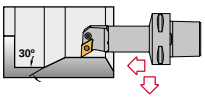




PDUN 93°

DNMG

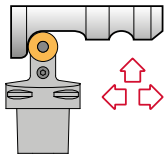




PRDC

RCMT/GT

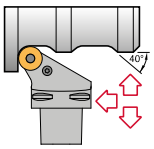




PRSC

RCMT/GT

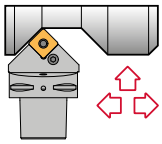




PSDN 45°

SNMG

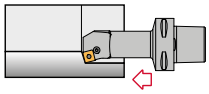




PSKN 75°

SNMG

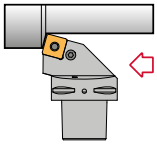




PSRN 75°

SNMG

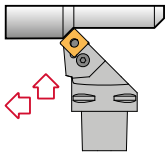




PSSN 45°

SNMG

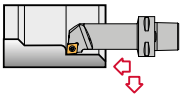




SCLC 95°

CCMT/GT





PSC (ISO 26623) TOOLHOLDERS

- Adaptors for round & square shanks
- Full details on all the tools below is available on our website cutwel.co.uk

CANELA

Scan to View Full Range

FACE MILL ARBOR
18.160



FACE MILL ARBOR
18.180



MORSE TAPER ADAPTER
18.215



DRILL CHUCK
18.296



END MILL HOLDER
18.306



THREADED SHANK ADAPTER
18.315



POWER CHUCK
18.400



BORING BAR HOLDER
18.406



ER COLLET CHUCK
18.453



ER COLLET CHUCK
18.455



TOOL BLANKS
18.470



QUICK CHANGE TAP CHUCK
18.620



TEST BAR
18.999



DIN69871 ADAPTER
13.218



HSK ADAPTER
16.218



BT MAS ADAPTER
23.218



BORING HEAD ARBOR
18.700



AXIAL SQUARE HOLDER
18.500



ANGLE SQUARE HOLDER
18.510



AXIAL MINI-TURRET
18.520



RADIAL ADAPTER
18.530



PARTING BLADE HOLDER
18.540

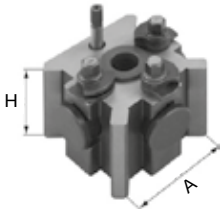


PARTING BLADE HOLDER
18.550



QUICK CHANGE TOOLPOSTS - 4414

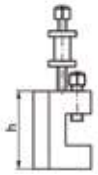
- Dovetail design
- Fully compatible with Dickson toolposts and holders
- Clamping locations for left, right or axial approach
- Tool holders available for clamping boring bars, turning tools, round shank tools and parting



Type	A x H	Clamping Range	Order Code	Price
T.00.M	48x37	up to 89mm	800000651	**£261.00**
T.00.B	48x42	up to 89mm	800000652	**£293.00**
T.0	62x51	up to 114mm	800000653	**£304.00**
T.1	62x63	up to 127mm	800000654	**£343.00**
T.1.X	62x73	up to 127mm	800000655	**£351.00**
T.2	82x71	up to 203mm	800000656	**£436.00**
T.2.T	82x76	up to 203mm	800000657	**£453.00**
T.3	100x92	up to 292mm	800000658	**£555.00**
T.3.HX	100x108	up to 292mm	800000659	**£598.00**

STANDARD TOOLHOLDER - 4494

For Square Shank Tools

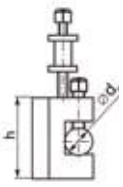




Size	Type	b x h	Order Code	Price
48	T.00M, T.00B	58x27	800000660	**£57.00**
62N	T.0	73x35	800000663	**£83.00**
62	T.1, T.1X	73x44	800000662	**£98.00**
82N	T.2	98.5x50	800000665	**£115.00**
82	T.2T	98.5x57	800000664	**£115.00**
100	T.3, T.3HX	124x70	800000666	**£150.00**

VEE-TYPE TOOLHOLDER - 4495

For Round Shank Tools With Flats

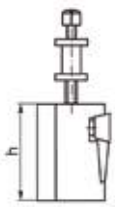




Size	Type	Ød max	b x h	Order Code	Price
48	T.00M, T.00B	11	58x27	800000667	**£57.00**
62N	T.0	16	73x35	800000670	**£88.00**
62	T.1, T.1X	16	73x44	800000669	**£102.00**
82N	T.2	19	98.5x50	800000672	**£117.00**
82	T.2T	19	98.5x57	800000671	**£119.00**
100	T.3, 3HX	25.5	124x70	800000673	**£169.00**

PART OFF TOOLHOLDER - 4496

For Parting Off Blades

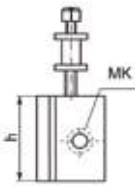




Size	Type	b x h	Order Code	Price
48	T.00M, T.00B	58x32	800000674	**£96.00**
62	T.0,T.1, T.1X	73x47.5	800000676	**£130.00**
82	T.2, T.2T	98.5x57	800000677	**£155.00**
100	T.3, T3HX	124x70	800000678	**£208.00**

MORSE TAPER TOOLHOLDER - 4497

For Morse Taper Shank Tools

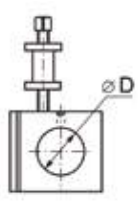




Size	Type	MT	Order Code	Price
62/1N	T.0	1	800000680	**£115.00**
62/1	T.1, T.1X	1	800000679	**£133.00**
62/2	T.1, T.1X	2	800000681	**£119.00**
82/2	T.2, T.2T	2	800000682	**£151.00**
100/3	T.3, T3HX	3	800000683	**£194.00**

BORING BAR TOOLHOLDER - 4499

For Round Shank Boring Bars

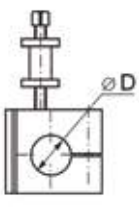




Size	Type	ØD	Order Code	Price
62	T.0, T.1, T.1X	25	800000688	**£129.00**
82	T.2, T.2T	32	800000689	**£145.00**
100	T.3, T3HX	40	800000690	**£208.00**

SPLIT BORING BAR TOOLHOLDER - 4498

For Round Shank Boring Bars



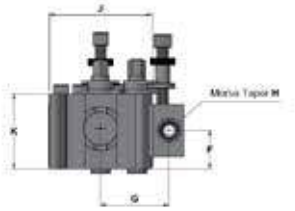


Size	Type	ØD	Order Code	Price
62	T.0,T.1, T.1X	19	800000684	**£134.00**
82	T.2, T.2T	25.4	800000685	**£153.00**
100	T.3, T3HX	38	800000687	**£206.00**

DICKSON QUICK CHANGE TOOLPOST

- Dovetail design
- Fully compatible with Dickson toolholders and are typically found on most Colchester lathes and many other conventional or manual lathes
- Clamping locations for left, right or axial approach and can be used for holding boring bars, turning tools, round shank tools and parting off tools using the quick change tool holders





Type	J	K	Order Code	Price
S1	73	63.5	PB-A111D0001	**£510.92**
S2	98.5	71.5	PB-A112D0000	**£761.08**
S2T	98.5	76	PB-A112D0002	**£770.62**
S3	125.5	92	PB-A113D0001	**£774.86**
S4	149	120.5	PB-A114D0000	**£977.32**

DICKSON QUICK CHANGE STANDARD TOOLHOLDER

For Square Shank Tools

- Clamp square shanks between 20mm and 32mm
- Ideal for quick changeover of tools and are fully compatible with Dickson toolposts



Type	Clamping Range	Order Code	Price
S1	20	PB-T111D0141	**£115.54**
S2	20	PB-T112D0141	**£121.90**
S2T	25	PB-T112D0143	**£124.02**
S3	32	PB-T113D0141	**£137.80**
S4	32	PB-T114D0143	**£231.08**

DICKSON QUICK CHANGE VEE TYPE HOLDER

For Round Shank Tools With Flats

- For clamping round shank tools with flats
- Ideal for quick changeover of tools and are fully compatible with Dickson toolposts.
- Individual sizes apply, please check dimensions below.
- Please contact our technical team to check compatibility



Type	Clamping Range	Order Code	Price
S1	16	PB-T111D0151	**£124.02**
S2	19	PB-T112D0151	**£125.08**
S2T	19	PB-T112D0153	**£131.44**
S3	25	PB-T113D0151	**£142.04**
S4	25	PB-T114D0151	**£238.50**

DICKSON QUICK CHANGE BORING BAR TOOLHOLDER

For Round Shank Boring Bars

- Suitable for clamping either 25mm, 32mm, 40mm and 50mm tools
- Ideal for quick changeover of tools and are fully compatible with Dickson toolposts



Type	Clamping Range	Order Code	Price
S1	25	PB-T111D0181	**£170.66**
S2	32	PB-T112D0181	**£210.94**
S3	40	PB-T113D0181	**£242.74**
S3	25	PB-T113D0184	**£252.28**
S4	50	PB-T114D0181	**£415.52**

DICKSON QUICK CHANGE MORSE TAPER TOOLHOLDER

For Morse Taper Shank Tools

- For clamping from morse taper 1 to morse taper 4 tooling
- Ideal for quick changeover of tools and are fully compatible with Dickson toolposts.
- Individual sizes apply, please check dimensions below. Please contact our technical team should you wish to check compatibility



Type	Clamping Range	Order Code	Price
S1	MT1	PB-T111D0161	**£136.74**
S2	MT2	PB-T112D0161	**£203.52**
S2	MT2	PB-T112D0167	**£224.72**
S3	MT3	PB-T113D0161	**£238.50**
S3	MT4	PB-T113D0167	**£279.84**
S4	MT4	PB-T114D0161	**£415.52**

CNC Lathe Toolholders



Static Toolholders & High Performance Driven Tools for CNC lathes

German manufactured driven tools from WTO lead the world in sales volume, quality and performance. With over 2,000 different options, there are solutions for almost any CNC lathe. The WTO QuickFlex system is available on most driven tools, offering a quick change modular tool holder solution or standard ER collet output without the need for adapters. The driven tooling range is complimented by a vast range of static tool holders for clamping square shank, round shank and parting off tools.

Advantages

- Quick change system offers the possibility of setting tools offline or using face mills in the driven tool.
- Multiple output holders for increased machining capacity, get more tools on 1 turret.
- Through coolant holders for improved tool life, performance and chip control.

Features

- Driven & static tool holders for all major CNC lathe makes and models.
- Huge range of multiple output holders for Y axis or multi-spindle turning centres.
- Modular quick change system QuickFlex from WTO.

CUTWEL PRO WTO GERARDI BENZ TOOLING

WTO

QuickFlex® Driven Tools

The perfect combination: **ER collet chuck and quick change system in one** driven tool holder made by WTO. QuickFlex® driven tools can be used as a quick change system with adapters or with just an ER collet (without an adapter).

- Driven tools available for most machines including DMG, Mazak, Doosan, Haas, Nakamura-Tome, SMEC, Star, Okuma, Hwacheon and many more.
- Driven tools to suit VDI, bolt on and BMT turrets.
- Available in high torque and speed increasers.
- One hand quick change system for safe tool change in the machine.
- Quick change adapters feature a polygon drive to prevent the adapter slipping under high torque loads.





Scan to find out more about QuickFlex®

High run-out accuracy and stability are guaranteed by two independent taper connections.



With ER Collet

With QuickFlex® face mill arbor adapter

Quick and safe tool change with the patended one-hand wrench.



WTO

Multiple ToolHolders

Advanced multiple tool holders from WTO multiply the available tools on turning centres with Y axis, half indexing and sub spindle turrets.

The vast range of multiple output holders allows you to maximize your machining capability with improved turret capacity allowing for complete part machining with minimum set ups.

- Available in driven & static tool holders with multiple outputs to maximize your machining potential.
- Ideal for components that require advanced milling operations where multiple set ups would be required.







Scan to find out more about WTO multi-output holders

WTO

CNC Push Slot Driven Broaching Unit

WTO's broaching unit is the perfect solution for complete machining with minimized down time. The driven unit works using the live tool drive to produce internal and external keyways, hex's and splines up to 32mm deep.

- Available for most CNC live tooling lathes
- 32mm stroke length
- Ideal for internal and external splines, hex and keyways in all materials
- External coolant supply



Same insert holder for ID and OD broaching by rotating 180 degrees.



1. Position insert on Z



2. Cutter drives into workpiece



3. Cutter lifts from workpiece



4 Lift-off function prevents wear/ breakage when cutter retracts



Scan to find out more about WTO CNC broaching units

WTO

Driven Gear Hobbing Unit

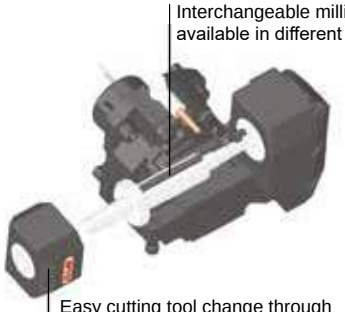
Highly productive manufacturing of gears using your turning centres. The gear hobbing Unit from WTO offers high stiffness and runout accuracy. High versatility due to interchangeable milling arbors for different cutting tools.

Suitable for machining gears according to standard 8 ISO 1328, AGMA 8.

- Possibilities to machine splines, spur gears and helical gears.
- Ultimate flexibility allowing for quick tool change according to workpiece requirements.
- Swing of +30 degrees.



Maximum scale swing of ±30° with scale and vernier



Interchangeable milling arbor available in different sizes

Easy cutting tool change through removable counter support and withdrawal of the complete milling arbor



Scan to find out more about WTO gear hobbing units

WTO

Precision Static CNC Lathe Tool Holders

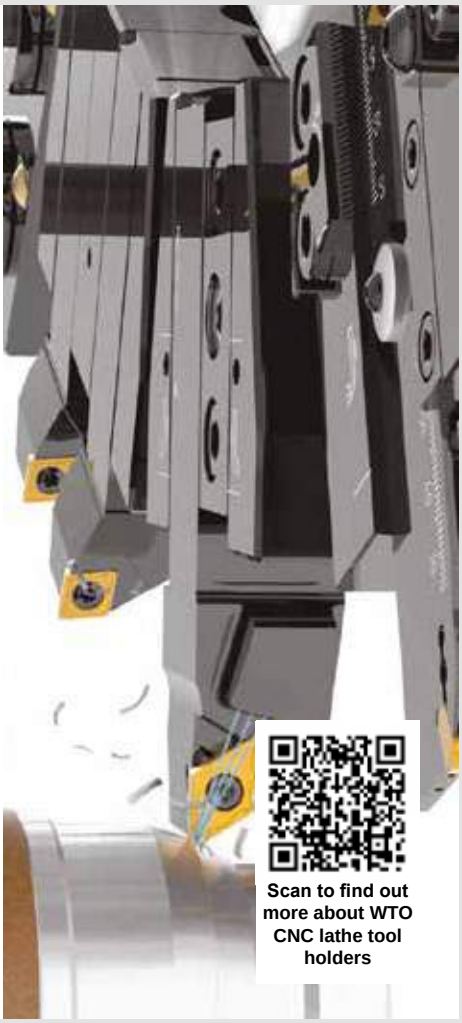
Precision static tool holders from WTO are individually designed for each turning centre and manufactured with the highest precision so that you are able to use the full capacity of your machine.







Available with internal coolant supply for the highest productivity (square shank holders, combination holders and parting blade holders)



Scan to find out more about WTO CNC lathe tool holders

WTO

Static & Driven Tools For Sliding Head Lathes

The WTO sliding head tool holder range includes a wide range of products to help you increase your machining capabilities. This thread whirling units, gear hobbing units, adjustable angle drill/milling units, high speed drill/milling units, deep hole drilling units up to 200 bar/2900 PSI coolant pressure and slitting saw units.

The WTO NanoFlex® quick change system brings a highly effective modular system to your sliding head, allowing you to change worn tools in seconds.





Scan to find out more about WTO CNC sliding heads

View Toolholder Guide

RIGHT HAND RADIAL HOLDER
DIN 69880 VDI B1



VDI	Order Code	Price
30	B1-30x20x40	£60.22
40	B1-40x25x44	£64.07
50	B1-50x32x55	£142.95
60	B1-60x32x60	£264.64

RIGHT HAND RADIAL HOLDER
DIN 69880 VDI B3



VDI	Order Code	Price
30	B3-30x20x40	£60.22
40	B3-40x25x44	£64.07
50	B3-50x32x55	£142.95
60	B3-60x32x60	£264.64

MULTI-SEAT HOLDER
DIN 69880 VDI D1



VDI	Order Code	Price
30	D1-30x20x60	£118.65
40	D1-40x25x72	£118.65
50	D1-50x32x85	£211.72
60	D1-60x32x110	£390.03

LEFT HAND RADIAL HOLDER
DIN 69880 VDI B2



VDI	Order Code	Price
30	B2-30x20x40	£60.22
40	B2-40x25x44	£64.07
50	B2-50x32x55	£142.95
60	B2-60x32x60	£264.64

LEFT HAND RADIAL HOLDER*
DIN 69880 VDI B4



*Upside down

VDI	Order Code	Price
30	B4-30x20x40	£60.22
40	B4-40x25x44	£64.07
50	B4-50x32x55	£136.79
60	B4-60x32x60	£283.22

MULTI-SEAT HOLDER*
DIN 69880 VDI D2



*Upside down

VDI	Order Code	Price
30	D2-30x20x60	£118.65
40	D2-40x25x72	£118.65
50	D2-50x32x85	£253.24
60	D2-60x32x110	£373.20

VDI BLANK
DIN 69880 VDI A1



VDI	Order Code	Price
30	A1-30x85	£161.39
40	A1-40x100	£284.36
50	A1-50x125	£386.20
60	A1-60x160	£413.42

RIGHT HAND AXIAL HOLDER
DIN 69880 VDI C1



VDI	Order Code	Price
30	C1-30x20x70	£74.28
40	C1-40x25x85	£84.55
50	C1-50x32x100	£149.68
60	C1-60x32x125	£297.93

LEFT HAND AXIAL HOLDER
DIN 69880 VDI C2



VDI	Order Code	Price
30	C2-30x20x70	£74.28
40	C2-40x25x85	£84.55
50	C2-50x32x100	£149.68
60	C2-60x32x125	£297.93

VDI BLANK
DIN 69880 VDI A2



VDI	Order Code	Price
30	A2-30X100	£78.81
40	A2-40X120	£92.56
50	A2-50X135	£137.61
60	A2-60X150	£222.02

INDEXABLE DRILL HOLDER
DIN 69880 VDI

P1138



*Please specify diameter when ordering

VDI	Size Range	Order Code	Price
30	Ø16-40	E1-30x.....*	£51.93
40	Ø16-50	E1-40x..... *	£64.91
50	Ø16-50	E1-50x.....*	£109.05
60	Ø16-50	E1-60x.....*	£166.84

BORING BAR HOLDER
DIN 69880 VDI E2

P1138



*Please specify diameter when ordering

VDI	Size Range	Order Code	Price
30	Ø6-40	E2-30x.....*	£50.24
40	Ø6-50	E2-40x..... *	£62.33
50	Ø8-50	E2-50x.....*	£102.23
60	Ø16-50	E2-60x.....*	£159.89

ER COLLET CHUCK
DIN 69880 VDI E4

P1037



CUTWEL PRO

VDI	ER	Order Code	Price
30	16	E4-30X16	£88.29
30	25	E4-30X25	£88.29
30	32	E4-30X32	£88.29
30	40	E4-30X40	£88.29
40	25	E4-40X25	£93.47
40	32	E4-40X32	£93.47
40	40	E4-40X40	£93.47
50	25	E4-50X25	£141.78
50	32	E4-50X32	£141.78
50	40	E4-50X40	£141.78
60	32	E4-60X32	£141.78
60	40	E4-60X40	£141.78

MORSE TAPER CHUCK
DIN 69880 VDI F



CUTWEL PRO

VDI	Morse Taper	Order Code	Price
30	1	F30-MKD1	£71.40
30	2	F30-MKD2	£71.40
30	3	F30-MKD3	£71.40
40	1	F40-MKD1	£77.89
40	2	F40-MKD2	£77.89
40	3	F40-MKD3	£77.89
40	4	F40-MKD4	£77.89
50	2	F50-MKD2	£122.67
50	3	F50-MKD3	£122.67
50	4	F50-MKD4	£122.67
50	2	F60-MKD2	£160.80
60	3	F60-MKD3	£160.80
60	4	F60-MKD4	£160.80
60	5	F60-MKD5	£160.80

TENSION & COMPRESSION TAP CHUCK
DIN 69880 VDI GML

P1099



CUTWEL PRO

VDI	Adaptor Size	Order Code	Price
30	1	M2720	£219.63
30	2	M2820	£296.79
40	1	M2730	£243.51
40	2	M2830	£271.33

RIGHT HAND PART OFF HOLDER
DIN 69880 VDI AR



CUTWEL PRO

VDI	Blade	Order Code	Price
30	26	AR3026	£216.37
30	32	AR3032	£225.98
40	26	AR4026	£216.37
40	32	AR4032	£320.33

RIGHT HAND PART OFF HOLDER*
DIN 69880 VDI ARU



*Upside down

CUTWEL PRO

VDI	Blade	Order Code	Price
30	26	ARU3026	£216.37
30	32	ARU3032	£225.98
40	26	ARU4026	£216.37
40	32	ARU4032	£320.33

BAR PULLER
VDI & CYLINDRICAL SHANK

- Reversible jaws for 2 clamping ranges
- Wide clamping range
- Quick & simple setting
- Clamping range from 6 - 110mm



CUTWEL PRO

Shank	Order Code	Price
VDI30	CWBP-VDI30	£699.00
VDI40	CWBP-VDI40	£699.00
25mm	CWBP-D25	£650.00
32mm	CWBP-D32	£650.00
40mm	CWBP-D40	£650.00
Reversible Jaws	CPBJ-001	£239.97

LEFT HAND PART OFF HOLDER
DIN 69880 VDI AL



CUTWEL PRO

VDI	Size Range	Order Code	Price
30	26	AL3026	£216.37
30	32	AL3032	£296.60
40	26	AL4026	£216.37
40	32	AL4032	£326.72

VDI STEEL TURRET CAP
DIN 69880 VDI



CUTWEL PRO

VDI	Order Code	Price
30	Z2-30S	£27.60
40	Z2-40S	£32.85
50	Z2-50S	£46.89
60	Z2-60S	£59.12

WTO

VDI DIN 69880 STATIC TOOLHOLDERS

- Complete range of DIN 69880 toolholders for Sauter, Duplomatic & Baruffaldi VDI turrets
- VDI16 to VDI60
- OD or face mounted holders
- Available with high pressure through coolant for internal or external machining & parting off
- Made in Germany by market leader WTO

Call our technical team on **01924 869 615** for a quote or support with your enquiry



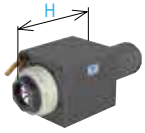
DIN 5480 (VDI) DRIVEN TOOLS

Driven Tool Holders For Sauter DIN 5480 Turrets

- DIN 5480 driven coupling for VDI turrets
- 2 year warranty

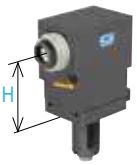


STRAIGHT



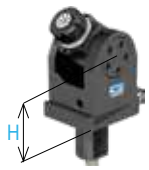
VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
25	Ext.	20	60	20	6000	99.ST.8002	
25	Int./Ext.	20	89	20	6000	99.ST.8010	
30	Ext.	25	66	32	5000	99.ST.8003	
30	Int./Ext.	25	66	32	5000	99.ST.8011	
30	Ext.	25	94	32	5000	99.ST.8004	
30	Int./Ext.	25	94	32	5000	99.ST.8012	
40	Ext.	32	95	63	4000	99.ST.8005	POA
40	Int./Ext.	32	95	63	4000	99.ST.8013	
40	Ext.	32	115	63	4000	99.ST.8006	
40	Int./Ext.	32	115	63	4000	99.ST.8014	
50	Ext.	40	88	100	4000	99.ST.8007	
50	Int./Ext.	40	120	100	4000	99.ST.8015	
50	Ext.	40	120	100	4000	99.ST.8008	

RIGHT ANGLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
20	Ext.	20	75	13	6000	99.ST.8028	
20	Int./Ext.	20	75	13	6000	99.ST.8036	
25	Ext.	20	75	20	6000	99.ST.8029	
25	Int./Ext.	20	75	20	6000	99.ST.8037	
30	Ext.	25	55	32	5000	99.ST.8030	
30	Int./Ext.	25	55	32	5000	99.ST.8038	
30	Ext.	25	85	32	5000	99.ST.8031	
30	Int./Ext.	25	85	32	5000	99.ST.8039	
30	Ext.	25	100	32	5000	99.ST.8032	POA
30	Int./Ext.	25	100	32	5000	99.ST.8040	
40	Ext.	32	100	63	4000	99.ST.8033	
40	Int./Ext.	32	100	63	4000	99.ST.8041	
40	Ext.	32	120	63	4000	99.ST.8034	
40	Int./Ext.	32	120	63	4000	99.ST.8042	
50	Ext.	40	110	100	4000	99.ST.8035	
50	Int./Ext.	40	110	100	4000	99.ST.8043	

ADJUSTABLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
20	Ext.	16	63	10	6000	99.ST.8085	POA
25	Ext.	16	55	10	5000	99.ST.8086	POA
30	Ext.	20	64	15	5000	99.ST.8087	POA
30	Int./Ext.	20	64	15	5000	99.ST.8091	POA
30	Ext.	20	97	15	5000	99.ST.8088	POA
30	Int./Ext.	20	97	15	5000	99.ST.8092	POA
40	Ext.	25	81	25	4000	99.ST.8089	POA
40	Int./Ext.	25	81	25	4000	99.ST.8093	POA
50	Ext.	40	123	50	4000	99.ST.8090	POA

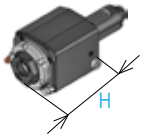
DIN 5480 (VDI) DRIVEN TOOLS

Driven Tool Holders For Sauter DIN 5480 Turrets

- DIN 5480 driven coupling for VDI turrets
- WTO QuickFlex ER output
- 12 month warranty

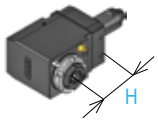


STRAIGHT



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	25	90	32	6000	420125010-30R	
30	Int./Ext.	25	93	32	6000	420125019-30R	POA
40	Ext.	32	106	63	6000	420132077-40R	
40	Int./Ext.	32	106	63	6000	420132078-40R	

RIGHT ANGLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	25	85	32	6000	420525066-30R	
30	Int./Ext.	25	85	32	6000	420525067-30R	POA
40	Ext.	32	70	63	6000	420532042-40R	
40	Int./Ext.	32	70	63	6000	420532043-40R	

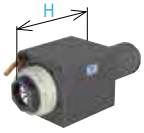
DIN 5482 (VDI) DRIVEN TOOLS

Driven Tool Holders For Sauter DIN 5482 Turrets

- DIN 5482 driven coupling for VDI turrets
- 2 year warranty

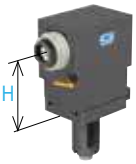


STRAIGHT



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	25	66	32	5000	99.ST.8202	
30	Ext.	25	94	32	5000	99.ST.8201	
30	Int./Ext.	25	94	32	5000	99.ST.8207	
40	Ext.	32	95	63	4000	99.ST.8204	
40	Int./Ext.	32	95	63	4000	99.ST.8209	
40	Ext.	32	115	63	4000	99.ST.8203	POA
40	Int./Ext.	32	115	63	4000	99.ST.8208	
50	Ext.	40	150	100	4000	99.ST.8205	
50	Int./Ext.	40	133	100	4000	99.ST.8210	
60	Ext.	50	220	160	3200	99.ST.8206	
60	Int./Ext.	50	228	160	3200	99.ST.8211	

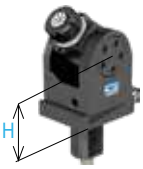
RIGHT ANGLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	25	55	32	5000	99.ST.8217S	
30	Int./Ext.	25	55	32	5000	99.ST.8220S	
30	Ext.	25	85	32	5000	99.ST.8218S	
30	Int./Ext.	25	85	32	5000	99.ST.8221S	
30	Ext.	25	100	32	5000	99.ST.8219S	
30	Int./Ext.	25	100	32	5000	99.ST.8222S	POA
40	Ext.	32	100	63	4000	99.ST.8223S	
40	Int./Ext.	32	100	63	4000	99.ST.8224S	
50	Ext.	40	110	100	4000	99.ST.8225S	
50	Int./Ext.	40	110	100	4000	99.ST.8226S	
60	Ext.	50	130	160	3200	99.ST.8227S	
60	Int./Ext.	50	130	160	3200	99.ST.8228S	

*Rotation direction opposite to machine spindle. Supplied as left hand orientation as standard, for right hand please request.

ADJUSTABLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	20	64	15	5000	99.ST.8248S	
30	Int./Ext.	20	64	15	5000	99.ST.8253S	
30	Ext.	20	97	15	5000	99.ST.8249S	
30	Int./Ext.	20	97	15	5000	99.ST.8254S	
40	Ext.	25	81	25	4000	99.ST.8250S	POA
40	Int./Ext.	25	81	25	4000	99.ST.8255S	
50	Ext.	40	123	50	4000	99.ST.8251S	
60	Ext.	40	123	50	4000	99.ST.8252S	

*Rotation direction opposite to machine spindle. Supplied as left hand orientation as standard, for right hand please request.

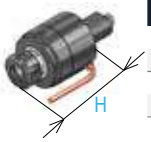
DIN 5482 (VDI) DRIVEN TOOLS

Driven Tool Holders For Sauter DIN 5482 Turrets

- DIN 5482 driven coupling for VDI turrets
- WTO QuickFlex ER output
- 12 month warranty

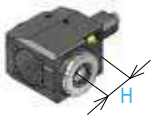


STRAIGHT



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	25	94	32	10000	410116015-30	
30	Int./Ext.	25	94	32	10000	410116016-30	POA
40	Ext.	32	106	70	6000	420132093-40	
40	Int./Ext.	32	106	70	6000	420132094-40	

RIGHT ANGLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	25	55	32	6000	410516037-30	
30	Int./Ext.	25	55	32	6000	410516097-30	POA
40	Ext.	32	70	63	6000	420532131-40R	
40	Int./Ext.	32	70	63	6000	420532132-40R	

DIN 1809 (VDI) DRIVEN TOOLS

Driven Tool Holders For Duplomatic DIN 1809 Turrets

- DIN 1809 tang coupling for VDI turrets
- 2 year warranty

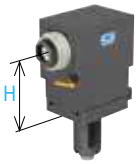


STRAIGHT



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
20	Ext.	20	65	13	6000	99.DP.0901	POA
20	Ext.	20	90	13	6000	99.DP.0902	
30	Ext.	25	66	32	5000	99.DP.0904	
30	Ext.	25	94	32	5000	99.DP.0903	
30	Int./Ext.	25	94	32	5000	99.DP.0910	
40	Ext.	32	95	63	4000	99.DP.0906	
40	Int./Ext.	32	95	63	4000	99.DP.0912	
40	Ext.	32	115	63	4000	99.DP.0905	
40	Int./Ext.	32	115	63	4000	99.DP.0911	
50	Ext.	40	88	100	4000	99.DP.0908	
50	Ext.	40	120	100	4000	99.DP.0907	
50	Int./Ext.	40	120	100	4000	99.DP.0913	
60	Ext.	50	170	160	3200	99.DP.0909	
60	Int./Ext.	50	170	160	3200	99.DP.0914	

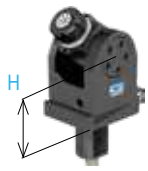
RIGHT ANGLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
20	Ext.	20	60	13	6000	99.DP.0918S	POA
30	Ext.	25	55	32	5000	99.DP.0919S	
30	Int./Ext.	25	55	32	5000	99.DP.0925S	
30	Ext.	25	85	32	5000	99.DP.0920S	
30	Int./Ext.	25	85	32	5000	99.DP.0926S	
30	Ext.	25	100	32	5000	99.DP.0921S	
30	Int./Ext.	25	100	32	5000	99.DP.0927S	
40	Ext.	32	100	63	4000	99.DP.0922S	
40	Int./Ext.	32	100	63	4000	99.DP.0928S	
50	Ext.	40	110	100	4000	99.DP.0923S	
50	Int./Ext.	40	110	100	4000	99.DP.0929S	
60	Ext.	50	130	160	3200	99.DP.0924S	
60	Int./Ext.	50	130	160	3200	99.DP.0930S	

*Rotation direction opposite to machine spindle. Supplied as left hand orientation as standard, for right hand please request.

ADJUSTABLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	20	64	15	5000	99.DP.0940	POA
30	Int./Ext.	20	64	15	5000	99.DP.0943	POA
30	Ext.	20	97	15	5000	99.DP.0941	POA
30	Int./Ext.	20	97	15	5000	99.DP.0944	POA
40	Ext.	25	81	25	4000	99.DP.0942	POA
40	Int./Ext.	25	81	25	4000	99.DP.0945	POA

*Rotation direction opposite to machine spindle. Supplied as left hand orientation as standard, for right hand please request.

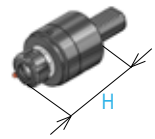
DIN 1809 (VDI) DRIVEN TOOLS

Driven Tool Holders For Duplomatic DIN 1809 Turrets

- DIN 1809 tang coupling for VDI turrets
- 12 month warranty

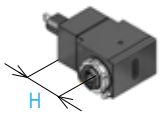


STRAIGHT



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	25	94	32	6000	410116065-30	POA
30	Int./Ext.	25	94	32	4000	410116083-30	
40	Ext.	32	88	63	6000	420132083-40	
40	Int./Ext.	32	88	63	6000	420132084-40	

RIGHT ANGLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
30	Ext.	25	100	32	6000	420525083-30	POA
30	Int./Ext.	25	100	32	6000	420525084-30	
40	Ext.	32	100	63	6000	420532136-40	
40	Int./Ext.	32	100	63	6000	420532137-40	

HAAS (VDI) DRIVEN TOOLS

Driven Tool Holders For Haas VDI & Hybrid Turrets

- DIN 1809 tang coupling for VDI turrets
- 2 year warranty



STRAIGHT



VDI	h1	Coolant	ER	H	Nm	RPM	Order Code	Price
40	117.5	Ext.	32	75	63	6000	99.HA.590082	POA
40	117.5	Int./Ext.	32	75	63	6000	99.HA.590082B	
40	104.8	Ext.	32	75	63	6000	99.HA.590083	
40	104.8	Int./Ext.	32	75	63	6000	99.HA.590083B	
40	130.25	Ext.	32	75	63	6000	99.HA.596352	
40	130.25	Int./Ext.	32	75	63	6000	99.HA.596352B	

RIGHT ANGLE



VDI	h1	Coolant	ER	H	Nm	RPM	Order Code	Price
40	117.5	Ext.	32	75	63	6000	99.HA.590084	POA
40	117.5	Int./Ext.	32	75	63	6000	99.HA.590084B	
40	104.8	Ext.	32	75	63	6000	99.HA.590085	
40	104.8	Int./Ext.	32	75	63	6000	99.HA.590085B	
40	130.25	Ext.	32	75	63	6000	99.HA.596353	
40	130.25	Int./Ext.	32	75	63	6000	99.HA.596353B	

ADJUSTABLE



VDI	h1	Coolant	ER	H	Nm	RPM	Order Code	Price
40	117.5	Ext.	25	81	25	5000	99.HA.00U2	POA
40	117.5	Int./Ext.	25	81	25	5000	99.HA.00U2B	
40	104.8	Ext.	25	81	25	6000	99.HA.00U1	
40	104.8	Int./Ext.	25	81	25	6000	99.HA.00U1B	
40	130.25	Ext.	25	81	25	6000	99.HA.00U3	
40	130.25	Int./Ext.	25	81	25	6000	99.HA.00U3B	

HAAS (VDI) DRIVEN TOOLS

Driven Tool Holders For Haas VDI & Hybrid Turrets

- DIN 1809 tang coupling for VDI turrets
- 12 month warranty

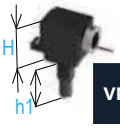


STRAIGHT



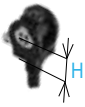
VDI	h1	Coolant	ER	H	Nm	RPM	Order Code	Price
40	117.5	Ext.	32	76.1	50	6000	114DA10441E6A-Z	POA
40	117.5	Int./Ext.	32	81.2	50	6000	114EA10441E6A-Z	
40	104.8	Ext.	32	76.1	50	6000	114DA09541E6A-Z	
40	104.8	Int./Ext.	32	81.2	50	6000	114EA09541E6A-Z	
40	130.25	Ext.	32	76.1	50	6000	114DA10941E6A-Z	
40	130.25	Int./Ext.	32	81.2	50	6000	114EA10941E6A-Z	

RIGHT ANGLE



VDI	h1	Coolant	ER	H	Nm	RPM	Order Code	Price
40	117.5	Ext.	32	65	70	6000	114FAX10449E6AL-Z	POA
40	117.5	Int./Ext.	32	65	70	6000	114GAX10449E6AL-Z	
40	104.8	Ext.	32	65	70	6000	114FAX09549E6AL-Z	
40	104.8	Int./Ext.	32	65	70	6000	114GAX09549E6AL-Z	
40	130.25	Ext.	32	65	70	6000	114FAX10949E6AL-Z	
40	130.25	Int./Ext.	32	65	70	6000	114GAX10949E6AL-Z	

ADJUSTABLE



VDI	h1	Coolant	ER	H	Nm	RPM	Order Code	Price
40	117.5	Ext.	25	72	32	6000	114FDX10449E5A-Z	POA
40	117.5	Int./Ext.	25	72	32	6000	114GDX10449E5A-Z	
40	104.8	Ext.	25	72	32	6000	114FDX09549ESA-Z	
40	104.8	Int./Ext.	25	72	32	6000	114GDX09549E5A-Z	
40	130.25	Ext.	25	72	32	6000	114FDX10949E5A-Z	
40	130.25	Int./Ext.	25	72	32	6000	114GDX10949E5A-Z	

NAKAMURA (BMT) DRIVEN TOOLS

- BMT44/55/65 driven tool holders for Nakamura CNC lathes

GERARDI NAKAMURA DRIVEN TOOLS

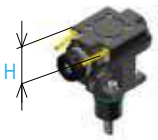
- Made in Italy
- 2 year warranty

STRAIGHT



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
44	Ext.	25	57.2	40	6000	99.NK.A40	POA
	Int./Ext.	25	57.2	40	6000	99.NK.A43	
55	Ext.	32	72.2	63	6000	99.NK.A03	
	Int./Ext.	32	72.2	63	6000	99.NK.A04	
65	Ext.	32	77.9	63	6000	99.NK.A51	
	Int./Ext.	32	77.9	63	6000	99.NK.A52	

RIGHT ANGLE



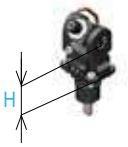
BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
44	Ext.	25	60	40	6000	99.NK.A50	POA
	Int./Ext.	25	60	40	6000	99.NK.A53	
	Ext.	25	75	40	6000	99.NK.A30	
	Int./Ext.	25	75	40	6000	99.NK.A33	
55	Ext.	32	55	63	6000	99.NK.A13	
	Int./Ext.	32	55	63	6000	99.NK.A14	
	Ext.	32	65	63	6000	99.NK.A23	
	Int./Ext.	32	65	63	6000	99.NK.A24	
	Ext.	32	75	65	6000	99.NK.A15	
	Int./Ext.	32	75	65	6000	99.NK.A16	
65	Ext.	32	65	63	6000	99.NK.A58	
	Int./Ext.	32	65	63	6000	99.NK.A62	
	Ext.	32	80	63	6000	99.NK.A12	
	Int./Ext.	32	80	63	6000	99.NK.A17	

RIGHT ANGLE DOUBLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
44	Ext.	25	60	40	6000	99.NK.A70	POA
	Ext.	25	75	40	6000	99.NK.A80	
55	Ext.	32	55	63	6000	99.NK.A71	
	Ext.	32	65	63	6000	99.NK.A81	
	Ext.	32	75	63	6000	99.NK.A91	
65	Ext.	32	65	63	6000	99.NK.A78	
	Ext..	32	80	63	6000	99.NK.A18	

ADJUSTABLE

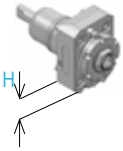


BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
44	Ext.	16	68.5	10	6000	99.NK.A59	POA
	Int./Ext.	16	68.5	10	6000	99.NK.A69	
55	Ext.	20	71	15	6000	99.NK.A22	
	Int./Ext.	20	71	15	6000	99.NK.A32	
65	Ext.	25	80	25	6000	99.NK.A82	
	Int./Ext.	25	80	25	6000	99.NK.A19	

WTO NAKAMURA DRIVEN TOOLS

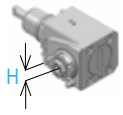
- Made in Germany
- QuickFlex ER quick change output (exc. adjustable)
- 12 months warranty

STRAIGHT



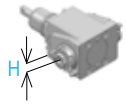
BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
44	Ext.	20	49.5	20	6000	420120010-44	POA
	Int./Ext.	20	49.5	20	6000	420120011-44	
	Ext.	20	49.5	20	8000	420120010-44-S	
	Int./Ext.	20	49.5	20	8000	420120011-44-S	
55	Ext.	25	53	50	6000	420125022-55	
	Int./Ext.	25	53	50	6000	420125023-55	
65	Ext.	32	58	80	4000	420132019-65	
	Int./Ext.	32	58	80	4000	420132020-65	

RIGHT ANGLE



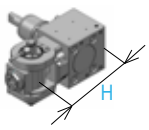
BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
44	Ext.	20	60	20	6000	420520010-44	POA
	Int./Ext.	20	60	20	6000	420520011-44	
	Ext.	20	60	20	8000	420520010-44-S	
	Int./Ext.	20	60	20	8000	420520011-44-S	
	Ext.	20	75	20	6000	420520015-44	
	Int./Ext.	20	75	20	6000	420520016-44	
55	Ext.	25	55	50	6000	420525087-55	
	Int./Ext.	25	55	50	6000	420525088-55	
	Ext.	25	65	65	6000	420525085-55	
	Int./Ext.	25	65	65	6000	420525086-55	
	Ext.	25	75	65	6000	420525093-55	
	Int./Ext.	25	75	65	6000	420525094-55	
65	Ext.	32	65	80	6000	420532025-65	
	Int./Ext.	32	65	80	6000	420532026-65	

RIGHT ANGLE DOUBLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
44	Ext.	20	60	20	8000	420520012-44	POA
	Ext.	20	75	20	8000	420520019-44	
55	Ext.	25	55	32	6000	420525069-55	
	Ext.	25	65	32	6000	420525077-55	
	Ext.	25	75	32	6000	420525080-55	
65	Ext.	32	65	63	6000	420532043-65	

ADJUSTABLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
44	Ext.	16	78	16	6000	411010004-44	POA
	Int./Ext.	16	78	16	6000	411010005-44	
55	Ext.	16	46	16	6000	411010001-55	
	Int./Ext.	16	46	16	6000	411010002-55	
65	Ext.	16	65	16	6000	411010000-65	
	Int./Ext.	16	65	16	6000	411010001-65	

NAKAMURA (BMT) STATIC TOOLS

- BMT44/55/65 static tool holders for Nakamura CNC lathes

OD TURNING TOOL HOLDERS NAKAMURA (BMT) TURRETS

SINGLE

- Single clamping for square shank tools
- HP internal and external coolant



WTO

BMT	Clamping Capacity	Order Code	Price
44	20	48-101470	£290.18
55	20	48-108585	£301.99
55	25	48-106720-HP	£305.46
65	25	48-107657-HP	£397.85

COMBINATION HOLDERS NAKAMURA (BMT) TURRETS

SINGLE

- Single clamping for round shank tools
- Through coolant



WTO

BMT	Centre Height	Clamping Capacity	Order Code	Price
44	75	25	48-101472	£362.40
44	92.5	25	48-106613	£434.62
44	65	32	48-107155	£495.01
55	75	25	48-107842	£362.40
55	75	32	48-106727	£374.21
65	90	40	48-107659	£428.04

OD TURNING TOOL HOLDERS NAKAMURA (BMT) TURRETS

DOUBLE Y-AXIS

- Double clamping for square shank tools
- Y-axis lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
44	20 x 2	48-101473	£470.07

COMBINATION HOLDERS NAKAMURA (BMT) TURRETS

DOUBLE

- Double clamping for round shank tools (e.g. boring bars)



WTO

BMT	Clamping Capacity	Order Code	Price
55	25 x 2	48-108792	£476.62

OD TURNING TOOL HOLDERS NAKAMURA (BMT) TURRETS

DOUBLE SIDED

- Double clamping for square shank tools
- Sub-spindle lathes only
- HP internal and external coolant



WTO

BMT	Clamping Capacity	Order Code	Price
44	20 x 2	48-101471	£362.40
55	20 x 2	48-108460	£374.21
65	25 x 2	48-114828-HP	£690.00

COMBINATION HOLDERS NAKAMURA (BMT) TURRETS

DOUBLE Y-AXIS

- Double clamping for round shank tools (e.g. boring bars)
- Y-axis lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
44	25 x 2	48-101474	£614.51

OD TURNING TOOL HOLDERS NAKAMURA (BMT) TURRETS

24 STATION QUAD

- Double clamping for square shank tools
- Sub-spindle lathes only



WTO

BMT	Clamping Capacity	Turret	Order Code	Price
44	20 x 4	300	48-107973	£520.15
44	20 x 4	370	48-108104	£521.92
44	20 x 4	390	48-114360	£720.00
55	20 x 4	340	48-108461	£597.42
55	20 x 4	375	48-108786	£597.42
55	20 x 4	380	48-117414	£720.00

COMBINATION HOLDERS NAKAMURA (BMT) TURRETS

24 STATION DOUBLE/ QUAD

- Double clamping for round shank tools (e.g. boring bars)
- BMT44 single sided, BMT55 double sided



WTO

BMT	Clamping Capacity	Turret	Order Code	Price
44	25 x 2	300	48-107985	£572.17
44	25 x 2	370	48-108103	£597.42
44	25 x 2	390	48-114362	£650.00
55	25 x 4	340	48-108462	£644.70
55	25 x 4	375	48-117415	£650.00
55	25 x 4	380	48-108794	£597.42

FACE TURNING TOOL HOLDERS NAKAMURA (BMT) TURRETS

- Double clamping for square shank tools
- Axial/straight approach

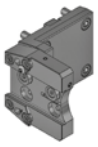


WTO

BMT	Clamping Capacity	Order Code	Price
44	20	48-102352	£278.37
55	20	48-108590	£278.37
65	25	48-113236-HP	£374.21

PARTING BLADE HOLDERS NAKAMURA (BMT) TURRETS

- For 26/32mm parting off blades
- Adjustable



WTO

BMT	Clamping Capacity	Order Code	Price
44	26	48-100419	£490.10
55	32	48-110366	£651.26
65	32	48-100204	£687.99

MAZAK (BMT68) DRIVEN TOOLS

- BMT68 driven tool holders for Mazak Quick Turn Smart / Compact with bolt-on turret

GERARDI MAZAK DRIVEN TOOLS

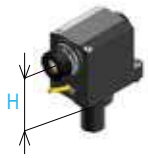
- Made in Italy
- 2 year warranty

STRAIGHT OFFSET



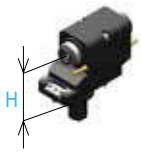
BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	32	70	60	6000	99.MZ.A03	POA
	Int./Ext.	32	70	60	6000	99.MZ.A06	

RIGHT ANGLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	32	80	60	6000	99.MZ.A09	POA
	Int./Ext.	32	80	60	6000	99.MZ.A10	

RIGHT ANGLE DOUBLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	32	85	60	6000	99.MZ.A13	POA

ADJUSTABLE*

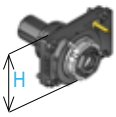


BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	25	80	30	6000	99.MZ.A14	POA
	Int./Ext.	25	80	30	6000	99.MZ.A15	

WTO MAZAK BMT DRIVEN TOOLS

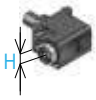
- Made in Germany
- QuickFlex ER quick change output (exc. adjustable)
- 12 months warranty

STRAIGHT OFFSET



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	32	65	80	6000	QF32-DNE-MZ68B-057-E-A	POA
	Int./Ext.	32	69	80	6000	QF32-DNE-MZ68B-061-I-A	
	Ext.	32	60	80	10000	420132016-68	
	Int./Ext.	32	69	80	10000	QF32-DNE-MZ68B-061-I-HS-A	

RIGHT ANGLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	32	80	80	6000	QF32-DNI-MZ68B-080-E-A	POA
	Int./Ext.	32	80	80	6000	QF32-DNI-MZ68B-080-I-A	
	Ext.	32	80	80	10000	QF32-DNI-MZ68B-080-E-HS-A	
	Int./Ext.	32	80	80	10000	QF32-DNI-MZ68B-080-I-HS-A	

RIGHT ANGLE SUB-SPINDLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	32	85	80	6000	420532024-68	POA
	Int./Ext.	32	85	80	6000	420532025-68	
	Ext.	32	85	80	12000	420532022-68	
	Int./Ext.	32	85	80	12000	420532023-68	

RIGHT ANGLE DOUBLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	32	85	80	6000	420532026-68	POA
	Ext.	32	85	80	12000	420532019-68	

ADJUSTABLE*



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
68	Ext.	16	58	16	6000	411010002-68	POA
	Int./Ext.	16	58	16	6000	411010003-68	

MAZAK BMT68 STATIC TOOLS

- BMT68 static tool holders for Mazak Quick Turn Smart / Compact with bolt-on turret

OD TURNING TOOLHOLDERS MAZAK BMT TURRETS

SINGLE

- OD cutting holder internal and external coolant
- For square shank tools



WTO

BMT	Clamping Capacity	Order Code	Price
68	20	48-107026-HP	£436.61
	25	48-91361-HP	£457.47

COMBINATION HOLDERS MAZAK BMT TURRETS

SINGLE

- Single clamping for round shank tools (e.g. boring bars, indexable drills)
- Through coolant



WTO

BMT	Clamping Capacity	Order Code	Price
68	40	48-107211	£444.21

OD TURNING TOOLHOLDERS MAZAK BMT TURRETS

DOUBLE Y-AXIS

- Double clamping for square shank tools
- Y-axis lathes only



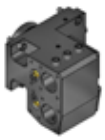
WTO

BMT	Clamping Capacity	Order Code	Price
68	20 x 2	48-106582	£432.68

COMBINATION HOLDERS MAZAK BMT TURRETS

DOUBLE Y-AXIS

- Double clamping for round shank tools (e.g. boring bars, indexable drills)
- Y-axis lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
68	32 x 2	48-106578	£756.69

OD TURNING TOOLHOLDERS MAZAK BMT TURRETS

DOUBLE SIDED

- Double clamping for square shank tools
- Through coolant
- Sub-spindle lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
68	25 x 2	48-106347-HP	£498.21

COMBINATION HOLDERS MAZAK BMT TURRETS

DOUBLE SIDED

- Double clamping for round shank tools (e.g. boring bars, indexable drills)
- Sub-spindle lathes only
- Through coolant



WTO

BMT	Clamping Capacity	Order Code	Price
68	40 x 2	48-106346	£578.55

OD TURNING TOOLHOLDERS MAZAK BMT TURRETS

DOUBLE Y-AXIS DOUBLE SIDED

- Quad clamping for square shank tools
- Sub-spindle y-axis lathes only



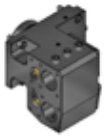
WTO

BMT	Clamping Capacity	Order Code	Price
68	20 x 4	48-106575	£626.80

COMBINATION HOLDERS MAZAK BMT TURRETS

DOUBLE Y-AXIS DOUBLE SIDED

- Double clamping for round shank tools (e.g. boring bars, indexable drills)
- Sub-spindle Y-axis lathes only
- Through coolant



WTO

BMT	Clamping Capacity	Order Code	Price
68	32 x 4	48-106584	£792.84

FACE TURNING TOOLHOLDERS MAZAK BMT TURRETS

- Single clamping for square shank tools
- Axial/straight approach



WTO

BMT	Clamping Capacity	Order Code	Price
68	25	48-91363	£401.79

PARTING BLADE HOLDERS MAZAK BMT TURRETS

- For 32mm parting off blades
- Adjustable



WTO

BMT	Clamping Capacity	Order Code	Price
68	32	48-112064	£669.40

MAZAK (VDI) DRIVEN TOOLS

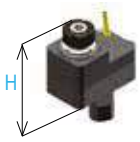
- VDI40/50 driven tool holders for Mazak Quick Turn Nexus / Super Quick Turn / Hyper Quadrex

GERARDI MAZAK VDI DRIVEN TOOLS

- Made in Italy
- 2 year warranty

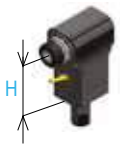
QTN1: Quick Turn Nexus 100/150
QTN2: Quick Turn Nexus 200/250
QTN3: Quick Turn Nexus 300/350/400/450
HQ: Hyper Quadrex 200/250

STRAIGHT OFFSET



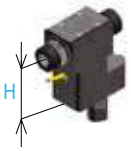
VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
40 QTN1	Ext.	25	116	50	6000	99.MZ.A40	POA
	Int./Ext.	25	116	50	6000	99.MZ.A41	
40 QTN2	Ext.	32	116	80	6000	99.MZ.A58	
	Int./Ext.	32	116	80	6000	99.MZ.A59	
50 QTN3	Ext.	40	145	100	4000	99.MZ.A71	
	Int./Ext.	40	145	100	4000	99.MZ.A72	
40 HQ	Ext.	25	116	50	6000	99.MZ.A30	
	Int./Ext.	25	116	50	6000	99.MZ.A31	

RIGHT ANGLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
40 QTN1	Ext.	25	100	50	6000	99.MZ.A46	POA
	Int./Ext.	25	100	50	6000	99.MZ.A47	
40 QTN2	Ext.	32	130	80	6000	99.MZ.A65	
	Int./Ext.	32	130	80	6000	99.MZ.A66	
50 QTN3	Ext.	40	160	100	4000	99.MZ.A75	
	Int./Ext.	40	160	100	4000	99.MZ.A81	
40 HQ	Ext.	25	115	50	6000	99.MZ.A36	
	Int./Ext.	25	115	50	6000	99.MZ.A37	

RIGHT ANGLE DOUBLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
40 QTN1	Ext.	25	100	50	6000	99.MZ.A55	POA
40 QTN2	Ext.	32	130	80	6000	99.MZ.A70	
50 QTN3	Ext.	40	160	100	4000	99.MZ.A84	
40 HQ	Ext.	25	115	50	6000	99.MZ.A35	

ADJUSTABLE



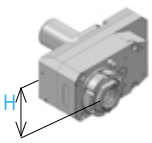
VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
40 QTN1	Ext.	20	85	63	6000	99.MZ.A56	POA
	Int./Ext.	-	-	-	-	-	
40 QTN2	Ext.	25	85	80	6000	99.MZ.A74	
	Int./Ext.	25	85	80	6000	99.MZ.A64	
50 QTN3	Ext.	32	85	100	4000	99.MZ.A80	
	Int./Ext.	-	-	-	-	-	
40 HQ	Ext.	20	65	15	6000	99.MZ.A38	
	Int./Ext.	-	-	-	-	-	

WTO MAZAK VDI DRIVEN TOOLS

- Made in Germany
- QuickFlex one handed wrench set sold separately
- 12 months warranty

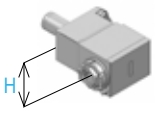
QTN1: Quick Turn Nexus 100/150
QTN2: Quick Turn Nexus 200/250
QTN3: Quick Turn Nexus 300/350/400/450
HQ: Hyper Quadrex 200/250

STRAIGHT OFFSET



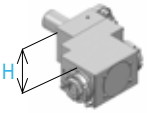
VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
40 QTN1	Ext.	32	99	63	6000	420132028-40	POA
	Int./Ext.	32	99	63	6000	420132029-40	
40 QTN2	Ext.	32	99	63	6000	420132020-40	
	Int./Ext.	32	99	63	6000	420132021-40	
50 QTN3	Ext.	40	113	100	6000	420140016-50	
	Int./Ext.	40	113	100	6000	420140017-50	
40 HQ	Ext.	40	99	63	6000	420132032-40	
	Int./Ext.	40	99	63	6000	420132033-40	

RIGHT ANGLE



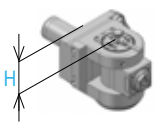
VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
40 QTN1	Ext.	32	100	63	6000	420532066-40	POA
	Int./Ext.	32	100	63	6000	420532067-40	
40 QTN2	Ext.	32	130	63	6000	420532049-40	
	Int./Ext.	32	130	63	6000	420532050-40	
50 QTN3	Ext.	32	160	100	6000	410526078-50	
	Int./Ext.	32	160	100	6000	410526063-50	
40 HQ	Ext.	32	130	63	6000	420532076-40	
	Int./Ext.	32	130	63	6000	420532077-40	

RIGHT ANGLE DOUBLE



VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
40 QTN1	Ext.	32	100	63	6000	420532070-40	POA
40 QTN2	Ext.	32	130	63	6000	420532053-40	
40 HQ	Ext.	32	130	63	6000	420532156-40	

ADJUSTABLE



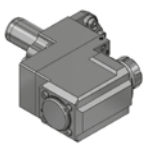
VDI	Coolant	ER	H	Nm	RPM	Order Code	Price
40 QTN1	Ext.	16	65	16	6000	411010005-40	POA
	Int./Ext.	16	65	16	6000	411010053-40	
40 QTN2	Ext.	20	85	20	5000	411013012-40	
	Int./Ext.	20	85	20	5000	411013025-40	
50 QTN3	Ext.	32	70	50	5000	421032010-50	
	Int./Ext.	32	70	50	5000	421032011-50	
40 HQ	Ext.	25	85	20	5000	411016005-40	
	Int./Ext.	25	85	20	5000	411016023-40	

OTHER MAZAK DRIVEN TOOLS AVAILABLE

RADIAL DUO



RADIAL SUB SPINDLE



GEAR HOBBING



AXIAL DUO



BROACHING



POWER SKIVING



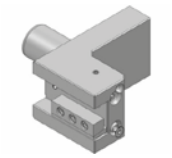
MAZAK (VDI) STATIC TOOLS

- VDI40/50 static tool holders for Mazak Quick Turn Nexus / Super Quick Turn / Hyper Quadrex

QTN1: Quick Turn Nexus 100/150
QTN2: Quick Turn Nexus 200/250
QTN3: Quick Turn Nexus 300/350/400/450
HQ: Hyper Quadrex 200/250

OD TURNING TOOL HOLDERS MAZAK VDI TURRETS

- Single clamping for square shank tools



SINGLE

- Double clamping for square shank tools
- Y-axis lathes only



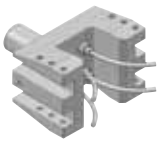
DOUBLE Y-AXIS

- Double clamping for square shank tools
- Sub-spindle lathes only



DOUBLE SIDED

- Quad clamping for square shank tools
- Sub-spindle y-axis lathes only



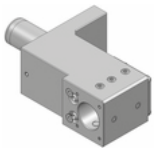
DOUBLE Y-AXIS DOUBLE SIDED

WTO

VDI	Clamping Capacity	Order Code	Price
Single			
40 (QTN1)	20	48-82510-HP	**£403.07**
40 (QTN2)	25	48-82507-HP	**£428.91**
50 (QTN3)	32	48-81921	**£635.61**
40 (HQ)	25	48-81926-HP	**£384.66**
Double Y-Axis			
40 (QTN1)	20 x 2	48-84958	**£480.58**
40 (QTN2)	25 x 2	48-84944	**£479.54**
50 (QTN3)	32 x 2	48-85286	**£831.97**
40 (HQ)	25 x 2	48-88032	**£495.01**
Double Sided			
40 (QTN1)	20 x 2	48-82511-HP	**£542.79**
40 (QTN2)	25 x 2	48-82508-HP	**£531.69**
40 (HQ)	25 x 2	48-89299-HP	**£621.42**
Double Y-Axis Double Sided			
40 (QTN1)	20 x 4	48-84959	**£630.44**
40 (QTN2)	25 x 4	48-84945	**£629.06**
40 (HQ)	25 x 4	48-87706	**£663.06**

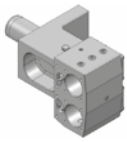
COMBINATION HOLDERS MAZAK VDI TURRETS

- Single clamping for round shank tools (e.g. boring bars, ind.drills)
- Through coolant



SINGLE

- Double clamping for round shank tools (e.g. boring bars, ind.drills)
- Y-axis lathes only



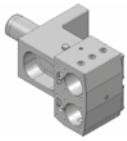
DOUBLE Y-AXIS

- Double clamping for round shank tools (e.g. boring bars, ind.drills)
- Sub-spindle lathes only
- Through coolant



DOUBLE SIDED

- Double clamping for round shank tools (e.g. boring bars, ind.drills)
- Sub-spindle Y-axis lathes only
- Through coolant



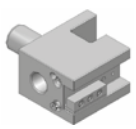
DOUBLE Y-AXIS DOUBLE SIDED

WTO

VDI	Clamping Capacity	Order Code	Price
Single			
40 (QTN1)	32	48-82367	**£372.07**
40 (QTN2)	40	48-82363	**£381.56**
50 (QTN3)	50	48-81924	**£585.98**
40 (HQ)	40	48-81930	**£351.64**
Double Y-Axis			
40 (QTN1)	32 x 2	48-84960	**£729.33**
40 (QTN2)	40 x 2	48-84946	**£639.45**
50 (QTN3)	40 x 2	48-85287	**£1,032.77**
Double Sided			
40 (QTN1)	32 x 2	48-82849	**£428.91**
40 (QTN2)	40 x 2	48-82848	**£447.64**
40 (HQ)	40 x 2	48-106919	**£476.62**
Double Y-Axis Double Sided			
40 (QTN2)	32 x 4	48-84948	**£793.20**
40 (HQ)	40 x 4	48-87698	**£741.86**

FACE TURNING TOOLHOLDERS MAZAK VDI TURRETS

- Single clamping for square shank tools
- Axial/straight approach



WTO

VDI	Clamping Capacity	Order Code	Price
40 (QTN1)	20	48-84000	**£392.72**
40 (QTN2)	25	48-83885	**£420.29**
50 (QTN3)	32	48-81923	**£592.30**
40 (HQ)	25	48-84006	**£406.84**

PARTING BLADE HOLDERS MAZAK VDI TURRETS

- For 32mm parting off blades
- Adjustable



WTO

VDI	Clamping Capacity	Order Code	Price
40 (QTN1)	32	48-99064	**£676.09**
40 (QTN2)	32	48-99067	**£663.13**
50 (QTN3)	32	48-100356	**£843.32**
40 (HQ)	32	48-99062	**£756.69**

BMT DRIVEN TOOLS

- BMT45-85 bolt-on tool holders for DN Solutions, Doosan, SMEC, Hardinge, Hydundai-Wia, Haas, Victor

GERARDI BMT DRIVEN TOOLS

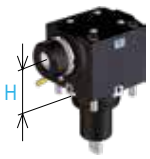
- Made in Italy
- 2 year warranty

STRAIGHT



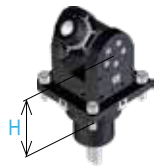
BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
45	Ext.	25	57.2	35	8000	99.DS.A03	POA
	Int./Ext.	25	57.2	35	8000	99.DS.A04	
55	Ext.	25	57.2	40	8000	99.DS.A01	
	Int./Ext.	25	57.2	40	8000	99.DS.A02	
65	Ext.	32	72.2	70	6000	99.DS.A41	
	Int./Ext.	32	72.2	70	6000	99.DS.A42	
75	Ext.	40	90.2	100	6000	99.DS.A34	
	Int./Ext.	40	90.2	100	6000	99.DS.A35	
85	Ext.	50	112	150	3200	99.DS.A90	
	Int./Ext.	50	112	150	3200	99.DS.A50	

RIGHT ANGLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
45	Ext.	25	65	35	8000	99.DS.A07C	POA
	Int./Ext.	25	65	35	8000	99.DS.A08C	
	Ext.	25	85	35	8000	99.DS.A97C	
	Int./Ext.	25	85	35	8000	99.DS.A67C	
	Ext.	25	100	35	8000	99.DS.A98C	
	Int./Ext.	25	100	35	8000	99.DS.A68C	
55	Ext.	25	70	40	8000	99.DS.A11C	
	Int./Ext.	25	70	40	8000	99.DS.A12C	
	Ext.	25	85	40	8000	99.DS.A69C	
	Int./Ext.	25	85	40	8000	99.DS.A70C	
	Ext.	25	100	40	8000	99.DS.A81C	
	Int./Ext.	25	100	40	8000	99.DS.A82C	
65	Ext.	32	72	70	6000	99.DS.A51C	
	Int./Ext.	32	72	70	6000	99.DS.A52C	
	Ext.	32	100	70	6000	99.DS.A73C	
	Int./Ext.	32	100	70	6000	99.DS.A74C	
75	Ext.	40	60	100	6000	99.DS.A38C	
	Int./Ext.	40	60	100	6000	99.DS.A39C	
	Ext.	40	110	100	6000	99.DS.A85C	
	Int./Ext.	40	110	100	6000	99.DS.A86C	
85	Ext.	50	85	150	3200	99.DS.A77C	
	Int./Ext.	50	85	150	3200	99.DS.A56C	

ADJUSTABLE

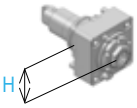


BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
45	Ext.	20	65	15	8000	99.DS.A16	POA
	Int./Ext.	20	65	15	8000	99.DS.A17	
55*	Ext.	20	65	15	8000	99.DS.A23	
	Int./Ext.	20	65	15	8000	99.DS.A66	
65*	Ext.	25	75	25	6000	99.DS.A64	
	Int./Ext.	25	75	25	6000	99.DS.A65	
75	Ext.	25	75	25	6000	99.DS.A47	
	Int./Ext.	25	75	25	6000	99.DS.A48	
85	Ext.	32	167.5	50	4000	99.DS.A60	
	Int./Ext.	32	167.5	50	4000	99.DS.A61	

WTO BMT DRIVEN TOOLS

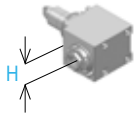
- Made in Germany
- QuickFlex one handed wrench set sold separately
- 12 month warranty

STRAIGHT



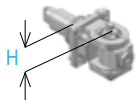
BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
45	Ext.	25	55	35	6000	420125015-45	POA
	Int./Ext.	25	58	35	6000	420125016-45	
55	Ext.	25	57	50	6000	420125015-55	
	Int./Ext.	25	57	50	6000	420125016-55	
65	Ext.	32	66	80	6000	420132015-65	
	Int./Ext.	32	66	80	6000	420132016-65	
75	Ext.	40	79	150	4000	420140015-75	
	Int./Ext.	40	79	150	4000	420140016-75	
85	Ext.	50	107	210	3000	420150015-85	
	Int./Ext.	50	107	210	3000	420150016-85	

RIGHT ANGLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
45	Ext.	25	65	35	6000	420525015-45	POA
	Int./Ext.	25	65	35	6000	420525016-45	
	Ext.	25	80	35	6000	420525052-45	
	Int./Ext.	25	80	35	6000	420525053-45	
	Ext.	25	85	35	6000	420525056-45	
	Int./Ext.	25	85	35	6000	420525057-45	
55	Ext.	25	60	50	6000	420525021-55	
	Int./Ext.	25	60	50	6000	420525022-55	
	Ext.	25	70	50	6000	420525015-55	
	Int./Ext.	25	70	50	6000	420525016-55	
	Ext.	25	85	50	6000	420525018-55	
	Int./Ext.	25	85	50	6000	420525019-55	
	Int./Ext.	25	100	50	10000	420525114-55	
65	Ext.	32	72	80	6000	420532015-65	
	Int./Ext.	32	72	80	6000	420532016-65	
	Ext.	32	100	80	5000	420532018-65	
	Int./Ext.	32	100	80	5000	420532019-65	
75	Ext.	40	60	150	4000	420540015-75	
	Int./Ext.	40	60	150	4000	420540016-75	
	Ext.	40	90	150	4000	420540017-75	
	Int./Ext.	40	90	150	4000	420540018-75	
	Ext.	40	110	150	4000	420540019-75	
	Int./Ext.	40	110	150	4000	420540020-75	
85	Ext.	50	85	210	3000	420550015-85	
	Int./Ext.	50	85	210	3000	420550016-85	

ADJUSTABLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
45	Ext.	16	46	16	6000	411010008-45	POA
	Int./Ext.	16	46	16	6000	411010009-45	
55*	Ext.	16	55	16	6000	411010005-55	
	Int./Ext.	16	55	16	6000	411010006-55	
65*	Ext.	16	65	16	6000	411010002-65	
	Int./Ext.	16	65	16	6000	411010003-65	
75	Ext.	25	70	20	5000	411016000-75	
	Int./Ext.	25	70	20	5000	411016001-75	
85	Ext.	32	85	40	4000	421032010-85	
	Int./Ext.	32	85	40	4000	421032011-85	

OTHER BMT DRIVEN TOOLS AVAILABLE

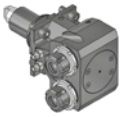
OFFSET



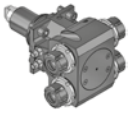
RADIAL DOUBLE



RADIAL DUO



RADIAL QUAD



GEAR HOBBING



AXIAL DUO



BROACHING



BMT STATIC TOOLS

- BMT45-85 bolt-on tool holders for DN Solutions, Doosan, SMEC, Hardinge, Hydundai-Wia, Haas, Victor

OD TURNING TOOLHOLDERS BMT TURRETS

SINGLE

- Single clamping for square shank tools



WTO

BMT	Clamping Capacity	Order Code	Price
45	20	48-95083	£338.86
55	25	48-87097	£333.96
65	25	48-92428	£320.26
75	25	48-96421	£590.63
85	32	48-108935	£602.67

FACE TURNING TOOLHOLDERS BMT TURRETS

- Double clamping for square shank tools
- Axial/straight approach



WTO

BMT	Clamping Capacity	Order Code	Price
45	20	48-109148	£308.15
65	25	48-86719	£317.19
75	25	48-96355	£479.48
85	32	48-95669	£302.45

OD TURNING TOOLHOLDERS BMT TURRETS

DOUBLE Y-AXIS

- Double clamping for square shank tools
- Y-axis lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
55	25 x 2	48-87140	£406.44
65	25 x 2	48-86103	£436.98
75	25 x 2	48-112317	£715.03

COMBINATION HOLDERS BMT TURRETS

SINGLE

- Single clamping for round shank tools (e.g. boring bars, ind.drills)
- Through coolant



WTO

BMT	Centre Height	Clamping Capacity	Order Code	Price
45	65	40	48-95090	£405.81
45	85	32	48-95998	£378.43
55	70	32	48-106897	£431.25
55	70	40	48-87103	£405.81
55	100	32	48-92043	£431.25
55	100	40	48-103474	£400.44
65	72	40	48-84375	£391.43
65	72	50	48-107499	£443.04
65	100	40	48-92397	£375.57
65	100	50	48-92467	£448.65
65	115	40	48-86623	£448.65
75	60	60	48-96759	£616.19
75	90	60	48-104448	£664.29
75	110	60	48-96777	£688.38
85	85	80	48-95671	£762.05
85	110	60	48-110565	£847.84
85	130	80	48-108939	£830.33

OD TURNING TOOLHOLDERS BMT TURRETS

24 STATION/ HALF INDEX

- Double clamping for square shank tools
- Half index 24 station lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
45	20 x 2	48-95088	£474.11
55	20 x 2	48-92069	£486.15
65	20 x 2	48-92089	£444.60

OD TURNING TOOLHOLDERS BMT TURRETS

DOUBLE SIDED

- Double clamping for square shank tools
- Sub-spindle lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
45	20 x 2	48-95085	£394.97
55	25 x 2	48-87099	£417.72
65	25 x 2	48-92438	£474.11

BORING BAR HOLDERS BMT TURRETS

DOUBLE

- Double clamping for round shank tools (e.g. boring bars)



WTO

BMT	Clamping Capacity	Order Code	Price
45	32 x 2	48-95093	£522.30
55	32 x 2	48-87149	£510.27
65	32 x 2	48-84524	£446.08

OD TURNING TOOLHOLDERS BMT TURRETS

QUAD

- Quad clamping for square shank tools
- Sub-spindle Y-axis lathes only

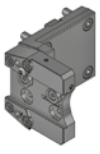


WTO

BMT	Clamping Capacity	Order Code	Price
45	20 x 4	48-110811	£609.38
55	25 x 4	48-87141	£609.38
65	25 x 4	48-86150	£626.80

PARTING BLADE HOLDERS BMT TURRETS

- For 26/32mm parting off blades
- Adjustable



WTO

BMT	Clamping Capacity	Order Code	Price
45	26	48-94968	
55	32	48-103287	£664.29
65	32	48-99060	

DMG MORI DRIVEN TOOLS

- BMT40-60 bolt-on toolholders for NLX / NZX / NTX series lathes

GERARDI BMT DRIVEN TOOLS

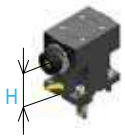
- Made in Italy
- 2 year warranty

STRAIGHT



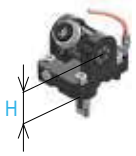
BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
40	Ext.	25	80.6	50	12000	99.MS.A101	POA
	Int./Ext.	25	80.6	50	12000	99.MS.A102	
	Ext.	32	85.5	50	12000	99.MS.A103	
	Int./Ext.	32	85.5	50	12000	99.MS.A104	
60	Ext.	32	86	60	10000	99.MS.A59	
	Int./Ext.	32	86	60	10000	99.MS.A60	
	Ext.	40	88	60	10000	99.MS.A62	
	Int./Ext.	40	88	60	10000	99.MS.A63	

RIGHT ANGLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
40	Ext.	25	85	50	12000	99.MS.A106	POA
	Int./Ext.	25	85	50	12000	99.MS.A107	
	Ext.	32	85	50	12000	99.MS.A108	
	Int./Ext.	32	85	50	12000	99.MS.A109	
60	Ext.	32	90	60	10000	99.MS.A72	
	Int./Ext.	32	90	60	10000	99.MS.A73	
	Ext.	40	90	60	10000	99.MS.A76	
	Int./Ext.	40	90	60	10000	99.MS.A77	

ADJUSTABLE

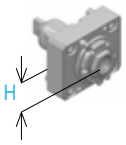


BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
40	Ext.	20	50	17	12000	99.MS.A118	POA
	Int./Ext.	20	50	17	12000	99.MS.A119	
60	Ext.	25	78	25	10000	99.MS.A86	
	Int./Ext.	25	78	25	10000	99.MS.A87	

WTO BMT DRIVEN TOOLS

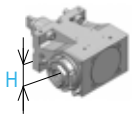
- Made in Germany
- QuickFlex ER quick change output
- 12 months warranty

STRAIGHT



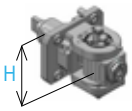
BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
40	Ext.	25	51	40	12000	420125012-40	POA
	Int./Ext.	25	66	40	12000	420125013-40	
	Ext.	32	58	40	12000	420132010-40	
	Int./Ext.	32	75	40	12000	420132011-40	
60	Ext.	32	80	80	12000	420132010-60	
	Int./Ext.	32	80	80	12000	420132011-60	
	Ext.	40	76	100	6000	420140010-60	
	Int./Ext.	40	76	100	6000	420140011-60	

RIGHT ANGLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
40	Ext.	25	85	40	12000	420525013-40	POA
	Int./Ext.	25	85	40	12000	420525014-40	
	Ext.	32	85	63	12000	420532010-40	
	Int./Ext.	32	85	63	12000	420532011-40	
60	Ext.	32	90	80	12000	420532010-60	
	Int./Ext.	32	90	80	12000	420532011-60	
	Ext.	40	90	100	6000	420540012-60	
	Int./Ext.	40	90	100	6000	420540013-60	

ADJUSTABLE



BMT	Coolant	ER	H	Nm	RPM	Order Code	Price
40	Ext.	16	58	16	6000	411010008-40	POA
	Int./Ext.	16	58	16	6000	411010009-40	
60	Ext.	20	70	20	6000	411013009-60	
	Int./Ext.	20	70	20	6000	411013010-60	

OTHER DMG MORI (BMT40/60) DRIVEN TOOLS AVAILABLE

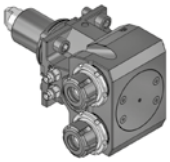
OFFSET



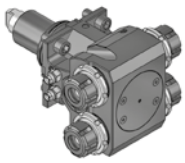
RADIAL DOUBLE



RADIAL DUO



RADIAL QUAD



GEAR HOBBING



8 SPINDLE



SLITTING SAW UNIT



POWER SKIVING



AXIAL DUO



BROACHING



DMG MORI STATIC TOOLS

- BMT40-60 bolt-on toolholders for NLX / NZX / NTX series lathes

OD TURNING TOOLHOLDERS DMG (BMT40/60) TURRETS

SINGLE

- Single clamping for square shank tools



WTO

BMT	Clamping Capacity	Coolant	Order Code	Price
40	20	External	48-T00224	£370.50
40	20	Internal	48-T00224-HP	£434.62
60	20	External	48-T00187	£337.51
60	25	External	48-T00186	£370.50
60	25	Internal	48-T00186-HP	£434.62

COMBINATION HOLDERS DMG (BMT40/60) TURRETS

SINGLE

- Single clamping for round shank tools (e.g. boring bars, ind.drills)
- Through coolant



*for use with sub spindle

WTO

BMT	Centre Height	Clamping Capacity	Order Code	Price
40	100	32	48-T13132	£369.27
40	90	40	48-77999	£400.16
40	145	32	48-T10260*	£681.03
60	80	40	48-T13128	£418.60
60	80	50	48-T13139	£446.42
60	120	40	48-T13131	£476.62
60	120	50	48-77902	£500.26

OD TURNING TOOLHOLDERS DMG (BMT40/60) TURRETS

DOUBLE Y-AXIS

- Double clamping for square shank tools
- Y-axis lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
60	25 x 2	48-71865	£470.07

BORING BAR HOLDERS DMG (BMT40/60) TURRETS

SINGLE

- Double clamping for round shank tools (e.g. boring bars)



WTO

BMT	Centre Height	Clamping Capacity	Order Code	Price
40	100	32	48-T10115	£397.85
40	145	32	48-T10260	£668.06
60	80	40	48-T10097	£399.46
60	80	50	48-T10098	£422.62
60	120	40	48-T10113	£452.98
60	120	50	48-T10114	£470.07

OD TURNING TOOLHOLDERS BMT TURRETS

DOUBLE SIDED

- Double clamping for square shank tools
- Sub-spindle lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
40	20 x 2	48-T00228	£470.07
60	25 x 2	48-T00184	£397.09

FACE TURNING TOOL HOLDERS DMG (BMT40/60) TURRETS

- Double clamping for square shank tools
- Axial/straight approach



WTO

BMT	Clamping Capacity	Order Code	Price
40	20	48-T03017	£301.93
60	25	48-T03005	£370.50

OD TURNING TOOLHOLDERS DMG (BMT40/60) TURRETS

QUAD

- Quad clamping for square shank tools
- Sub-spindle Y-axis lathes only



WTO

BMT	Clamping Capacity	Order Code	Price
60	25 x 4	48-71863	£579.34

PARTING BLADE HOLDERS DMG (BMT40/60) TURRETS

- For 32mm parting off blades
- Adjustable



WTO

BMT	Clamping Capacity	Order Code	Price
40	32	48-98891	£644.81
60	32	48-98901	£647.72

Spindle Speeders

For increased spindle speeds up to 35,000RPM!

- Compact construction
- Ground gears
- Rotation precision <0.01mm
- Made from heat-treated steel
- Low noise levels
- Superior strength & durability





Positioning Pin
Modular and interchangeable positioning pin with the internal coolant 10bar.

Bearings
Angular contact preloaded ball bearings of precision class ABEC 9.

Gleason Gears
Gleason computer based calculations for the Gleason cut spiral bevel drive gears with ground teeth in order to guarantee a bigger torque.

Case Hardened & Ground Shank & Shaft
To ensure maximum rigidity.

Outputs
ER Collet (standard)
Weldon
Shell mill holder
Special

Spindle Speeder Body
Heat-treated steel body, speed increase up to 1:8 through two planetary gears with amazingly low noise levels.

GERARDI EVOLUTION LINE SPINDLE SPEEDERS

- Mechanically driven
- New GSP design for reduced noise and vibration, high cutting speeds and increased rigidity
- 70bar internal coolant option available for the whole range
- Supplied with stop block
- Available with BT / SK / HSK / ISO / Capto drive shank
- *Please specify input drive shank (e.g. BT40) and coolant (internal or external) when enquiring for price and delivery
- 1 year warranty



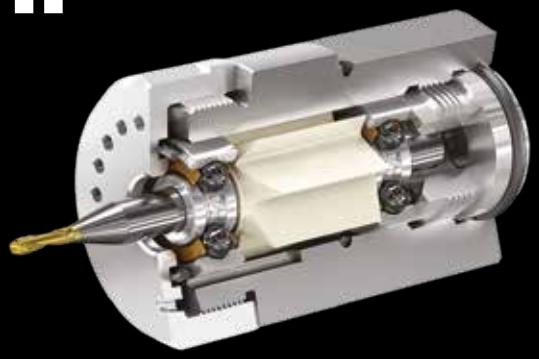
Type	Ratio	Max Output RPM	Max Input RPM	ER Collet (Clamping Range)	Max Torque Nm	Order Code	Price
1	1:8	36000	4500	ER16 (1-10mm)	12	GSP 10HS	
1	1:8	24000	3000	ER20 (1-13mm)	9.5	GSP 13	
2	1:6	20000	3333	ER25 (1-16mm)	12	GSP 16	**POA***
2	1:6	16000	2666	ER32 (2-20mm)	24	GSP 20	
3	1:4.2	12000	2857	ER40 (3-26mm)	45	GSP 26	

WTO

CoolSpeed Mini

Affordable & revolutionary high speed air and coolant-driven toolholder with up to 75,000RPM capability.

Designed for light milling, micro drilling and engraving.



Continuous high precision

- Cutting tool shank serves as the spindle shaft
- Dynamic run-out of 4 microns or better
- Bearings easily replaced with each cutting tool change

Driven by through coolant, oil, air and mist

- 10 bar coolant/oil delivers 40,000 RPM
- 60 bar coolant/oil delivers 75,000 RPM
- 4.5 bar air mist delivers 50,000 RPM

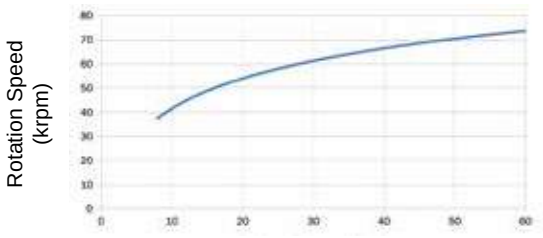
Efficiently turn any machine into an ultra-high speed machining center

- Suitable for milling & turning centers, swiss type lathes
- Extends the machine spindle life time
- Fits in standard tool holders for automatic tool change

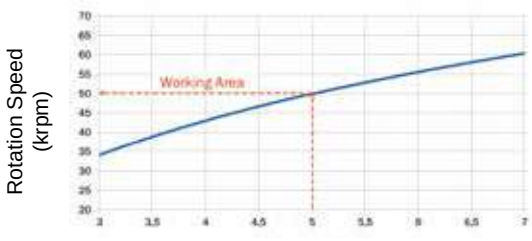


Scan to View Online

Rotation Speed / Coolant Pressure



Rotation Speed / Air Pressure





CoolSpeed® mini



CoolSpeed® mini 90



CoolSpeed® mini Air



CoolSpeed® mini (EX)





CoolSpeed® mini Air 90


BENZ
TOOLING
ANGLE HEADS
Benz are the global market leader in angle heads for CNC machining centres and are used by the leading automotive, aerospace and OEM manufacturers around the world.
No other manufacturer's angle heads deliver the same torque to weight ratio, performance, rigidity and durability as Benz.
270
280
290
300
n1 max = 8000 1/min
M1 max = 30 Nm
i = 1:1
n1
n2
BENZ
MADE IN

BENZ TOOLING

BENZ ANGLE HEADS - CUSTOMISED SOLUTIONS FOR ANY APPLICATION.



Angle Head Mono WSX
Machining without spatial constraint.



Angle Head Duo WZX
Machining in opposite direction / with different tools.



Angle Head Forte WWX
Machining for spatial constraint / maximum usable tool length.



Angle Head Slim WGX
Machining for spatial constraint / maximum usable tool length.



Angle Head Slim WGX-S
Machining extreme spatial constraint / maximum usable tool length.



Angle Head Fix WFX
Special machining at fixed angle.



Angle Head Flex WDX
Machining in any variable position.

Customised Angle Heads

Do you need an angle head that does not match any standard parameters? No problem!

BENZ can develop and produce angle heads to your exact specifications. From small adaptations on existing models to highly complex new developments, BENZ offer high quality, affordable solutions. BENZ's tried and tested components and systems provide you with limitless possibilities.



Image shows BENZ XXXL angle head before delivery, supplied to a major sub-sea manufacturer in the UK. Developed in partnership with Cutwel.

Contact our expert technical team for more information.

Please call on 01924 869 615.

BENZ CAPTO™

Increase efficiency, quality and machining capability with the modular BENZ CAPTO™ quick-change system.



QUICK CHANGE SYSTEM: MINIMISE SET-UP TIMES & INCREASE EFFICIENCY



BENZ Capto™ modular quick change system offers an extremely compact design by integrating the clamping unit into the spindle. Special clamping kinematics provide clamping forces that are significantly above ISO/DIS 26623-2 standards.

BENZ Capto™ can be used for turning on a lathe, milling and drilling with coolant pressures up to 100 bar. The system is also well suited for heavy-duty cutting operations.

Output

- Compact dimensions and short design
- Special clamping kinematics for clamping forces that are significantly above ISO/DIS 26623-2 standards
- Coolant pressure up to 100 bar

Precision

- Stability and stiffness with the same high flexibility
- Short projection length ensures high cutting speeds and surface quality

Handling

- Quick tool changeover with locking mechanism
- Visually distinct self-locking area covering 100°
- Operating torque: 50Nm (C4)

Safety

- The tool is clamped reliably starting at a 75° rotation angle
- Visually marking the correct tool clamping is evident immediately
- Additional clamp locking function prevents the tool holder from falling unexpectedly

Contact our expert technical team for more information.

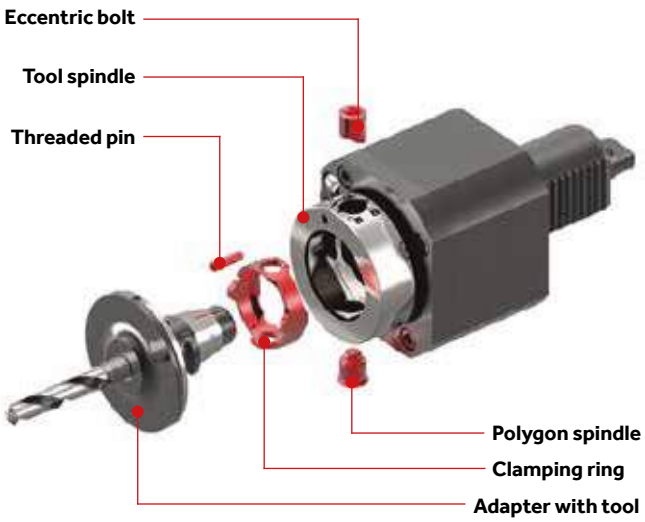
Please call on 01924 869 615.

BENZ Solidfix®

Modular angle heads for quick tool change in under 20 seconds. Compact construction and high precision.



QUICK CHANGE SYSTEM: USABILITY, STABILITY AND ULTRA-HIGH PRECISION



Benz Solidfix® modular quick change system offers the fastest one-handed tool changes of adapters with a wide choice of holders. It is available on Benz angle heads and driven tools.

High torque transfer and high speeds are supported by a special clamping mechanism (operated centrally without lateral forces). This works together with high-precision and compact components to achieve high concentricity, flexural strength and repeatability. The system is suitable for tools with internal cooling.

Output

- Compact design
- High system stiffness
- High torque transmission
- High speeds (neutrally balanced design)

Handling

- Quick change 1 hand operation, exchange time <20 seconds
- No need for specialized tools, tighten without a torque wrench
- Path-controlled clamping (180°)
- Automatic ejection function

Precision

- Extremely high concentricity (<5 µm at 30mm)
- High repeatability
- Central application of lateral forces
- Accurate and play free centring

Safety

- Captive fastener via safety bayonet
- Self-locking clamping function
- Eliminates risk of operator error
- Compliance with the machinery directive as per 2006/42/EC

Contact our expert technical team for more information.

Please call on 01924 869 615.



GERARDI

ANGLE HEADS

Classic Line

Gerardi's classic line angle heads offer a compact and rigid design with an integral case hardened and ground shank and shaft. Available from stock on short delivery times and can be supplied for automatic or manual tool change machines.

- High performance
- High machining speeds
- Reliable and affordable
- Exceptional tool life guaranteed

Evolution Line

Gerardi's evolution line angle heads feature an interchangeable drive taper which enables the same angle head to be used on different machines (e.g. BT or SK) simply by changing the input shaft.

- High performance
- Heavier duty
- Modular shanks
- High machining speeds
- Exceptional tool life guaranteed

GERARDI'S CLASSIC LINE



Integral Case Hardened & Ground Shank & Shank
To ensure maximum rigidity.

Positioning Pin with Through Coolant
Features automatic release and standard 10bar coolant through the pin.

Graduated Ring

Bearings
Angular contact preloaded ball bearings of precision class ABEC 9.

Graduated Ring

Angular Head Body
Steel body with 360° positions and internal air pressure, maximum rigidity and corrosion resistance. Minimum thermal expansion.

Gleason Gears
Gleason cut spiral bevel drive gears with ground teeth in order to guarantee a bigger torque.

Outputs
ER collet (standard) / Weldon / Shell mill holder / Special

GERARDI'S EVOLUTION LINE



Shank and Shaft
Case hardened and ground.

Positioning Pin
With automatic release and internal coolant through the pin.

Bearings
Angular contact preloaded ball bearings of precision class ABEC 9.

Modular Antirotation Group
Composed by pin group, ring and shank group.

Graduated Ring

Angular Head Body
Steel body with 360° positions and internal air pressure, maximum rigidity and corrosion resistant. Minimum thermal expansion.

Gleason Gears
Gleason cut spiral bevel drive gears with ground teeth in order to guarantee a bigger torque.

Outputs
ER collet (standard) / weldon / shell mill holder / special

GERARDI CLASSIC LINE ATC 90° ANGLE HEAD

- External coolant through retention pin standard (through coolant optional)
- Ideal for drilling, milling and tapping where there are no space restraints
- Automatic tool change
- Supplied with standard stop block

Please specify input drive shank (e.g. BT40) when enquiring for price and delivery.
*ØMin = is the smallest bore diameter the head can work inside (excluding a tool)







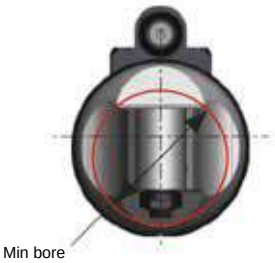
Model	Ratio	Max RPM	kg	Output (Clamping Range)	Max Torque Nm	Reach	ØMin*	Coolant	Order Code	Price
G90-7	1:1	10000	4.0	ER11 (1-7mm)	5	102	Ø68	External	9.G90.07000	POA*
G90-7L		10000	4.3	ER11 (1-7mm)	5	147	Ø68		9.G90.07L00	
G90-10		10000	4.3	ER16 (1-10mm)	10	82	Ø87		9.G90.10000	
G90-10L		10000	5.2	ER16 (1-10mm)	10	157	Ø87		9.G90.10L00	
G90-16		8000	5.4	ER25 (1-16mm)	24	82	Ø130		9.G90.16000	
G90-16L		8000	6.7	ER25 (1-16mm)	24	152	Ø130		9.G90.16L00	
G90-20		4000	11.0	ER32 (2-20mm)	40	92	Ø164		9.G90.20000	
G90-20L		4000	13.2	ER32 (2-20mm)	40	172	Ø164		9.G90.20L00	
G90-S40		4000	22.0	ISO40	140	110	Ø192		9.G90.S4000	
G90-S40L		4000	26.2	ISO40	140	170	Ø192		9.G90.S40L00	

GERARDI EVOLUTION LINE ATC 90° ANGLE HEAD

- External or internal coolant through retention pin
- Ideal for drilling, milling and tapping where there are no space restraints
- Automatic tool change
- Supplied with standard stop block

Please specify input drive shank (e.g. BT40) when enquiring for price and delivery.
*ØMin = is the smallest bore diameter the head can work inside (excluding a tool)







Model	Ratio	Max RPM	kg	Output (Clamping Range)	Max Torque Nm	Reach	ØMin*	Coolant	Order Code	Price
F90-7	1:1	10000	5.0	ER11 (1-7mm)	6	116	Ø68	External	9.F90.07000	POA*
F90-7L		10000	6.3	ER11 (1-7mm)	6	176	Ø75		9.F90.07L00	
F90-10		10000	5.3	ER16 (1-10mm)	11	106	Ø94		9.F90.10000	
F90-10L		10000	6.9	ER16 (1-10mm)	11	176	Ø94		9.F90.10L00	
F90-16S		8000	6.4	ER25 (1-16mm)	27	86	Ø132		9.F90.16S00	
F90-20S		5000	7.0	ER32 (2-20mm)	46	98	Ø150		9.F90.20S00	
F90-16		5000	11.0	ER25 (1-16mm)	46	100	Ø126		9.F90.16000	
F90-16L		5000	12.7	ER25 (1-16mm)	46	200	Ø126		9.F90.16L00	
F90-20		3500	13.2	ER32 (2-20mm)	85	108	Ø168		9.F90.20000	
F90-7 10BAR		10000	5.0	ER11 (1-7mm)	6	116	Ø87	Internal (10bar)	9.F90.070B0	
F90-7L 10BAR		10000	6.6	ER11 (1-7mm)	6	176	Ø96		9.F90.07LB0	
F90-10 10BAR		10000	5.6	ER16 (1-10mm)	11	106	Ø115		9.F90.100B0	
F90-16S 10BAR		8000	6.4	ER25 (1-16mm)	25	86	Ø155		9.F90.16SB0	
F90-16 10BAR		5000	11.5	ER25 (1-16mm)	46	100	Ø144		9.F90.160B0	
F90-20 10BAR		3500	13.4	ER32 (2-20mm)	85	108	Ø186		9.F90.200B0	

GERARDI EVOLUTION LINE SLIM ATC 90° ANGLE HEAD

- External coolant through retention pin standard
- Ideal for drilling, milling and tapping inside restricted spaces e.g. bores or cavities
- Automatic tool change
- Supplied with standard stop block

Please specify input drive shank (e.g. BT40) when enquiring for price and delivery.
*ØMin = is the smallest bore diameter the head can work inside (excluding a tool)







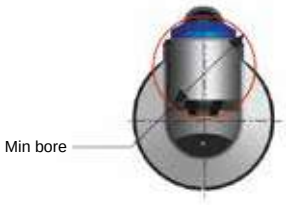
Model	Ratio	Max RPM	kg	Output (Clamping Range)	Max Torque Nm	Reach L1	Reach L2	ØMin*	Coolant	Order Code	Price
FS90-3	1:1	8000	5.5	6023 (1-3mm)	2	142.5	49.5	Ø35	External	9.FS9.03000	POA*
FS90-3L			6.4	6023 (1-3mm)	2	170.5	80.5	Ø35		9.FS9.03L00	
FS90-4			5.5	600E (1-4mm)	3.5	144.5	51.5	Ø39		9.FS9.04000	
FS90-4L			6.8	600E (1-4mm)	3.5	183	90	Ø39		9.FS9.04L00	
FS90-6L			6.0	ER11 (1-7mm)	4	183	90	Ø47		9.FS9.06L00	

GERARDI EVOLUTION LINE OFFSET ATC 90° ANGLE HEAD

- Internal 70bar coolant through spindle - dry running not possible
- Ideal for drilling, milling and tapping inside restricted spaces e.g. bores or cavities
- Automatic tool change
- Supplied with standard stop block

Please specify input drive shank (e.g. BT40) when enquiring for price and delivery.
*ØMin = is the smallest bore diameter the head can work inside (excluding a tool)







Model	Ratio	Max RPM	kg	Output (Clamping Range)	Max Torque Nm	Reach	ØMin*	Coolant	Order Code	Price
FR90-10 70BAR	1:1	6000	6.2	ER16 (1-10mm)	22	110.5	Ø73	Internal (70bar)	9.FR9.100B0	POA*
FR90-16 70BAR		4000	11.7	ER25 (1-16mm)	80	146.5	Ø98		9.FR9.160B0	
FR90-20 70BAR		3500	14.5	ER32 (2-20mm)	82	153	Ø105		9.FR9.200B0	

GERARDI CLASSIC LINE ATC ADJUSTABLE 0-90° ANGLE HEAD

- External coolant through retention pin standard (through coolant optional)
- Ideal for drilling, milling and tapping where there are no space restraints
- Automatic tool change
- Supplied with standard stop block

Please specify input drive shank (e.g. BT40) when enquiring for price and delivery.
*ØMin = is the smallest bore diameter the head can work inside (excluding a tool)

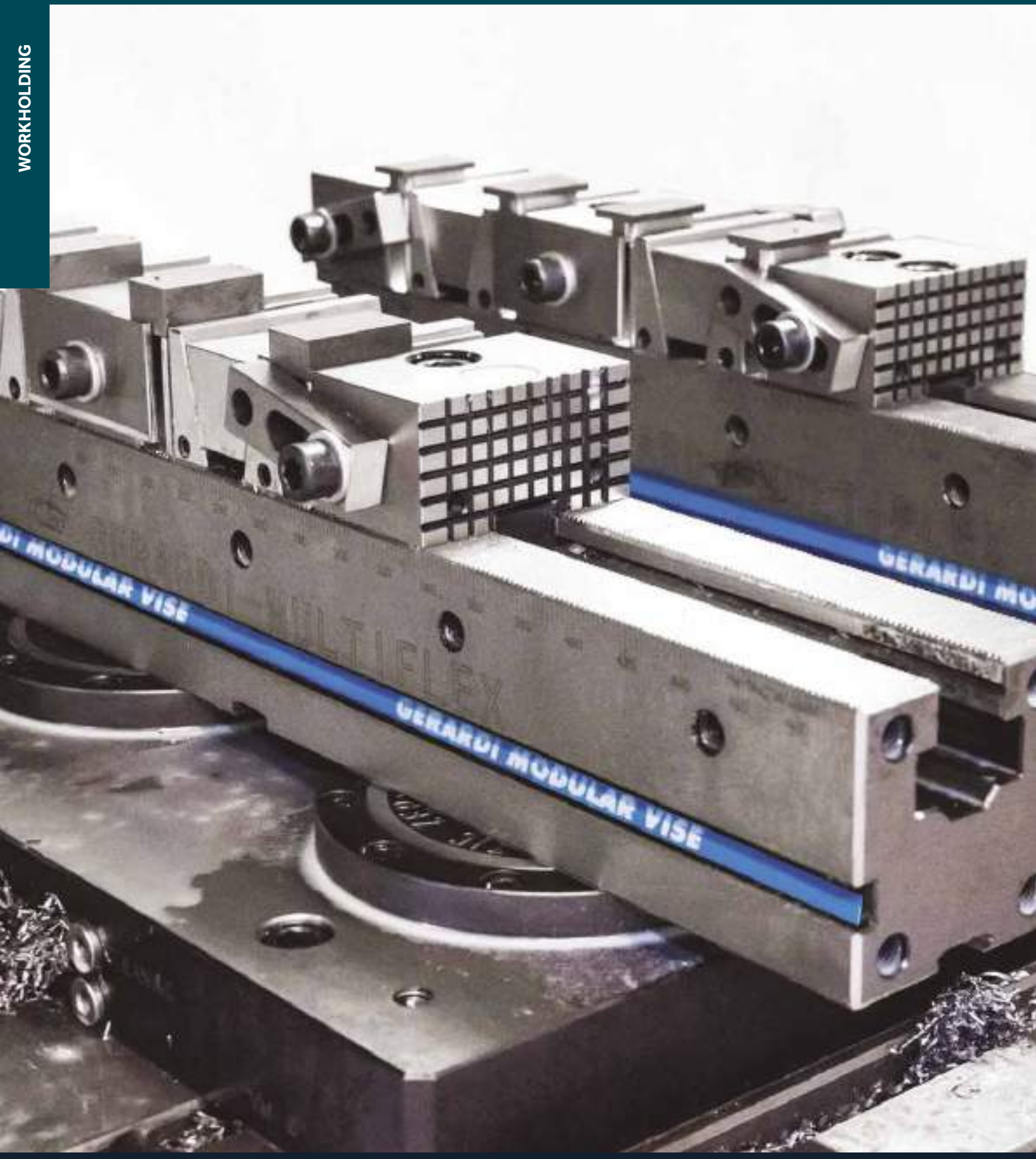






Model	Ratio	Max RPM	kg	Output (Clamping Range)	Max Torque Nm	Reach*	ØMin*	Coolant	Order Code	Price
GMU-13	1:1	4000	4.2	ER20 (1-13mm)	6	67	Ø130	External	9.GMU.13000	POA*
GMU-16			6.8	ER25 (1-16mm)	18	82	Ø142		9.GMU.16000	
GMU-20			13	ER32 (2-20mm)	32	92	Ø165		9.GMU.20000	

Workholding



The UK's Leading Range of Workholding Solutions

Including machine vices, tombstones, zero point, scroll chucks, power chucks, clamps, live centres & independent chucks.



Clamps & Accessories
Side clamps, top clamps, modular clamps & accessories including t-nuts, studs & nuts — 1164



Standard Series Machine Vices
The world's best selling modular machine vices from Gerardi — 1196



Miscellaneous Vices
Basic machine vices with mechanical & hydraulic clamping — 1208



CompactGrip Machine Vices
Self centering modular machine vice for 5 axis, vertical or horizontal machining — 1218



Maxi Grip Machine Vice
For single self centering, double & eccentric clamping — 1228



Multitasking Machine Vices
Heavy duty self centering vices designed for 5 axis machining — 1230



Gripmatic Machine Vices
Self centering vices with automated operation — 1232



Multiflex Machine Vices
Row type vice for clamping multiple, long or wide workpieces — 1236



Dovetail Grip Clamping
Clamping system for full 5 sided machining without obstruction — 1240



Zero Point Clamping
Pneumatic clamping system for immediate clamping with 5 micron accuracy — 1242



Tombstones & Cubes
Cast iron single casting tombstones & cubes — 1250



Collets & Collet Chucks
High precision power collet chucks & a range of workholding collets & clamping heads — 1256



CNC Power Chucks & Jaws
Wide range of power chucks & jaws from market leading Kitagawa, Bison & Schunk — 1270



Manual Chucks & Jaws
Scroll chucks, independent chucks, oil country chucks & accessories — 1276



Lathe Centres & Mandrels
Live & dead centres from market leaders Bison & Rohm — 1282



Rotary Tables, Angle Plates & Tailstocks
Fixed & adjustable manual rotary tables, angle plates & tailstocks — 1288



Vacuum Clamping
Vacuum chucks ideal for light machining applications including milling & drilling — 1290



Magnetic Clamping
Round & rectangle magnetic plates suitable for turning, milling & grinding tasks — 1292

Clamps & Accessories

SERRATED SIDE CLAMPS

Wedge Type

- Made from hardened steel
- Wedge type clamps with serrated faces for best gripping
- Set contains 2pcs serrated clamps, 2pcs serrated stops, 10pcs t-nuts, 10pcs clamping bolts, allen key and t-slot scraper



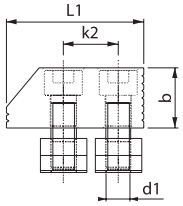
Serrated Wedge Clamp

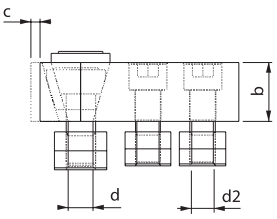


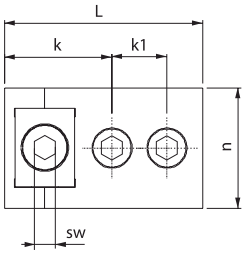
Serrated Clamp Stop



Serrated Wedge Clamp Kit









ER-EL

T-Nut	c	L	b	n	k	k1	k2	L1	d, d1 d2	sw	Clamp Force Kgf	Screw Torque Nm	Kit kg	Order Code					
														Kit	Price	Clamp	Price	Stop	Price
14	5	90	23	47	47	26	26	65	M12	10	2000	35	3.4	2030-14	**£258.96**	2035-14	**£110.34**	2040-14	**£30.53**
16													3.6	2030-16	**£270.39**	2035-16	**£115.15**	2040-16	**£32.46**
18													5	2030-18	**£301.78**	2035-18	**£128.24**	2040-18	**£33.93**
20		95	28	57	52								5.3	2030-20	**£296.56**	2035-20	**£136.86**	2040-20	**£37.93**
22													5.7	2030-22	**£307.67**	2035-22	**£146.77**	2040-22	**£41.09**
24													6.12	2030-24	**£320.20**	2035-24	**£150.59**	2040-24	**£43.67**
28													6.7	2030-28	**£337.47**	2035-28	**£152.81**	2040-28	**£45.62**

SERRATED SIDE CLAMPS

Parallel Type

- Made from hardened steel
- Parallel clamps with serrations for through hole drilling
- Set contains 2pcs parallel clamps, 2pcs parallel stops, 10pcs t-nuts, 10pcs clamping bolts, allen key and t-slot scraper



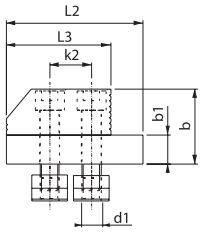
Serrated Parallel Clamp

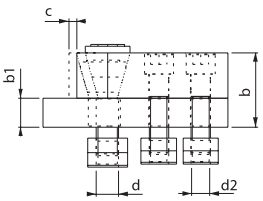


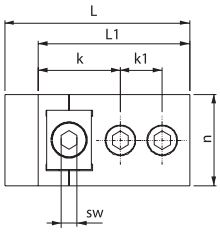
Serrated Parallel Clamp Stop



Serrated Wedge Clamp Kit









ER-EL

T-Nut	c	L	L1	L2	L3	b	b1	n	k	k1	k2	d, d1 d2	sw	Clamp Force Kgf	Screw Torque Nm	Kit kg	Order Code					
																	Kit	Price	Clamp	Price	Stop	Price
14	5	110	90	85	65	41	18	47	47	26	26	M12	6	1000	15	5.9	2050-14	**£322.43**	2055-14	**£128.51**	2060-14	**£45.99**
16																6.2	2050-16	**£337.86**	2055-16	**£132.04**	2060-16	**£48.03**
18																8.0	2050-18	**£371.34**	2055-18	**£150.48**	2060-18	**£50.07**
20		115	95			46		57	52				8	1250	20	8.4	2050-20	**£358.44**	2055-20	**£156.51**	2060-20	**£53.24**
22																8.8	2050-22	**£369.63**	2055-22	**£161.23**	2060-22	**£56.37**
24																10.1	2050-24	**£383.25**	2055-24	**£165.97**	2060-24	**£59.52**
28																10.7	2050-28	**£398.63**	2055-28	**£173.40**	2060-28	**£62.14**

SLIDING SIDE CLAMPS

Low Profile

- Made from hardened steel
- Sliding side clamp creates radial and axial clamping forces, pushing the workpiece against the stop and the machine bed
- Set contains 2pcs sliding side clamps, 2pcs serrated stops, 8pcs t-nuts, 8pcs clamping bolts, allen key and t-slot scraper





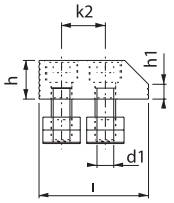
Sliding Side Clamp

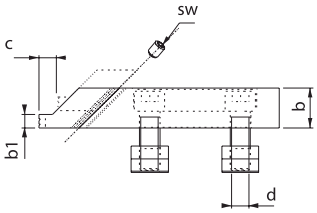


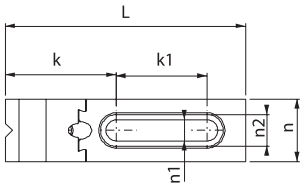
Serrated Clamp Stop



Sliding Side Clamp Kit







ER-EL

T-Nut	c	L	b	b1	n	n1	n2	k	k1	k2	sw	l	h	h1	d, d1	Clamp Force Kgf	Screw Torque Nm	Kit kg	Order Code					
																			Kit	Price	Clamp	Price	Stop	Price
14	10	142	24	8	37	12.5	18.5	65	54	26	6	65	23	10	M12	850	15	3.6	2070-14	**£233.29**	2075-14	**£84.00**	2040-14	**£30.53**
16																		3.7	2070-16	**£237.50**	2075-16	**£86.98**	2040-16	**£32.46**
18																		5.2	2070-18	**£253.62**	2075-18	**£94.50**	2040-18	**£33.93**
20	14	145	28	10	48			74	56		8		28	11		1000	35	5.4	2070-20	**£241.89**	2075-20	**£99.77**	2040-20	**£37.93**
22																		5.6	2070-22	**£251.01**	2075-22	**£103.77**	2040-22	**£41.09**

HIGH POWER SIDE CLAMPS

Low Profile

- Made from hardened steel
- Eccentric cam tightening device (3.5mm movement)
- Side clamping allows lateral forces which does not change the state of the workpiece
- 3500kgf clamping force
- Set contains 2 eccentric clamps, 2 stops, 8 t-nuts, 8 bolts, 1 clamping wrench, 1 allen key and t-slot scraper





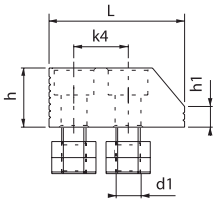
Cam Operated Side Clamp

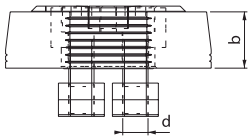


Serrated Clamp Stop

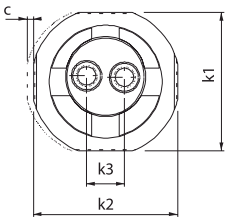


Cam Operated Side Clamp Kit





Serrated Parallel Clamp Kit



ER-EL

T-Nut	c	b	k1	k2	k3	k4	L	h	h1	d, d1	Clamp Force Kgf	Kit kg	Order Code					
													Kit	Price	Clamp	Price	Stop	Price
14	3.5	30	95	99	26	26	65	28	10	M12	3500	7.9	2090-14	**£386.49**	2090-114	**£154.60**	2040-14	**£30.53**
16												8.4	2090-16	**£395.06**	2090-116	**£158.03**	2040-16	**£32.46**
18												8.6	2090-18	**£401.99**	2090-118	**£160.81**	2040-18	**£33.93**
20												8.8	2090-20	**£411.35**	2090-120	**£164.54**	2040-20	**£37.93**
22												9.0	2090-22	**£420.34**	2090-122	**£168.15**	2040-22	**£41.09**
24												9.4	2090-24	**£427.04**	-	-	2040-24	**£43.67**
28												9.8	2090-28	**£443.76**	-	-	2040-28	**£45.62**

SIDE TOE CLAMPS

Serrated

- With its articulated design and serrated face, it makes safe clamping on uneven surfaces by taking the existing surface shape
- High clamping forces
- Contains 2pcs serrated toe clamps, 2pcs serrated stops, 10pcs t-nuts, 10pcs clamping bolts for 16mm or 18mm T-slot. Different sized t-nuts can be purchased separately



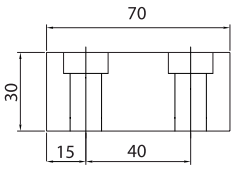
Serrated Clamp Stop



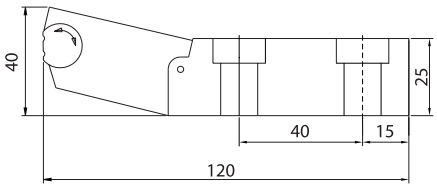
Serrated Toe Clamp



Serrated Toe Clamp Kit



Width 40mm



Width 40mm



MIKSAN

T-Nut	Clamp Force Kgf	Kit kg	Clamp kg	Stop kg	Order Code					
					Kit	Price	Clamp	Price	Stop	Price
16	2500	3.4	0.87	0.65	2070-MBS701216	**£286.87**	2070-MS701116	**£107.29**	2070-MD702116	**£51.21**
18		3.6			2070-MBS701218	**£290.04**	2070-MS701118	**£109.03**	2070-MD702118	**£52.96**

SIDE TOE CLAMPS

Serrated Parallel

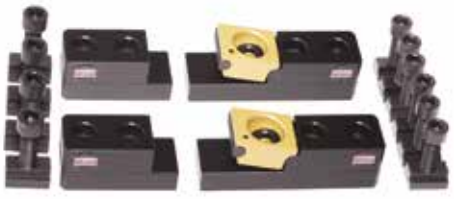
- With its articulated design and serrated face, it makes safe clamping on uneven surfaces by taking the existing surface shape
- Parallel type for raising workpiece above machine bed
- High clamping forces
- Contains 2pcs serrated parallel toe clamps, 2pcs serrated parallel stops, 10pcs t-nuts, 10pcs clamping bolts for 16mm or 18mm T-slot. Different sized t-nuts can be purchased separately



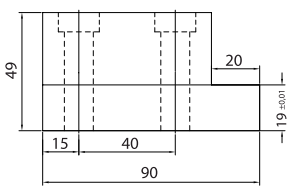
Serrated Parallel Clamp Stop



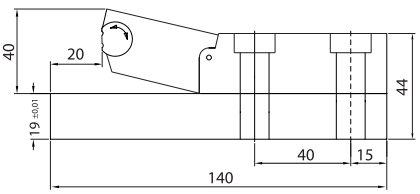
Serrated Toe Parallel Clamp



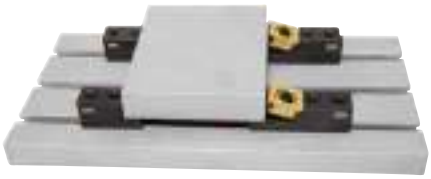
Serrated Parallel Toe Clamp Kit



Width 40mm



Width 40mm



MIKSAN

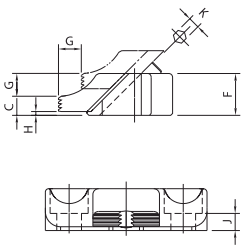
T-Nut	Clamp Force Kgf	Kit kg	Clamp kg	Stop kg	Order Code					
					Kit	Price	Clamp	Price	Stop	Price
16	2500	6.15	1.86	1.18	2070-MBS801116	**£389.00**	2070-MS801216	**£140.02**	2070-MD802216	**£74.89**
18					2070-MBS801118	**£392.18**	2070-MS801218	**£141.76**	2070-MD802218	**£76.63**

SIDE CLAMPS

Low Profile

- Low profile clamp height from just 7.5mm leaving the top surface of the workpiece open
- Sliding clamp design create sidewards and downwards clamping forces
- Serrated clamp face





ER-EL

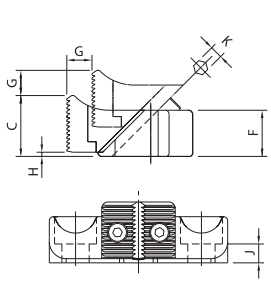
A	B	C	D	E	F	G	H	J	K	L	M	Clamp Force Kgf	Screw Torque Nm	kg	Order Code	Price
39.5	65	7.5	25	45	16	7	1.5	7	4	M8	25	400	8	0.16	2072-08016	**£169.03**
60	85	10	40	60	22	12	2	9	6	M12	35	900	26	0.45	2072-12022	**£238.76**
77	100	14	50	70	30	14	2	13	8	M16	40	1700	60	0.90	2072-16030	**£324.07**

SIDE CLAMPS

High Profile

- High profile clamp height (clamp height from 19.5mm high)
- Sliding clamp design create sidewards and downwards clamping forces
- Serrated clamp face





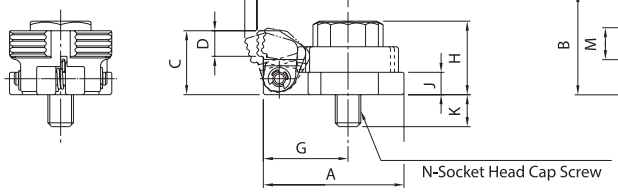
ER-EL

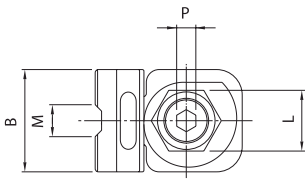
A	B	C	D	E	F	G	H	J	K	L	M	Clamp Force Kgf	Screw Torque Nm	kg	Order Code	Price
39.5	65	19.5	25	45	16	7	1.5	7	4	M8	25	400	8	0.18	2073-08016	**£187.61**
60	85	29	40	60	22	12	2	9	6	M12	35	900	26	0.50	2073-12022	**£255.84**
77	100	38	50	70	30	14	2	13	8	M16	40	1700	60	1.0	2073-16030	**£375.24**

CAM OPERATED SIDE CLAMPS

- Clamp force is actuated when cam is rotated using a wrench
- Operation: secure the body and the flanged collar with a socket head cap screw, and then turn the cam with a wrench to clamp the workpiece
- Serrated clamp face





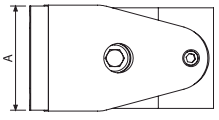


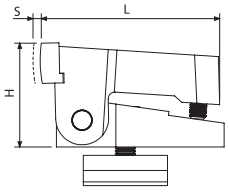
ER-EL

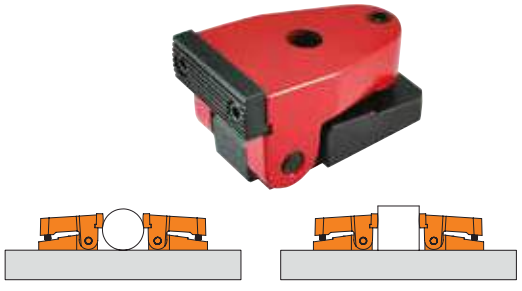
A	B	C	D	E	F	G	H	J	K	L	M	N	P	Clamp Force Kgf	Screw Torque Nm	kg	Order Code	Price
44	32	20	8	28.5	4	26.5	23	7	15	19	10	M8x1.25	6	350	45	0.16	2077-08001	**£150.41**
54	40	25	10	35	5	33	29	9	16	24	12	M10x1.5	8	550	55	0.31	2077-10001	**£167.44**
62	46	30	12	39.5	5.5	37.5	35	11	17	27	14	M12x1.75	10	700	70	0.49	2077-12001	**£187.61**

PULL DOWN SIDE CLAMPS

- Vertical down thrust and horizontal clamping force prevents workpiece lift
- Hardened jaw
- Serrated clamp face
- Supplied with 16mm or 18mm t-nut. Different sized t-nuts can be purchased separately







ER-EL

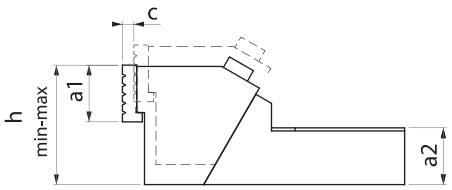
T-Nut	A	H	L	Clamp Force Kgf	Screw Torque Nm	kg	Order Code	Price
16	61	57	108	5	1500	1.8	2080-016	**£124.01**
18	61	57	108	5	1500	1.8	2080-018	**£124.60**

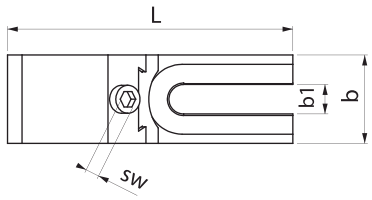
PULL DOWN SIDE CLAMPS

High Type

- Vertical down thrust and horizontal clamping force prevents workpiece lift
- Hardened jaw
- High clamping forces
- Serrated clamp face







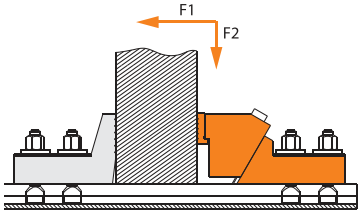


Table T-Slot Range	a1	a2	b	b1	c	h	L	SW	F1 Clamping Force Kgf	F2 Clamping Force Kgf	kg	Order Code	Price
14-18	37	37	57	19	8	78-98	185	10	2250	350	3.68	2095-571	**£183.62**
20-28	37	45	76	26	11	98-110	240	14	3000	450	7.66	2095-761	**£258.34**

PULL DOWN SIDE CLAMPS

Low Type

- Vertical down thrust and horizontal clamping force prevents workpiece lift
- Hardened jaw
- Serrated clamp face



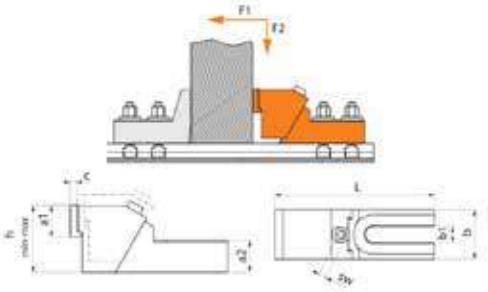


Table T-Slot Range	a1	a2	b	b1	c	h	L	SW	F1 Clamping Force Kgf	F2 Clamping Force Kgf	kg	Order Code	Price
14-18	37	37	57	19	8	78-98	185	10	2250	350	3.68	2095-572	**£181.91**

SIDE CLAMP FIXED STOP

High Type



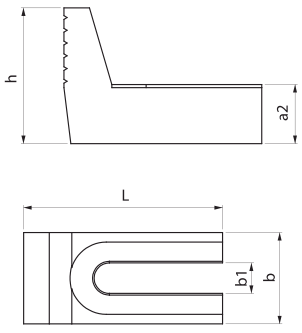


Table T-Slot Range	a2	b	b1	h	L	kg	Order Code	Price
14-18	37	57	19	85	124	2.0	2098-571	**£64.63**
20-28	45	76	26	105	154	4.2	2098-761	**£78.66**

SIDE CLAMP FIXED STOP

Low Type



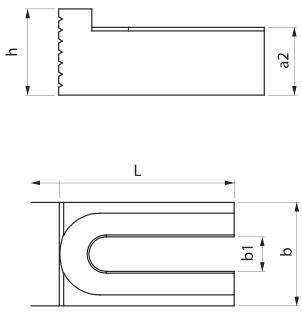


Table T-Slot Range	a2	b	b1	h	L	kg	Order Code	Price
14-18	37	57	19	47	124	2.8	2098-572	**£51.87**
20-28	45	76	26	49	154	4.2	2098-762	**£61.78**

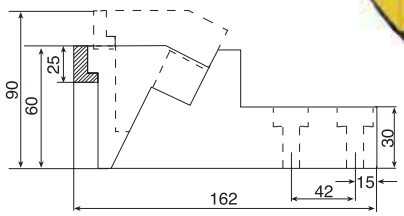
SIDE CLAMPS

High Type

- High clamping forces
- Hardened jaw
- Supplied with 16mm T-nut
- Different sized t-nuts can be purchased separately







Width 54 mm.

MIKSAN

Table T-Slot Range	Clamping Force Kgf	kg	Order Code	Price
14-24	2600	2.8	2105-MYB404116	**£153.65**

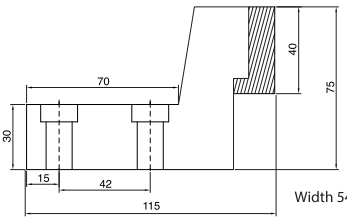
SIDE CLAMPS FIXED STOP

High Type

- Hardened jaw
- Supplied with 16mm T-nut
- Different sized t-nuts can be purchased separately







Width 54 mm.

MIKSAN

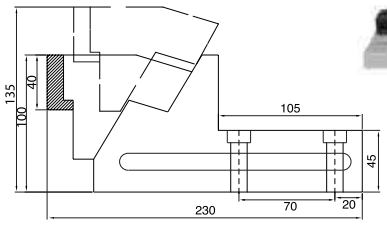
Table T-Slot Range	kg	Order Code	Price
14-24	1.86	2105-MD404216	**£87.28**

SIDE CLAMPS

Heavy Duty High Type

- High clamping forces
- Hardened jaw
- Supplied with 20mm T-nut
- Different sized t-nuts can be purchased separately





Width 68 mm.

MIKSAN

Table T-Slot Range	Clamping Force Kgf	kg	Order Code	Price
20-28	6000	6.85	2105-MYB901120	**£277.89**

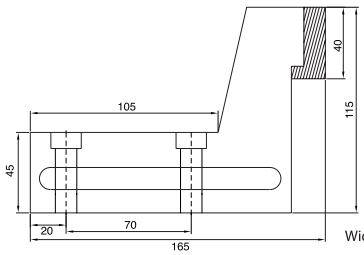
SIDE CLAMP FIXED STOP

Heavy Duty High Type

- Hardened jaw
- Serrated clamp face
- Supplied with 20mm T-nut
- Different sized t-nuts can be purchased separately







Width 68 mm.

MIKSAN

Table T-Slot Range	kg	Order Code	Price
20-28	4.5	2105-MD902120	**£160.04**

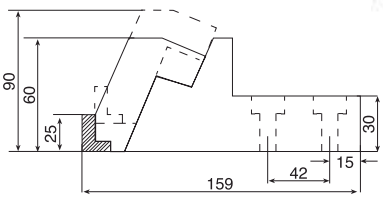
SIDE CLAMPS

Low Type

- High clamping forces
- Hardened jaw
- Supplied with 16mm T-nut
- Different sized t-nuts can be purchased separately







Width 54 mm.

MIKSAN

Table T-Slot Range	Clamping Force Kgf	kg	Order Code	Price
14-24	3000	2.8	2105-MYB303116	**£149.51**

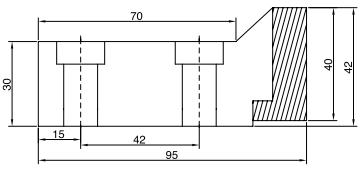
SIDE CLAMP FIXED STOP

Low Type

- Hardened jaw
- Serrated clamp face
- Supplied with 16mm T-nut
- Different sized t-nuts can be purchased separately







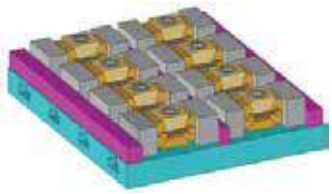
Width 54 mm.

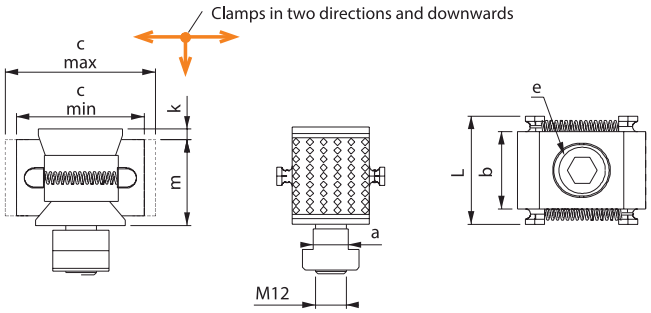
MIKSAN

Table T-Slot Range	kg	Order Code	Price
14-24	1.2	2105-MD303216	**£74.54**

PULL DOWN DOUBLE SIDE CLAMPS

- Vertical down thrust and horizontal clamping force prevents workpiece lift
- Double clamping
- Hardened
- Serrated clamp face
- Can be used with 14-22mm t-nuts





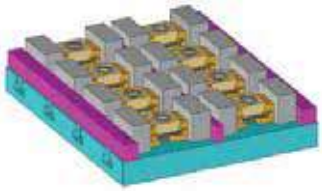


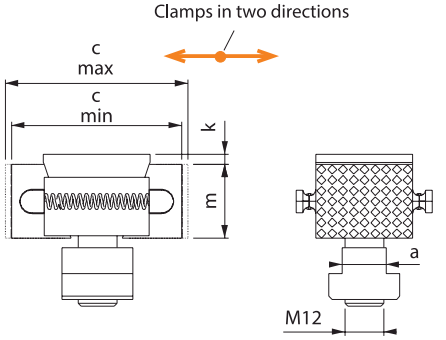
ER-EL

Table T-Slot Range	C min	C max	m	k	b	L	Clamp Force Kgf	kg	Order Code	Price
14-22	50	55	35	4	30	42	1750	0.39	2190-5055	**£65.48**

DOUBLE SIDE CLAMPS

- Double clamping
- Hardened
- Serrated clamp face
- Can be used with 14-22mm t-nuts







ER-EL

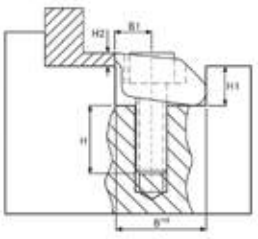
Table T-Slot Range	C min	C max	m	k	b	L	Clamp Force Kgf	kg	Order Code	Price
14-22	49	54	23	4	30	42	1500	0.28	2210-4954	**£53.75**

PITBULL TENSIONING CLAMPS

Features
- Clamp with blunt edge
- Pitbull tensioning clamps for fixture plates

Advantage
- Space-saving, ideal for multiple clamping
- Compact design allows machining on multiple sides
- Secure clamping thanks to high clamping force
- Strong pull-down force, which enables precise machining
- Thanks to its low height, no troublesome edges for tools





Size	Distance mm	Length mm	Width mm	No. of Pieces	Order Code	Price
1	3.8	9.5	9.5	8	26222301	**£150.40**
2	3.8	9.5	9.5	8	26222302	**£152.16**
3	5.1	12.7	12.7	8	26222303	**£155.02**
4	5.1	12.7	12.7	8	26222304	**£157.97**
5	7.6	19.05	19.1	6	26222305	**£150.40**
6	7.6	19.05	19.10	6	26222306	**£152.16**
7	10.2	25.4	25.4	4	26222307	**£145.85**
8	10.2	38.10	38.1	2	26222308	**£132.68**

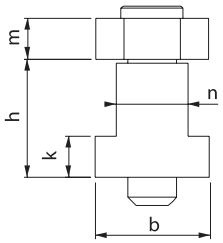
LOW PROFILE IN-SLOT SIDE CLAMPS

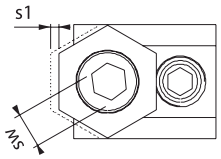
- T-nut of the product enters the slot of the table completely. Since only the eccentric headpiece remains on the surface of the table, this provides easy clamping of the thin pieces
- Hardened

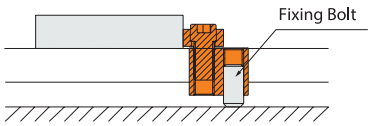












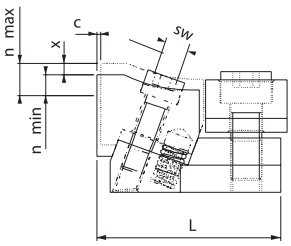
T-Slot Size	n	s1	m	sw	L	h	k	b	Clamp Force Kgf	kg	Order Code	Price
12	11.7	1.2	7	5	28	15	7	18	340	0.06	2150-12	**£35.55**
14	13.7	1.7	7	7	30	22	8	22	800	0.095	2150-14	**£38.50**
16	15.7	1.7	10	8	30	22	9	25	1500	0.13	2150-16	**£41.11**
18	17.7	2	10	8	35	28	10	28	1500	0.19	2150-18	**£44.93**
20	19.7	2.5	13	10	40	32	12	32	2000	0.29	2150-20	**£50.72**
22	21.7	2.5	13	12	45	38	14	35	2000	0.39	2150-22	**£58.44**

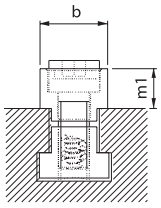
LOW PROFILE IN-SLOT PULL DOWN JAW CLAMPS

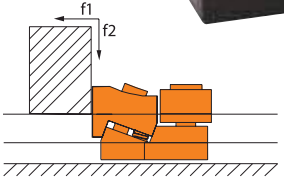
- Vertical down thrust and horizontal clamping force prevents workpiece lift
- Working in t-slot provides height advantage
- Hardened







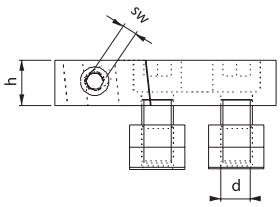


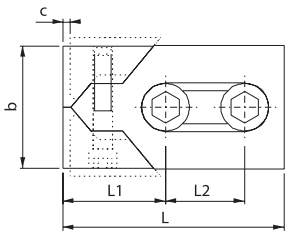


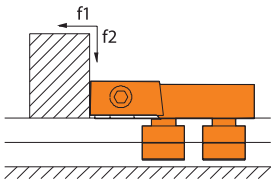
T-Slot Size	c	n min	n max	x	L	b	m1	sw	f1 Clamp Force Kgf	f2 Clamp Force Kgf	kg	Order Code	Price
12	2	2	6	4	46	21	10	5	500	60	0.12	2170-12	**£37.25**
14	2.5	2.5	7.5	5	51	26	10	6	550	70	0.20	2170-14	**£40.34**
16	3	2.5	8.5	6	61	27.5	12	6	800	90	0.29	2170-16	**£43.07**
18	3	2	8	6	67	35	13	8	900	100	0.42	2170-18	**£47.07**
20	4	2.5	11	8.5	78	38	13	10	1200	140	0.64	2170-20	**£53.13**
22	4.5	2.5	12	9.5	87	39	16.5	10	1600	190	0.83	2170-22	**£61.23**

LOW PROFILE PULL DOWN DOUBLE CLAW CLAMPS

- Vertical down thrust and horizontal clamping force prevents workpiece lift
- Working in t-slot provides height advantage, clamping screw is accessible from the side
- Hardened





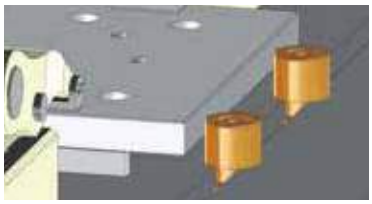




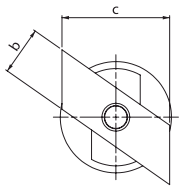
T-Slot Size	c	h	b	L	L1	L2	sw	d	f1 Clamp Force Kgf	f2 Clamp Force Kgf	kg	Order Code	Price
12	3	20	40	80	39	26	6	M10	1600	60	0.41	2110-12	**£92.76**
14	3	20	40	80	39	26	6	M10	2200	90	0.42	2110-14	**£95.57**
16	4	25	50	100	46	34	8	M14	3200	120	0.78	2110-16	**£114.21**
18	4	25	50	100	46	34	8	M14	3600	140	0.81	2110-18	**£123.51**
20	4	25	50	100	46	34	8	M14	3600	140	0.85	2110-20	**£128.19**
22	5	28.5	78	140	65	50	10	M20	3600	140	2.27	2110-22	**£198.11**

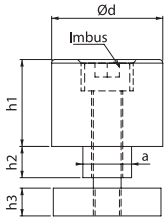
CYLINDER WORKSTOP

- Rhomboid t-nut enables quick and easy locating from the top of the table
- Hardened







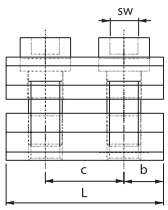


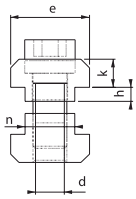
ER-EL

T-Slot Size	a h6	b -0.6	c DIN650	d +/-0.1	h1 +/-0.1	h1 +/-0.2)	h2	h3	Bolt	kg	Order Code	Price
14	0-0.011	14	24	32	25	-	9	8	M8x35	0.2	2120-1425	**£57.99**
14	0-0.011	14	24	32	-	50	9	8	M8x60	0.35	2120-1450	**£62.09**
18	0-0.011	18	30	40	25	-	15	10	M10x40	0.36	2120-1825	**£83.39**
18	0-0.011	18	30	40	-	50	15	10	M10x65	0.60	2120-1850	**£85.20**
22	0-0.013	22	38	40	25	-	15	14	M10x50	0.41	2120-2225	**£83.39**
22	0-0.013	22	38	40	-	50	15	14	M10x75	0.65	2120-2250	**£85.20**

RECTANGULAR FIXED STOP

- Work stop is used for reference taking longitudinal and cross-wise
- Hardened







ER-EL

T-Slot Size	n	e	c	d	b	h	k	L	sw	kg	Order Code	Price
12	11.7	18	18	M8	9	3	7	36	6	0.10	2130-12	**£23.02**
14	13.7	22	22	M8	11	4	8	44	6	0.18	2130-14	**£23.96**
16	15.7	25	25	M12	12.5	5	9	50	10	0.27	2130-16	**£27.03**
18	17.7	28	28	M12	14	5	10	56	10	0.35	2130-18	**£32.96**
20	19.7	32	32	M16	16	5	12	64	14	0.57	2130-20	**£34.92**
22	21.7	35	35	M16	17.5	6	14	70	14	0.77	2130-22	**£38.79**

52PC BASIC STEEL CLAMPING KIT

- Made from high quality steel
- Set contains: 6 t-nuts, 24 studs, 4 coupling nuts, 6 flange nuts, 6 step clamps and 6 serrated step blocks



CUTWEL PRO

Bolt and T-Nut Size	Weight	Order Code	Price
M8x10	8	CK-08	**£101.40**
M10x12	9.5	CK-10	**£101.40**
M12x14	12.8	CK-12A	**£103.69**
M14x16	15.9	CK-14	**£112.68**
M16x18	12.7	CK-16	**£123.94**
M20x22	18	CK-18	**£259.19**

CLAMP KIT WITH SERRATED STEP BLOCKS

- Made from high quality steel
- Set contains: 6 t-nuts, 16 studs, 6 support nuts, 4 nuts with washer, 2 extension nuts, 4 thick washers, 4 serrated clamps, 8 clamps with support hole and 1 t-slot scraper



ER-EL

Bolt and T-Nut Size	kg	Order Code	Price
M10x12	7.2	2010-1012	**£229.83**
M12x14	9.2	2010-1214	**£163.80**
M14x16	12.2	2010-1416	**£228.67**
M16x18	15.6	2010-1618	**£259.95**
M18x20	18.0	2010-1820	**£303.66**

CLAMP KIT WITH JACKS

- Made from high quality steel
- Set contains: 6 T-nuts, 16 studs, 6 support nuts, 4 nuts with washer, 2 extension nuts, 4 thick washers. 4 clamps with support holes, 8 threaded jacks and 1 t-slot scraper



ER-EL

Bolt and T-Nut Size	kg	Order Code	Price
M10x12	6.4	1990-1012	**£136.03**
M12x14	8.7	1990-1214	**£175.60**
M14x16	12.9	1990-1416	**£229.74**
M16x18	16.3	1990-1618	**£260.64**
M18x20	17.8	1990-1820	**£306.67**
M20x22	23.1	1990-2022	**£378.82**

CLAMPING TOOL ASSORTMENTS

Basic Assortment

Application
For conventional clamping on machine tables with t-grooves, ideal for toolmaking.

Advantage
- All parts made of heat-treated steel
- Rolled thread
- T-slot screws heat-treated

Contents
Assorted range of clamps, clamping supports, t-slot screws, stud bolts, high nuts, extensions nuts and washers. Please view online for full contents.



Suitable for Groove Width mm	Suitable for Thread	Tension Force kN	Clamping Height mm	Order Code	Price
14	M12	20	165	26152140	**£256.38**
16	M14	28	195	26152160	**£292.11**

CLAMPING TOOL ASSORTMENT IN BOX

Application
This assortment contains all of the requisite elements for quick clamping of workpieces or equipment on t-groove tables.

Advantage
- All parts made of heat-treated steel



Suitable for Groove Width	Thread	Min. Clamping Height with 2 & 4 Clamping Points mm	Max. Clamping Height with 2 Clamping Points mm	Max. Clamping Height with 4 Clamping Points mm	No. of DIN 787 T-Slot Screws mm	No. of DIN 6379 Stud Bolts (Extension Pin) mm	No. of DIN 6330 B High Nuts	No. of Rounded Washers and Ball Sockets DIN 6319 G	No. of Extension Nuts	Order Code	Price
12	M12	2	270	160	2x50, 4x80, 4x125	4x100	6 PCS	6 PCS	4 PCS	26153012	**£522.84**
14	M12				2x50, 4x80, 4x125	4x100				26153014	**£544.62**
16	M14				2x63, 4x100, 4x160	4x125				26153015	**£683.65**
16	M16				4x100 , 4x160, 2x63	4x125				26153016	**£706.97**
18	M16				2x63, 4x100, 4x160	4x125				26153018	**£717.07**
22	M20				4x125, 4x200	4x125				26153022	**£706.97**

CLAMPING SCREW SETS

For T-Slots

- Tempered
- Strength class 8 or 10
- Different clamping heights can be set as required using extension nuts and studs (extension studs).



Suitable For Groove Width mm	Thread Dimension	Number of DIN 787 T-Slot Screws mm	Number of DIN 6379 Stud Bolts (Extension Pin) mm	Number of DIN 508 Slots	Number of DIN 6330 B High Nuts	Number of Extension Nuts	Order Code	Price
10	M10	2x M10x40, 4x M10x63, 4x M10x100	4x M10x50, 4x M10x80, 4x M10x200	-	4	4	26209100	**£147.60**
12	M12	2x M12x50, 4x M12x80, 4x M12x125	4x M12x63, 4x M12x100, 4x M12x200	-			26209120	**£165.86**
14	M12	2x M12x50, 4x M12x80	4x M12x63, 4x M12x100, 4x M12x125, 4x M12x200	4			26209140	**£166.64**
16	M14	2x M14x63, 4x M14x100	4x M14x63, 4x M14x100, 4x M14x160, 4x M14x250	4			26209160	**£200.43**
16	M16	2x M16x63, 4x M16x100, 4x M16x160	4x M16x80, 4x M16x125, 4x M16x250	-			26209165	**£226.85**
18	M16	2x M16x63, 4x M16x100	4x M16x80, 4x M16x125, 4x M16x160	4			26209180	**£227.63**
22	M20	2x M20x80, 4x M20x125	4x M20x80, 4x M20x125, 4x M20x200, 4x M20x315	4			26209220	**£344.95**

X BLOCK SET

- 4 clamping positions
- 2pcs per set
- Tolerance +/-0.01mm

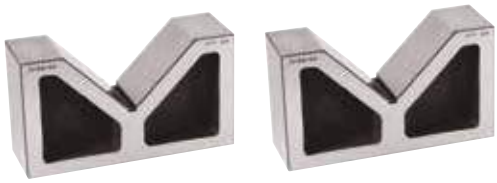


ER-EL

Width	Height	Min/Max Dia	Order Code	Price
120	100	12-90	2290-120	**£370.51**
152	132	15-120	2290-150	**£555.93**

V BLOCK SET

- 2pcs per set
- Tolerance +/-0.01mm



ER-EL

Width	Height	Min/Max Dia	Order Code	Price
140	82	20-110	2270-140	**£206.58**
204	115	15-150	2270-204	**£359.36**

T-SLOT SCRAPER

- Made from aluminium
- Removes chips out of the machine bed t-slots



ER-EL

T-Slot Size	Order Code	Price
12-14	1950-1214	**£7.90**
16-18	1950-1618	**£10.21**
20-22	1950-2022	**£15.65**
24-28	1950-2428	**£17.92**

T-SLOT COVERS

- Made from aluminium
- Prevents chips entering bed T-slots



ER-EL

Width mm	Length mm	Qty	Order Code	Price
12	400	6	1955T012	**£84.73**
14			1955T014	**£85.81**
16			1955T016	**£87.44**
18	450		1955T018	**£89.05**

PARALLEL SET GROUND & HARDENED 28PC SET

- Includes 2pcs: 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 35, 40, 45 & 50mm high
- Tolerance +/-0.01mm
- 150mm wide



ER-EL

Order Code	Price
2230-028	**£472.50**

PARALLEL SET GROUND & HARDENED 16PC SET

- Includes 2pcs: 20, 23, 28, 36, 42, 48, 58 & 65mm high
- Tolerance +/-0.01mm
- 20, 23 & 28 are 100mm wide, all others are 150mm wide



ER-EL

Order Code	Price
2250-016	**£307.65**

PARALLEL SET GROUND & HARDENED

Application
For parallel support of workpieces in machine vices, on machine tools or on marking-off plates.

Features
- In pairs, tolerance IT 5, nominal width to DIN ISO 2768-1, tolerance class m



ORION

Composition of set (Width x Height)	Min. Set Height mm	Max. Set Height mm	Width mm	Pair Tolerance	Order Code	Price
2x5, 2x10, 2x15, 2x20, 3x6, 3x11, 3x16, 3x21, 4x7, 4x12, 4x17, 4x22, 5x8, 5 x23, 6x9, 6x14, 6x19, 6x24	2	24	100	IT 5	26254010	**£226.45**
8x11, 8x16, 8x21, 8x26, 8x31, 8x36, 10x13, 10x18, 10x23, 10x28, 10x33, 10x38, 12x15, 12x20, 12x25, 12x30, 12x35, 12x40, 14x17, 14x22, 14x27, 14x32, 14x27, 14x32, 14x37, 14x42	8	42	125	IT 5	26254020	**£260.41**
8x11, 8x16, 8x21, 8x26, 8x31, 8x36, 10x13, 10x18, 10x23, 10x28, 10x33, 10x38, 12x15, 12x20, 12x25, 12x30, 12x35, 12x40, 14x17, 14x22, 14x27, 14x32, 14x27, 14x32, 14x37, 14x42	8	42	150	IT 5	26254030	**£278.95**

PARALLEL REST SETS

DIN 7168 Corrugated



Features
- In pairs, tolerance IT 5, nominal dimensions to DIN ISO 2768-1, tolerance group m
- Hardened and tempered spring steel
- Precision-ground
- Parallelism tolerance +/- 0.004mm

Advantage
- No chips
- Parallelism of clamped workpiece is not impaired
- Several flat or single thin workpieces can be clamped easily

Width	Thickness	Parallel Rest Height mm	Order Code	Price
110	0.3	9, 11, 13, 15, 17, 19, 21, 23	26258110	**£60.06**
		25, 27, 29, 31, 33, 35, 37, 39	26258120	**£66.88**

PARALLELS 150MM WIDE, SINGLE PAIRS



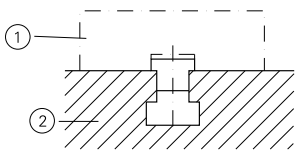
Application
For the parallel mounting of workpieces in machine vices, on machine tools or devices.

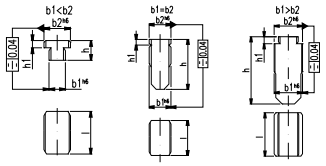
Features
- Made of steel, hardened and ground
- Height tolerance within a 0.01mm pair
- Remaining dimensions in accordance with DIN ISO 2768m

Width	Thickness	Pair Tolerance mm	Height	Nominal Tolerance Width and Height	Nominal Tolerance Height	Order Code	Price
150	10	0.01	14	+/- 0.02	-	26256114	**£12.98**
			16			26256116	**£13.73**
			18			26256118	**£14.53**
			20			26256120	**£15.31**
			22			26256122	**£16.11**
			24			26256124	**£16.81**
			26			26256126	**£17.58**
			28			26256128	**£18.36**
			30			26256130	**£19.13**
			32			26256132	**£19.96**
			14	-	+/- 0.02	26256214	**£11.46**
			16			26256216	**£12.26**
			18			26256218	**£12.98**
			20			26256220	**£13.73**
			22			26256222	**£14.53**
			24			26256224	**£15.31**
			26			26256226	**£16.11**
			28			26256228	**£16.81**
			30			26256230	**£17.58**
			32			26256232	**£18.36**
			35		+/- 0.03	26256235	**£19.13**
			40			26256240	**£19.96**
			45			26256245	**£20.64**

LOOSE SLIDING T-NUT BLOCKS

DIN 6323





Type A Type B Type C

Application
For positioning tools on jigs

Features
- C 15 case-hardened and polished
- Order code: 212 for small machines = jig groove 12mm
- Order code: 312-322 for small machines = jig groove 20mm

Advantage
- When transporting the device, there are no sliding blocks protruding from underneath to cause a problem and the machine table cannot be damaged



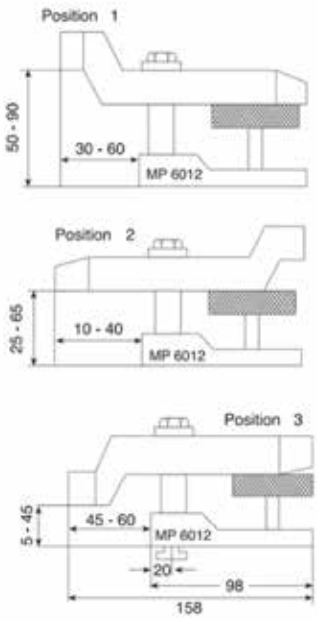
Form	B1 mm	B2 mm	H mm	H1 mm	L mm	Order Code	Price
B	12	12	28.6	5.5	20	26196212	**£16.63**
A	12	20	14	5.5	32	26196312	**£27.06**
A	14	20	14	5.5	32	26196314	**£27.30**
A	16	20	14	5.5	32	26196316	**£27.30**
A	18	20	14	5.5	32	26196318	**£27.30**
C	22	20	50.5	-	40	26196322	**£41.43**

3-WAY MULTI COMBINED TOP CLAMP

- Versatile clamp can be used in 3 different positions:
  a) 50-90mm height range
  b) 25-65mm height range
  c) 5-45mm height range
- 10-60mm clamping length
- 60mm wide compact design
- Different size T-Nuts on request (*Supplied with 16mm T-Nuts, see first column for possible range)







MIKSAN

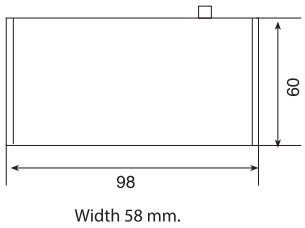
Table Slot Size Range*	Width	kg	Clamping Force Kgf	Order Code	Price
14-20 (16*)	60	2.5	2200	1168-MP601216	**£140.07**

3 WAY MULTI COMBINED TOP CLAMP RISER

- 60mm high
- Multiple supports can be used
- For 1168-MP601216 clamps







Width 58 mm.

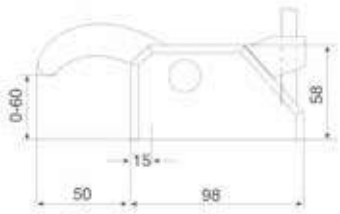
MIKSAN

Applicable Top Clamp	Height	Order Code	Price
1168-MP601216	60	1168-MY602116	**£53.87**

HEAVY DUTY COMBINED TOP CLAMP

- Heavy duty powerful top clamp
- Fixed type for increased power
- Different size T-Nuts on request (*Supplied with 16mm T-Nuts, see first column for possible range)





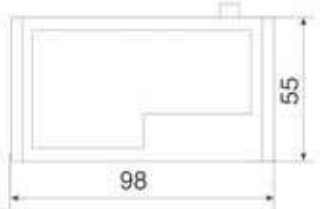
MIKSAN

Table Slot Size Range*	Height Range	Reach	Width	Clamp Force Kgf	Order Code	Price
16-24 (16*)	0-60	50	72	5000	1168-MEP501116	**£145.68**

HEAVY DUTY COMBINED TOP CLAMP RISER

- 55mm high
- Multiple supports can be used
- For 1168-MPK5022 clamps





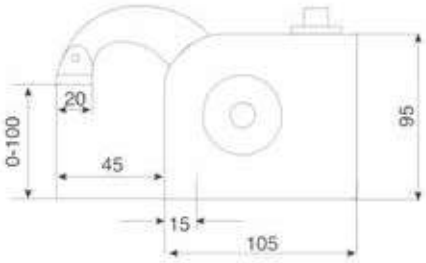
MIKSAN

Applicable Top Clamp	Height	Width	Order Code	Price
1168-MEP501116	48	72	1168-MPK5022	**£56.19**

SLIMLINE COMBINED TOP CLAMP

- Powerful clamping
- Up to 125mm high clamping (or higher with bottom supports)
- 40mm wide compact design
- Different size T-Nuts on request (*Supplied with 16mm T-Nuts, see first column for possible range)





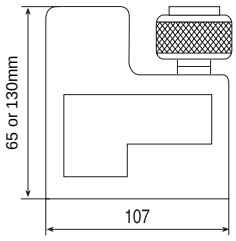
MIKSAN

Table Slot Size Range*	Height Range	Reach	Width	Clamping Force Kgf	Order Code	Price
12-20 (16*)	0-100	45	40	1600	1168-MB101116	**£141.88**
	0-125	75	40	1600	1168-MBU103116	**£154.91**

SLIMLINE COMBINED TOP CLAMP RISER

- 65 or 130mm high
- Multiple supports can be used
- For 1168-MB101116 or MBU103116 clamps





Width 40 mm.

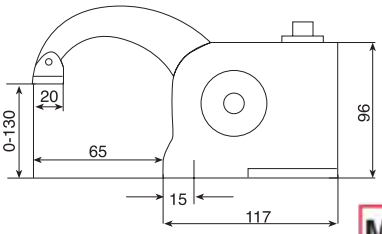
MIKSAN

Applicable Top Clamp	Height	Width	Order Code	Price
1168-MB101116 or 1168-MBU103116	65	40	1168-MK1021	**£61.91**
	130	40	1168-MK1022	**£71.65**

SLIMLINE COMBINED TOP CLAMP

- Powerful clamping
- Up to 130mm high clamping (or higher with bottom supports)
- 40mm wide compact design
- Different size T-Nuts on request (*Supplied with 16mm T-Nuts, see first column for possible range)





MIKSAN

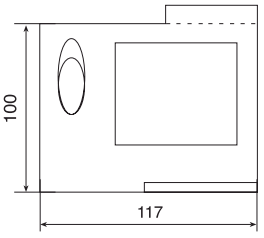
Table Slot Size Range*	Height Range	Reach	Width	Clamping Force Kgf	Order Code	Price
12-20 (16*)	0-130	65	40	1600	1168-MFB204116	**£151.68**

SLIMLINE COMBINED CLAMP RISER

- 100mm high
- Multiple supports can be used
- For 1168-MFB204116 clamps







Width 40 mm.

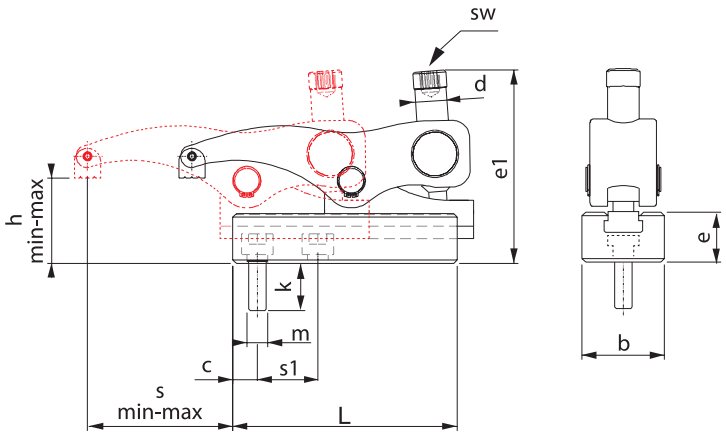
MIKSAN

Applicable Top Clamp	Height	Width	Clamping Force Kgf	Order Code	Price
1168-MFB204116	100	40	1600	1168-MFK204216	**£52.02**

SLIDING TOP CLAMPS

- Versatile and powerful top clamp
- Sliding type for increased forward and backward clamping range
- Various height ranges
- Different size T-Nuts on request (*T-nut supplied in brackets)











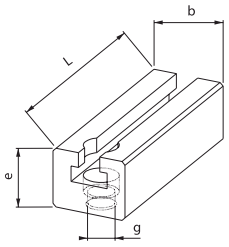
*Part numbers ending in T supplied with T-Nut, part numbers ending in M supplied without T-Nut

ER-EL

T-Slot Range	m	Clamp Series	h min	h max	s	s1	e1	d	sw	L	e	b	c	Clamp Force Kgf	Nm	kg	Order Code	Price
12-18	M10	1120	0	50	12-66	25	100	M14	8	104	35.5	38	13	1600	50	1.74	1120-010M	**£127.69**
14-18 (*16)	M12		0													1.76	1120-016T	**£130.20**
12-18	M10		0		12-81					130						1.98	1120-010LM	**£165.98**
14-18 (*16)	M12		0													2.00	1120-016LT	**£169.26**
14-22 (*16)	M12	1130	0	60	15-83	30	113	M18	10	130	39	48	17.5	2000	100	3.06	1130-016T	**£145.02**
18-28	M16		0													3.06	1130-016M	**£141.87**
14-22 (*16)	M12		0		15-107					170						3.84	1130-016LT	**£188.52**
18-28	M16		0													3.84	1130-016LM	**£184.42**
18-28 (*18)	M16	1150	0	65	18-96	35	125	M20	12	140	43	55	19.5	2500	150	4.41	1150-118T	**£156.06**
22-28	M20		0													4.41	1150-120M	**£159.19**
18-28 (*18)	M16		0		18-128					200						5.77	1150-118LT	**£202.86**
22-28	M20		0													5.77	1150-120LM	**£206.94**
22-28 (*24)	M20	1160	20	80	17-92	41.5	175	M24	12	178	55	74	24	5500	200	9.12	1160-224T	**£340.45**
22-28 (*24)	M20		20		12-148					256				5500	280	12.21	1160-224LT	**£442.92**

SLIDING TOP CLAMP RISERS





ER-EL

g	Applicable Clamps	T-Slot	L	b	e	kg	Order Code	Price
M10/M12	1120-010M 1120-016T	14	104	38	38	0.8	1120-040	**£44.33**
M10/M12	1120-010LM 1120-016LT	14	130	38	38	1.3	1120-140	**£67.52**
M12/M16	1130-016T 1130-016M	14	130	48	45	1.6	1130-045	**£52.57**
M12/M16	1130-016LT 1130-016LM	14	170	48	45	2.1	1130-145	**£81.23**
M16/M18/M20	1150-118T 1150-120M	18	140	55	48	2.1	1150-048	**£58.23**
M16/M18/M20	1150-118LT 1150-120LM	18	200	55	48	2.1	1150-148	**£86.43**
M20/M22/M24	1160-224T	28	178	74	55	3.9	1160-059	**£107.56**
M20/M22/M24	1160-224LT	28	256	74	55	3.9	1160-159	**£148.25**

ECCENTRIC FITTING TENSIONING CLAMPS

For Fixture Plates



Application

Workpieces of any desired shape can be clamped with stop pins and one or two clamping screws

Contents

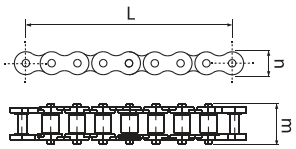
- Quick and uncomplicated clamping
- Compact size allows multiple workpieces to be clamped
- Outstanding accessibility, perfect for 5-axis machining
- Cost-effective clamping

ER-EL

Width Across Flats mm	Thread Dimension	Hexagonal Disc Height mm	Thread Length mm	No. of Pieces	Order Code	Price
8	M4	2.8	10	10	26222234	**£66.02**
16	M6	4.8	12	10	26222236	**£63.38**
20	M8	4.8	16	12	26222238	**£83.41**
20	M10	6.4	20	10	26222240	**£76.09**
20	M8	20	16	4	26222237	**£113.46**
25	M12	9.5	25	8	26222242	**£82.18**
30	M16	12.7	30	4	26222246	**£65.72**

FIXTURE CHAIN KIT

- Designed for clamping of cylindrical and oval workpieces
- Kit contains chain, setting unit and hook unit





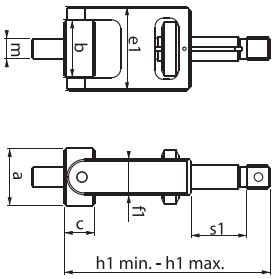
ER-EL

T-Slot Range	Bolt	Torque Nm	Clamp Force Kgf	L	m	n	kg	Order Code	Price
14-18	M12	45	1500	125	20	15	1.41	2020-120125	**£610.55**
				250			1.52	2020-120250	**£614.72**
				500			1.75	2020-120500	**£621.67**
				1000			2.21	2020-121000	**£631.41**
18-24	M16	90	4000	125	33	21	3.49	2020-160125	**£816.40**
				250			3.81	2020-160250	**£821.95**
				500			4.48	2020-160500	**£827.51**
				1000			5.82	2020-161000	**£833.07**

FIXTURE CHAIN SETTING UNIT

- Spare setting units for ER-EL fixture chains





ER-EL

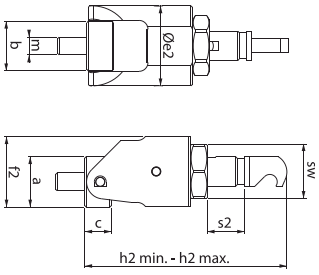
T-Slot Range	a	b	c	e1	f1	h1 min	h2 max	m	s1	Clamp Force Kgf	Order Code	Price
14-18	36	36	18	49	21	96	125	M12	35	1500	2020-12125	**£203.76**
18-24	37	44	25	64	29	117	162	M16	45	4000	2020-16162	**£236.17**

FIXTURE CHAIN HOOK UNIT

- Spare hook units for ER-EL fixture chains







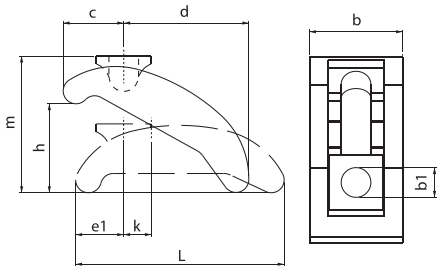
ER-EL

T-Slot Range	a	b	c	e2	f2	h2 min	h2 max	m	s2	sw	Torque Nm	Clamp Force Kgf	Order Code	Price
14-18	36	36	18	54	49	111	127	M12	16	36	45	1500	2020-12127	**£432.55**
18-24	37	44	25	70	62	140	170	M16	30	46	90	4000	2020-16170	**£541.03**

STEPPED COUPLING CLAMP

- Forged steel, hardened, zinc coated
- Features 4 step positions (dimension K) on underside of clamp







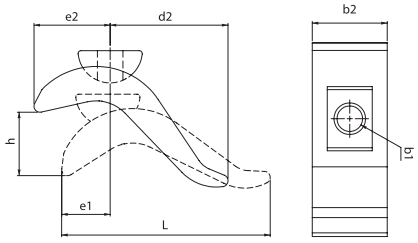
ER-EL

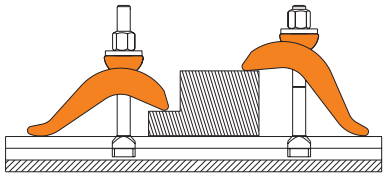
b1	m	h	bxL	c	d	e1	k (x3)	Order Code	Price
13	52	0-40	40x90	28	48	23	14	1210-013	**£29.78**
18	80	0-60	58x130	38	74	29	18	1210-017	**£39.27**

S CLAMP

- Forged steel, hardened, zinc coated







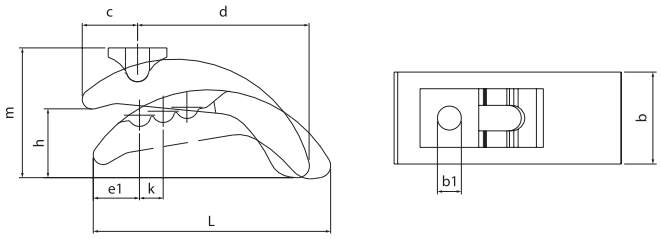
ER-EL

b1	b2xL	d	e1	e2	h	Order Code	Price
17	50x140	60	30	55	75	1200-50140	**£36.53**
21	60x175	80	40	70	85	1200-60175	**£52.29**

STEPPED COUPLING CLAMP

- Forged steel, hardened, zinc coated
- Features 3 step positions (dimension K) on underside of clamp







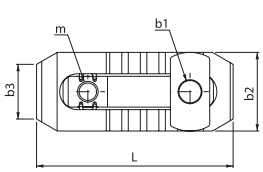
ER-EL

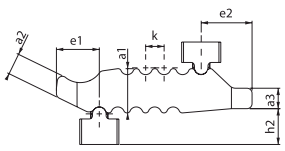
b1	m	h	bxL	c	d	e1	k (x3)	Order Code	Price
17	93	15-50	65x165	39	125	30	17	1205-017	**£47.12**
21	111	20-65	75x189	43	146	33	19	1205-021	**£62.31**

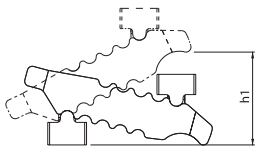
STEPPED CROCODILE CLAMP

- Forged steel, hardened
- The clamp support and clamping shoe are retained in the clamp, the unit can be turned over depending on use









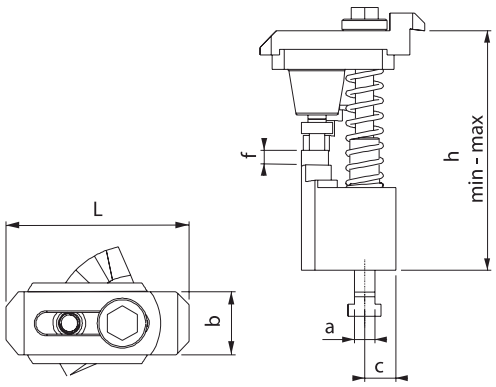
ER-EL

T-Slot Range	a1	a2	a3	b2xL	b3	e1	e2	h2	k	b1	m	h1	Clamp Force Kgf	kg	Order Code	Price
10-12-14	27	12.5	12	44x115	30	25	30	21	11	13	M12	0-55	3000	0.5	1195-44115	**£46.38**
12-14-16-18	36	18	17	55x150	41	35	36	23	12	17	M16	0-70	4000	1.4	1195-55150	**£55.63**
16-18-20-22	42	25	20	63x187	30	44	44	32.5	14	21	M20	0-80	6000	2.2	1195-63187	**£72.33**
20-22-24-28	51	36.5	24	70x235	30	60	47	34	17	25	M20	0-100	7500	3.5	1195-70235	**£105.70**

STEPPED COMBINED TOP CLAMP

- Double sided sliding top clamp
- Step positions enable a range of clamping heights
- Spring loaded
- T-nut not provided (M12 bolt)







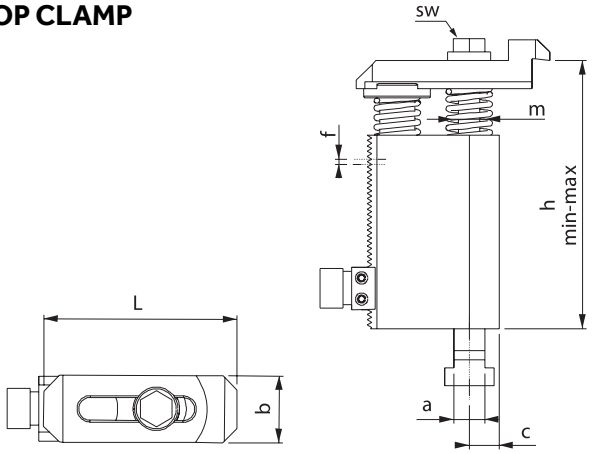
ER-EL

a T-Slot Range	h min-max	f	c	L	b	kg	Order Code	Price
14-22	40 - 80	5	16	110	38	1.2	1230-01	**£51.96**
	70 - 125	10	16			1.5	1230-02	**£53.79**
	120 - 175	10	18			2.7	1230-03	**£64.46**
	170 - 225	10	23			4.2	1230-04	**£75.97**

COMBINED COUPLING TOP CLAMP

- Double sided top clamp
- Spring loaded
- T-nut not provided (M12 bolt)







ER-EL

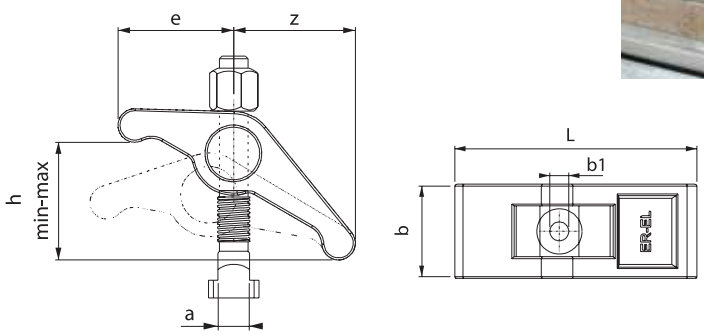
a T-Slot Range	h min-max	f	c	L	b	Clamping Force Kgf	Nm	kg	Order Code	Price
14-22	80-137	3	17	110	38	2250	85	2.0	1250-02	**£133.18**
	125-224							2.8	1250-03	**£217.12**
	160-300							3.9	1250-04	**£250.62**

UNSUPPORTED SUSPENSION TOP CLAMP

- Forged steel, hardened
- The clamp pivots and can be used at different heights on either side







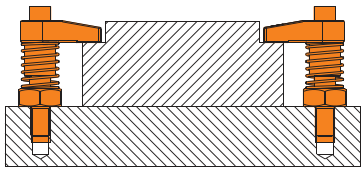
ER-EL

T-Nut	h min-max	Bolt	b1	e	z	L	b	kg	Order Code	Price
12	0-45	M10x12x125	11	48	61	109	40	0.6	1270-1012	**£31.12**
14		M12x14x125	13					0.7	1270-1214	**£35.25**
16	0-55	M14x16x125	15	57	72	129	50	1.2	1270-1416	**£41.61**
18		M16x18x125	17					1.3	1270-1618	**£43.47**

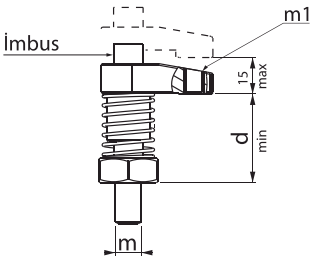
COMBINED TOP CLAMP

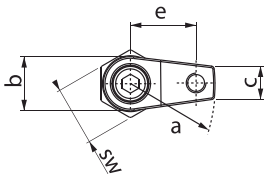
1275 Series

- Hardened
- Ideal for working in restricted areas
- Spring loaded adjustable height







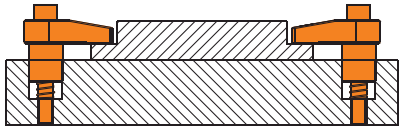


a	b	c	d	e	m	sw	m1	Bolt	Clamp Force Kgf	Nm	kg	Order Code	Price
30	28	16	40	23	M12	30	M8	M10	750	20	0.3	1275-3012	**£58.80**
50	32	20	45	40	M12	36	M12	M12	1000	30	0.5	1275-5012	**£67.69**
50	32	20	45	40	M16	36	M12	M12	1000	30	0.5	1275-5016	**£72.07**

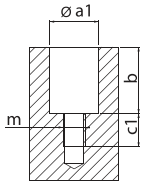
COMBINED TOP CLAMP

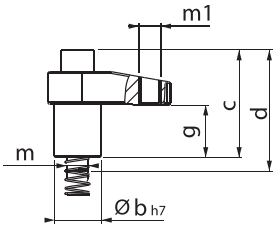
1280 Series

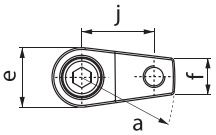
- Hardened
- Ideal for working in restricted areas and for locating clamp within plates







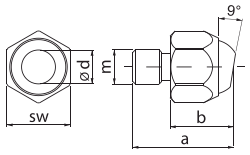




a	Ø b h7	c	d	e	f	g	m	m1	j	Clamp Force Kgf	a1 F7	b	c1	kg	Order Code	Price
30	22	58	80	28	16	30	M10	M8	23	750	22	30	20	0.22	1280-3010	**£33.12**
50	26	70	90	32	20	40	M12	M12	40	1000	26	40	25	0.40	1280-5012	**£46.56**
60	32	74	95	40	25	40	M16	M16	45	1000	32	40	25	0.61	1280-6016	**£62.69**

SHORT LENGTH PIVOTING PAD

- Smooth or serrated pad for use with combined top clamps
- For uneven or sloped workpieces
- Head can pivot up to 9°

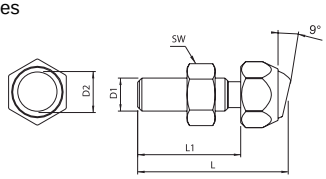




a	b	m	d	sw	Order Code			
					Smooth	Price	Serrated	Price
25	12	M8	8	14	1282-0825	**£25.83**	1283-0825	**£32.53**
30	17	M10	10	17	1282-1030	**£32.40**	1283-1030	**£36.07**
35	22	M12	12	22	1282-1235	**£37.10**	1283-1235	**£40.06**
42	26	M14	14	27	1282-1642	**£42.65**	1283-1642	**£50.38**

LONG LENGTH PIVOTING PAD

- Serrated pad for use with combined top clamps
- For uneven or sloped workpieces
- Head can pivot up to 9°
- With nut for length adjustment



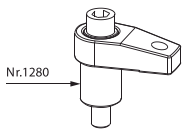


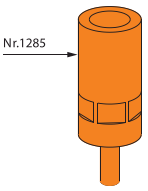
L	L1	D1	D2	sw	Order Code	Price
36.6	25	M8	8	13	1283-25T	**£43.81**
45.7	30	M10	10	17	1283-30T	**£44.86**
50.7	35	M12	12	17	1283-35T	**£46.26**
60.7	40	M16	14	24	1283-40T	**£52.28**

TOP CLAMP EXTENSION

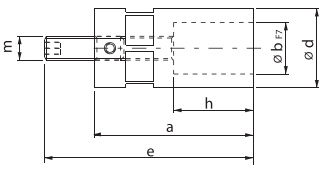
1285 Series

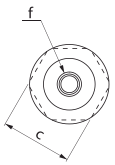
- For use with combined top clamp 1280









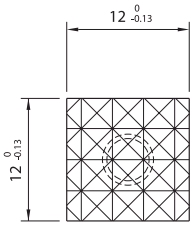


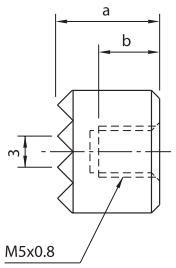
a	b	c	d	e	f	m	h	Order Code	Price
80	26	36	40	110	M12	M12	40	1285-12080	**£40.33**
100	26	36	40	130	M12	M12	40	1285-12100	**£41.74**
80	32	46	50	110	M16	M16	40	1285-16080	**£48.42**
100	32	46	50	130	M16	M16	40	1285-16100	**£53.59**

SQUARE SERRATED PRESSURE
Pad (1287CT)

- Threaded blind hole on underside







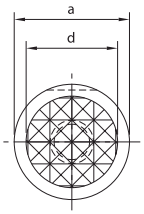
ER-EL

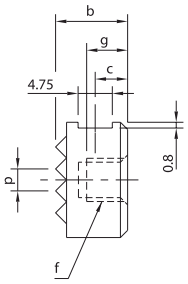
a	b	Order Code	Price
12	7.8	1287-CT9120	**£28.00**

ROUND SERRATED PRESSURE
Pad (1288CT)

- Threaded blind hole on underside







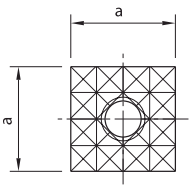
ER-EL

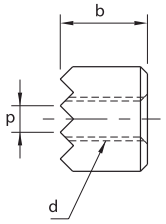
a	b	c	d	f	g	p	Order Code	Price
10	12	6	7.9	M5	8	2.3	1288-CT102	**£20.01**
12	12	6	9.5	M5	8	3	1288-CT122	**£20.80**
16	12	6	12.7	M6	7.8	3	1288-CT162	**£23.19**
20	12	6	15.9	M6	7.8	3	1288-CT202	**£26.39**
25	12	6	19.1	M6	7.8	3	1288-CT252	**£28.00**

SQUARE SERRATED PRESSURE
Pad (1287HS)

- Threaded through hole







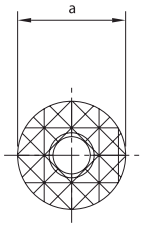
ER-EL

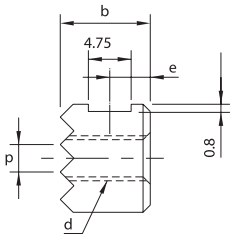
a	b	d	p	Order Code	Price
10	12	M5	2.3	1287-HS9102	**£26.39**
12	12	M5	3	1287-HS9122	**£28.79**
16	12	M6	3	1287-HS9160	**£31.20**
20	12	M5	3	1287-HS9202	**£35.20**
25	12	M6	3	1287-HS9252	**£38.08**

ROUND SERRATED PRESSURE
Pad (1288HS)

- Threaded through hole







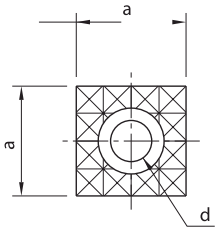
ER-EL

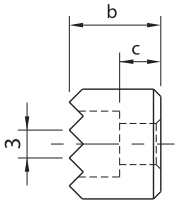
a	b	d	e	p	Order Code	Price
10	12	M5	6	2.3	1288-HS102	**£20.80**
12	12	M5	6	3	1288-HS122	**£22.39**
16	12	M6	6	3	1288-HS162	**£23.99**
20	12	M6	6	3	1288-HS202	**£27.18**
25	12	M6	6	3	1288-HS252	**£31.20**

SQUARE SERRATED PRESSURE
Pad (1287HSC)

- Countersunk threaded through hole







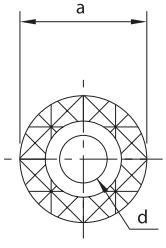
ER-EL

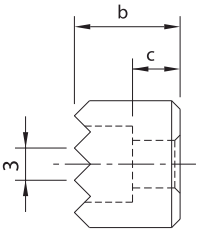
a	b	c	d	Order Code	Price
12	12	6.5	M4	1287-HS9122C	**£29.59**
16	12	4.5	M4	1287-HS9160C	**£32.79**
20	12	5.5	M5	1287-HS9202C	**£36.00**
25	12	4.5	M6	1287-HS9252C	**£38.88**

ROUND SERRATED PRESSURE
Pad (1288HSC)

- Countersunk threaded through hole







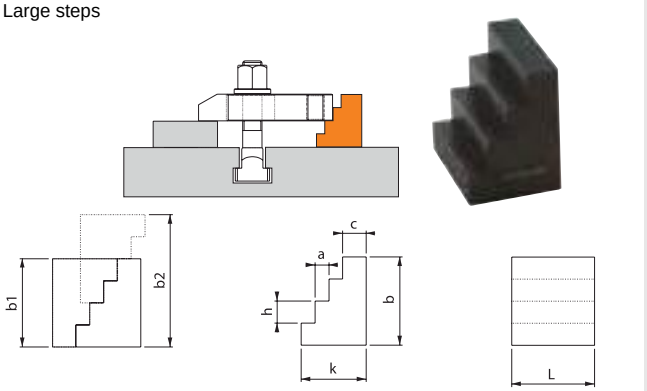
ER-EL

a	b	c	d	Order Code	Price
12	12	6.5	M4	1288-HS122C	**£23.19**
16	12	6.5	M4	1288-HS162C	**£25.58**
20	12	6.5	M5	1288-HS202C	**£28.79**
25	12	6.5	M6	1288-HS252C	**£31.20**

STEP BLOCK

1580 Series

- Large steps



ER-EL

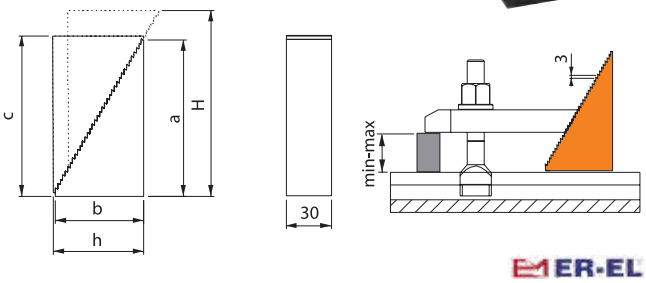
h	a	c	k	b	L	b1	b2	Order Code	Price
13	8	13	37	52	50	52	78	1580-050	**£24.66**
16	10	17	47	64	60	64	96	1580-060	**£29.64**
19	13	18	57	76	70	76	114	1580-070	**£39.70**

SERRATED STEP BLOCK

1310 Series

- Block support for use with step block clamp (1290)
- 3mm steps





ER-EL

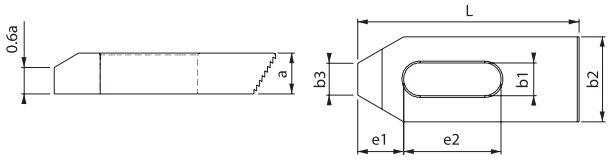
h-H	a	b	c	Min/ Max	kg	Order Code	Price
37-85	57	35	60	0-40	0.5	1310-01	**£17.76**
48-112	73	45	76	0-60	0.8	1310-02	**£20.36**
58-139	90	55	93	0-75	1.2	1310-03	**£28.38**
66-165	108	64	111	0-90	1.6	1310-04	**£30.50**

SERRATED STEP BLOCK CLAMP

1290 Series

- Clamp for use with step block
- 3mm steps





ER-EL

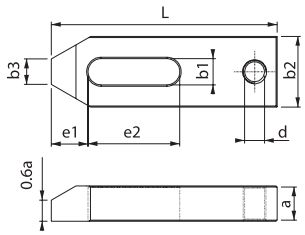
L	Bolt Size	b1	a	b2	b3	e1	e2	Order Code	Price
50	M6	6.6	10	20	8	10	20	1290-06050	**£9.65**
80	M6	6.6	10	20	8	10	30	1290-06080	**£14.65**
60	M8	9	12	25	10	13	22	1290-08060	**£11.30**
80	M10	11	15	30	12	15	30	1290-10080	**£11.30**
100	M12-M14	14.5	20	40	14	21	45	1290-12100	**£16.88**
125	M16-M18	18.5	25	50	18	26	55	1290-16125	**£19.05**

STRAIGHT CLAMP

1330 Series

- Straight clamp with slot and threaded hole





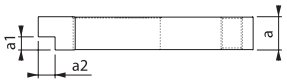
ER-EL

Bolt Size	L1	b1	a	b2	b3	e1	e2	d	Order Code	Price
M6	50	6.6	10	20	8	10	20	M8	1330-06050	**£6.35**
M8	60	9	12	25	10	13	22	M8	1330-08060	**£8.41**
M10	80	11	15	30	12	15	30	M10	1330-10080	**£8.75**
M12-M14	100	14.5	20	40	14	21	40	M12	1330-12100	**£10.72**
M16-M18	125	18.5	25	50	18	26	45	M16	1330-16125	**£15.78**
M20-M22	160	22.5	30	60	22	30	60	M20	1330-20160	**£27.74**
M24	160	26	30	70	26	35	60	M24	1330-24160	**£31.83**

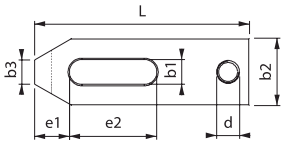
STRAIGHT CLAMP WITH STEP

1370 Series

- Stepped clamp with slot and threaded hole
- Ideal for clamping in restricted areas







ER-EL

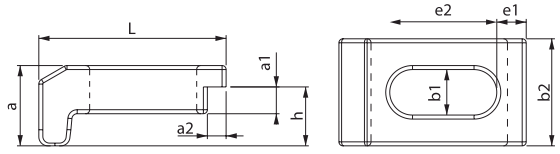
Bolt Size	L	b1	a	b2	a1xa2	b3	e1	e2	d	Order Code	Price
M10	80	11	15	30	5x8	12	15	30	M10	1370-10080	**£9.89**
M12-M14	100	14.5	20	40	8x10	14	21	40	M12	1370-12100	**£11.62**
M12-M14	125	14.5	20	40	8x10	14	21	50	M12	1370-12125	**£13.43**
M16-M18	125	18.5	25	50	10x12.5	18	26	45	M16	1370-16125	**£17.57**
M16-M18	160	18.5	25	50	10x12.5	18	26	60	M16	1370-16160	**£20.21**
M20-M22	160	22.5	30	60	12x15	22	30	60	M20	1370-20160	**£31.03**
M24	160	26	30	70	12x15	26	35	60	M24	1370-24160	**£35.08**

SLIDING PLATE CLAMP

1387 Series

- Ideal for clamping vices to machine table
- Can be used with support





ER-EL

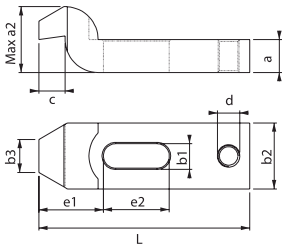
Bolt Size	L1	b1	a	b2	a1xa2	e1	e2	h	Order Code	Price
M12	70	13	21.5	40	8x6	11	40	14	1387-12070	**£13.77**
M16	70	17	29.5	40	10x7	11	40	22	1387-16070	**£14.65**

Z NECK CLAMP

1450 Series

- Z neck clamp with slot and threaded hole
- Clamp design provides machining clearance from the clamping bolt





ER-EL

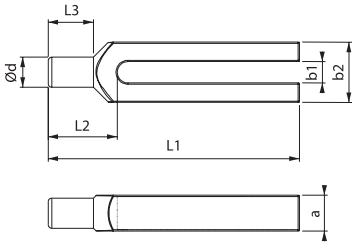
Bolt Size	L1	b1	a	a2	b2	b3	c	e1	e1	d	Order Code	Price
M6	60	6.6	10	20	20	10	8	20	20	M8	1450-06060	**£10.52**
M8	80	9	12	24	25	12	9	25	25	M8	1450-08080	**£11.69**
M10	100	11	15	30	30	15	12	32	32	M10	1450-10100	**£12.81**
M12-M14	125	14.5	19	40	38	20	16	40	40	M12	1450-12125	**£16.53**
M16-M18	160	18.5	24	50	48	25	20	49	50	M16	1450-16160	**£21.79**
M20-M22	200	22.5	29	58	58	30	24	55	70	M20	1450-20200	**£35.72**
M24	200	26	33	70	70	35	25	72	60	M24	1450-24200	**£49.16**

PIN HEAD FORK CLAMP

1470 Series

- Pin head of clamp is designed for locating in a hole





ER-EL

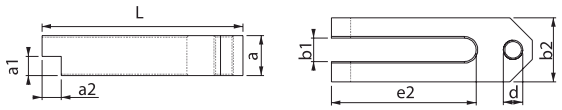
Bolt Size	L1	b1	a	b2	Ød	L2	L3	Order Code	Price
M8	100	6.6	15	30	12	30	18	1470-08100	**£20.04**
M10	125	11	20	30	16	36	24	1470-10125	**£21.89**
M12-M14	160	11	25	40	20	45	30	1470-12160	**£25.94**
M16-M18	200	18.5	30	50	24	55	36	1470-16200	**£28.20**
M20-M22	250	22.5	40	60	30	65	45	1470-20250	**£52.51**
M24	250	26	40	70	38	80	56	1470-24250	**£61.02**

FORK CLAMP WITH STEP

1400 Series

- Step forked clamp with slot and threaded hole
- Ideal for clamping in restricted areas





ER-EL

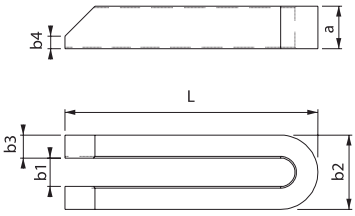
Bolt Size	L	b1	a	e2	a1xa2	b2	d	Order Code	Price
M10	100	11	20	70	10x10	30	M10	1400-10100	**£18.38**
M12-14	125	14.5	25	90	12x12	40	M12	1400-12125	**£20.32**
M16-18	160	18.5	30	110	15x15	50	M16	1400-16160	**£32.28**
M20-22	200	22.5	40	135	20x20	60	M20	1400-20200	**£48.03**

FORK CLAMP

1390 Series

- Clamping bolt can be used in a wide range of positions





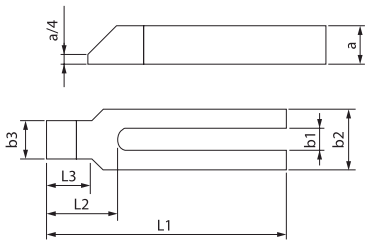
ER-EL

Bolt Size	L	b1	a	b2	b3	b4	Order Code	Price
M6	60	6.6	12	19	6.2	3	1390-06060	**£7.73**
M8	80	9	15	25	8	4	1390-08080	**£9.07**
M10	100	11	20	30	9.5	5	1390-10100	**£10.07**
M12-M14	125	14.5	25	38	12	6	1390-12125	**£10.77**
M12-M14	200	14.5	25	38	12	6	1390-12200	**£15.05**
M16-M18	200	18.5	27	48	15	8	1390-16200	**£18.88**
M20-M22	250	22.5	37	62	20	10	1390-20250	**£32.99**
M24	250	26	37	66	20	10	1390-24250	**£43.70**

SLOTTED CLAMP

1320 Series





ER-EL

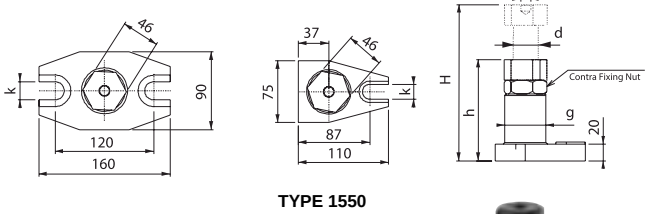
Bolt Size	L1	a	b1	b2	b3	L2	L3	Order Code	Price
M8	100	15	9	30	16	32	18	1320-08100	**£15.30**
M10	125	20	11	30	20	38	24	1320-10125	**£20.21**
M12-M14	160	25	14.5	40	24	47	30	1320-12160	**£20.82**
M12-M14	200	25	14.5	40	24	47	30	1320-12200	**£23.57**
M16-M18	200	30	18.5	50	28	57	36	1320-16200	**£30.40**
M16-M18	250	30	18.5	50	28	57	36	1320-16250	**£40.49**
M24	250	40	26	70	43	83	56	1320-24250	**£60.78**

ADJUSTABLE SUPPORT JACK

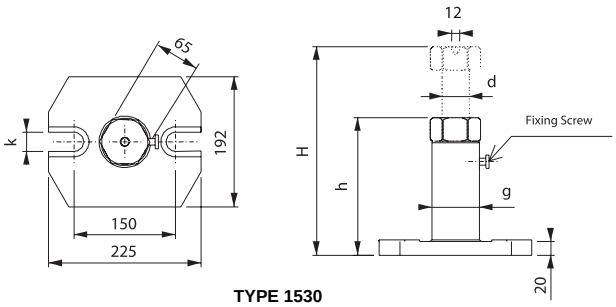
1550/1530 Series

- Adjustable heavy duty support jack
- Ideal for horizontal machining
- 12mm hole in top of jack for attaching with clamps





TYPE 1550



TYPE 1530



ER-EL

Height Range	d	Type	g	k	Max Force Kgf	kg	Order Code	Price
100-140	Tr30x6	1550	49	18	6000	2.05	1550-100	**£57.71**
140-200	Tr30x6		49	18	6000	2.45	1550-140	**£72.99**
200-320	Tr30x6		49	22	4000	3.90	1550-200	**£100.88**
320-550	Tr30x6		49	22	2500	5.15	1550-320	**£126.12**
200-300	Tr40x7	1530	69	28	8000	10.0	1530-200	**£161.72**
280-460	Tr40x7		69	28	6000	11.8	1530-280	**£200.29**
430-750	Tr40x7		69	28	5000	14.2	1530-430	**£261.09**
710-1250	Tr40x7		69	28	4000	20.9	1530-710	**£378.29**

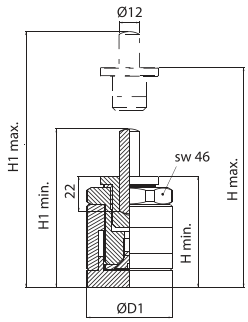
MAGNETIC CLAMP JACK

1515 Series

- Adjustable magnetic support jack
- Ideal for horizontal machining
- 12mm shank in top of jack for attaching with clamps







ER-EL

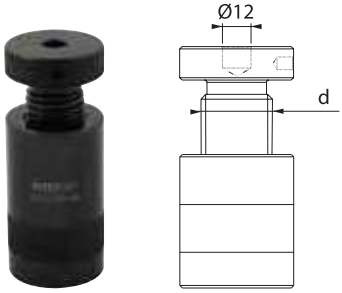
H min	H max	D1	Ø12x50 H1 min.-H1 max.	Ø12x80 H1 min.-H1 max.	Max Force Kgf	Order Code	Price
65	85	50	93-113	123-143	3000	1515-065085	**£139.16**
85	125	50	113-153	143-183	3000	1515-085125	**£150.13**

ADJUSTABLE CLAMP JACK

1510 Series

- Adjustable support jack
- 12mm hole in top of jack for attaching with clamps or jack accessories



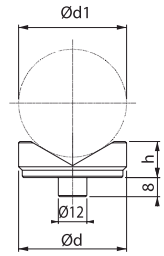


ER-EL

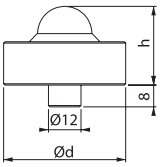
Height Range	d	Base Diameter	Top Diameter	Max Force Kgf	Order Code	Price
23-30	M16	34	32	1000	1510-023030	**£10.49**
40-60	M16	34	32	1800	1510-040060	**£11.79**
42-52	Tr 30x4	50	50	6000	1510-042052	**£17.81**
50-70	Tr 30x4	50	50	6000	1510-050070	**£24.49**
70-100	Tr 30x4	50	50	6000	1510-070100	**£30.32**
100-140	Tr 30x4	50	50	6000	1510-100140	**£40.61**
140-220	Tr 30x4	54	54	6000	1510-140220	**£52.85**
210-330	Tr 30x6	58	58	8000	1510-210330	**£111.15**
260-430	Tr 30x6	68	68	8000	1510-260430	**£161.15**

JACK ACCESSORIES

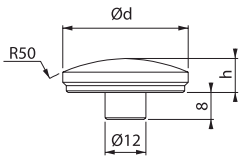
- Clamping supports for support jacks 1550,1530,1510,1520 & 1517



V-Support 1565



Ball support 1560



Radius top support 1550

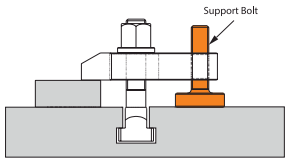
ER-EL

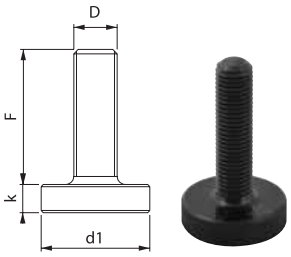
h	Ød	Ød min	Ød max	Order Code	Price
10	37	-	-	ER-1550	**£57.20**
25	45	-	-	ER-1560	**£21.86**
15	45	10	50	ER-1565	**£17.49**

CLAMP SUPPORT

1490 Series

- Threaded support bolt for clamps





ER-EL

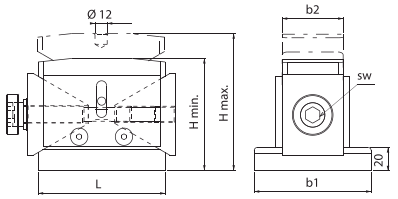
D x F	d1	k	Order Code	Price
M8x32	25	8	1490-08032	**£8.90**
M10x42	30	8	1490-10042	**£9.84**
M12x50	36	10	1490-12050	**£10.40**
M12x95	36	10	1490-12095	**£14.47**
M16x62	45	13	1490-16062	**£12.81**
M16x97	45	13	1490-16097	**£16.33**
M16x117	45	13	1490-16117	**£17.63**
M20x62	50	13	1490-20062	**£13.45**
M20x97	50	13	1490-20097	**£16.60**
M20x117	50	13	1490-20117	**£18.45**
M24x81	50	14	1490-24081	**£16.41**
M24x116	50	14	1490-24116	**£21.34**

ADJUSTABLE SUPPORT JACK

1520 Series

- Designed for supporting and lifting of heavy workpieces
- Supreme lifting ability





ER-EL

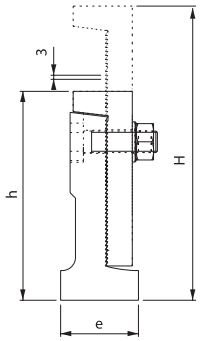
H Min/Max	b1	b2	L	sw	Max Force Kgf	kg	Order Code	Price
50-63	-	40	63	8	4000	1.8	1520-050063	**£209.62**
100-125	115	125	125	14	10000	9.9	1520-100125	**£442.69**
170-190	145	175	175	22	25000	28	1520-170190	**£1,036.96**

ADJUSTABLE SUPPORT

1585 Series

- With serrated teeth for secure support under high weight loads







ER-EL

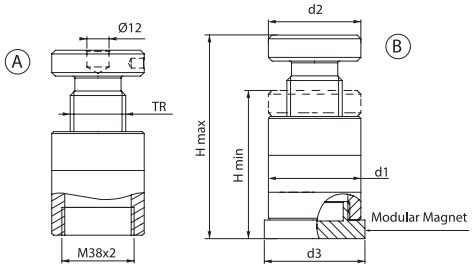
h-H	e	Max Force Kgf	kg	Order Code	Price
110-150	48x48	4000	1.1	1585-050	**£48.42**
155-220	60x58	5000	2.7	1585-060	**£80.20**
220-340	80x78	6000	6.6	1585-080	**£147.22**

MAGNETIC MODULAR JACK

1517 Series

- Adjustable support jack
- Can be used with or without magnet for different height ranges
- 12mm hole in top of jack for attaching with clamps or jack accessories





ER-EL

H Min/Max A	H Min/Max B	TR	d1	d2	d3	Max Force Kgf	kg	Order Code	Price
42-52	52-62	30x4	50		53.5	6000	0.70	1517-04262	**£72.33**
50-70	60-80						0.77	1517-05080	**£77.88**
70-100	80-110						1.05	1517-70110	**£79.75**

T-NUT STUD

1590 Series

- Threaded stud bolt with integrated T-nut
- Grade 12.9



ER-EL

Thread	T-Nut Size	Overall Length	Thread Length	Tightening Data		Order Code	Price
				Nm	kN		
M10	12	50	35	79	51	1590-1012050	£6.58
		80	55			1590-1012080	£8.02
		100	60			1590-1012100	£8.45
		160	90			1590-1012160	£10.11
M12	12	50	35	141	74	1590-1212050	£7.11
		100	65			1590-1212100	£8.44
		160	100			1590-1212160	£8.93
		200	120			1590-1212200	£9.52
M12	14	50	35	141	74	1590-1214050	£7.59
		100	65			1590-1214100	£8.98
		160	100			1590-1214160	£10.60
		200	120			1590-1214200	£11.01
M14	16	63	45	223	101	1590-1416063	£9.19
		100	65			1590-1416100	£10.60
		160	100			1590-1416160	£11.76
		200	120			1590-1416200	£13.05
		250	150			1590-1416250	£14.75
M16	16	100	65	354	138	1590-1616100	£10.90
		160	100			1590-1616160	£12.40
		200	120			1590-1616200	£13.48
		250	150			1590-1616250	£15.35
M16	18	63	45	354	138	1590-1618063	£9.94
		100	65			1590-1618100	£11.33
		200	120			1590-1618200	£13.70
		250	150			1590-1618250	£15.39
M18	20	80	55	474	168	1590-1820080	£14.53
		160	110			1590-1820160	£16.57
		200	125			1590-1820200	£18.38
		250	150			1590-1820250	£20.75
M20	20	80	55	679	215	1590-2020080	£15.40
		160	110			1590-2020160	£17.06
		250	160			1590-2020250	£21.05
		315	190			1590-2020315	£23.52

RHOMBOID T-SLOT STUD

1650 Series

- Threaded stud bolt with integrated rhomboid T-nut
- T-nut bolt can be located from above the T-slot
- Grade 12.9





ER-EL

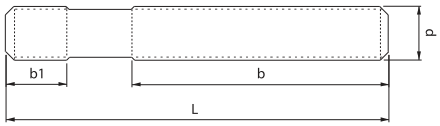
Thread	T-Nut Size	Overall Length	Thread Length	Tightening Data		Order Code	Price
				Nm	kN		
M12	14	50	35	141	74	1650-1214050	£22.66
		80	55			1650-1214080	£23.41
		125	75			1650-1214125	£25.22
M16	18	63	45	354	138	1650-1618063	£25.97
		100	65			1650-1618100	£28.85
		160	100			1650-1618160	£32.27
M20	22	80	55	679	215	1650-2022080	£38.49
		125	85			1650-2022125	£42.00
		200	120			1650-2022200	£43.08

STANDARD STUD

1690 Series

- DIN 6379 threaded stud
- Grade 12.9





ER-EL

Thread d	L	b1	b	Tightening Data		Order Code	Price
				Nm	kN		
M8	40	11	20	36	27	1690-08040	£1.20
	63		40			1690-08063	£1.23
	100		63			1690-08100	£1.51
	160		100			1690-08160	£2.26
M10	50	13	25	67	43	1690-10050	£1.47
	80		50			1690-10080	£2.07
	100		63			1690-10100	£2.34
	160		100			1690-10160	£2.96
	200		125			1690-10200	£3.50
M12	50	15	25	120	63	1690-12050	£1.76
	80		50			1690-12080	£2.19
	100		63			1690-12100	£2.71
	160		100			1690-12160	£3.31
	200		125			1690-12200	£3.55
M14	63	17	32	191	86	1690-14063	£2.32
	100		63			1690-14100	£2.94
	160		100			1690-14160	£3.87
	200		125			1690-14200	£4.48
	250		160			1690-14250	£5.65
M16	63	19	32	302	118	1690-16063	£3.07
	100		63			1690-16100	£3.60
	125		75			1690-16125	£4.11
	200		125			1690-16200	£6.42
	315		180			1690-16315	£8.69
	500		315			1690-16500	£14.70
M18	80	23	50	405	144	1690-18080	£4.59
	100		60			1690-18100	£5.28
	160		100			1690-18160	£6.95
	250		150			1690-18250	£9.64
	315		180			1690-18315	£12.34
M20	80	27	32	580	184	1690-20080	£4.94
	125		70			1690-20125	£6.71
	160		100			1690-20160	£8.70
	250		160			1690-20250	£10.11
	315		200			1690-20315	£11.55
	400		250			1690-20400	£15.98
M22	100	31	45	772	228	1690-22100	£7.89
	160		100			1690-22160	£10.02
	250		160			1690-22250	£15.07
	315		180			1690-22315	£15.52
	400		250			1690-22400	£18.34
M24	100	35	45	994	263	1690-24100	£8.13
	160		100			1690-24160	£9.81
	200		125			1690-24200	£11.55
	250		160			1690-24250	£13.77
	400		250			1690-24400	£19.05
	500		315			1690-24500	£26.21

T-SLOT SCREWS

DIN 787

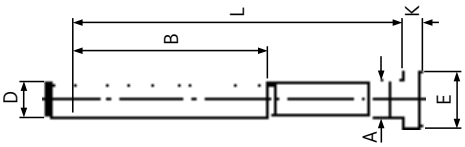
Application

For clamping workpieces on machine tables.

Features

- Tempered
- Rolled thread
- Forged
- With milled groove guide
- M8 to M12, strength class 10.9
- M16 to M24, strength class 8.8





ER-EL

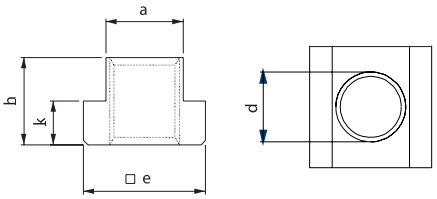
Thread Dimension	Groove Width mm	Length L mm	Outer Ø A mm	Thread Length B mm	Head Length E mm	Head Height K mm	Order Code	Price
M8	8	32	7.7	22	13	6	26200110	£7.07
		40		-			26200115	£16.84
		50		35			26200120	£7.33
		63		45			26200125	£17.89
		80		50			26200130	£7.78
		100		60			26200135	£18.51
M10	10	40	9.7	30	15	6	26200215	£7.24
		50		30			26200220	£16.53
		63		45			26200225	£6.91
		80		50			26200230	£7.32
		100		60			26200235	£7.48
		125		75			26200240	£18.90
		160		-			26200245	£19.66
M12	12	50	11.7	33	18	7	26200320	£7.32
		63		40			26200325	£7.66
		80		55			26200330	£7.78
		100		65			26200335	£8.25
		125		75			26200340	£8.47
		160		100			26200345	£9.85
		200		120			26200350	£11.50
	14	50	13.7	33	22	8	26200420	£7.38
		63		45			26200425	£7.73
		80		55			26200430	£7.92
		100		65			26200435	£8.47
		125		75			26200440	£8.77
		160		100			26200445	£9.33
		200		120			26200450	£9.79
		250		150			26200455	£24.47
M16	16	63	15.7	45	25	9	26200525	£9.79
		80		55			26200530	£10.48
		100		65			26200535	£10.73
		125		85			26200540	£11.19
		160		100			26200545	£11.82
		200		125			26200550	£12.97
		250		150			26200555	£14.91
	18	63	17.7	45	28	10	26200625	£10.48
		80		55			26200630	£10.64
		100		65			26200635	£10.80
		125		85			26200640	£11.41
		160		100			26200645	£12.67
		200		125			26200650	£13.44
		250		150			26200655	£15.38
M20	20	80	19.7	55	32	12	26200730	£15.38
		100		65			26200735	£16.00
		125		85			26200740	£16.23
		160		110			26200745	£17.09
		200		125			26200750	£19.12
		250		150			26200755	£23.61
	22	80	21.7	55	35	14	26200830	£15.38
		100		65			26200835	£16.15
		125		85			26200840	£16.47
		160		110			26200845	£17.64
		200		125			26200850	£19.89
		250		150			26200855	£21.43
M24	24	100	23.7	70	40	16	26200935	£23.45
		125		85			26200940	£24.62
		160		110			26200945	£25.79
		200		125			26200950	£27.18
		250		150			26200955	£30.06
	28	125	27.7	85	44	18	26200965	£25.01
		160		110			26200970	£26.48
		200		125			26200975	£27.82
		250		150			26200980	£30.93

STANDARD T-NUT

1750 Series

- Hardened (Grade 10)
- DIN 508





ER-EL

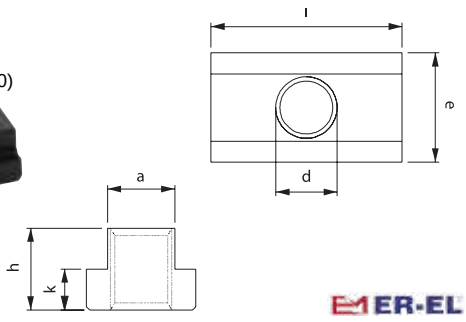
Thread d	T-Nut Size	a	e	h	k	Order Code	Price
M5	6	5.7	10	8	4	1750-0506	£2.02
M6	8	7.7	13	10	6	1750-0608	£1.97
M8	10	9.7	15	12	6	1750-0810	£2.20
M8	12	11.7	18	14	7	1750-0812	£3.29
M10	12	11.7	18	14	7	1750-1012	£2.39
M8	14	13.7	22	16	8	1750-0814	£3.55
M10	14	13.7	22	16	8	1750-1014	£3.55
M12	14	13.7	22	16	8	1750-1214	£2.66
M8	16	15.7	25	18	9	1750-0816	£6.40
M10	16	15.7	25	18	9	1750-1016	£5.41
M12	16	15.7	25	18	9	1750-1216	£4.31
M14	16	15.7	25	18	9	1750-1416	£3.32
M8	18	17.7	28	20	10	1750-0818	£7.51
M10	18	17.7	28	20	10	1750-1018	£7.28
M12	18	17.7	28	20	10	1750-1218	£6.85
M14	18	17.7	28	20	10	1750-1418	£5.41
M16	18	17.7	28	20	10	1750-1618	£4.31
M16	20	19.7	32	24	12	1750-1620	£7.08
M18	20	19.7	32	24	12	1750-1820	£6.85
M16	22	21.7	35	28	14	1750-1622	£10.71
M18	22	21.7	35	28	14	1750-1822	£10.18
M20	22	21.7	35	28	14	1750-2022	£6.96
M16	24	23.7	40	32	16	1750-1624	£11.72
M20	24	23.7	40	32	16	1750-2024	£11.28
M22	24	23.7	40	32	16	1750-2224	£11.55
M16	28	27.7	44	36	18	1750-1628	£16.58
M20	28	27.7	44	36	18	1750-2028	£16.14
M22	28	27.7	44	36	18	1750-2228	£17.17
M24	28	27.7	44	36	18	1750-2428	£11.92
M24	36	35.6	54	44	22	1750-2436	£26.07
M30	36	35.6	54	44	22	1750-3036	£26.52
M36	42	41.6	65	52	26	1750-3642	£64.85
M42	48	47.6	75	60	30	1750-4248	£92.79

LONG T-NUT

1710 Series

- Hardened (Grade 10)





ER-EL

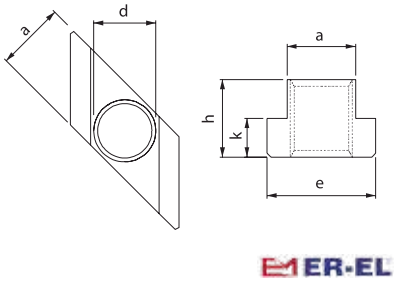
Thread d	T-Nut Size	a	e	l	h	k	Order Code	Price
M8	10	7.7	13	26	10	6	1710-0608	£4.94
M10	12	9.7	15	30	12	6	1710-0810	£5.28
M10	14	11.7	18	36	14	7	1710-1012	£5.24
M12	14	13.7	22	44	16	8	1710-1214	£6.01
M14	16	15.7	25	50	18	9	1710-1416	£7.06
M16	18	17.7	28	56	20	10	1710-1618	£8.72
M18	20	19.7	32	64	24	12	1710-1820	£11.85
M20	22	21.7	35	70	28	14	1710-2022	£14.85
M22	24	23.7	40	80	32	16	1710-2224	£23.06
M24	28	27.7	44	88	36	18	1710-2428	£24.44
M30	36	35.6	54	108	44	22	1710-3036	£46.97

RHOMBOID T-NUT

1770 Series

- Hardened (Grade 10)
- T-nut can be located from above the t-slot





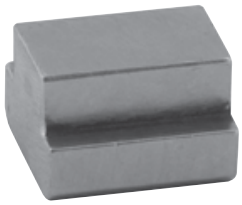
ER-EL

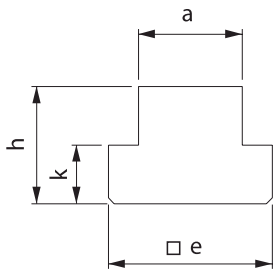
Thread d	T-Nut Size	a	e	a	e	Order Code	Price
M8	10	9.7	15	12	6	1770-0810	£5.53
M10	12	11.7	18	14	7	1770-1012	£6.36
M10	14	13.7	22	16	8	1770-1014	£7.73
M12	14	13.7	22	16	8	1770-1214	£8.46
M14	16	15.7	25	18	9	1770-1416	£9.64
M10	18	17.7	28	20	10	1770-1018	£6.71
M16	18	17.7	28	20	10	1770-1618	£13.63
M16	20	19.7	32	24	12	1770-1620	£13.18
M18	20	19.7	32	24	12	1770-1820	£12.69
M16	22	21.7	35	28	14	1770-1622	£10.66
M20	22	21.7	35	28	14	1770-2022	£19.16
M16	28	27.7	44	36	18	1770-1628	£14.58
M20	28	27.7	44	36	18	1770-2028	£18.56
M24	28	27.7	44	36	18	1770-2428	£17.86

T-NUT WITHOUT HOLE

1730 Series

- Machinable





ER-EL

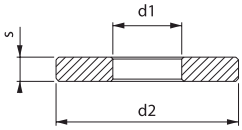
T-Nut Size	a	e	h	k	Order Code	Price
6	5.7	10	8	4	1730-06	£1.73
8	7.7	13	10	6	1730-08	£1.75
10	9.7	15	12	6	1730-10	£2.10
12	11.7	18	14	7	1730-12	£2.10
14	13.7	22	16	8	1730-14	£2.20
16	15.7	25	18	9	1730-16	£2.21
18	17.7	28	20	10	1730-18	£3.32
20	19.7	32	24	12	1730-20	£4.64
22	21.7	35	28	14	1730-22	£5.74
24	23.7	40	32	16	1730-24	£8.86
28	27.7	44	36	18	1730-28	£10.85
36	35.6	54	44	22	1730-36	£29.33
42	41.6	65	52	26	1730-42	£55.72

PLAIN WASHER

1870 Series

- DIN 6340
- Hardened





ER-EL

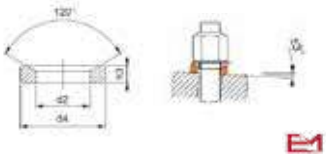
Bolt Size	d1	d2	s	Order Code	Price
M6	6.4	17	3	1870-06	**£0.85**
M8	8.4	23	4	1870-08	**£1.03**
M10	10.5	28	4	1870-10	**£1.28**
M12	13	35	5	1870-12	**£1.52**
M14	15	40	5	1870-14	**£1.86**
M16	17	45	6	1870-16	**£1.93**
M18	19	45	6	1870-18	**£2.43**
M20	21	50	6	1870-20	**£3.09**
M22	23	50	8	1870-22	**£4.49**
M24	25	60	8	1870-24	**£5.56**
M30	31	68	10	1870-30	**£8.35**
M36	38	80	12	1870-36	**£12.95**
M42	44	98	15	1870-42	**£36.09**

CHAMFER TOP WASHER FEMALE

1910 Series

- DIN 6319D
- This washer is used with DIN 6319C washers on angled surfaces
- Hardened





ER-EL

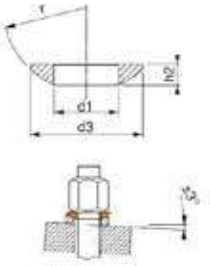
Bolt Size	Max kN	d2	d4	h3	Order Code	Price
M6	9	7.1	12	2.8	1910-06	**£1.65**
M8	17	9.6	17	3.5	1910-08	**£1.80**
M10	26	12	21	4.2	1910-10	**£1.93**
M12	38	14.2	24	5	1910-12	**£1.93**
M14	53	16.5	28	5.6	1910-14	**£2.64**
M16	73	19	30	6.2	1910-16	**£2.88**
M20	117	23.2	36	7.5	1910-20	**£6.71**
M24	168	28	44	9.5	1910-24	**£9.16**
M30	269	35	56	12	1910-30	**£13.57**
M36	394	42	68	15	1910-36	**£27.29**
M42	542	49	78	18	1910-42	**£54.60**

SPHERICAL SEATING WASHER MALE

1890 Series

- DIN 6319C
- This washer is used with DIN 6319G washers on angled surfaces
- Hardened





ER-EL

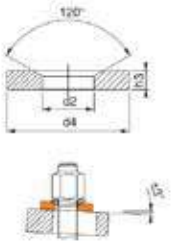
Bolt Size	d1	d3	h2	r	Order Code	Price
M6	6.4	12	2.3	9	1890-06	**£1.23**
M8	8.4	17	3.2	12	1890-08	**£1.39**
M10	10.5	21	4.0	15	1890-10	**£1.52**
M12	13	24	4.6	17	1890-12	**£1.56**
M14	15	28	5.0	22	1890-14	**£2.24**
M16	17	30	5.3	22	1890-16	**£2.46**
M20	21	36	6.3	27	1890-20	**£3.71**
M24	25	44	8.2	32	1890-24	**£5.56**
M30	31	56	11.2	41	1890-30	**£10.19**
M36	37	68	14.0	50	1890-36	**£24.06**
M42	43	78	17.0	58	1890-42	**£44.87**

CHAMFER TOP WASHER FEMALE

1930 Series

- DIN 6319G
- This washer is used with DIN 6319C washers on angled surfaces
- Hardened





ER-EL

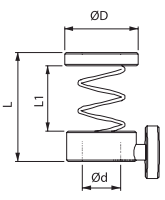
Bolt Size	d2	d4	h3	Order Code	Price
M6	7.1	12	4	1930-06	**£2.27**
M8	9.6	17	5	1930-08	**£2.35**
M10	12	21	5	1930-10	**£2.51**
M12	14.2	24	6	1930-12	**£2.51**
M14	16.5	28	6	1930-14	**£3.41**
M16	19	30	7	1930-16	**£3.58**
M20	23.2	36	8	1930-20	**£8.32**
M24	28	44	10	1930-24	**£9.96**
M30	35	56	10	1930-30	**£16.37**
M36	42	68	12	1930-36	**£30.10**
M42	49	78	15	1930-42	**£54.60**

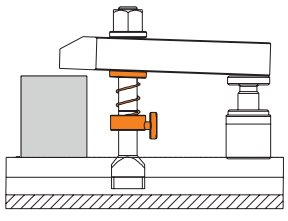
SPRING LOADED WASHER

1970 Series

- Enables easier handling of clamps when removing the workpiece







ER-EL

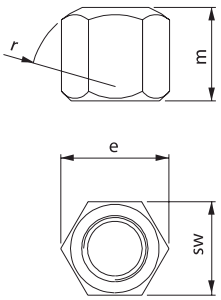
Bolt Size	ØD	Ød	L	L1	Order Code	Price
M10	27	10.5	35	20	1970-10	**£10.68**
M12	27	12.5	40	33	1970-12	**£11.15**
M14	28	14.5	40	30	1970-14	**£11.95**
M16	37	16.5	45	30	1970-16	**£13.82**
M18	37	18.5	45	40	1970-18	**£15.30**
M20	37	21	45	42	1970-20	**£16.46**
M22	37	23	45	45	1970-22	**£17.72**
M24	45	25	50	45	1970-24	**£27.71**

HEXAGON NUT

1790 Series

- DIN 6330B
- Hardened (Grade 10)
- Flat surface used with DIN 6340 washer
- Radius surface used with DIN 6319D or DIN 6319G washer





ER-EL

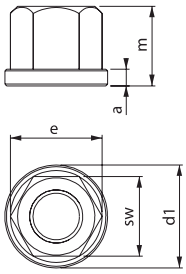
Thread	sw	e	m	r	Order Code	Price
M6	10	11.5	9	9	1790-06	**£1.08**
M8	13	15	12	12	1790-08	**£1.49**
M10	17	19.6	15	15	1790-10	**£1.64**
M12	19	21.9	18	17	1790-12	**£1.68**
M14	22	25.4	21	20	1790-14	**£2.53**
M16	24	27.7	24	22	1790-16	**£3.01**
M18	27	31.2	27	24	1790-18	**£4.14**
M20	30	34.6	30	27	1790-20	**£5.71**
M22	32	36.9	33	30	1790-22	**£7.93**
M24	36	41.5	36	32	1790-24	**£9.37**
M30	46	53.1	45	41	1790-30	**£20.48**
M36	55	63.5	54	50	1790-36	**£35.10**
M42	65	75	63	58	1790-42	**£78.87**

HEXAGON WASHER NUT

1810 Series

- DIN 6331
- Hardened (Grade 10)





ER-EL

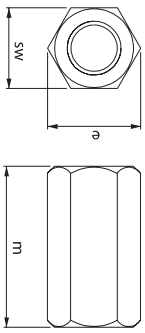
Thread	sw	e	m	a	d1	Order Code	Price
M8	13	14.7	12	3.5	18	1810-08	**£3.27**
M10	17	19.2	15	4	22	1810-10	**£3.61**
M12	19	21.5	18	4	25	1810-12	**£3.75**
M14	22	24.9	21	4.5	28	1810-14	**£4.83**
M16	24	27.2	24	5	31	1810-16	**£5.74**
M18	27	30.6	27	5	34	1810-18	**£7.73**
M20	30	34	30	6	37	1810-20	**£8.27**
M22	32	36.3	33	6	40	1810-22	**£10.43**
M24	36	40.8	36	6	45	1810-24	**£13.11**
M30	46	52.3	45	8	58	1810-30	**£29.93**
M36	55	62	54	10	68	1810-36	**£58.77**
M42	65	75	63	12	80	1810-42	**£105.66**

EXTENSION NUT

1830 Series

- DIN 6334
- Hardened (Grade 10)





ER-EL

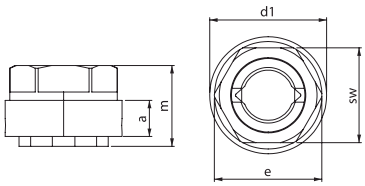
Thread	sw	e	m	Order Code	Price
M6	10	11.5	18	1830-06	**£2.13**
M8	13	15	24	1830-08	**£2.99**
M10	17	19.6	30	1830-10	**£2.99**
M12	19	21.9	36	1830-12	**£3.37**
M14	22	25.4	42	1830-14	**£4.83**
M16	24	27.7	48	1830-16	**£5.89**
M18	27	31.2	54	1830-18	**£8.00**
M20	30	34.6	60	1830-20	**£11.47**
M22	32	36.9	66	1830-22	**£14.74**
M24	36	41.5	72	1830-24	**£16.83**
M30	46	53.1	90	1830-30	**£39.35**
M36	55	63.5	108	1830-36	**£61.08**
M42	65	75	126	1830-42	**£119.59**

QUICK NUT

1840 Series

- Enables fast sliding on long threads, with nut at open position





ER-EL

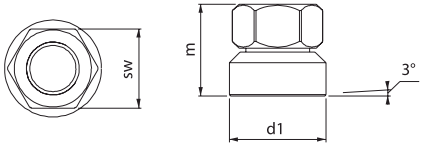
Thread	a	d1	e	m	sw	Order Code	Price
M16	11.5	34	30.7	27.5	27	1840-16	**£39.48**
M20	14	44	38.8	33	34	1840-20	**£42.90**
M24	18.5	50.4	46	35	41	1840-24	**£45.23**

BALL HEAD NUT

1850 Series

- Enables easier use on angled surface due to pivoting nut head





ER-EL

Thread	sw	d1	m	Order Code	Price
M8	13	17	14	1850-08	**£8.44**
M10	17	21	18	1850-10	**£8.44**
M12	19	24	22	1850-12	**£8.44**
M16	24	30	28	1850-16	**£11.76**
M20	30	36	35	1850-20	**£16.67**
M24	36	44	43	1850-24	**£24.59**

VERTICAL TOGGLE CLAMP

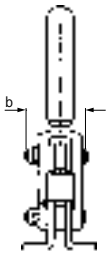
Heavy Duty

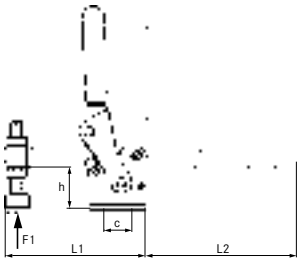
Application
For quick clamping of workpieces.

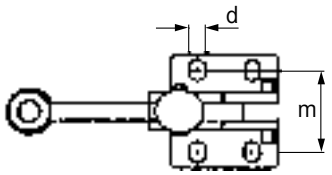
Features
- With horizontal base
- Reamed and case-hardened bearing bushes
- Hardened, polished and permanently lubricated studs burnished steel, lever arm made of steel casting
- With red oil-resistant plastic handle

Contents
- With tempered and galvanised thrust bolt









Size	M mm	D mm	H mm	F1 kN	L1 mm	L2 mm	Thumbscrew Size mm	Order Code	Price
2	32	7.1	25	2.5	85	94	M6 x 50	26212520	**£83.23**
4	45	8.5	44	5	146	160	M12 x 80	26212540	**£128.20**

VERTICAL QUICK-ACTION TOGGLE CLAMP

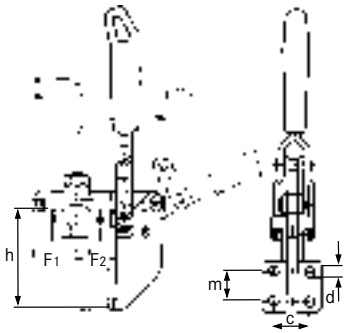
With Open Clamping Arm & Angular Base

Application
For quick clamping of workpieces.

Features
- Galvanised and passivated
- Stainless steel rivet
- Ergonomic, oil-resistant handle with large hand rest and soft components

Contents
- With tempered and galvanised thrust bolt





Size	C mm	M mm	D mm	H mm	F1 N	Max. F2 N	Thumbscrew Size mm	Order Code	Price
1	20	14	4.5	45	800	1100	M5 x 30	26213010	**£17.76**
2	25.5	20	6.1	60	1000	1200	M6 x 35	26213020	**£22.15**
3	28.5	24	6.5	71	1400	2500	M8 x 45	26213030	**£24.82**

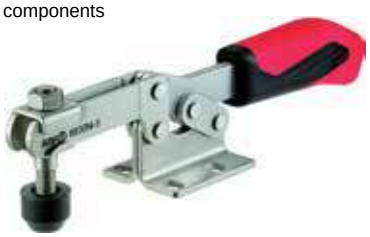
HORIZONTAL QUICK ACTION TOGGLE CLAMPS

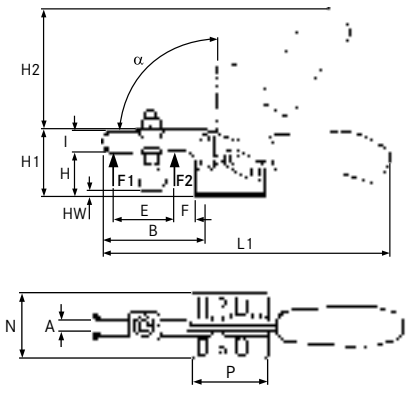
With Open Support Arm & Horizontal Base

Application
For quick clamping of workpieces.

Features
- Galvanised and passivated
- Ergonomic, oil-resistant handle with large hand rest and soft components
- Case-hardened and lubricated bearing bushes

Contents
- With thrust bolt and protective cap





Size	C mm	Min./Max. C mm	Min./Max. M mm	M mm	D mm	H mm	F1 N	Max. F2 N	H1 mm	L1 mm	Thumbscrew Size mm	Order Code	Price
0	-	11.5-15.5	-	16	4.6	14.5	250	400	23	79	M4 x 25	26215005	**£11.37**
1	-	13-14.5	18-21.5	-	5.2	19	800	1100	30	120	M5 x 30	26215010	**£16.94**
2	26	-	19.5-29.5	-	5.6	24	1000	1200	45	162	M6 x 35	26215020	**£19.03**
3	25.7	-	22-31.8	-	6.5	32	1800	2500	48.5	206	M8 x 45	26215030	**£23.40**
4	41	-	29-43	-	8.5	45	2000	3000	75	287	M8 x 65	26215040	**£32.16**

HORIZONTAL QUICK ACTION TOGGLE CLAMPS

With Open Clamping Arm & Angular Base

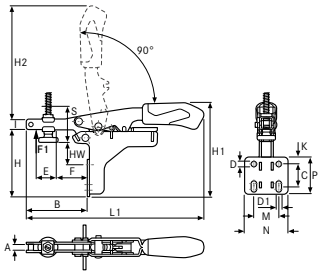


Application
Quick-action clamp with infinitely adjustable balancing function for workpieces with different clamping widths.

Features
- Galvanised and passivated.
- Ergonomic, oil-resistant handle with large hand rest and soft components.
- Protection against the loss of the clamping screw on the end of the clamping arm, complete with zinc-plated clamping bolt
- Size 20 clamping bolt M6 x 40 mm
- Size 50 clamping bolt M8 x 55 mm

Advantage
- Variable clamping height, for clamping different workpieces
- Used for small lot sizes
- Infinitely adjustable clamping force
- Ergonomic 2 component handle
- Protection against loss on clamping arm





Size	A mm	B mm	C mm	D mm	D1 mm	E mm	F mm	H mm	H1 mm	H2 mm	HW max. mm	HW min. mm	I mm	K mm	L1 mm	N mm	M mm	P mm	F1 kN	S mm	Order Code	Price
20	6	56	20-26	5.6	5.6	22	24	68	94	113	24	-3	10	7.1	173	45	25.4	38	2	8	26213110	**£21.41**
50	8.4	85	20.4-30.4	6.5	6.5	35	37	88	124	168	31	1	13	10.6	244	57	38.1	51	3	13	26213120	**£22.15**

HORIZONTAL QUICK ACTION TOGGLE CLAMPS

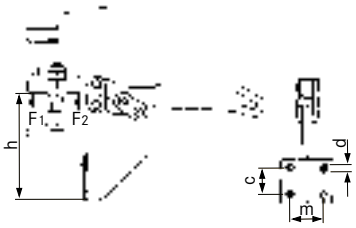
With Open Retaining Arm & Angular Base

Application
For quick and secure clamping on machine tables and appliances.

Features
- Galvanised and passivated
- With red oil-resistant plastic handle
- Case-hardened and lubricated bearing bushes
- Stainless steel rivet
- Ergonomic, oil-resistant handle with large hand rest and soft components
- Protection against the loss of the clamping screw on the end of the clamping arm

Advantage
- Variable clamping height, for clamping different workpieces
- Used for small lot sizes
- Infinitely adjustable clamping force
- Ergonomic 2 component handle
- Protection against loss on clamping arm





Size	C mm	M mm	D mm	H mm	F1 N	Max. F2 N	H1 mm	L mm	Thumbscrew Size mm	Order Code	Price
2	20	25.5	5.6	73	1000	1200	94	162	M6 x 35	26216020	**£21.63**
3	24	28.5	6.8	70	1800	2500	86.5	206	M8 x 45	26216030	**£26.24**

PUSH ROD CLAMP

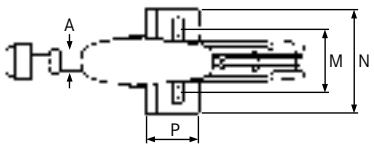
Small Angular Base

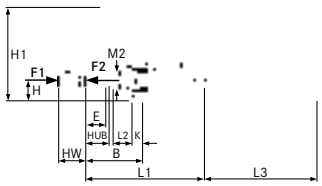
Application
For quick and secure clamping on machine tables and appliances.

Features
- Compression and tension clamp with small angular base
- Individual parts galvanised
- Long push rod version
- Case-hardened and lubricated bearing bushes
- Ergonomic, oil-resistant handle with large hand rest and soft components

Advantage
- Handle can be adjusted at any angle to the base surface







Size	Min./max. M	M mm	D mm	Stroke mm	Retaining Force N	H mm	L1 mm	Angled Base Width K mm	H1 mm	Thumbscrew Size mm	Order Code	Price
0	-	16	4.5	16	800	12	66.5	6.5	49.3	M4 x 20	26217005	**£25.99**
1	16-19.5 mm	-	4.5	20	1000	15	91	7	60.5	M4 x 20	26217010	**£26.66**
3	29.5-42.5 mm	-	6.5	32	2500	25	140	13	108	M8 x 35	26217030	**£33.22**

PUSH ROD TOGGLE CLAMP

Short Type

Application
For quick and secure clamping on machine tables and appliances.

Features
- Compression and tension clamp - short model
- Galvanised and passivated
- Fitting screws tempered
- Long push rod version
- Case-hardened and lubricated bearing bushes
- With red oil-resistant plastic handle
- Rivet made of stainless steel
- Ergonomic, oil-resistant handle with large hand rest and soft components

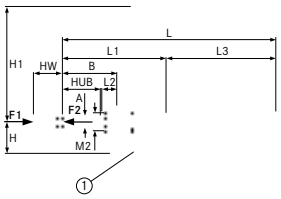
Contents
- With tempered and galvanised thrust bolt

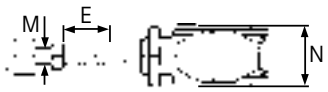


Image Ref. A



Image Ref. B





Size	Stroke mm	Retaining Force N	H mm	L1 mm	HW mm	H1 mm	Thumbscrew Size mm	Image Ref.	Order Code	Price
2	26	1000	24	68.5	17-25	73	M6 x 25	A	26218020	**£27.49**
3	32	2500	33	108	22-35	123	M8 x 35	B	26218030	**£31.97**
5	40	4000	37	175	30-50	149	M12 x 50	B	26218050	**£50.90**

STABLE ANGULAR BASE

Accessories Push Rods Tensioner

Application
For securing the push rod clamp.

Features
- Enhances areas of application thanks to greater clamping height
- For installation in fixtures
- Attachment using 4 screws



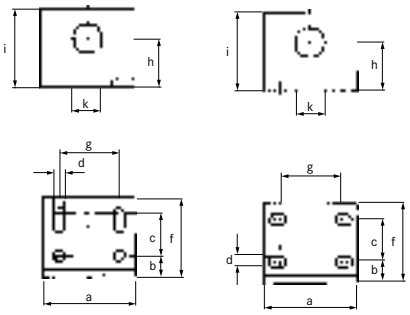


Diagram Ref. A

Diagram Ref. B

Size	A mm	Max. F mm	K mm	H mm	B mm	C mm	Min./Max. C mm	G mm	Diagram Ref.	Order Code	Price
2	60	40	16.2	24	11	18	11-18	40	A	26218520	**£6.58**
3	65	41	20.2	33	14.5	19	-	44	B	26218530	**£11.23**
5	70	45	24	37	17	32	-	60	B	26218550	**£20.42**

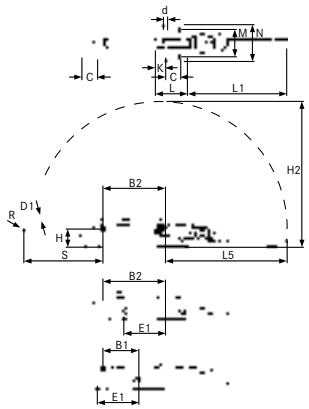
PULL CLAMPS

Under Tension

Application
For quick and secure clamping on machine tables and appliances.

Features
- With elbow lever transmission
- Galvanised and passivated
- Hooks and clamping sleeve tempered
- Rivet made of stainless steel





Size	H2 mm	L1 mm	L mm	Min./ Max. M mm	Min./Max. Clamping Width B1	Min./Max. B2	Min./Max. E1	H mm	Max. Adjustment Range mm	Order Code	Price
1	111	148	31	26-30	16-23 mm	35-42 mm	17-24 mm	22.7	8	26219110	**£25.95**
3	181	242	40	31.5-35.5	32-44 mm	65-77 mm	39-51 mm	22.7	12	26219130	**£28.86**
5	282	320	55	55.5-63	26-40 mm	57-71 mm	27-42 mm	49	14	26219150	**£48.67**

GERARDI

Standard Series & Flex Vices

Modular machine vices with 5 year warranty!

Quality, versatility, precision & rigidity. The perfect combination for both horizontal and vertical machining centres.

Modular

- With dozens of accessories including jaws, parallel plates and automated clamping systems, standard series vices are capable of clamping almost anything.

Precision

- All working surfaces ground within +0.01mm (overall accuracy +0.02mm). Market leading repeatability for a mechanical clamping vice.

Powerful, Durable & Rigid

- 30kN clamping force with a 1/4 final turn of the wrench (size 3 vice, 150mm jaw width).
- Manufactured from 60 Rockwell case hardened alloy steel with no wear. Extreme rigidity & the most secure clamping.

Speed

- Ground cross keyways on the base enable accurate positioning on the machine bed in seconds.

Scan to Watch

STANDARD SERIES MODULAR MACHINE VICES

WITH PULL DOWN JAWS



Standard Base

WITH STRAIGHT PLATE JAWS

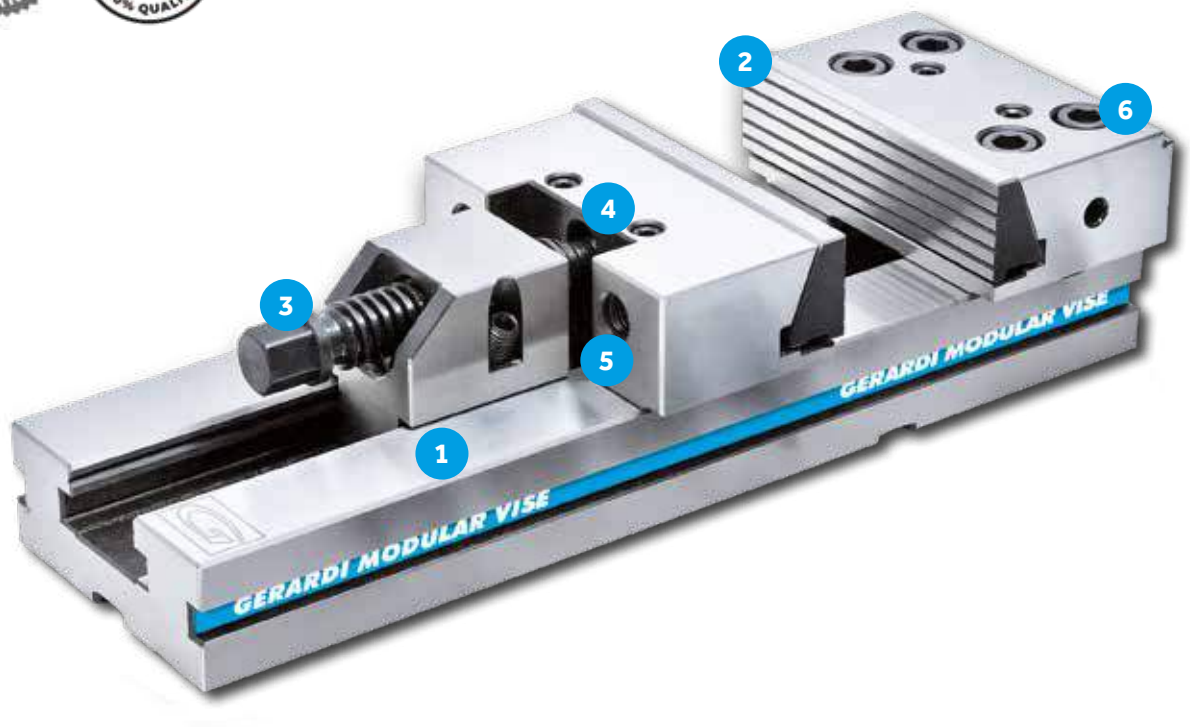


Standard Base

QUICK CHANGE PULL DOWN JAWS



Standard Base



1

Hardened & Ground

HRC60 hardened steel base, jaws and lead screw, overall accuracy ±0.02mm.

2

Highest Repositioning Accuracy

With perfectly square workpieces.

3

Mechanical Clamping as Standard

Extreme forces up to 50kN! (Hydraulic & hydro-pneumatic optional).

4

Threaded Holes for Special Applications

Extra tapped holes over the jaws for special Gerardi stack type jaw application.

5

Increased Max Opening

4 extra tapped holes with ground back jaw rear face increase maximum opening capacity with the addition of jaw extensions.

6

Fixed Jaw with 5mm Rear Step (Reversible)

For use with prismatic and stepped movable jaws.

STANDARD SERIES XL MODULAR MACHINE VICES



XL Base - Single Clamping
With Pull Down Jaws



XL Base - Double Clamping
With Pull Down Jaws

THE WORLD'S BIGGEST RANGE OF MODULAR JAWS

SOLID MACHINABLE FIXED SOFT JAWS



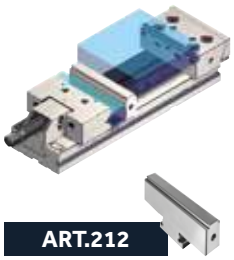
ART.160

SOLID HARDENED JAWS WITH STEP



ART.200

INTERMEDIATE MOVABLE JAWS WITH STEP



ART.212

PRISMATIC MOVABLE JAWS WITH STEP



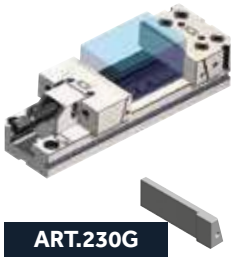
ART.217

ROUND QUICK CHANGE JAW PLATE



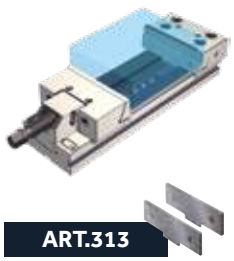
ART.230H

Stop JAW PLATE



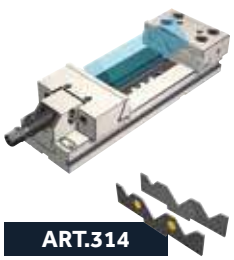
ART.230G

MAGNETIC PARALLEL PLATES



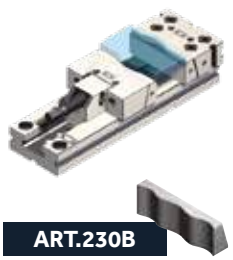
ART.313

MAGNETIC ANGLE PLATES
Available in 30° or 45°



ART.314

MACHINABLE QUICK CHANGE SOFT JAWS



ART.230B

ANGLE JAW PLATES
Available in 30° or 45°



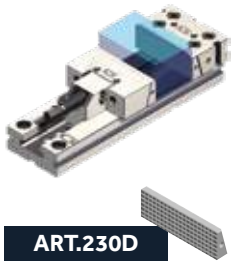
ART.230M

HARDENED SMOOTH JAW PLATES



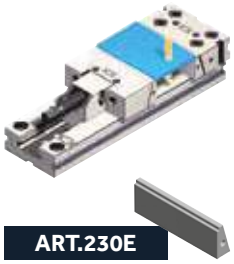
ART.230C

HARDENED SERRATED JAW PLATES



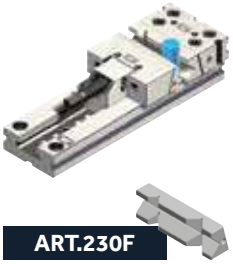
ART.230D

STEP JAWS
Available in different step heights



ART.230E

PRISMATIC JAW PLATE

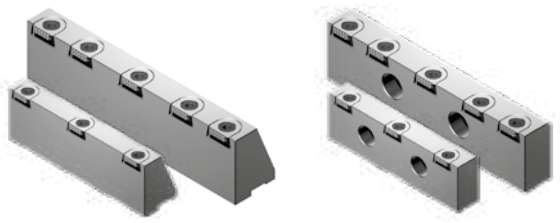


ART.230F

Scan for application ideas

INSERT GRIP JAW PLATES*

- New GRIP jaw plates for ultra-secure clamping, ideal for through hole drilling/tapping





G01 For standard hardness workpieces



G02 For hardened workpieces



G11 For soft workpieces

* Not available for Quick Hand Change Jaws
* See page 1229 for part numbers

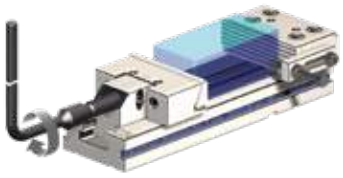
PERFECT HEIGHT MATCHING

- Gerardi vices can be used in a pair or a row without the need for additional grinding. The base and jaws are ground within 20 microns, giving a maximum tolerance of +/-0.02mm



EXTREME CLAMPING FORCES WITH MECHANICAL CLAMPING

- The following diagrams give the clamping force that can be obtained with each vice (size 1 to 6) depending on the torque



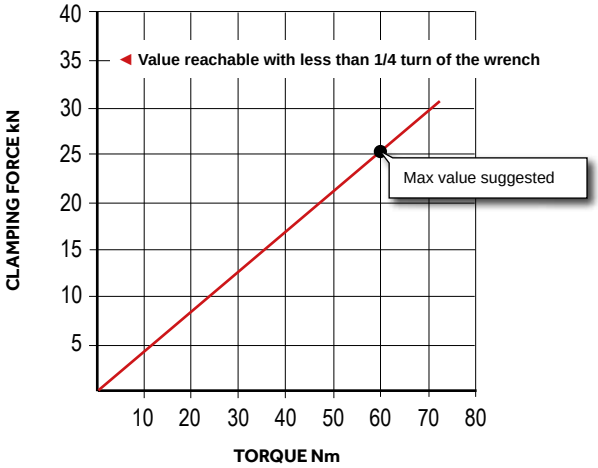
SIZE 1

Screw M12 - Pitch 1.75m



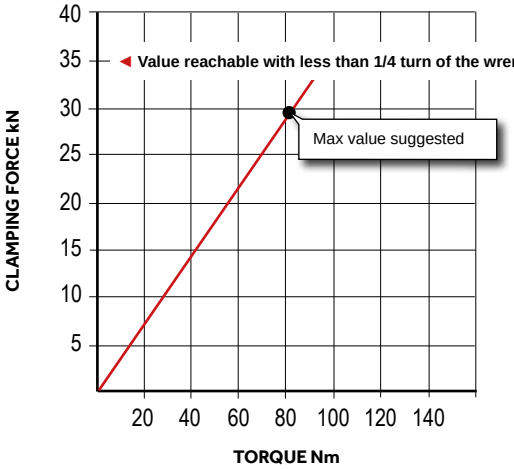
SIZE 2

Screw TPN18 - Pitch 4mm



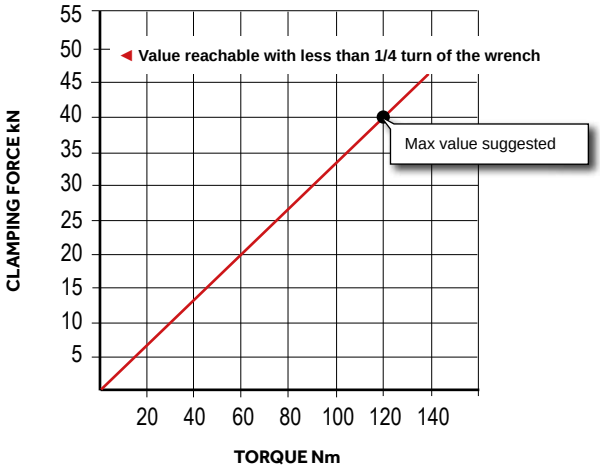
SIZE 3-4

Screw TPN24 - Pitch 5mm



SIZE 5-6

Screw TPN30 - Pitch 5mm



CLAMPING OPTIONS

MECHANICAL (Standard)



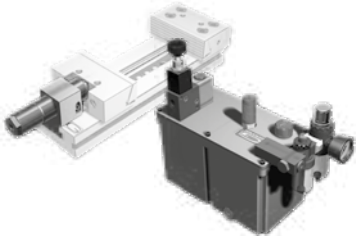
ART.258

HYDRAULIC (Optional)



ART.257

AUTOMATED (Optional)

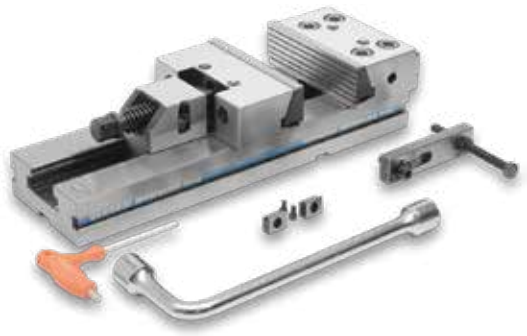


ART.271

ART.1 STANDARD SERIES VICE

With Pull Down Jaws

- Hardened to HRC60
- Fast & easy alignment with machine bed
- All working surfaces ground within 0.02mm



SUPPLIED WITH EACH VICE:

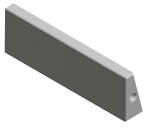
- 1 workstop **ART.370**
- 4 table clamps
- 1 box wrench **ART.375**
- 1 T-wrench **ART.376**
- **ART.1:** Pair of positioning key-nuts **ART.297** (16mm)

Size	Jaw Width	Max Open.	Base Length	Base Width	Base Height	Jaw Height	ART.1		
							kg	Order Code	Price
1 (16kN)	100mm (4")	100	270	75	35	30	6.8	3.01.00000	£543.46
2 (25kN)	125mm (5")	150	345	95	40	40	12.9	3.02.10000	£598.21
3 (30kN)	150mm (6")	200	420	125	50	50	25.5	3.03.20000	£598.54
		300	520				29	3.03.30000	£685.00
4 (30kN)	175mm (7")	200	455	145	58	60	37	3.04.20000	£924.28
		300	555				42	3.04.30000	£977.44
		400	655				47	3.04.40000	£1,086.13
		500	755				52	3.04.50000	£1,301.93
5 (40kN)	200mm (8")	200	495	170	70	65	64	3.05.20000	£1,194.03
		300	595				69	3.05.30000	£1,411.42
		400	695				74	3.05.40000	£1,628.80
		500	795				79	3.05.50000	£1,954.88
		600	895				84	3.05.60000	£2,279.37
6 (40kN)	300mm (12")	200	535	195	78	80	95	3.06.20000	£1,845.40
		300	635				105	3.06.30000	£2,279.37
		400	735				115	3.06.40000	£2,714.14
		500	835				125	3.06.50000	£3,040.22
		600	935				135	3.06.60000	£3,364.71
		700	1035				145	3.06.70000	£3,690.00
		800	1135				155	3.06.80000	£4,015.28

ALL ACCESSORIES ARE SUITABLE FOR THE FOLLOWING VICES: ART.1, ART.1Z, ART.21. ART.30

ART.234

Soft jaw plates





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.65.10200	1.65.20200	1.65.30200	1.65.40200	1.65.50200	1.65.60200
Price	£64.46	£71.30	£84.00	£102.55	£142.60	£189.48

ART.313

Magnetic parallel plates. Available in different heights (pair)





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	4.31.31000	4.31.32000	4.31.33000	4.31.34000	4.31.35000	4.31.36000
Price	£36.14	£45.90	£56.65	£66.42	£76.18	£85.95

ART.212

Intermediate movable jaw with step





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.21.21000	1.21.22000	1.21.23000	1.21.24000	1.21.25000	1.21.26000
Price	£102.55	£95.01	£122.48	£154.40	£185.57	£337.94

ART.217

Prismatic movable jaw with step





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	2.21.71000	2.21.72000	2.21.73000	2.21.74000	2.21.75000	2.21.76000
Price	£160.18	£101.69	£144.00	£194.48	£256.83	£575.27

ART.242G

Jaw plate with GRIP inserts (choose soft, std or hard material inserts)





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.24.2G100	1.24.2G200	1.24.2G300	1.24.2G400	1.24.2G500	1.24.2G600
Price	£135.76	£146.50	£189.48	£211.94	£290.08	£377.98

ART.257

Clamping support with hydraulic cylinder





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	-	-	2.25.73000	2.25.74000	2.25.75000	2.25.76000
Price	-	-	£555.23	£593.09	£724.47	£996.23

ART.21/ART.30 STANDARD SERIES VICE XL & XL DOUBLE

With Pull Down Jaws

- Hardened to HRC60
- Fast & easy alignment with machine bed
- All working surfaces ground within 0.02mm
- XL base

SUPPLIED WITH EACH VICE:

- 1 workstop **ART.370** (2 with **ART.30**)
- Pair of positioning key-nuts **ART.297** (16mm)
- 1 box wrench **ART.375**- 1 T-wrench **ART.376**
- 8 table clamps



ART.21



ART.30

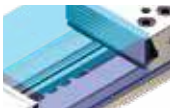
Size	Jaw Width	Base Length	Base Width	Base Height	Jaw Height	ART.21 (XL)				ART.30 (XL Double)			
						Max Open.	kg	Order Code	Price	Max Open.	kg	Order Code	Price
1 (16kN)	100mm (4")	460	75	35	30	290	10	2.21.12900	**£732.29**	2x 90	14.5	3.31.00600	**£905.90**
2 (25kN)	125mm (5")	520	95	40	40	320	17	2.21.23200	**£687.59**	2x 100	21	3.32.10600	**£1,205.87**
3 (30kN)	150mm (6")	580	125	50	50	360	32	2.21.33600	**£859.49**	2x 110	39	3.33.20600	**£1,486.06**
		680				460	35	2.21.34600	**£988.42**	2x 160	43	3.33.30600	**£1,621.00**
4 (30kN)	175mm (7")	666	145	58	60	400	47	2.21.44000	**£1,429.34**	2x 120	59	3.34.20600	**£1,731.88**
		766				500	52	2.21.45000	**£1,160.31**	2x 170	64	3.34.30600	**£1,876.27**
		866				600	56	2.21.46000	**£1,246.26**	2x 220	69	3.34.40600	**£2,017.23**
		966				700	61	2.21.47000	**£1,332.21**	2x 270	74	3.34.50600	**£2,160.76**
5 (40kN)	200mm (8")	805	170	70	65	500	64	2.21.55000	**£2,424.63**	2x 150	96	3.35.20600	**£2,819.13**
		905				600	69	2.21.56000	**£2,704.82**	2x 200	102	3.35.30600	**£3,100.19**
		1005				700	74	2.21.57000	**£2,987.59**	2x 250	108	3.35.40600	**£3,379.52**
		1105				800	79	2.21.58000	**£3,267.79**	2x 300	114	3.35.50600	**£3,663.16**
		1205				900	84	2.21.59000	**£3,548.84**	2x 350	120	3.35.60600	**£3,943.35**
6 (40kN)	300mm (12")	900	195	78	80	500	95	2.21.65000	**£3,379.52**	2x 160	155	3.36.20600	**£4,026.72**
		1000				600	105	2.21.66000	**£3,719.88**	2x 210	163	3.36.30600	**£4,366.22**
		1100				700	115	2.21.67000	**£4,057.66**	2x 260	171	3.36.40600	**£4,703.14**
		1200				800	125	2.21.68000	**£4,393.72**	2x 310	179	3.36.50600	**£5,040.06**
		1300				900	135	2.21.69000	**£4,734.94**	2x 360	187	3.36.60600	**£5,378.70**
		1400				1000	145	2.21.61000	**£5,069.28**	2x 410	195	3.36.70600	**£5,717.34**
		1500				1100	155	2.21.61100	**£5,406.21**	2x 460	213	3.36.80600	**£6,055.12**

ALL ACCESSORIES BELOW ARE SUITABLE FOR THE FOLLOWING VICES: ART.1, ART.1Z, ART.21, ART.30

ART.230

Hardened grooved jaw plates

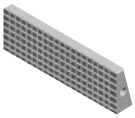


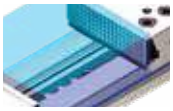


Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.65.10000	1.65.20000	1.65.30000	1.65.40000	1.65.50000	1.65.60000
Price	**£64.46**	**£71.30**	**£84.00**	**£102.55**	**£142.60**	**£189.48**

ART.230S

Hardened serrated jaw plates

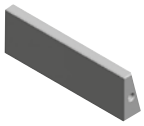




Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	4.23.0S100	4.23.0S200	4.23.0S300	4.23.0S400	4.23.0S500	4.23.0S600
Price	**£64.46**	**£54.19**	**£63.84**	**£77.94**	**£108.37**	**£189.48**

ART.232

Hardened smooth jaw plates



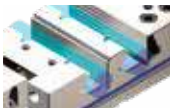


Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.65.10100	1.65.20100	1.65.30100	1.65.40100	1.65.50100	1.65.60100
Price	**£64.46**	**£71.30**	**£84.00**	**£102.55**	**£142.60**	**£189.48**

ART.214

Prismatic intermediate jaw with step





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.21.41000	1.21.42000	1.21.43000	1.21.44000	1.21.45000	1.21.46000
Price	**£160.18**	**£161.15**	**£203.15**	**£255.89**	**£337.94**	**£575.27**

ART.314

Magnetic angle plates (pair) 20°, 25°, 30°, 35°, 40° or 45°, please specify when ordering





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	4.31.41000	4.31.42000	4.31.43000	4.31.44000	4.31.45000	4.31.46000
Price	**£66.42**	**£81.07**	**£103.53**	**£125.99**	**£139.67**	**£167.01**

ART.105

Swivel base



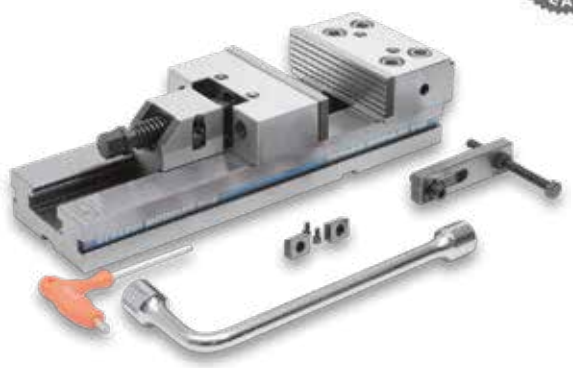


Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	2.10.51000	2.10.52000	2.10.53000	2.10.54000	2.10.55000	2.10.56000
Price	**£386.77**	**£442.44**	**£525.46**	**£577.23**	**£834.10**	**£1,039.20**

ART.14 STANDARD SERIES VICE

With Straight Plate Jaws

- Hardened to HRC60
- Fast & easy alignment with machine bed
- All working surfaces ground within 0.02mm
- Straight jaws plates NOT pull down



Scan to Watch

SUPPLIED WITH EACH VICE:

- 1 workstop **ART.370**
- 4 table clamps
- 1 box wrench **ART.375**
- 1 T-wrench **ART.376**
- Pair of positioning key-nuts **ART.297** (16mm)

Size	Jaw Width	Max Open.	Base Length	Base Width	Base Height	Jaw Height	kg	Order Code	Price
1 (16kN)	100mm (4")	100	270	75	35	30	6.8	1.14.10000	**£588.75**
2 (25kN)	125mm (5")	150	345	95	40	40	12.9	1.14.20000	**£648.06**
3 (30kN)	150mm (6")	200	420	125	50	50	25.5	1.14.32000	**£598.54**
		300	520				29	1.14.33000	**£695.99**
4 (30kN)	175mm (7")	200	455	145	58	60	37	1.14.42000	**£1,001.31**
		300	555				42	1.14.43000	**£1,058.89**
		400	655				47	1.14.44000	**£1,176.64**
		500	755				52	1.14.45000	**£1,410.43**
5 (40kN)	200mm (8")	200	495	170	70	65	64	1.14.52000	**£1,293.54**
		300	595				69	1.14.53000	**£1,529.04**
		400	695				74	1.14.54000	**£1,764.54**
		500	795				79	1.14.55000	**£2,117.79**
		600	895				84	1.14.56000	**£2,469.32**
6 (40kN)	300mm (12")	200	535	195	78	80	95	1.14.62000	**£1,999.18**
		300	635				105	1.14.63000	**£2,469.32**
		400	735				115	1.14.64000	**£2,940.32**
		500	835				125	1.14.65000	**£3,293.57**
		600	935				135	1.14.66000	**£3,645.11**
		700	1035				145	1.14.67000	**£3,997.50**
		800	1135				155	1.14.68000	**£4,349.89**

ALL ACCESSORIES BELOW ARE SUITABLE FOR THE FOLLOWING VICES: ART.14, ART.24, ART.34

ART.246

Soft jaw plates





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.65.16200	1.65.26200	1.65.36200	1.65.46200	1.65.56200	1.65.66200
Price	**£64.46**	**£71.30**	**£84.00**	**£102.55**	**£142.60**	**£189.48**

ART.313

Magnetic parallel plates. Available in different heights (pair)





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	4.31.31000	4.31.32000	4.31.33000	4.31.34000	4.31.35000	4.31.36000
Price	**£36.14**	**£45.90**	**£56.65**	**£66.42**	**£76.18**	**£85.95**

ART.212

Intermediate movable jaw with step





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.21.21000	1.21.22000	1.21.23000	1.21.24000	1.21.25000	1.21.26000
Price	**£102.55**	**£95.01**	**£122.48**	**£154.40**	**£185.57**	**£337.94**

ART.217

Prismatic movable jaw with step





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	2.21.71000	2.21.72000	2.21.73000	2.21.74000	2.21.75000	2.21.76000
Price	**£160.18**	**£101.69**	**£144.00**	**£194.48**	**£256.83**	**£575.27**

ART.246G

Jaw plate with GRIP inserts (choose soft, std or hard material inserts)





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	1.24.6G100	1.24.6G200	1.24.6G300	1.24.6G400	1.24.6G500	1.24.6G600
Price	**£135.76**	**£146.50**	**£189.48**	**£211.94**	**£290.08**	**£377.98**

ART.257

Clamping support with hydraulic cylinder





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	-	-	2.25.73000	2.25.74000	2.25.75000	2.25.76000
Price	-	-	**£555.23**	**£593.09**	**£724.47**	**£996.23**

ART.1A/ART.1AZ STANDARD FLEX VICE

Quick Change Pull Down Jaws

- Hardened to HRC60
- Quick hand change jaws
- Fast & easy alignment with machine bed
- All working surfaces ground within 0.02mm
- ART.1A supplied with positioning keys, ART.1AZ supplied with pull studs for ZERO POINT



SUPPLIED WITH EACH VICE:

- 1 workstop **ART.370**
- 4 table clamps
- 2 inserts **ART.291**
- 1 box wrench **ART.375**
- 1 T-wrench **ART.376**

ART.1A: Pair of positioning key-nuts ART.297 (16mm)
ART.1AZ: 2 pull studs ART.10A

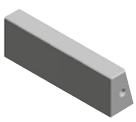
Size	Jaw Width	Max Open.	Base Length	Base Width	Base Height	Jaw Height	ART.1A			ART.1AZ (Zero Point Ready)		
							kg	Order Code	Price	kg	Order Code	Price
1 (16kN)	96mm (4")	100	270	75	35	28	6.8	1.1A.10000	**£637.74**	7.3	1.1A.Z1000	**£755.49**
2 (25kN)	121mm (5")	150	345	95	40	38	12.9	1.1A.20000	**£678.14**	13.2	1.1A.Z2000	**£913.64**
3 (30kN)	146mm (6")	200	420	125	50	48	25.5	1.1A.32000	**£721.11**	26.2	1.1A.Z3200	**£1,071.79**
		300	520				29	1.1A.33000	**£815.66**	29.7	1.1A.Z3300	**£1,217.90**
4 (30kN)	171mm (7")	200	455	145	58	58	37	1.1A.42000	**£1,021.94**	37.9	1.1A.Z4200	**£1,333.93**
		300	555				42	1.1A.43000	**£1,064.91**	43	1.1A.Z4300	**£1,454.26**
		400	655				47	1.1A.44000	**£1,150.86**	48.1	1.1A.Z4400	**£1,575.45**
		500	755				52	1.1A.45000	**£1,550.52**	53.2	1.1A.Z4500	**£1,669.13**
5 (40kN)	196mm (8")	200	495	170	70	63	64	1.1A.52000	**£1,279.78**	65.3	1.1A.Z5200	**£1,704.37**
		300	595				69	1.1A.53000	**£1,537.63**	70.3	1.1A.Z5300	**£2,017.23**
		400	695				74	1.1A.54000	**£1,752.50**	75.3	1.1A.Z5400	**£2,335.24**
		500	795				79	1.1A.55000	**£2,532.06**	80.3	1.1A.Z5500	**£2,651.53**
		600	895				84	1.1A.56000	**£2,850.94**	85.3	1.1A.Z5600	**£2,968.69**
6 (40kN)	296mm (12")	200	535	195	78	78	95	1.1A.62000	**£2,374.78**	97	1.1A.Z6200	**£2,493.39**
		300	635				105	1.1A.63000	**£2,771.00**	107	1.1A.Z6300	**£2,888.75**
		400	735				115	1.1A.64000	**£3,166.37**	117	1.1A.Z6400	**£3,283.26**
		500	835				125	1.1A.65000	**£3,561.74**	127	1.1A.Z6500	**£3,678.63**
		600	935				135	1.1A.66000	**£3,956.24**	137	1.1A.Z6600	**£4,072.27**
		700	1035				145	1.1A.67000	**£4,360.20**	147	1.1A.Z6700	**£4,477.09**
		800	1135				155	1.1A.68000	**£4,747.83**	157	1.1A.Z6800	**£4,865.59**

ALL ACCESSORIES BELOW ARE SUITABLE FOR THE FOLLOWING VICES:

ART.1A, ART.1AZ, ART.20A, ART.30A

ART.230B

Soft jaw plates





Size (W mm)	1 (96)	2 (121)	3 (146)	4 (171)	5 (196)	6 (296)
Order Code	4.23.0B101	4.23.0B201	4.23.0B301	4.23.0B401	4.23.0B501	4.23.0B601
Price	**£77.16**	**£63.84**	**£74.97**	**£95.76**	**£133.61**	**£230.50**

ART.230E

Step jaw (available in different step heights)





Size (W mm)	1 (96)	2 (121)	3 (146)	4 (171)	5 (196)	6 (296)
Order Code	4.23.0E101	4.23.0E201	4.23.0E301	4.23.0E401	4.23.0E501	4.23.0E601
Price	**£92.79**	**£77.94**	**£95.01**	**£117.28**	**£165.53**	**£289.10**

ART.212

Intermediate movable jaw with step

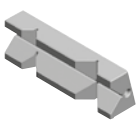




Size (W mm)	1 (96)	2 (121)	3 (146)	4 (171)	5 (196)	6 (296)
Order Code	1.21.21000	1.21.22000	1.21.23000	1.21.24000	1.21.25000	1.21.26000
Price	**£102.55**	**£95.01**	**£122.48**	**£154.40**	**£185.57**	**£337.94**

ART.230F

Prismatic jaw plate

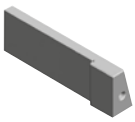




Size (W mm)	1 (96)	2 (121)	3 (146)	4 (171)	5 (196)	6 (296)
Order Code	4.23.0F101	4.23.0F201	4.23.0F301	4.23.0F401	4.23.0F501	4.23.0F601
Price	**£124.04**	**£100.95**	**£120.25**	**£152.17**	**£214.52**	**£373.10**

ART.230G

Stop jaw plate





Size (W mm)	1 (96)	2 (121)	3 (146)	4 (171)	5 (196)	6 (296)
Order Code	4.23.0G101	4.23.0G201	4.23.0G301	4.23.0G401	4.23.0G501	4.23.0G601
Price	**£92.79**	**£102.55**	**£125.02**	**£154.32**	**£217.80**	**£289.10**

ART.257

Clamping support with hydraulic cylinder





Size (W mm)	1 (100)	2 (125)	3 (150)	4 (175)	5 (200)	6 (300)
Order Code	-	-	2.25.73000	2.25.74000	2.25.75000	2.25.76000
Price	-	-	**£555.23**	**£593.09**	**£724.47**	**£996.23**



GERARDI ZERO POINT

Set up times can be reduced by up to 95% with Gerardi Zero Point.

Gerardi ZERO POINT enables the positioning (or repositioning) of a vice or workpiece on a machine tool, tombstone or CMM with <5 microns accuracy in just a few seconds.

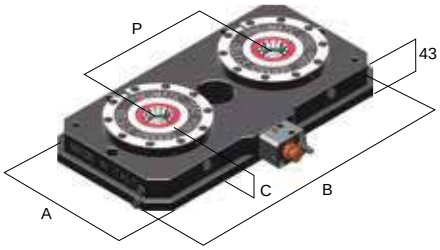
- Pneumatic clamping: Vice or workpiece is located in the ZERO POINTS using a high precision pull stud.
- Extreme & secure holding forces: up to 40kN holding force. Once the air line is disconnected, the ZERO POINT cannot let go of the pull vice/fixture/workpiece.
- Simultaneous or independent clamping options.
- High return on investment with machine uptime increased immediately.

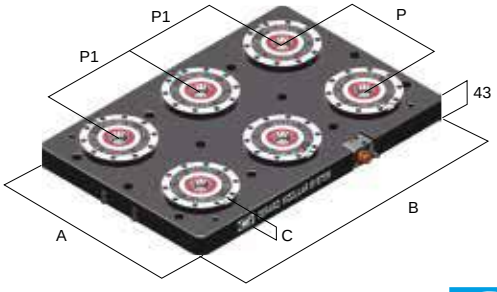
ART.81P RECTANGULAR ZERO POINT KIT

Built In Type, Size 2

- Steel or aluminium base plate with 2 ART.665 clamping pots
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent on request)
- Zero Point Kits below suitable for all ART1Z Standard Series Vices
- Supplied with 1 pull stud ART.10 & 2 Teflon caps ART.9 per Zero Point







A	B	C	P	kg	Material	Order Code	Price
200	400	58	200	29	Steel	9.81.P2040S2-Kit	**£2,660.52**
				15	Aluminium	9.81.P2040A2-Kit	

A	B	C	P/ P1	kg	Material	Order Code	Price
400	600	58	200	91	Steel	9.81.P4060S6-Kit	**£6,871.05**
				44	Aluminium	9.81.P4060A6-Kit	

ART.1Z STANDARD SERIES VICE

With Pull Down Jaws & Zero Point Ready Base

- Hardened to HRC60
- Fast & easy alignment with machine bed
- All working surfaces ground within 0.02mm
- All spare jaws compatible with ART1 vice spares

WARRANTY 5 YEARS

ART.1Z



Standard Series Vice Prepared for **ZERO POINT**



SUPPLIED WITH EACH VICE:

- 1 workstop **ART.370**
- 1 box wrench **ART.375**
- 1 T-wrench **ART.376**
- 2 pull studs **ART.10A**

Size	Jaw Width	Max Open.	Base Length	Base Width	Base Height	Jaw Height	kg	Order Code	Price
1 (16kN)	100mm (4")	100	270	75	35	30	6.8	1.1Z.10000	**£707.36**
2 (25kN)	125mm (5")	150	345	95	40	40	12.9	1.1Z.20000	**£764.09**
3 (30kN)	150mm (6")	200	420	125	50	50	25.5	1.1Z.32000	**£822.53**
		300	520				29	1.1Z.33000	**£941.14**
4 (30kN)	175mm (7")	200	455	145	58	60	37	1.1Z.42000	**£1,118.20**
		300	555				42	1.1Z.43000	**£1,176.64**
		400	655				47	1.1Z.44000	**£1,293.54**
		500	755				52	1.1Z.45000	**£1,529.04**

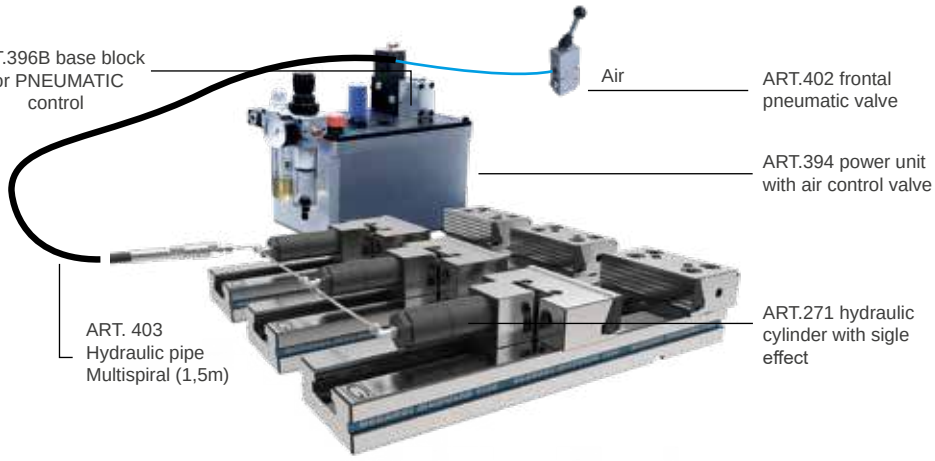


Increase your productivity with Gerardi workholding automation solutions.

Gerardi automation kits can be retrofitted to all Standard Series vices, or supplied with vices as a complete solution.

- Hydro-Pneumatic clamping: vice jaw actuation is controlled by a power unit with pneumatic control and single effect cylinder.
- Simultaneous or independent clamping.
- Jaw actuation controlled by hand switch as standard. Also available with solenoid valve electromagnetics for CNC contolled operation.
- Consistent clamping forces which can be pre-set.
- Up to 4 movable jaws can be operated with 1 power unit.

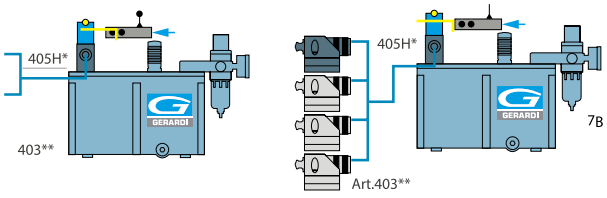
Contact the Cutwel technical team for help and advice on the best solution to improve your productivity. Our technical engineers have extensive training on Gerardi products and are able to fully support your workholding project.



SIMULTANEOUS CLAMPING

Automation Kits

- Supplied with 1 operating switch
- 2-4 vices can be operated simultaneously
- Compatible with Gerardi Standard Series vices

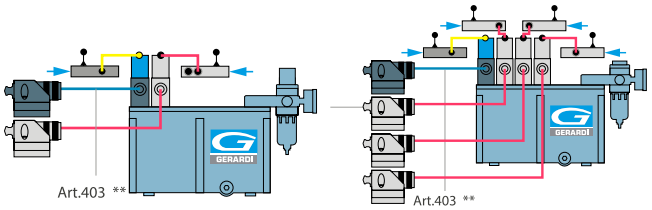


Vice Size	Number of Clamping Cylinders	Order Code	Price
2	2	4.39.22002	£1,757.08
	3	4.39.22003	£2,050.08
	4	4.39.22004	£2,343.09
3	2	4.39.23002	£1,757.08
	3	4.39.23003	£2,050.08
	4	4.39.23004	£2,343.09
4	2	4.39.24002	£1,757.08
	3	4.39.24003	£2,050.08
	4	4.39.24004	£2,343.09
5	2	4.39.25002	£2,050.08
	3	4.39.25003	£3,263.14
	4	4.39.25004	£2,929.11

INDEPENDENT CLAMPING

Automation Kits

- Supplied with 1 operating switch per cylinder/jaw
- 1-4 vices can be operated independently
- Compatible with Gerardi Standard Series vices



Vice Size	Number of Clamping Cylinders	Order Code	Price
2	1	4.39.22000	£1,464.07
	2	4.39.2A202	£2,343.09
	3	4.39.2A203	£2,733.77
	4	4.39.2A204	£3,515.13
3	1	4.39.23000	£1,464.07
	2	4.39.2A302	£2,343.09
	3	4.39.2A303	£2,733.77
	4	4.39.2A304	£3,515.13
4	1	4.39.24000	£1,464.07
	2	4.39.2A402	£2,343.09
	3	4.39.2A403	£2,733.77
	4	4.39.2A404	£3,515.13
5	1	4.39.25000	£1,561.74
	2	4.39.2A502	£2,733.77
	3	4.39.2A503	£3,222.12
	4	4.39.2A504	£4,101.15

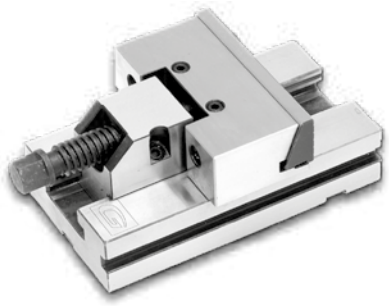
ART.102 MODULAR ELEMENT MOVABLE JAW

Section with Pull Down Jaws

- Hardened to HRC60
- Fast & easy alignment with machine bed through ground cross keyways and positioning keys (no need to clock jaws!)
- All working surfaces ground within 0.02mm
- Ideal for extra large, wide or long workpieces

SUPPLIED WITH EACH VICE:

- Pair of positioning key-nuts **ART.297** (16mm)





Size	Jaw Width	Base Length	Base Width	Base Height	Jaw Height	kg	Order Code	Price
1 (16kN)	100 (4")	140	75	35	30	3.4	2.10.21000	**£371.14**
2 (25kN)	125 (5")	160	95	40	40	6.3	2.10.22000	**£460.02**
3 (30kN)	150 (6")	230	125	50	50	14.2	2.10.23000	**£579.18**
4 (30kN)	175 (7")	240	145	58	60	20.8	2.10.24000	**£677.83**
5 (40kN)	200 (8")	300	170	70	65	35	2.10.25000	**£1,009.90**
6 (40kN)	300 (12")	350	195	78	80	60	2.10.26000	**£1,559.78**

ART.103 MODULAR ELEMENT FIXED JAW SECTION

With Pull Down Jaws

- Hardened to HRC60
- Fast & easy alignment with machine bed through ground cross keyways and positioning keys (no need to clock jaws!)
- All working surfaces ground within 0.02mm
- Ideal for extra large, wide or long workpieces



Size	Jaw Width	Jaw Length	Base Length	Base Width	Base Height	Jaw Height	kg	Order Code	Price
1	100 (4")	77.9	140	75	35	30	3.3	2.10.31000	**£321.33**
2	125 (5")	77.9	160	95	40	40	5.8	2.10.32000	**£402.40**
3	150 (6")	89.4	230	125	50	50	12.6	2.10.33000	**£523.51**
4	175 (7")	96.9	240	145	58	60	17.8	2.10.34000	**£579.18**
5	200 (8")	113.4	300	170	70	65	29.8	2.10.35000	**£950.32**
6	300 (12")	120.4	350	195	78	80	50.5	2.10.36000	**£1,478.72**

ART.104 MODULAR ELEMENT FIXED DOUBLE JAW SECTION

With Pull Down Jaws

- Hardened to HRC60
- Fast & easy alignment with machine bed through ground cross keyways and positioning keys (no need to clock jaws!)
- All working surfaces ground within 0.02mm
- Ideal for extra large, wide or long workpieces



Scan for Application Ideas

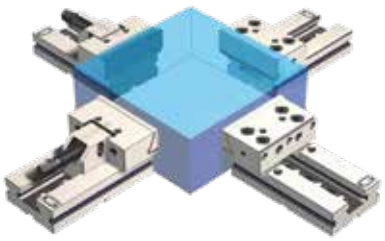
Size	Jaw Width	Jaw Length	Base Length	Base Width	Base Height	Jaw Height	kg	Order Code	Price
1	100 (4")	84.8	140	75	35	28	3.4	2.10.41000	**£362.35**
2	125 (5")	84.8	160	95	40	38	6	2.10.42000	**£466.86**
3	150 (6")	101.8	230	125	50	48	13.3	2.10.43000	**£614.34**
4	175 (7")	110.8	240	145	58	58	18.8	2.10.44000	**£688.57**
5	200 (8")	132.8	300	170	70	63	30	2.10.45000	**£1,112.46**
6	300 (12")	146.8	350	195	78	78	52.5	2.10.6000	**£1,699.45**

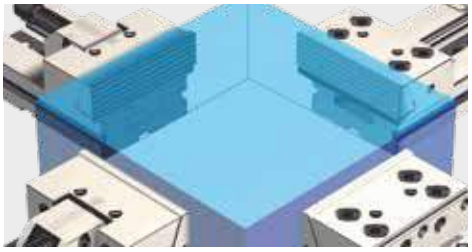
STANDARD SERIES MODULAR ELEMENTS APPLICATION EXAMPLES

EXAMPLE 1

Clamping large workpiece on 4 sides, clamped directly on machine table using:

2x ART102 & 2x ART103

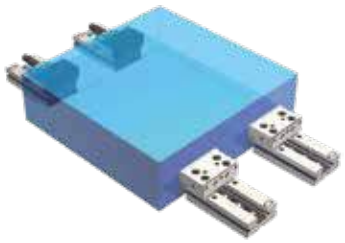


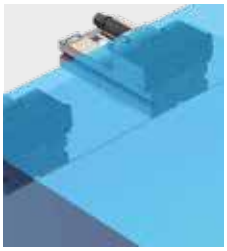


EXAMPLE 2

Clamping large workpiece on 2 sides, clamped directly on machine table using:

2x ART102 & 2x ART103



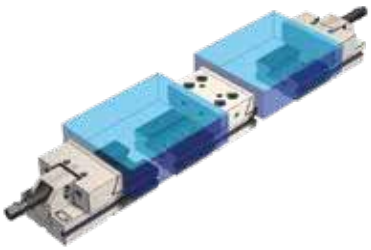


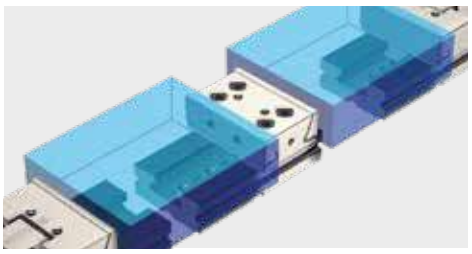


EXAMPLE 3

Clamping 2 workpieces using 3 modular elements, raised above the bed & sat on top of the vice base:

2x ART102 & 1x ART104

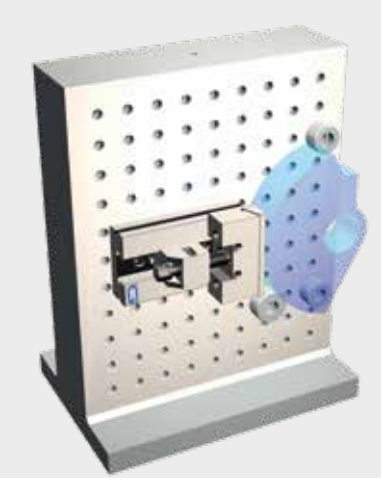




EXAMPLE 4

Clamping irregular workpiece on tombstone alongside bespoke fixtures:

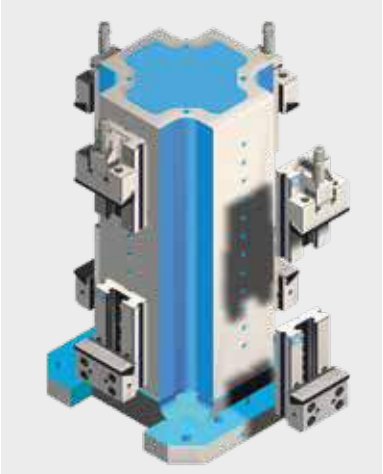
1x ART102



EXAMPLE 5

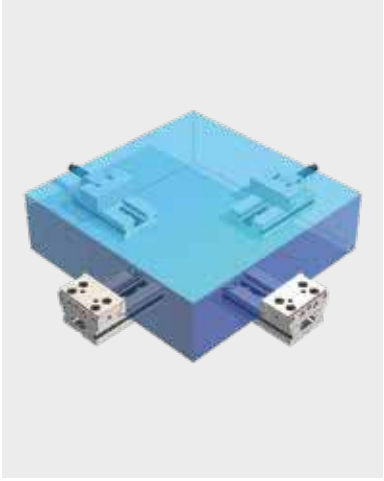
For use on a 4 sided cross cube:

4x ART102 & 4x ART103



EXAMPLE 6

Clamping large workpiece on 4 sides, raised off the bed & sat on top of vice bases: **2x ART102 & 2x ART103**



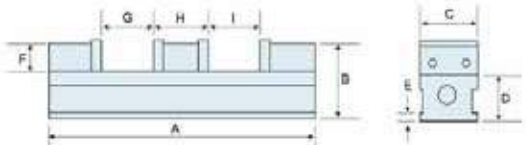
Miscellaneous Vices

DOUBLE LOCK MACHINE VICE

- Low maintenance precision double lock vice
- Use as a double or single vice
- Location slot for accurate and repeatable positioning
- Suitable for clamping 2 workpieces of different sizes
- 6 different positions available for clamping
- Removable centre jaw for large workpiece clamping
- Fixed or moveable rear jaw operation with special backplate







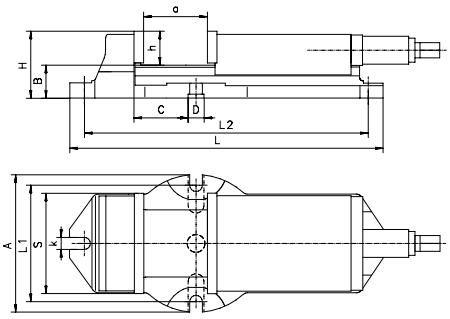
CUTWEL PRO

A	B	C	D	E	F	G	H	I	kg	Order Code	Price
400	105	100	65	23	40	55	60	55	25	MLD-100	**£888.86**
500	145	160	90	23	60	75	66	75	50	MLD-160	**£999.93**

MACHINE VICE

- Prismatic guidance of movable jaw
- Fully covered lead screw
- Jaws hardened and ground for accuracy and repeatability





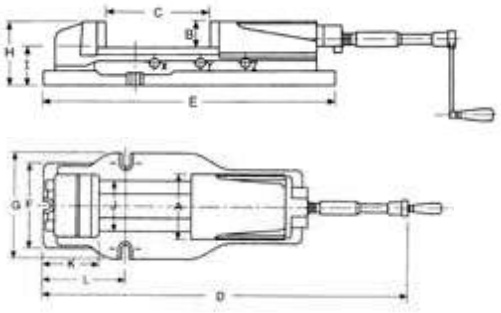
BISON

S	A	B	C	D	H	L	L1	L2	a	h	k	kg	Order Code	Price
105	144	46	28.5	25	84	300	122	280	75	38	16	12.2	6910-105	**£828.00**
155	215	52	85.5	25	105	495	183	449	165	53	20	36.4	6910-155	**£847.00**
210	268	67	103.5	25	126	593	236	549	205	59	20	68.2	6910-210	**£1,194.00**

HYDRAULIC MACHINE VICE (CAMLOCK MOUNT)

- Cast iron base with steel jaws
- 1 year guarantee





CUTWEL PRO

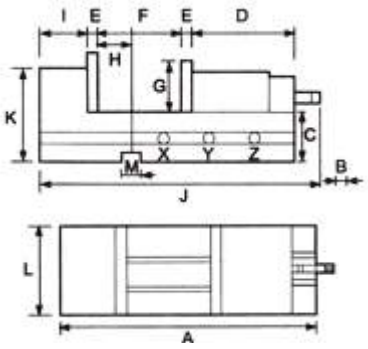
A	B	C	D	E	F	G	H	I	J	K	L	Order Code	Price
105	36	170	525	440	135	170	95	58	80	95	147	HV-100	**£289.62**
130	48	220	670	550	175	207	120	70.5	97	107	195	HV-130	**£306.66**
150	53	300	800	620	182	225	135	82.5	116	117	210	HV-150	**£315.19**
200	62	300	900	680	260	280	162	100	160	150	260	HV-200	**£621.80**

HYDRAULIC MACHINE VICE

Basic Model

- Vice body is made of ductile iron FCD60, vice bed hardened to HRC45 to maintain accuracy
- Vice can side-lock to work (Perpendicular of side lock 90° = 0.015/100mm)
- 1 year guarantee





CUTWEL PRO

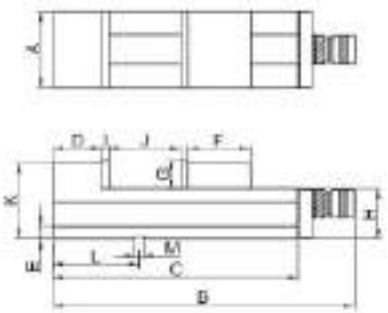
Jaw Width L	Max Spread	A	B	C	D	E	G	H	I	J	K	M	f	kg	Order Code	Price
105	170	404	14	62	208	12.5	42	45	64.5	450-540	102	16	50	22	MHA-100	**£488.86**
152	300	507	19	85	243	15.5	57	65	84.5	620-710	140	18	90	52	MHA-150A	**£543.20**
200	300	606	19	95	257	18.5	62	82	89.5	655-755	162	18	150	80	MHA-200	**£848.72**

HYDRAULIC MACHINE VICE

Pre-Settable High End Model

- Vice body is made of ductile iron FCD60, vice bed hardened to HRC45 to maintain accuracy
- Hydraulic or mechanical operation
- Clamping force can be pre-set
- Vice can side-lock to work. (Perpendicular of side lock 90° = 0.015/100mm)
- 1 year guarantee





CUTWEL PRO

Jaw Width L	Max Spread	B	C	D	E	F	G	H	I	J1	J2	J3	K	L	M	kg	Order Code	Price
102	125	475	340	65	25	102	47	85	15	125-190	125-230	125-320	130	125	16	27	MHV-100	**£670.25**
132	200	558	423	70	25	110	54	95	15	200-260	200-300	200-410	147	165	18	40	MHV-130	**£837.52**
162	240	632	497	85	25	130	57	105	15	240-315	240-360	240-470	160	165	18	60	MHV-160	**£921.78**

RB-K HIGH-PRESSURE MACHINE VICES

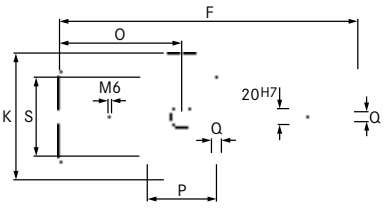
Mechanical/Hydraulic Clamping System

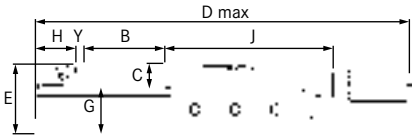
Application
For individual and series production on drilling and milling machines.

Features
- Mechanical-hydraulic clamping system with mechanical pre-tensioning via hand crank
- Clamping force can be pre-set via limit stop
- Body made from steel
- Bolt system for rapid clamping range adjustment
- Clamping repeatability of 0.01mm with constant clamping force
- Guideways hardened and polished
- Jaw widths 113, 135 & 160mm are die forged, jaw width 200mm made from ductile graphite iron
- Used on graduated swivel plates

Delivery
- With 1 set of standard jaws (1 side smooth, 1 side grooved) and hand crank







ROHM

Jaw Width mm	Jaw Height mm	Body Length mm	Max. Length mm	Min./max. Clamping Width	Tension Force kN	Order Code	Price
92	31.6	310	420	0-100 mm	25	28880301	**£1,549.66**
113	31.6	390	586	0-170 mm	30	28880302	**£1,673.04**
135	39.6	468	686	0-220 mm	40	28880303	**£2,058.52**
160	49.6	574	860	0-310 mm	50	28880304	**£2,575.08**
200	66.6	685	1015	0-350 mm	100	28880305	**£3,477.11**

HIGH-PRESSURE MACHINE VICES

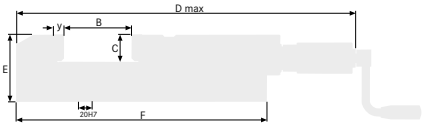
Mechanical/Hydraulic Clamping System

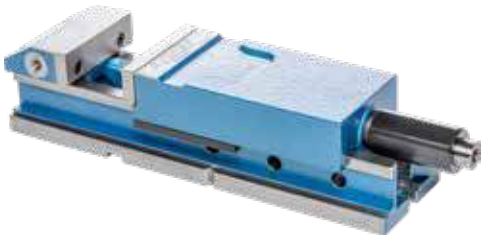
Application
For individual and series production on drilling and milling machines.

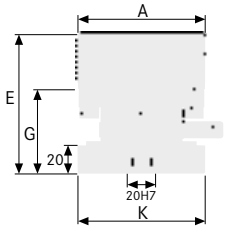
Features
- Mechanical-hydraulic clamping system with mechanical pre-tensioning via hand crank
- Forged steel body
- Guide ways hardened and polished
- Encapsulated stainless steel spindle
- With power transmission/preset clamping force in stages
- Aligned on the machine table via grooves and sliding blocks, ART. No. 26196

Advantage
- Easy and fast adjustment of the clamping range using the bolt system
- Pre-tensioning facility for elastic parts (stacked mounting)

Delivery
- 1 pc. vice; incl. 1 set of standard jaws (1 side smooth, 1 side grooved) and hand crank







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Jaw Width mm	Jaw Height mm	Body Length mm	Max. Length mm	Min./Max. Clamping Width	Tension Force kN	Order Code	Price
90	39.6	370	551	0-150 mm	25	28832092	**£1,862.65**
125	39.6	460	683	0-220 mm	40	28832127	**£2,183.42**

RS MACHINE VICES

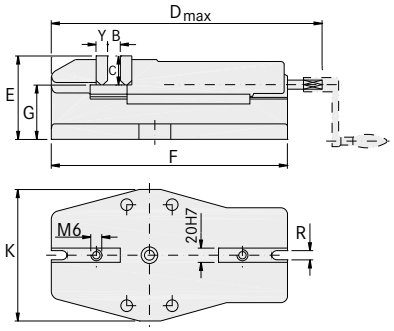
Manual Mechanical Clamping System Without Power Intensifier



Features
- Made of special cast iron for a wide range of applications
- Long guide of the movable jaw
- Power transmission by means of threaded spindle
- Hardened clamping jaws are reversible, one side is smooth and the other side is knurled
- Can be used on graduated swivel plates
- For matching swivel bases, see no. 28881
- Vice body and swivel base have 20H7 longitudinal slots for precision alignment

Advantage
- Entire clamping range can be bridged by turning the hand crank
- Spindle is protected against dirt and chippings
- Extensive range of jaws

Delivery
- 1 pc. machine vice RS; incl. standard jaws SGN and hand crank



Jaw Width mm	Clamping Width mm	Jaw Height mm	Jaw Thickness mm	Body Length mm	Body Width mm	Max. Length mm	Clamp in Height mm	Height mm	Slot Width mm	Order Code	Price
113	105	31.6	12	300	160	423	58	90	14	28710110	**£636.83**
135	125	39.6	16	365	200	510	64	104	14	28710135	**£766.35**
160	145	49.6	16	410	240	575	70	120	18	28710160	**£894.34**
200	185	62.6	20	460	280	675	82	145	22	28710200	**£1,279.82**

HIGH PRESSURE MACHINE VICE

Mechanical Clamping System with Power Transmission

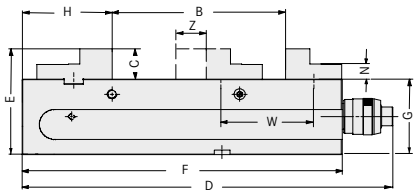
Application
For NC machines, machining centres, tool manufacture, mould making, fixture construction and series production.



Features
- With stepped jaws, reversible
- Robust cast steel basic body
- Guide ways hardened and polished
- Preset clamping force on the drive spindle
- Rough adjustment of clamping range by offsetting the jaws on the clamping slide
- Mechanical/mechanical clamping system, with power transmission via elbow joint
- Includes clamping nipple borehole for ATORN zero-point clamping system K10.2 (gauge 200mm)

Advantage
- Chip guard prevents chips penetrating inside the body
- Largely maintenance-free, consistent and precise clamping with clamping force 0.01mm

Delivery
- 1 pc. machine vice RS; incl. standard jaws SGN and hand crank



Jaw Width mm	Jaw Height mm	Body Length mm	Max. Length mm	Min./Max. Clamping Width mm	Min./Max. Clamping Width for Reversible Step Jaw mm	Tension Force kN	Weight kg	Travel Stroke of Gate Valve mm	Offset Range 2 mm	Order Code	Price
125	40	400	463	0-216	97-312	40	41	109	1 x 108	28874125	**£2,219.08**

MECHANICAL PRECISION VICES

With Clamping Force Booster

Features
- Clamping force, can be pre-set via grooved markings
- Can be clamped horizontally, vertically or laterally
- Steel body, hardened and polished on all sides
- Incorporated pull-down
- Bed height H: ≤ 0.01mm

Advantage
- Accurate reproducibility of clamping force
- No change in clamping force
- No vibration during machining
- Long service life



Jaw Width mm	Jaw Height mm	Body Width mm	Body Length mm	Max. Length mm	Min./Max. Clamping Width mm	Tension Force kN	Groove Width mm	Gross Weight kg	Order Code	Price
102	45	104	324	428	0-140	25	14	30	28814001	**£1,810.90**
125	53	127	390	495	0-201	35	14	46	28814002	**£2,006.36**
160	53	161	485	605	0-295	45	14	71	28814003	**£2,535.26**

SELF CENTERING HIGH JAW MACHINE VICE

Ideal for 5-Axis Machine Tools

Features
- Steel basic body, hardened and polished
- Upper clamping jaws make it possible for them to clamped inside each other
- Ideal guide ratio of jaws thanks to patented guide system, enabling a very large clamping width
- SKB claw jaws with a clamping depth of 2.5mm allow unmachined and sawn parts with a maximum strength of up to 900 N/mm² to be clamped and embossed in one step
- Flat jaw range, compatible with Röhm RKE NC compact clamps

Advantage
- Simple operation with exemplary accessibility
- Consistent clamping force in every clamping procedure
- Very few interference contours and extremely compact design
- High repeat accuracy when used with torque wrench

Contents
- 1 pc. Precision vice; incl. adjustable clamps, matching nut and ratchet tool



Type	Jaw Width mm	Min./Max. Clamping Width mm	Height mm	Order Code	Price
Long	92	24-160	174	28762093	**£1,659.15**
	125	23-222	196.5	28762126	**£1,902.78**
Short	92	24-100	174	28762092	**£1,569.72**
	125	23-142	196.5	28762125	**£1,797.93**

SELF CENTERING CONVENTIONAL MACHINE VICE

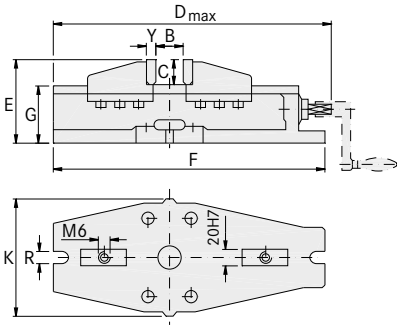
Centric Clamping

Features
- Manual mechanical clamping system without power intensifier
- Centre clamping due to left-hand and right-hand spindle threads
- Made of special cast iron for a wide range of applications
- Can be used on graduated swivel plates
- Hardened clamping jaws

Advantage
- Extensive range of jaws
- Spindle covered in working area
- Shallow design
- The side jaw guides allow easy and accurate alignment of the vice

Contents
- 1 pc. machine vice UZ; incl. standard jaws SGN and hand crank





Jaws Width mm	Clamping Range mm	Jaws Height mm	Jaws Thickness mm	Body Length mm	Body Width mm	Max. Length mm	Clamp in Height mm	Height mm	Slot Width mm	Order Code	Price
113	110	31.6	12	344	132	358	61	93.5	13	28750110	**£766.35**
135	140	39.6	16	394	152	408	65.5	106	13	28750135	**£1,023.86**
160	180	49.6	16	480	180	495	74	124.5	17	28750160	**£1,279.82**

SELF CENTERING HIGH JAW MACHINE VICE

Two-In-One Set

Features

- The position of the fixed and movable jaws can be altered on the rail so that large and small parts are always central relative to the table
- System can be extended endlessly using the adapter set (on request)
- When clamping with increased clamping width, clamping distance is only 30mm less than rail length. Example rail length of 400mm, 370mm possible clamping distance
- Positive-locking jaw interface
- Easy to clean. The entire system can be disassembled, cleaned and reassembled in a few minutes
- 100mm clamping range without adjustment

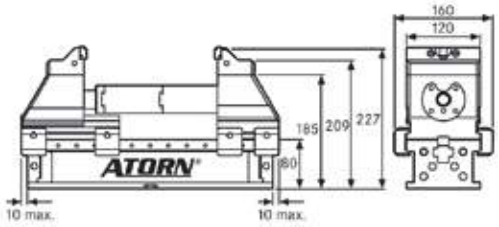


Advantage

- Extremely stiff for low vibration
- Two in one, system can be used as a 5-A and a multiple clamping system
  The base is an ATORN clamping rail from the 120 series
- Tool-free spindle extension, click in or out and it's ready. Smart clamping solution provides excellent value for money
- Simple and straightforward to handle, the system can be changed over very quickly
- Interfering edges optimised in design

Contents

- Order code: 28759701 = 1 pc. Clamping rail; 1 pc. 5-axis design complete; 2 pcs. Standard jaw; 2 pcs. Screw-in jaw; 1 pc. Spindle extension, 1 pc. Hand crank
- Order code: 28759702 = 1 pc. Clamping rail; 1 pc. 5-axis design complete; 2 pcs. Standard jaw; 2 pcs. Screw-in jaw; 2 pcs. Spindle extension, 1 pc. Hand crank;
- Order code: 28759703 = 1 pc. Clamping rail; 1 pc. 5-axis design complete; 2 pcs. Standard jaw; 2 pcs. Screw-in jaw; 3 pcs. Spindle extension, 1 pc. Hand crank;
- Order code: 28759704 = 1 pc. Clamping rail; 1 pc. 5-axis design complete; 2 pcs. Standard jaw; 2 pcs. Screw-in jaw; 4 pcs. Spindle extension, 1 pc. Hand crank



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Clamping Rail Length mm	Min./Max. Clamping Width mm	Weight kg	Order Code	Price
300	0-270	40.3	28759701	**£4,301.23**
400	0-370	47.3	28759702	**£4,497.10**
500	0-470	54.2	28759703	**£5,003.77**
600	0-570	60.8	28759704	**£5,665.49**

SELF CENTERING HIGH JAW MACHINE VICE

Ideal for 5-Axis Machine Tools

Features

- Central, simple programming without zero offset
- Workpiece bearing surface height 192mm
- Quick-change jaw system, quick-action tool-free jaw replacement within 10 seconds per pair of jaws
- Reversible jaws: for min. / max. clamping widths with one pair of jaws
- Constant clamping force by means of low-maintenance telescopic spindle
- Fitted as standard with location holes for zero point clamping system gauge 200
- Mounting on machine table additionally with through screws/fitting screws in the grid 50/63mm or adjustable clamps possible
- Integrated scale ring for fine adjustment of centre position
- Operation with torque wrench

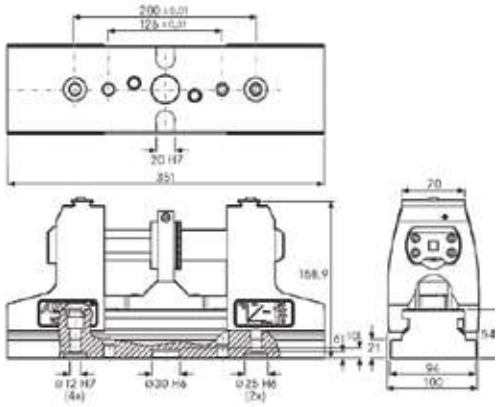


Advantage

- Telescopic spindle, interference contour remains unchanged
- Central, simple programming without zero offset
- Material dimensions are symmetrically distributed
- Workpiece accessibility does not depend on clamping width
- Symmetrical design means workpiece remains centred and parallel. Linear clamping force of 30kN at 45Nm

Contents

- Order code: 28761001: 1 TeleCentric 70 K without jaws, 1 support plate for transport, 1 T-handle wrench, 1 hand crank for presetting (please order clamping jaws separately)
- Order code: 28761002: 1 TeleCentric 70 M without jaws, 1 support plate for transport, 1 T-handle wrench, 1 hand crank for presetting (please order clamping jaws separately)



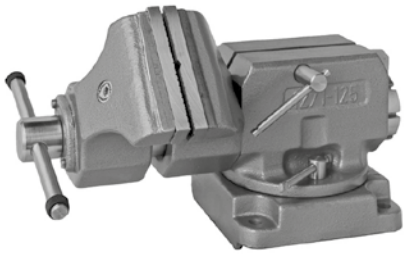
ATORN®

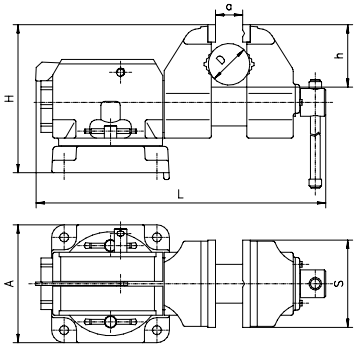
Jaws Width mm	Min./Max. Clamping Width	Min./Max. Clamping Width 2	Clamping Height	Tightening Torque Nm	Tension Force kN	Weight kg	Order Code	Price
70	9-135	9-134	192	45	30	17.5	28761001	**£5,053.70**
	42-200	49-139				19.5	28761002	**£5,354.01**

HEAVY DUTY ALL AXIS VICE

1271 Series

- Able to rotate clamped workpiece to any angle in vertical axis and 45° pitch in horizontal axis
- Can clamp round workpieces in V-shaped jaws
- Swivel base which allow rotation through 360° with positive, firm locking in any position
- Ruggedly constructed with high quality cast iron body, jaws and base with other parts made of alloy steel
- Lead-screw completely covered to keep dirt out





S	A	H	L	a max	h	D	Max Clamping Force daN	kg	Order Code	Price
125	170	215	373	150	80	32-60	3000	27.5	1271-125	**£693.00**

PORTABLE VICE WITH SWIVEL BASE

Low Profile

- Swivel base enables the vise to be positioned at any angle
- Must not be fixed to a table thicker than 52mm



Jaw Width mm	Opening mm	Order Code	Price
63	63	1256-63	**£177.00**

HEAVY DUTY BENCH VICE

1250 Series

- Covered lead screw to keep dirt out
- Rugged heavy duty design

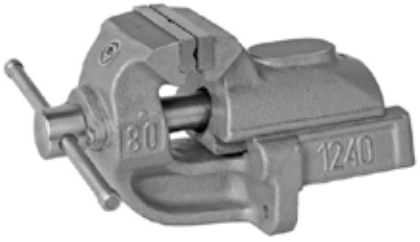


Jaw Width	Opening mm	Order Code	Price
63	63	1250-63L	**£117.00**
80	80	1250-80L	**£126.00**
100	80	1250-100L	**£135.00**
125	100	1250-125L	**£146.00**
150	125	1250-150L	**£193.00**
175	150	1250-175L	**£230.00**

HEAVY DUTY TABLE VICE

1240 Series

- Covered lead screw to keep dirt out
- Rugged heavy duty design



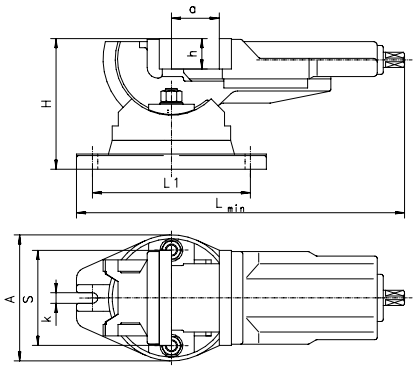
Jaw Width mm	Opening mm	Order Code	Price
80	100	1240-80L	**£237.00**
100	100	1240-100L	**£264.00**
125	140	1240-125L	**£300.00**
150	175	1240-150L	**£414.00**
175	175	1240-175L	**£428.00**
200	250	1240-200L	**£691.00**
250	250	1240-250L	**£720.00**

DOUBLE ANGLE SWIVEL MACHINE VICE

6530 Series

- Up to 90° angle of incline from the horizontal position
- 360° swivel base with ground contact edge and graduation
- Removable grooved jaw inserts are hardened and ground
- Fully covered lead screw protected against dirt & chips



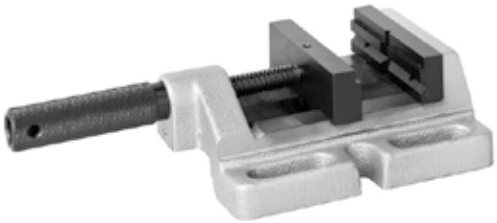


S	A	H	L min	L1	a	h	k	Max Clamping Foce daN	kg	Order Code	Price
100	144	145	372	181	80	32	14	2.5	12.5	6530-100	**£461.00**
125	168	169	437	208	100	40	14	3.5	20	6530-125	**£532.00**
160	212	200	450	208	125	50	18	4.5	34.2	6530-160	**£679.00**

DRILL PRESS VICE

6543 Series

- Vertical and horizontal V on fixed jaw
- Ideal for drilling and light milling operations

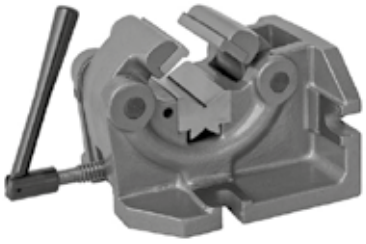


Jaw Width mm	Opening mm	Order Code	Price
100	85	6543-100M	**£112.00**
120	120	6543-120M	**£129.00**
150	150	6543-150M	**£172.00**

SHAFT HOLDING VICE

6546 Series

- Can be used in horizontal and vertical position
- Hardened and ground jaws & V block

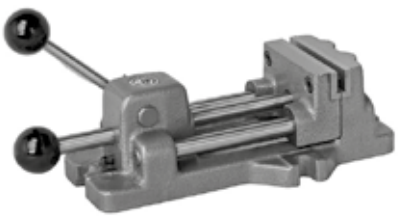


Jaw Length mm	Ø Capacity	Order Code	Price
100	10-63	6546-100	**£709.00**
125	15-100	6546-125	**£807.00**
160	50-160	6546-160	**£1,640.74**

QUICK ACTING MACHINE VICE

6540 Series

- Initial clamping by movable jaw
- Final clamping by lever movement

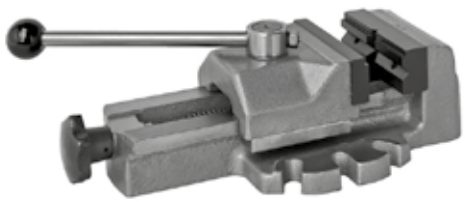


Jaw Width mm	Opening mm	Order Code	Price
80	80	6540-80	**£388.08**

QUICK ACTING MACHINE VICE

6542 Series

- Clamping by single rotary movement of lever
- V in fixed jaw for round work

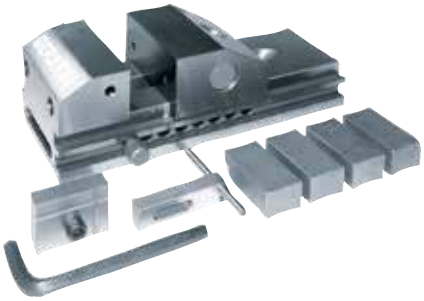


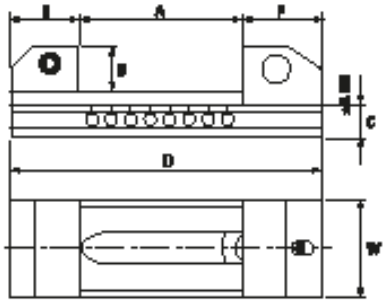
Jaw Width mm	Opening mm	Order Code	Price
80	80	6542-80	**£279.00**
100	100	6542-100	**£339.00**

GRINDING & INSPECTION MACHINE VICE

ART.666

- Case hardened steel HRC60
- For grinding / EDM machines / inspection
- Ground to +/-0.003mm
- Supplied with 4 clamping jaws, 1 fixed work stop & 1 movable workstop





GERARDI

A	W	B	C	D	E	F	kg	Order Code	Price
27	30	15	15	75	15	33	0.3	3.66.60000	**£166.74**
80	60	28	28	175	40	55	2.8	3.66.61000	**£334.34**
100	75	40	35	220	50	50	5.8	3.66.62000	**£397.94**
120	100	45	42	260	55	85	10.7	3.66.63000	**£564.69**
160	125	50	50	330	65	105	19.5	3.66.64000	**£804.48**
180	125	50	50	350	65	105	20.8	3.66.65000	**£880.12**
200	125	50	50	370	65	105	20.7	3.66.66000	**£959.19**
260	125	50	50	430	65	110	26.7	3.66.67000	**£1,308.15**
200	160	63	63	410	80	130	38.0	3.66.68000	**£1,609.83**

TOOL MAKERS / INSPECTION VICE

6526 Series

- Parallelism: 3µm/100mm
- Squareness: 5µm/100mm
- Made of alloy steel
- Hardness HRC56-58



INSIZE

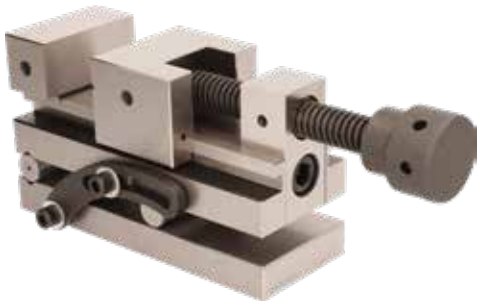
Jaw Opening mm	Jaw Width mm	Overall Length mm	Height	Jaw Height	Order Code	Price
0-80	50	150	53	25	6526-80	**£164.42**
0-100	73	190	70	35	6526-100	**£224.42**

PRECISION SINE VICES, TYPE OPS-S

Actuation via Trapezoidal Spindle

Application
For grinding and inspection tasks

Features
- Made of alloyed tool steel
- Hardened and precision-ground
- Adjustment via trapezoidal spindle
- Horizontally countersunk prism
- Perpendicularity tolerance 0.005mm/100mm (base area to fixed jaw clamping surfaces)
- Parallelism tolerance 0.005mm/100mm (base area to upper guide plate)
- Precise angular adjustment achieved using gauge blocks
- Angular deviation at 45° +/- 15 inch
- Bearing and locating bolts hardened and polished with a tolerance of 0.001mm
- The clamp can be positively locked in any angle



Delivery
- 1x precision sine bar vices OPS-S

ORION

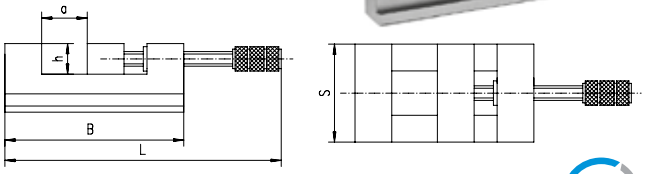
Prism Countersunk Horizontally	Jaws Width mm	Jaws Height mm	Clamping Width mm	Height mm	Base Body Length mm	Base Body Height mm	Min./Max. Angle Scale	Order Code	Price
Yes	70	30	80	93	160	63	0-46°	28620110	**£310.75**
Yes	90	40	120	113	210	73	0-46°	28620120	**£656.93**

TOOL MAKERS / INSPECTION VICE

6552 Series

- Used for precision grinding, milling and measuring work
- Made of alloy tool steel, hardened and precision ground





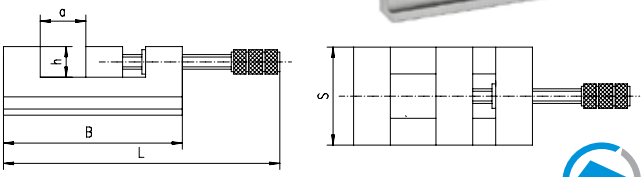
S	B	L	a max.	h	kg	Order Code	Price
63	120	182	50	20	1.8	6552-63	**£640.00**
80	146	215	63	25	4.2	6552-80	**£737.00**
100	174	243	80	32	8.5	6552-100	**£941.00**

TOOL MAKERS / INSPECTION VICE WITH PRISMATIC JAW

6553 Series

- Used for precision grinding, milling and measuring work
- Made of alloy tool steel, hardened and precision ground





S	B	L	a max.	h	kg	Order Code	Price
63	120	182	50	20	1.8	6553-63-P	**£651.00**
80	146	215	63	25	4.2	6553-80-P	**£793.00**
100	174	243	80	32	8.5	6553-100-P	**£960.00**

GRINDING AND CONTROL VICES, TYPE OP-G

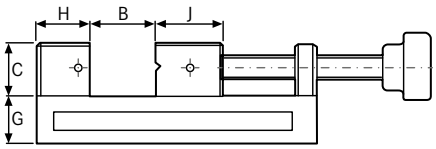
Actuation via Trapezoidal Spindle

Application
For horizontal, vertical and lateral grinding, inspection and eroding tasks.

Features
- Made of alloyed tool steel
- Hardened and precision-ground
- Adjustment via trapezoidal spindle
- Horizontally countersunk prism
- Perpendicularity tolerance 0.005mm/100mm (base area to fixed jaw clamping surfaces)
- Parallelism tolerance 0.005mm/100mm (base area to upper guide plate)

Delivery
- 1x grinding and control vice OP-G





Prism Countersunk Horizontally	Jaws Wdth mm	Jaws Height mm	Clamping Width mm	Height mm	Base Body Length mm	Base Body Width mm	Base Body Height mm	Order Code	Price
Yes	63	30	73	63	176	63	33	28604160	**£82.91**
	73	35	76	73	190	73	38	28604173	**£96.83**
	88	42	115	80	250	88	38	28604188	**£171.73**

PRECISION SINE BAR VICES OPS-Z

Actuation via Trapezoidal Spindle

Application
For grinding and inspection tasks

Features
- Made of alloyed tool steel
- Hardened and precision-ground
- Adjustment via trapezoidal spindle
- Horizontally countersunk prism
- Perpendicularity tolerance 0.005mm/100mm (base area to fixed jaw clamping surfaces)
- Parallelism tolerance 0.005mm/100mm (base area to upper guide plate)
- Precise angular adjustment achieved using gauge blocks
- Angular deviation at 45° +/- 15 inch
- Bearing and locating bolts hardened and polished with a tolerance of 0.001mm
- The clamp can be positively locked in any angle

Delivery
- 1x precision sine bar vice OPS-Z



Prism Countersunk Horizontally	Jaws Width mm	Jaws Height mm	Clamping Width mm	Height mm	Base Body Length mm	Base Body Width mm	Base Body Height mm	Min./Max. Angle Scale	Order Code	Price
Yes	70	30	80	62	160	110	32	0-120 Degree	28620200	**£1,061.14**

CompactGrip Machine Vice

Self centering modular machine vices

Grip on just 4mm or full jaw height. Superior clamping force, no workpiece stamping or dovetails required, just GRIP & GO.

Modular

- Optional jaw plates with different tooth pitch for soft, regular or hard materials, plus smooth plates for finish machining.

Precision

- All working surfaces ground within +0.01mm (overall accuracy +0.02mm).
- Perfect for use on 5 axis machines or any application requiring self centring clamping with the highest repeatability

Powerful Immediate Clamping

- No need to stamp or dovetail the workpiece, Gerardi's lead screw technology delivers 100% more Clamping force than the leading German 5 axis vice brand, just clamp on as little as 4mm and start machining.

No Wear

- Made from heat treated HRC60 alloy steel. 5 year warranty.

Scan to Watch

CompactGrip QUICK CLAMPING TABLE

The system allows immediate positioning of the vice on the machine table, tombstone, 4th/5th axis or fixture - saving hours on set-up times. Vices can be replaced on the table in seconds with 5µm accuracy, switching from job to job without almost no machine downtime.

- Immediate positioning with 5µm repeatability
- Mechanical clamping (no air or hydraulics needed)
- Supplied with 4 pull studs
- Vices & bases compatible with other manufacturer's systems





ZERO POINT READY

Compatible with the most popular pallet change systems, as well as Gerardi Zero Point Size 1 and 2.

- No need for adapter plates
- Supplied with pull stud
- Zero Point can be integrated in risers



VERSATILE JAWS

Reversible solid jaws with modular jaws plates for different materials and operations.

- No need for workpiece stamping
- Hardened & ground
- Superior rigidity



















1 Hardened & Ground

HRC60 hardened steel base, jaws and lead screw, overall accuracy ±0.02mm.

2 Self Centering Reversible Step Jaws

High clamping accuracy, power and pull down action. Self centering jaws can be adjusted.

3 Modular Jaw Plates

With different teeth profiles for specific materials, rough or finish machining.

4 Highest & Most Consistent Clamping Forces

12-32kN clamping forces easily achievable due to the lead screw design.

5 Multiple Ways To Locate The Vice

Vice can be positioned with ground keyways (with tenons), quick clamping plates (with 4 pull studs), zero point (1-2 pull studs) or with centering pin (for 5 axis table).

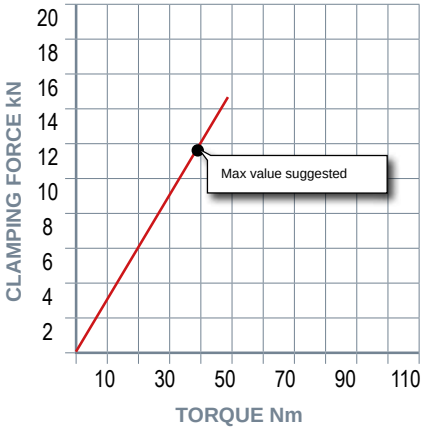
6 Single Or Double Clamping

With additional fixed jaw (ART650X), 2 workpieces can be clamped with 1 vice.

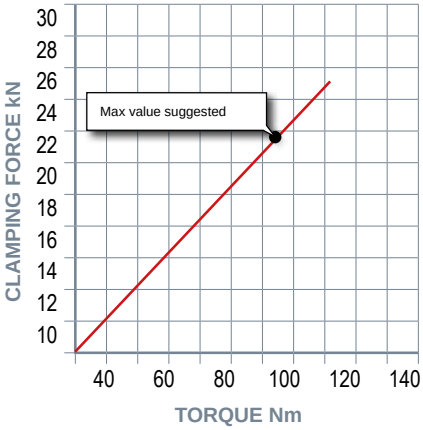
THE HIGHEST CLAMPING FORCES WITH MECHANICAL CLAMPING ART. 650/950

- No workpiece 'stamping' or dovetailing required - **DOUBLE the clamping force of competitor vices**

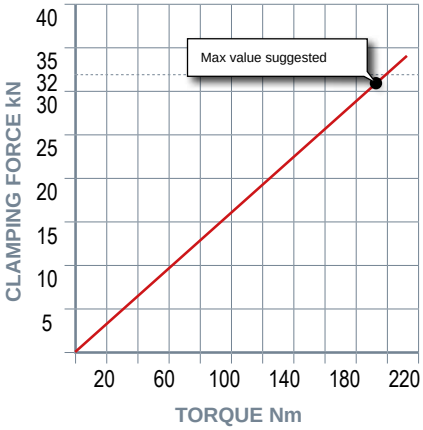
SIZE 1

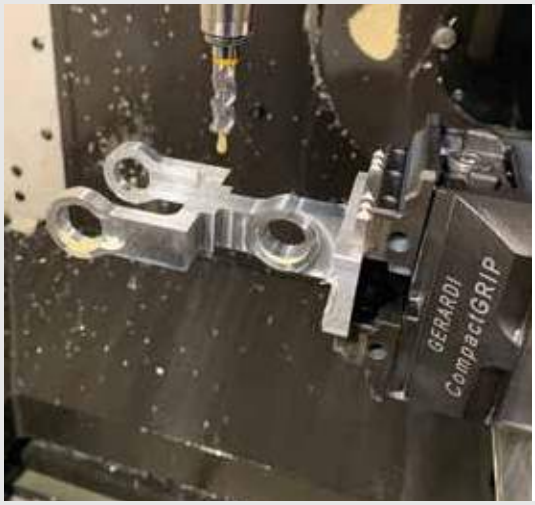


SIZE 2



SIZE 3

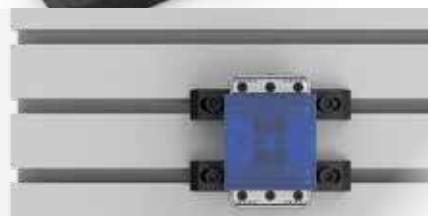




5 AXIS MACHINING CENTRE

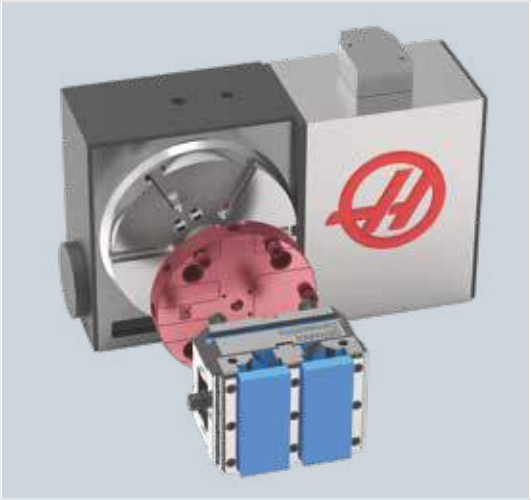
- Compact design enables full 5 sided machining.
- Self centering clamping ensures highest accuracy & repeatability.
- Possible to grip on just 4mm (jaw plate), 9-10mm (large step jaw) or 16-28mm (full jaw). Gripping height depends on vice size.
- Vices can be clamped either directly to the 5th axis table, with a quick change table or with pneumatic Zero Point.





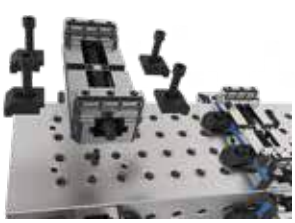
3 AXIS VERTICAL MACHINING CENTRE

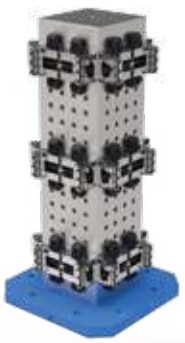
- Compact design and integral lead screw enables multiple vices to be used on one machine.
- Self centering clamping ensures highest accuracy & repeatability than using a centric clamping vice.
- Possible to grip on just 4mm (jaw plate), 9-10mm (large step jaw) or 16-28mm (full jaw). Gripping height depends on vice size.
- Vices can be clamped either directly to the machine bed, with a Quick Change table or with pneumatic Zero Point.



4th AXIS COMPATIBLE

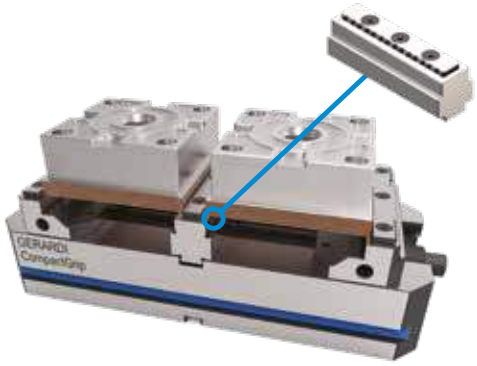
- The Quick Change Sub Plate ART.660/661 allows the quick change of vices or fixtures replacing most rotary tables. The machinable version can be tailor made by the customer according to the machine table.
- Low profile design makes the vice ideal to use on a trunnion table.
- Vices can be also be located with pneumatic Zero Point directly to the 4th axis table or integrated into a trunnion.





HORIZONTAL MACHINING CENTRE

- Low profile base and ability to clamp on full height of jaw ensures the workpiece is clamped as close to the cube as possible if required. Alternatively the workpiece can be clamped using the 4mm step jaw plate if full access to 5 sides of the workpeice is required.
- Vices can be clamped either directly to the tombstone, with a Quick Change table or with pneumatic Zero Point.



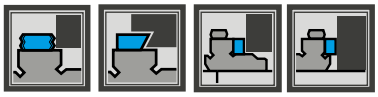
SINGLE OR DOUBLE CLAMPING

- Vice is supplied for single clamping as standard.
- Convert to double clamping with additional fixed centre jaw ART650X.
- Choice of 5 jaws plates for different materials or operations including smooth (hard), serrated and 3 grip profiles.



MODULAR JAW PLATES

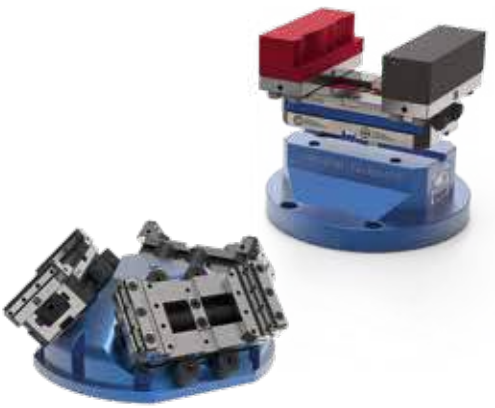
- Top jaw plates for clamping on just 4x3mm available in smooth/serrated (double sided), dovetail and grip profile (3 grip pitches for different materials).
- Frontal jaw plates for clamping on large step jaw or full height jaw available in smooth, soft or serrated.





QUICK CHANGE TABLES

- Allows immediate positioning of the vice using 4 pull studs and mechanical clamping with less than 5 microns repositioning accuracy.
- Full hardened and ground model with location holes (ART660/661) or customizable version with machinable section (ART660S/661S).
- Round or rectangular versions.

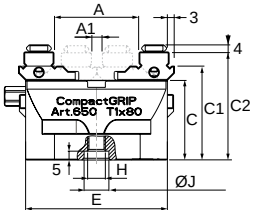


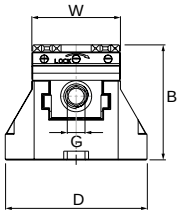
RISERS & PYRAMIDS

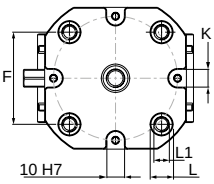
- Aluminium risers available in 50/75/100mm heights.
- 3 station pyramid available in 30° & 45° angles for 5 axis machining centres.
- All working surface ground with 10 micron height accuracy.
- Zero Point and Quick Change Table compatible.

ART.650 COMPACTGRIP VICE WITH REVERSIBLE HARD JAWS

- Self centering
- Reversible jaws and jaw plates
- Wide range of jaw plates for different materials
- Compact design with excellent clearance for 5 axis machining
- High clamping forces & solid jaws, also ideal 3 or 4 axis machining









SUPPLIED WITH EACH VICE:

- Pair of positioning nuts ART.650G
- 1 workstop ART.370EM
- Pair of self centring key nuts ART.297
- 1 box wrench Art.375
- 1 Calibrated centering and orientation pin ART.79 or 1 pull stud for zero point Art.11S or 1 calibrated centering pin ART.604P*

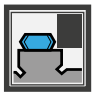
*(to be chosen when ordering)



Vice Size	Jaw Width W	A	A1	B	C	C1	C2	D	E	F	H	J	K	L	L1	kg	Order Code	Price	100mm Risers	Quick Change Tables
1 (12kN)	50	54	6	65	45	53	61	80	80	52	M10	14 H7	10 H7	12	M8	1.8	7.65.01080	**£592.67**	7.65.1H108/100	9.66.05200 9.66.0S520 9.66.15200 9.66.1S520
		94							120							2.6	7.65.01120	**£683.99**	7.65.1H112/100	
		134							160							3.4	7.65.01160	**£775.32**	7.65.1H116/100	
2 (22kN)	88	96	10	65	38	51	61	90	120	52	M12	14 H7	16 H7	12	M8	3.6	7.65.02120	**£683.99**	7.65.1H212/100	
		136							160							4.4	7.65.02160	**£775.32**	7.65.1H216/100	
		176							200							5.2	7.65.02200	**£866.64**	7.65.1H220/100	
		216							240							5.8	7.65.02240	**£957.96**	7.65.1H224/100	
3 (32kN)	123	126	10	89	57	75	85	125	160	96	M16	20 H7	16 H7	16	M10	9.1	7.65.03160	**£1,140.60**	7.65.1H316/100	9.66.09600 9.66.0S960 9.66.19600 9.66.1S960
		176							210							10.9	7.65.03210	**£1,231.92**	7.65.1H321/100	
		226							260							12.8	7.65.03260	**£1,323.24**	7.65.1H326/100	
		276							310							14.8	7.65.03310	**£1,597.21**	7.65.1H331/100	
		326							360							17	7.65.03360	**£1,779.85**	7.65.1H336/100	

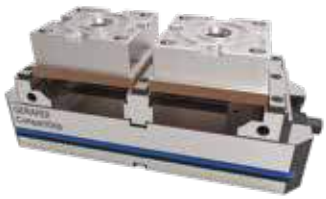
COMPACTGRIP TOP JAW PLATES (SOLD IN PAIRS)

- Jaw plates for clamping to the top of the jaw
- 4mm high x 3mm deep step
- Hardened & ground

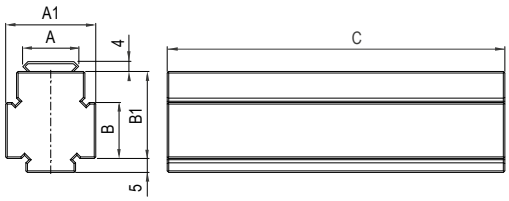
Jaw Plate Type			Application	Vice Size	Order Code	Price
Smooth & Rough Jaw Plate ART650S			1 side serrated for rough machining of soft-medium hardness metals, 1 side smooth for finishing	1	7.65.0S100	**£70.81**
				2	7.65.0S200	**£70.81**
				3	7.65.0S300	**£70.81**
Dovetail Jaw Plate ART650R			60° dovetail for the most secure clamping, ideal for heavy roughing when the most secure clamping is needed.	1	7.65.0R1000	**£30.52**
				2	7.65.0R200	**£30.52**
				3	7.65.0R300	**£30.52**
STD Grip Jaw Plate 1.5mm Pitch ART650T-G01			Designed for clamping low to medium hardness materials	1	7.65.0T100/G01	**£35.41**
				2	7.65.0T200/G01	**£45.17**
				3	7.65.0T300/G01	**£70.81**
Hard Material Grip Jaw Plate 2mm Pitch ART650T-G02			Designed for clamping hardened materials	1	7.65.0T100/G02	**£35.41**
				2	7.65.0T200/G02	**£45.17**
				3	7.65.0T300/G02	**£70.81**
Soft Material Grip Jaw Plate 11mm Pitch ART650T-G11			Extra coarse pitch for soft material clamping	1	7.65.0T100/G11	**£35.41**
				2	7.65.0T200/G11	**£45.17**
				3	7.65.0T300/G11	**£70.81**

COMPACTGRIP INTERMEDIATE CENTRAL FIXED JAW & TOP JAW PLATES

- Enables 2 workpieces to be clamped with 1 vice
- Jaw plate & fixed jaw sold in singles







Jaw Type	Application	Vice Size	A1	B	B1	C	Order Code	Price
Solid Fixed Jaw ART650X	Turns single vice into double vice. Available with 5 jaw plate options to match top jaw plates for outer jaws.	1	24	8	20	50	7.65.0X1000	**£119.16**
		2	28	13	23	88	7.65.0X2000	**£138.69**
		3	29	18	28	123	7.65.0X3000	**£154.32**

Jaw Plate Type (For Fixed Centre Jaw)			Application	Vice Size	A	Order Code	Price
Smooth Top Jaw Plate ART650V			Both sides smooth for finish machining	1	18	7.65.0V1000	**£58.60**
				2	22	7.65.0V2000	**£58.60**
				3	22	7.65.0V3000	**£58.60**
Rough Top Jaw Plate ART650Y			Rough both sides for clamping smooth materials	1	18	7.65.0Y1000	**£91.81**
				2	22	7.65.0Y2000	**£91.81**
				3	22	7.65.0Y3000	**£91.81**
STD GRIP Top Jaw Plate 1.5mm Pitch ART650U-G01			Designed for clamping low to medium hardness materials	1	18	7.65.0U100/G01	**£58.60**
				2	22	7.65.0U200/G01	**£73.25**
				3	22	7.65.0U300/G01	**£108.66**
HARD MATERIAL GRIP Jaw Plate 2mm Pitch ART650T-G02			Designed for clamping hardened materials	1	18	7.65.0U100/G02	**£58.60**
				2	22	7.65.0U200/G02	**£73.25**
				3	22	7.65.0U300/G02	**£108.66**
SOFT MATERIAL GRIP Jaw Plate 11mm Pitch ART650T-G11			Extra coarse pitch for soft material clamping	1	18	7.65.0U100/G11	**£58.60**
				2	22	7.65.0U200/G11	**£73.25**
				3	22	7.65.0U300/G11	**£108.66**

COMPACTGRIP FRONT JAW PLATES (SOLD IN SINGLES)

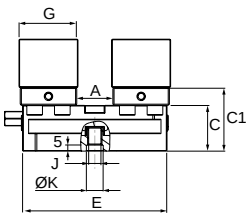
- Jaw plates for clamping to the front/rear of the solid jaw
- Hardened & ground (smooth & serrated) or soft machinable
- Jaw plate & fixed jaw sold in singles

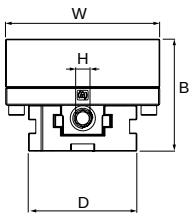
Jaw Plate Type				Application	Vice Size	Width	Height	Order Code	Price
Smooth Front Jaw Plate (Hard) ART655L				For finish machining without marking the workpiece. Also enables the full height of the rear jaw to be used for additional clamping strength	1	50	8	7.65.5L1000	**£36.14**
					2	80	10	7.65.5L2000	**£46.88**
					3	115	10	7.65.5L3000	**£58.60**
Soft Front Jaw Plate ART655M				Machinable soft jaw (10mm thick) for clamping irregular workpieces	1	50	8	7.65.5M1000	**£36.14**
					2	80	10	7.65.5M2000	**£46.88**
					3	115	10	7.65.5M3000	**£58.60**
Serrated Front Jaw Plate ART655N				For rough machining. Also enables the full height of the rear jaw to be used for additional clamping strength	1	50	8	7.65.5N1000	**£36.14**
					2	80	10	7.65.5N2000	**£46.88**
					3	115	10	7.65.5N3000	**£58.60**
Magnetic Parallel Front Jaw Plate ART655P				Creates a 4mm step. Also enables the full height of the rear jaw to be used for additional clamping strength	1	50	5	7.65.5P1000	**£36.14**
					2	80	7	7.65.5P2000	**£46.88**
					3	115	7	7.65.5P3000	**£59.58**

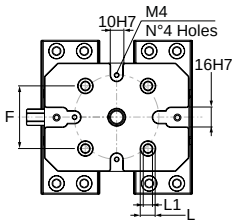
ART.950 COMPACTGRIP VICE WITH MACHINABLE SOFT JAWS

HARDENED TO HRC60

- Self centering
- Machinable soft jaws for irregular workpiece clamping
- Compact design with excellent clearance for 5 axis machining









SUPPLIED WITH EACH VICE:

- 1 workstop **ART.370EM**
- Centering pin **ART.79** or **ART11S**
- 1 box wrench: **ART.375**
- Pair of self centering key-nuts **ART.650G**
- Pair of positioning key-nuts **ART.297**
- 1 Calibrated centering and orientation pin ART.79 or 1 pull stud for zero point Art.11S or 1 calibrated centering pin ART.604P*
  *(to be chosen when ordering)



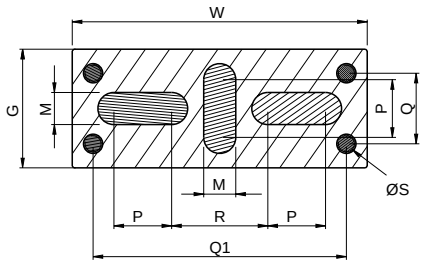
GERARDI

Size (Clamping Force)	Jaw Width W	A	B	C	C1	D	E	F	G	H	J	K	L	L1	kg	Order Code	Price
2 (22kN)	128	48	93	38	53	90	120	52	49	CH.12	M10	14 H7	12 H7	M8	7.9	7.95.02120	**£1,062.33**
		85					160								8.7	7.95.02160	**£1,139.69**
		125					200								9.5	7.95.02200	**£1,222.20**
		165					240								10.1	7.95.02240	**£1,319.32**
3 (32kN)	160	71	124	57	77	125	160	96	59	CH.16	M16	20 H7	16 H7	M10	16.9	7.95.03160	**£1,764.54**
		121					210								18.7	7.95.03210	**£1,893.46**
		171					260								20.6	7.95.03260	**£2,092.86**
		221					310								22.6	7.95.03310	**£2,327.50**
		271					360								24.8	7.95.03360	**£2,563.01**

JAWS & SLIDES FOR ART.950*

***Sold individually. Also suitable for use with ART.650, solid soft jaws can be used by adding right and left slides ART.950B & ART.950C**



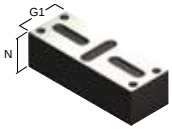


GERARDI

Size	2	3
W	128	160
G	49	59
M	10 H7	14 H7
P	30	36
Q	23	36
Q1	110	142
R	40	50
Ø S	9	11

ART.950D

Machinable steel solid soft jaw





Size N	2 (30)	3 (47)
Order Code	7.95.0D2000	7.95.0D3000
Price	**£73.25**	**£94.74**

ART.950B

Solid hardened slide **right hand** with positioning key nuts





Size N	2 (15)	3 (20)
Order Code	7.95.0B2000	7.95.0B3000
Price	**£200.22**	**£363.33**

ART.950C

Solid hardened slide **left hand** with positioning key nuts





Size N	2 (15)	3 (20)
Order Code	7.95.0C2000	7.95.0C3000
Price	**£200.22**	**£363.33**

COMPACTGRIP QUICK CLAMPING TABLES

- Mechanical clamping
- Immediate positioning <0.005mm accuracy
- Suitable for CompactGrip vices, also suitable for quick clamping of lathe chucks on a 4th or 5th axis

The system allows immediate positioning of the vice on the machine table, tombstone, 4th/5th axis or fixture - saving hours on set-up times. Vices can be replaced on the table in seconds with 5µm accuracy, switching from job to job with almost no machine downtime.



ART.660 QUICK CHANGE TABLE - RECTANGULAR (FULLY HARDENED)

- Quick change table made from hardened steel
- Supplied with 4 pull studs

Width	Length	Pitch	kg	Order Code	Price
116	150	52	3	9.66.05200	**£633.88**
156	190	96	5.2	9.66.09600	**£926.88**



ART.660S QUICK CHANGE TABLE - RECTANGULAR (MACHINABLE)

- Quick change table inner area made from hardened steel with outer area machinable
- Supplied with 4 pull studs

Width	Length	Pitch	kg	Order Code	Price
125	150	52	3.1	9.66.0S520	**£536.21**
156	190	96	5.3	9.66.0S960	**£731.55**



ART.660R QUICK CHANGE REDUCTION TABLE - RECTANGULAR

- Quick change table reducer enables size 1 & 2 vices to be used on a size 3 table whilst also adding 27mm extra height
- Supplied with 4 pull studs

Width	Length	Pitch Top	Pitch Bottom	kg	Order Code	Price
126	150	52	96	3.75	9.66.0R210	**£536.21**



ART.661 QUICK CHANGE TABLE - ROUND (FULLY HARDENED)

- Quick change table made from hardened steel
- Supplied with 4 pull studs

Diameter	Pitch	kg	Order Code	Price
158	52	3	9.66.15200	**£633.88**
196	96	5.2	9.66.19600	**£926.88**



ART.661S QUICK CHANGE TABLE - ROUND (MACHINABLE)

- Quick change table inner area made from hardened steel with outer area machinable
- Supplied with 4 pull studs

Diameter	Pitch	kg	Order Code	Price
158	52	3	9.66.1S520	**£731.55**
196	96	5.2	9.66.1S960	**£1,513.88**



ART.661R QUICK CHANGE REDUCTION TABLE - ROUND

- Quick change table reducer enables size 1 & 2 vices to be used on a size 3 table whilst also adding 27mm extra height
- Supplied with 4 pull studs

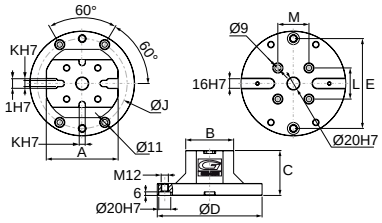
Diameter	Pitch Top	Pitch Bottom	kg	Order Code	Price
158	52	96	3.75	9.66.1R210	**£536.21**



ART.651H RISER BLOCKS - ALUMINIUM

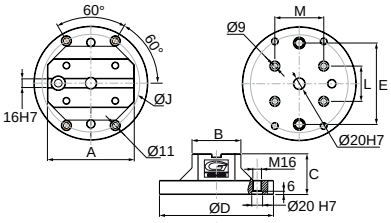
SIZE 1





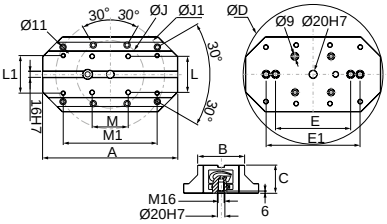
SIZE 2





SIZE 3





GERARDI

Vice Size	Height C	Ø A	B	ØD	E	E1	L	L1	M	M1	Ø J	K	K1	kg	Suitable Vices	Order Code	Price
1	50	80	80	128	-	-	52	-	52	-	110	10	-	1.08	7.65.01080	7.65.1H108/50	£341.84
	75													1.41		7.65.1H108/75	£341.84
	100													1.75		7.65.1H108/100	£341.84
	50	120	80	178	150	-	52	-	52	-	150	10	16	2.09	7.65.01120	7.65.1H112/50	£390.68
	75													2.63		7.65.1H112/75	£390.68
	100													3.17		7.65.1H112/100	£390.68
	50	160	80	178	150	-	52	-	52	-	150	10	16	2.40	7.65.01160	7.65.1H116/50	£439.51
	75													3.15		7.65.1H116/75	£439.51
	100													3.90		7.65.1H116/100	£439.51
2	50	120	90	210	-	-	65	-	90	-	183	-	-	3.07	7.65.02120 7.95.02120	7.65.1H212/50	£439.51
	75													3.71		7.65.1H212/75	£439.51
	100													4.32		7.65.1H212/100	£439.51
	50	160	90	210	150	-	65	-	90	-	183	-	-	3.09	7.65.02160 7.95.02160	7.65.1H216/50	£488.35
	75													3.90		7.65.1H216/75	£488.35
	100													4.73		7.65.1H216/100	£488.35
	50	200	90	210	150	-	65	-	90	-	185	-	-	3.38	7.65.02200 7.95.02200	7.65.1H220/50	£537.18
	75													4.45		7.65.1H220/75	£537.18
	100													5.52		7.65.1H220/100	£537.18
	50	240	90	249	200	-	65	-	150	-	185	-	-	4.13	7.65.02240 7.95.02240	7.65.1H224/50	£586.02
	75													5.45		7.65.1H224/75	£586.02
	100													6.75		7.65.1H224/100	£586.02
3	50	160	125	240	150	-	96	-	96	-	185	-	-	3.34	7.65.03160 7.95.03160	7.65.1H316/50	£634.85
	75													4.49		7.65.1H316/75	£634.85
	100													5.68		7.65.1H316/100	£634.85
	50	210	125	240	150	-	96	-	96	-	185	-	-	3.85	7.65.03210 7.95.03210	7.65.1H321/50	£634.85
	75													5.40		7.65.1H321/75	£634.85
	100													6.99		7.65.1H321/100	£634.85
	50	260	125	332	150	200	96	-	96	-	185	-	-	5.73	7.65.03260 7.95.03260	7.65.1H326/50	£927.86
	75													7.69		7.65.1H326/75	£927.86
	100													9.69		7.65.1H326/100	£927.86
	50	310	125	327	150	200	96	100	96	-	185	-	-	6.14	7.65.03310 7.95.03310	7.65.1H331/50	£976.70
	75													8.50		7.65.1H331/75	£976.70
	100													10.91		7.65.1H331/100	£976.70
	50	360	125	373	200	250	96	100	96	-	185	-	-	7.02	7.65.03360 7.95.03360	7.65.1H336/50	£1,074.37
	75													9.80		7.65.1H336/75	£1,074.37
	100													12.62		7.65.1H336/100	£1,074.37

ART.63 RISER WITH ZERO POINT

- Pneumatic clamping - Size 1 Vice
- Steel riser with Zero Point ART.665S



SUPPLIED WITH:

- 1 pull stud **ART.10S or ART.11S**
- 1 shoulder calibrated pin **ART.79**
- 1 positioning pin **ART.640P**
- 1 teflon cap with O-Ring **ART.9**



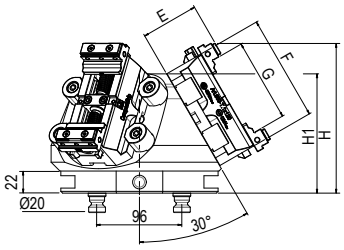
GERARDI

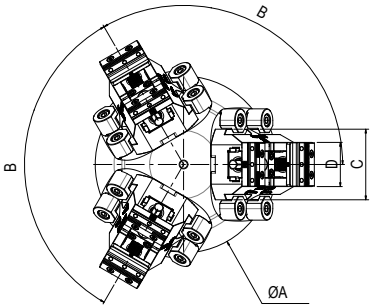
Vice Size	Height	kg	Suitable CompactGrip Vices	Order Code	Price
1	100	3	All Size 1 Vices	9.63.10000-KIT	£1,193.52

ART.643H-1 PYRAMID RISER - 30°

- Triple positioning 30° support
- For size 1 CompactGrip vices with 80 or 120mm base length
- Special design on request
- Zero Point & Quick Change Table compatible







SUPPLIED WITH EACH PYRAMID:

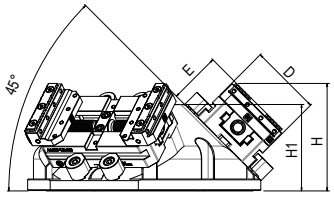
- 12 vice holding clamps **ART.298** CGR with M8 screws
- 1 Eyebolt
- 4 pull studs **ART.660B T2**

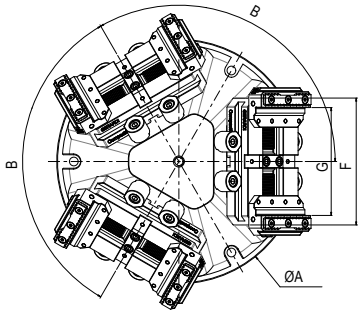
Ø A	B	C	D	E	F	G	H	H1	kg	Suitable Vices	Order Code	Price
200	120°	80	50	65	120	94	169.4	135	6.8	7.65.01080 / 7.65.01120	7.64.1H200	**£927.86**

ART.643H-2 PYRAMID RISER - 45°

- Triple positioning 45° support
- For size 2 CompactGrip vices with 120, 160 or 200mm base length
- Special design on request
- Zero Point compatible







SUPPLIED WITH EACH PYRAMID:

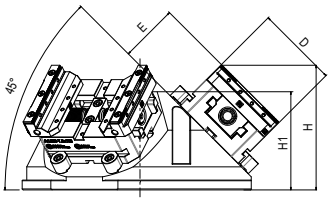
- 12 vice holding clamps **ART.298** CGR with M8 screws
- 1 Eyebolt
- 1 Centering pin
- Pair of keynuts **ART.287**

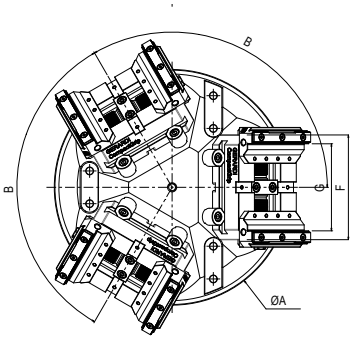
Ø A	B	D	E	F	G	H	H1	kg	Suitable Vices	Order Code	Price
308	120°	90	65	160	136	135.5	109	11.9	7.65.02120 / 7.65.02160 / 7.65.02200 7.95.02120 / 7.95.02160 / 7.95.02200	7.64.3H200	**£2,106.73**

ART.643H-3 PYRAMID RISER - 45°

- Triple positioning 45° support
- For size 3 CompactGrip vices with 120, 160 or 200mm base length
- Special design on request
- Zero Point compatible







SUPPLIED WITH EACH PYRAMID:

- 12 vice holding clamps **ART.298** CGR with M8 screws
- 1 Eyebolt
- 1 Centering pin
- Pair of keynuts **ART.287**

Ø A	B	D	E	F	G	H	H1	kg	Suitable Vices	Order Code	Price
360	120°	125	89	160	133	190.5	150	20.8	7.65.03160 / 7.65.03210 7.95.03160 / 7.95.03210	7.64.3H300	**£2,328.44**

GERARDI

Maxi Grip Machine Vice

3 in 1
Machine vice

For single self centering, double and eccentric clamping.

Versatile

- Maxi Grip offers versatile clamping, allowing rapid transitions between eccentric single workpiece clamping and self-centering single or double clamping. It also accommodates simultaneous clamping of two different-sized workpieces.

Compatible

- 96mm zero point centers for versatile quick-change compatibility, ideal for compact 4-sided machining on 3 and 5-axis machines.

Durable

- Hardened to 60 Rockwell, ground within +/-0.01mm for superior wear resistance and maximum repeatability. All vices and components come with a 5 year warranty.

Grip Inserts

- Interchangeable grip inserts are available for clamping different materials, G01 inserts are suitable for general applications and standard workpiece hardness, G11 inserts are suitable for softer materials like aluminium, while G02 inserts are better suited to clamping hardened materials.

Scan to Watch

MAXI GRIP CLAMPING APPLICATIONS

SINGLE CLAMPING SELF-CENTERING

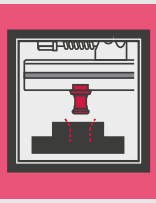


DOUBLE CLAMPING SELF-CENTERING

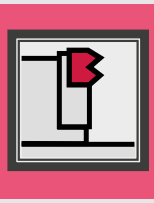


SINGLE CLAMPING ECCENTRIC USE





Zero Point Ready



Integral Insert Grip



5 Axis Machine

FOR ENQUIRIES PLEASE CALL **01924 869610** OR EMAIL **SALES@CUTWEL.NET**

cutwel

SELF-CENTERING MACHINE VICE WITH 3-IN-1 CLAMPING

- 3-in-1 vice for single self centering, double and eccentric clamping
- Supplied with reversible 5mm grip jaws
- Central jaw can be removed for single clamping & rear jaw can be locked for eccentric clamping
- Ideal for high precision 4 sided machining on VMC or large 5 axis machining centre
- Made from HRC60 hardened steel, precision ground within 20 microns
- Standard equipment supplied, wrenche, tenons, workstop & centering pin
- Lateral plate supplied with Art.685 only







Art.685

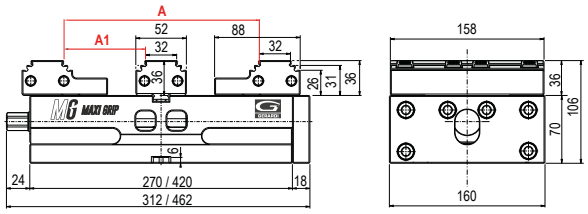


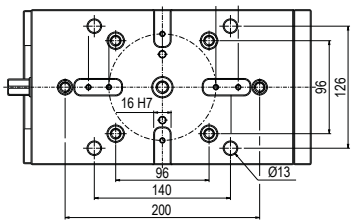
Art.684



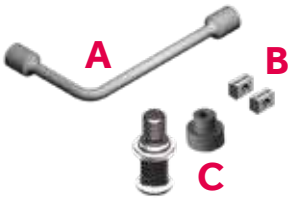
Art.681

Jaw Width	Min/Max Opening (Double/Single) on 5mm Step Jaw	Art. No	Base Length	Base Width	Base Height	Overall Height	Clamp Force kN	Zero Point Pitch	Order Code	Price
158	2x min 19 / max 83 - 1x min 19 / max 200	Art.685	270	160	70	106	27	96	7.68.54270	£3,190.54
	2x min 19 / max 83 - 1x min 19 / max 200	Art.681							7.68.14270	£3,965.00
	1x min 19 / max 200	Art.684							7.68.44270	£3,540.19
	2x min 19 / max 158 - 1x min 19 / max 350	Art.685	160	420	70	106	27	96	7.68.54420	£4,228.55
	2x min 19 / max 158 - 1x min 19 / max 350	Art.681							7.68.14420	£5,310.27
	1x min 19 / max 350	Art.684							7.68.44420	£4,885.47





SUPPLIED WITH



A) Box wrench

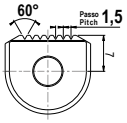
B) Pair of positioning key-nuts

C) Positioning pin or zero point pull stud

INTERCHANGEABLE GRIP INSERTS ART.220/G01

- For standard hardness workpieces



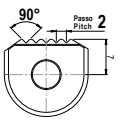


Order Code	Price
4.22.01000/G01	£17.94

INTERCHANGEABLE GRIP INSERTS ART.220/G02

- For hardened workpieces



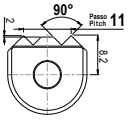


Order Code	Price
4.22.01000/G02	£17.94

INTERCHANGEABLE GRIP INSERTS ART.220/G11

- For soft material clamping





Order Code	Price
4.22.01000/G11	£17.94

GERARDI

Multitasking Vices

Powerful self centering modular machine vices

The most powerful and rigid machine vice for expert precision 5 axis machining.

Modular

- Optional jaws including GRIP, solid soft and prismatic jaws for round workpieces.

Precision

- All working surfaces ground within +0.01mm (overall accuracy +0.02mm).
- Self centering clamping.

Powerful & Rigid

- Extra thick base and solid jaws provides market leading power and clamping rigidity.

Immediate Clamping

- No need to stamp or dovetail the workpiece, Gerardi's lead screw technology delivers 100% more clamping force than the leading German 5 axis vice brand. Just clamp on as little as 4mm using grip jaws and start machining

SIZE 1

Jaw Width	**74mm**
Max Opening	**65mm**



SIZE 2

Jaw Width	**99mm**
Max Opening	**95mm**



SIZE 3

Jaw Width	**138mm**
Max Opening	**108mm**



SIZE 3

Jaw Width	**138mm**
Max Opening	**208mm**



ART.640 MULTITASKING VICE SIZE 1 & 2

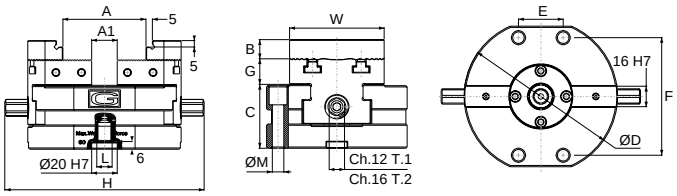
- Self centering or eccentric clamping
- Extra thick base for ultimate rigidity
- Clamp on just 5mm with step jaws or 4mm with GRIP jaws
- Compact design with excellent all-round clearance for 5 axis machining
- Hardened and ground riser blocks available in different heights



SUPPLIED WITH EACH VICE:

- 4 workstops **ART.370**
- Centering pin **ART.640P**
- 1 box wrench **ART.375**
- Pair of positioning key nuts **ART.297** (16mm)





Base Size (Clamping Force)	Jaw Width	Max Open A	A1	B	C	ØD	E	F	G	H	L	M	kg	Vice		RISER - 100mm High	
														Order Code	Price	Order Code	Price
1 (16kN)	74	65	20	15	50	120	35	92	20	156	M12	9	4.9	6.64.01000	**£901.61**	7.64.1H100/100	**£458.74**
2 (20kN)	99	95	40	20	70	160	35	120	25	208	M16	11	11	6.64.02000	**£1,073.51**		

ART.640 MULTITASKING VICE

Size 3

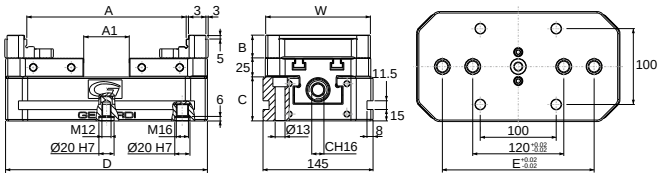
- Self centering or eccentric clamping
- Extra thick base for ultimate rigidity
- Clamp on just 5mm with step jaws or 4mm with GRIP jaws
- Compact design with excellent all-round clearance for 5 axis machining
- Hardened and ground riser blocks available in different heights



SUPPLIED WITH EACH VICE:

- 4 workstops **ART.370**
- Centering pin **ART.640P**
- 1 box wrench **ART.375**
- Pair of positioning key nuts **ART.297** (16mm)





Base Size (Clamping Force)	Jaw Width	Max Opening A	A1	B	C	D	E	kg	Vice		RISER - 100mm High	
									Order Code	Price	Order Code	Price
3 (30kN)	138	108	20	30	58	166	-	13	7.64.03166	**£1,752.50**	7.64.1H3166/100	**£1,400.41**
	138	208	60	30	58	266	200	20	7.64.03266	**£2,393.69**	7.64.1H3266/100	**£1,795.61**

ART.645B

Soft jaw



Size (W mm)	1 (74)	2 (99)	3 (138)
Order Code	6.64.5B100	6.64.5B200	7.64.5B300
Price	**£75.21**	**£90.83**	**£118.18**

ART.645C

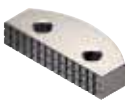
Hard smooth jaw



Size (W mm)	1 (74)	2 (99)	3 (138)
Order Code	6.64.5C100	6.64.5C200	7.64.5C300
Price	**£75.21**	**£90.83**	**£118.18**

ART.645D

Serrated jaw



Size (W mm)	1 (74)	2 (99)	3 (138)
Order Code	6.64.5D100	6.64.5D200	7.64.5D300
Price	**£75.21**	**£90.83**	**£118.18**

ART.645E

Step jaw (5x 5mm)



Size (W mm)	1 (74)	2 (99)	3 (138)
Order Code	6.64.5E100	6.64.5E200	7.64.5E300
Price	**£84.97**	**£99.62**	**£126.97**

ART.645F

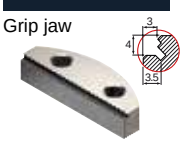
Prismatic jaw



Size (W mm)	1 (74)	2 (99)	3 (138)
Order Code	6.64.5F100	6.64.5F200	7.64.5F300
Price	**£95.72**	**£108.41**	**£137.71**

ART.645T

Grip jaw



Size (W mm)	1 (74)	2 (99)	3 (138)
Order Code	6.64.5T100	6.64.5T200	7.64.5T300
Price	**£95.72**	**£108.41**	**£137.71**

GERARDI

Gripmatic Vices

Self centering machine vices with automated clamping

Pneumatic or hydraulic activation suitable for fully automatic unattended machining .

Precision

- All working surfaces ground within +0.01mm (overall accuracy +0.02mm).
- Self centering.
- 100% consistent clamping pressure.

Fully Automatic or User Operated

- Possible to operate using machine control. Use with robot loading for fully unattended operation.
- Also suitable for use with hand/foot switch.

No Wear

- Made from heat treated HRC60 alloy steel.

Modular

- Optional jaws including solid soft jaws, hard jaws and steel jaws.

Scan to Watch

HYDRAULIC OR PNEUMATIC CLAMPING

- The pneumatic vice offers 5.1-22kN clamping force (depending on vice size)
- The hydraulic model offers 15-43kN clamping force (depending on vice size)

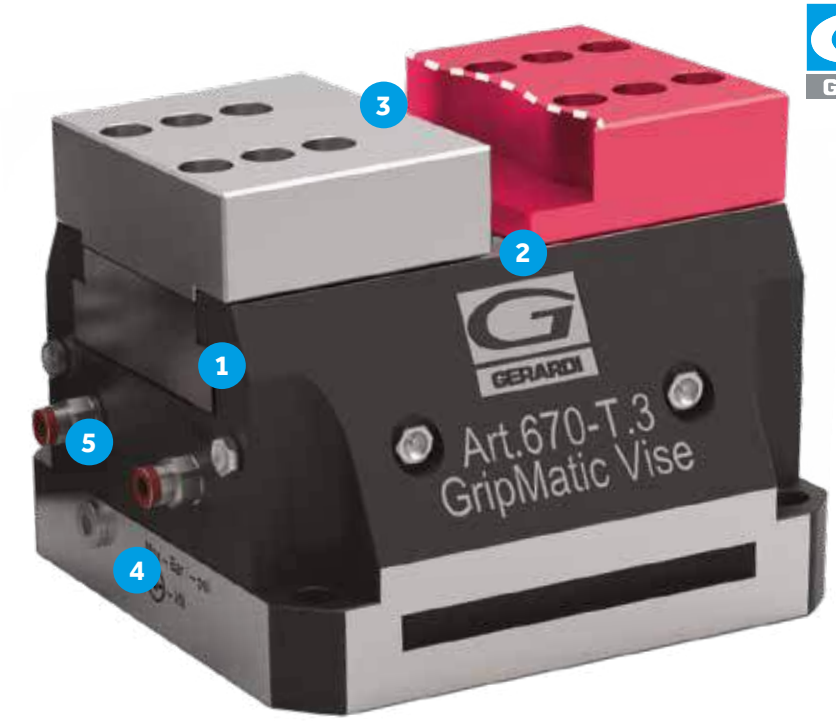
Vice Size	Pneumatic Clamping Force	Hydraulic Clamping Force
2	5.1 kN	15 kN
3	16 kN	32 kN
4	22 kN	43 kN



ZERO POINT & ROBOT LOADING

The vice can be located using robot loading and clamped to the machine table using Zero Point. This can be fully automated for unattended operation. Alternatively Zero Point can be used for manual loading of the vice.







1

Hardened & Ground

HRC60 hardened steel base, jaws and lead screw, overall accuracy ±0.02mm.

2

Self Centering Automated Clamping

Highest clamping power by hydraulic or pneumatic operation.

3

Modular Jaws

Solid soft jaws for clamping irregular workpieces, hard jaws and grip jaws.

4

Highest & Most Consistent Clamping Forces

<43kN regulated clamping forces.

5

Full Or Semi-Automatic Clamping

CNC controlled or operator controlled clamping.

JAWS & JAW PLATES


Soft narrow jaws


Solid soft jaws


Hard jaw inserts

FULLY AUTOMATIC - ART670AP

The GRIPMATIC vice + interface plate (ART.670PN), with air input through the machine table, enables clamping to be 100% controlled directly by the CNC. This plate can be fully tailored according the characteristics of the machine.



Clamp/Unlamp air inlet



100% CUSTOMISABLE PLATE

Please contact our technical team for more information.

SEMI AUTOMATIC - ART670CP

The GRIPMATIC vice + interface plate (ART.670PN), with air input through a quick coupling air input and manual system control through a selector.





STANDARD PLATE

Please contact our technical team for more information.

ART.670PN GRIPMATIC VICE BASE

Pneumatic Clamping System

- Self centering
- Jaw actuation controlled by air inlet (MAX 10BAR)
- Semi or fully automatic operation
- Compact design with excellent clearance for 5 axis machining
- Supplied without jaws

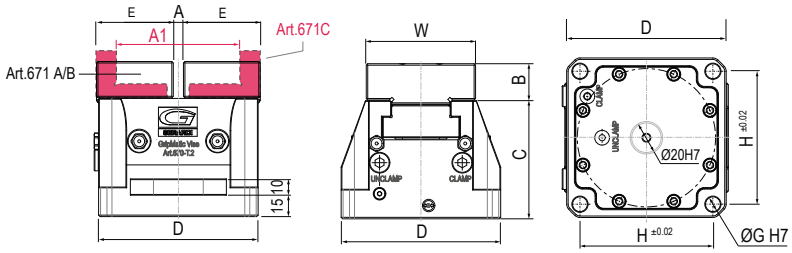




Vice Size	Clamping Force
2	5.1 kN
3	16 kN
4	22 kN

SUPPLIED WITH EACH VICE:

- 1 centering pin **ART.640P**
- Shoulder screw **ART.83**
- No return valve **ART.PN16**
- Straight male adaptor **ART.PN04**



Vice Size	Jaw Width W	Stroke A	A1	B	C	D	E	G	H	kg	Order Code	Price
2	74	6.4	58.8	25	80	106	52	10	90	6.5	7.67.0PN20	**£1,367.37**
3	99	8.5	106.5	30	105	166	78	12	140	20	7.67.0PN30	**£1,806.89**
4	124	12	124.5	35	130	206	96	16	170	38	7.67.0PN40	**£2,344.07**

ART.670ID GRIPMATIC VICE BASE

Hydraulic Clamping System

- Self centering
- Jaw actuation controlled by hydraulic pressure (MAX 30BAR)
- Semi or fully automatic operation
- Compact design with excellent clearance for 5 axis machining
- Supplied without jaws

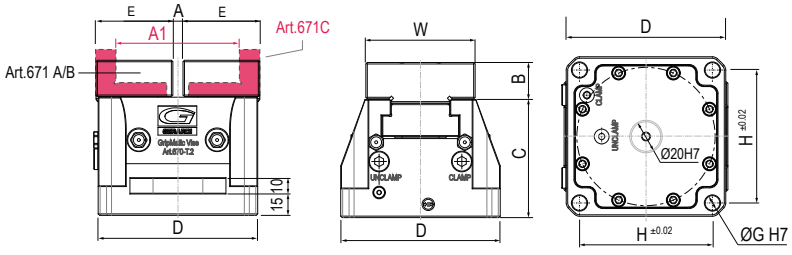




Vice Size	Clamping Force
2	15 kN
3	32 kN
4	43 kN

SUPPLIED WITH EACH VICE:

- 1 Centering pin **ART.640P**
- Shoulder screw **ART.83**
- Niplon



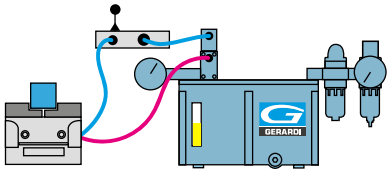
Vice Size	Jaw Width W	Stroke A	A1	B	C	D	E	G	H	kg	Order Code	Price
2	74	6.4	58.8	25	80	106	52	10	90	6.5	7.67.0ID20	**£1,367.37**
3	99	8.5	106.5	30	105	166	78	12	140	20	7.67.0ID30	**£1,806.89**
4	124	12	124.5	35	130	206	96	16	170	38	7.67.0ID40	**£2,344.07**

GRIPMATIC POWER UNITS

Pneumatic Or Electric Control

- Up to 4 vices can be controlled with 1 power unit
- Automatic retention and reset of desired power
- Max pressure 33BAR

Please contact our technical team for more information.



GRIPMATIC VICE JAWS



Narrow Soft Jaws



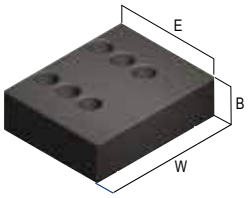
Solid Soft Jaws



Hard GRIP Jaw Plates

ART. 671A

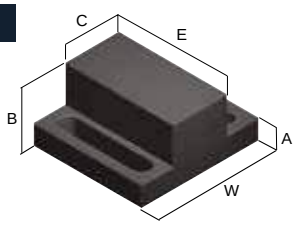
Soft movable jaw



Size	2	3	4
W	74	99	124
B	25	30	35
E	49	79	96
Order Code	7.67.1A200	7.67.1A300	7.67.1A400
Price	**£165.06**	**£222.69**	**£293.99**

ART. 671B

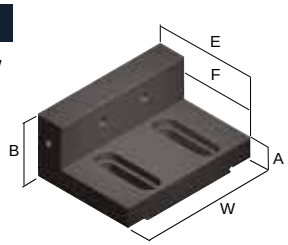
Soft narrow movable jaw



Size	2	3	4
W	40	65	81
A	10	10	15
B	25	30	35
C	15	28	38
E	40	65	81
Order Code	7.67.1B200	7.67.1B300	7.67.1B400
Price	**£188.50**	**£248.08**	**£328.17**

ART. 671C

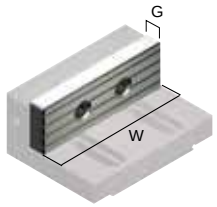
Soft movable jaw for standard jaw plates



Size	2	3	4
W	74	94	124
A	13.5	18	18
B	38	48	58
E	45	70	87
F	30	51	62
Order Code	7.67.1C200	7.67.1C300	7.67.1C400
Price	**£188.50**	**£248.08**	**£328.17**

ART. 243

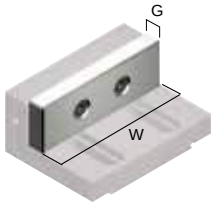
Hardened grooved straight jaw plate



Size	2	3	4
W	74	94	124
G	19	19	19
Order Code	1.65.17000	1.65.27000	1.65.37000
Price	**£64.46**	**£71.30**	**£84.00**

ART. 245

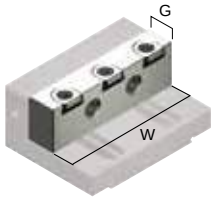
Hardened smooth straight jaw plate



Size	2	3	4
W	74	94	124
G	19	19	19
Order Code	4.24.51000	4.24.52000	4.24.53000
Price	**£64.46**	**£71.30**	**£84.00**

ART. 247G

Straight jaw plate with GRIP inserts



Size	2	3	4
W	74	94	124
G	20	20	20
Order Code	1.24.7G100	1.24.7G200	1.24.7G300
Price	**£135.76**	**£146.50**	**£189.48**

GERARDI

Multiflex Modular Machine Vices

From multiple small parts to very large or long parts, Multiflex offers perfect flexibility.

Modularity

- No other vice offers as many clamping options for small or large parts, vertical or horizontal clamping.

Precision

- All working surfaces ground within +0.01mm. Overall accuracy +0.02mm.
- Perfect for use in a pair or a row.

Powerful, Rigid & Durable

- 30kN clamping force with a 50Nm torque (size 2 vice, 75mm jaw width).
- Manufactured from 60 Rockwell case hardened alloy steel with no wear. Extreme rigidity & the most secure clamping.

Speed

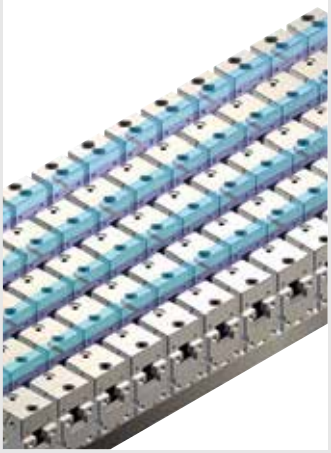
- Perfectly square, ideal for clamping large plates which can save hours of set up time compared to clamps.

Scan to Watch

MULTIFLEX - VMC CLAMPING EXAMPLES

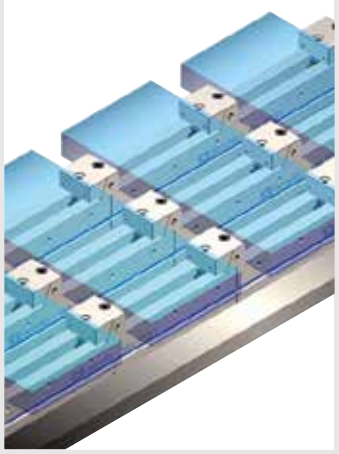
PARALLEL

56 workpieces clamped with 14 vices.



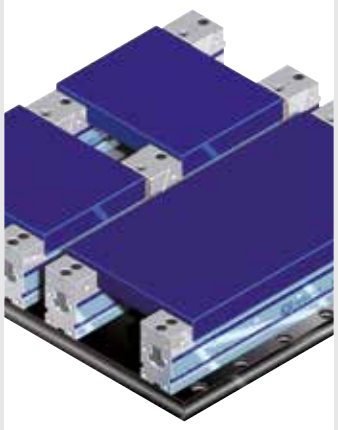
PLATES

4 plates clamped in line with 3 vices.



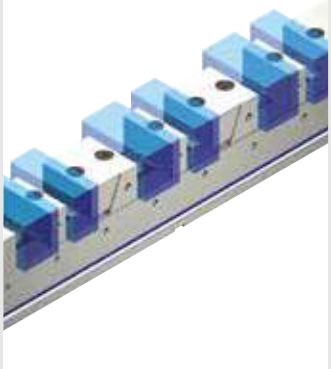
MIXED PLATES

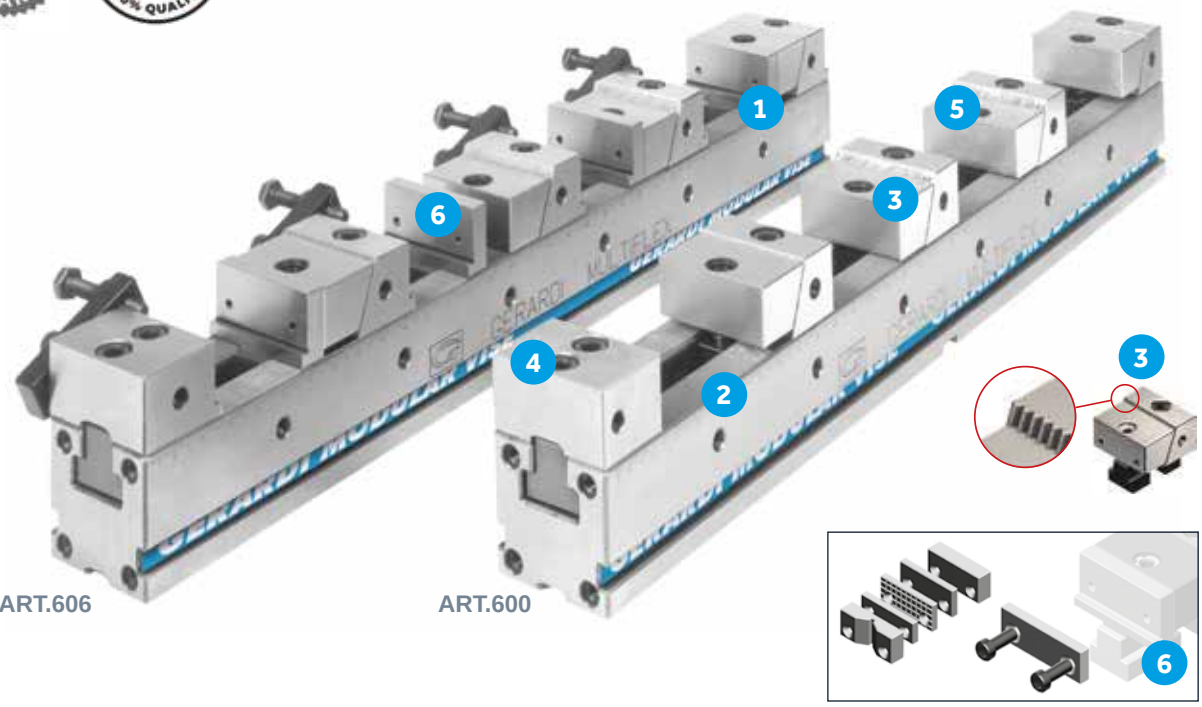
3 plates clamped in line with 4 vices.



INTERMEDIATE JAWS

Increased clamping capacity through use of intermediate movable jaws.





ART.606 ART.600

1 Hardened & Ground

HRC60 hardened steel base, jaws and lead screw, overall accuracy +0.02mm.

2 No Wear

5 year warranty on all vices and components.

3 Comb Clamp System (Pull Down Action)

High clamping accuracy, power and pull down action.

4 High & Consistent Clamping Forces

20-30kN clamping forces achieved with a simple T-wrench and easy to access clamping screw.

5 Small, Medium or Large Parts

Add or remove jaws depending on workpiece size, length or quantity.

6 Incomparable Modularity

Huge range of clamping possibilities due to wide range of jaws and accessories.

MULTIFLEX - HORIZTONAL MACHINING CENTRE CLAMPING EXAMPLES

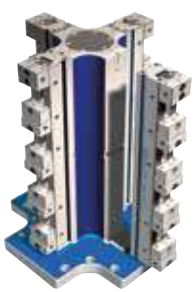
CUBE, 48 MIXED PARTS

48 mixed parts clamped with 12 Multiflex vices arranged on a cube.



CROSS CUBE, 4 VICES

4 Multiflex vices on Gerardi CROSS CUBE - interference free 3 SIDED machining.



CUBE, 4x PLATES

4 large plates clamped with 8 Multiflex vices on Gerardi Cube - interference free machining.



MULTIFLEX TOWER

Multiflex tower complete with jaws for clamping up to 16 parts.

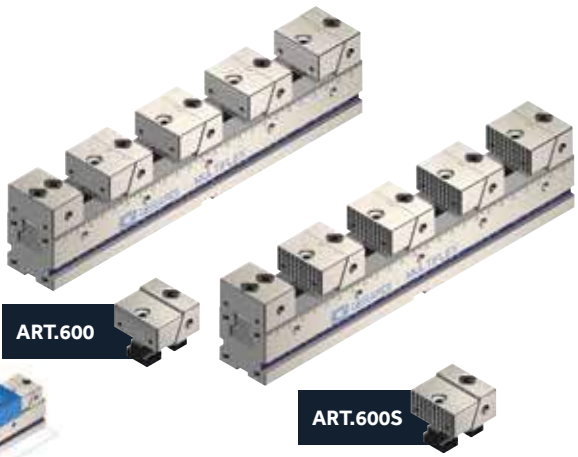


Scan For Application Ideas

ART.600/600S MULTIFLEX VICE

With Smooth or Serrated Fixed & Movable Jaws

- Ideal for workpieces clamped directly on the base
- Option of smooth jaws ART.600 or serrated jaws ART.600S
- Supplied with 1 fixed jaw and 4 movable jaws
- Suitable for clamping up to 4 workpieces with jaws supplied
- Jaws can be added for extra workpieces or removed for larger workpieces



SUPPLIED WITH EACH VICE:

- 4 workstops **ART. 370**
- 6 table clamps
- 1 T-wrench **ART. 376**
- Pair of positioning key-nuts (16mm) **ART. 297**





Base Size (Clamping Force)	Jaw Height mm	Base Height mm	Length mm	Jaw Width mm	Spread	ART.600 With Smooth Jaws		ART.600S With Serrated Jaws	
						Order Code	Price	Order Code	Price
1 (20kN)	32/25	50	300	49	4 x 8	6.60.01300	**£643.76**	6.60.0S130	**£643.76**
			400		4 x 33	6.60.01400	**£729.71**	6.60.0S140	**£729.71**
			500		4 x 58	6.60.01500	**£815.66**	6.60.0S150	**£815.66**
			600		4 x 83	6.60.01600	**£901.61**	6.60.0S160	**£901.61**
			700		4 x 108	6.60.01700	**£987.56**	6.60.0S170	**£987.56**
2 (30kN)	40	75	400	74	4 x 12	6.60.02400	**£944.58**	6.60.0S240	**£944.58**
			500		4 x 37	6.60.02500	**£1,073.51**	6.60.0S250	**£1,073.51**
			600		4 x 62	6.60.02600	**£1,159.45**	6.60.0S260	**£1,159.45**
			700		4 x 87	6.60.02700	**£1,245.40**	6.60.0S270	**£1,245.40**
			800		4 x 112	6.60.02800	**£1,331.35**	6.60.0S280	**£1,331.35**
			900		4 x 137.5	6.60.02900	**£1,503.25**	6.60.0S290	**£1,503.25**
3 (40kN)	60	100	700	99	4 x 59	6.60.03700	**£1,417.30**	6.60.0S370	**£1,417.30**
			800		4 x 84	6.60.03800	**£1,503.25**	6.60.0S380	**£1,503.25**
			900		4 x 109	6.60.03900	**£1,675.15**	6.60.0S390	**£1,675.15**
			1000		4 x 134	6.60.03100	**£1,847.05**	6.60.0S310	**£1,847.05**

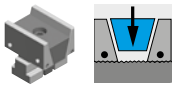
ART.611 MULTIFLEX VICE

With Double Jaws

- Ideal for workpieces clamped directly on the base or raised up with parallels
- The most flexible Multiflex vice
- Supplied with 3 fixed jaws and 2 double jaws
- Suitable for clamping up to 4 workpieces with jaws supplied
- Jaws can be added for extra workpieces or removed for larger workpieces
- Jaw plates can be attached to main jaws

DOUBLE JAW BENEFITS

The jaw pushes the clamping force in 2 directions, meaning just 1 jaw requires tightening for 2 workpieces, which also creates more consistent clamping forces.







SUPPLIED WITH EACH VICE:

- 4 workstops **ART. 370**
- 6 table clamps
- 1 T-wrench **ART. 376**
- Pair of positioning key-nuts (16mm) **ART. 297**

Base Size (Clamping Force)	Jaw Height mm	Base Height mm	Length mm	Jaw Width mm	Spread	Order Code	Price
1 (20kN)	25	50	300	49	4x 21	6.61.11300	**£1,031.39**
			400		4x 46	6.61.11400	**£1,117.34**
			500		4x 71	6.61.11500	**£1,203.29**
			600		4x 96	6.61.11600	**£1,289.24**
			700		4x 121	6.61.11700	**£1,375.19**
2 (30kN)	40	75	400	74	4x 34	6.61.12400	**£1,332.21**
			500		4x 59	6.61.12500	**£1,418.16**
			600		4x 84	6.61.12600	**£1,504.11**
			700		4x 109	6.61.12700	**£1,590.06**
			800		4x 134	6.61.12800	**£1,676.01**
			900		4x 158.5	6.61.12900	**£1,761.96**
3 (40kN)	60	100	700	99	4x 77	6.61.13700	**£1,847.91**
			800		4x 102	6.61.13800	**£1,933.86**
			900		4x 127	6.61.13900	**£2,105.76**
			1000		4x 152	6.61.13100	**£2,277.65**

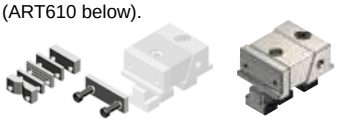
ART.606 MULTIFLEX VICE

With Movable Step Jaws

- Ideal for raised workpieces for through holes
- Supplied with 1 fixed jaw and 4 (*3) movable jaws
- Suitable for clamping up to 4 workpieces with jaws supplied
- Jaws can be added for extra workpieces or removed for larger workpieces
- Jaw plates can be attached to main jaws

STEP JAW BENEFITS

The large step jaw has the double benefit of raising the workpiece off the base for through hole work and acting as a modular jaw for 5 different jaw plates (ART610 below).

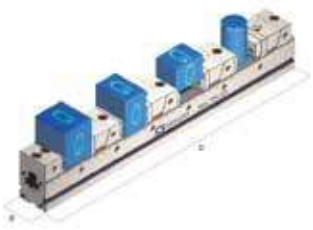


5 YEARS WARRANTY

SUPPLIED WITH EACH VICE:

- 4 workstops **ART. 370**
- 6 table clamps
- 1 T-wrench **ART. 376**
- Pair of positioning key-nuts (16mm) **ART. 297**







GERARDI

Base Size (Clamping Force)	Jaw Height mm	Base Height mm	Length mm	Jaw Width mm	Spread	ART.606 With Step Jaws	
						Order Code	Price
1 (20kN)	32/25	50	300*	49	3x 19	6.60.61300	**£1,031.39**
			400		4x 23	6.60.61400	**£1,117.34**
			500		4x 48	6.60.61500	**£1,203.29**
			600		4x 73	6.60.61600	**£1,289.24**
			700		4x 97	6.60.61700	**£1,375.19**
2 (30kN)	40	75	400*	74	3x 28	6.60.62400	**£1,332.21**
			500		4x 24	6.60.62500	**£1,418.16**
			600		4x 49	6.60.62600	**£1,504.11**
			700		4x 74	6.60.62700	**£1,590.06**
			800		4x 99	6.60.62800	**£1,676.01**
			900		4x 124.5	6.60.62900	**£1,761.96**
3 (40kN)	60	100	700	99	4x 44	6.60.63700	**£1,847.91**
			800		4x 69	6.60.63800	**£1,933.86**
			900		4x 94	6.60.63900	**£2,105.76**
			1000		4x 119	6.60.63100	**£2,277.65**

ALL ACCESSORIES BELOW ARE SUITABLE FOR THE FOLLOWING VICES

ART.600, 600S, 606, 611, 606T

GERARDI

FIXED JAWS



SMOOTH ART.604G



SERRATED ART.604



GRIP ART.604T



STEP ART.608



DOUBLE STEP ART.614T

MOVABLE JAWS



SMOOTH ART.605



SERRATED ART.605S



GRIP ART.609T



STEP ART.609



DOUBLE ART.613

JAW PLATES



SOFT ART.610B



SMOOTH HARD ART.610C



SERRATED ART.610D



PARALLEL ART.610E



PRISMATIC ART.610F

FIXED JAWS	Vice Size W		
	1 (49)	2 (74)	3 (99)
Smooth ART.604G	6.60.4G100	6.60.4G200	6.60.4G300
Price	£102.55	£119.16	£136.74
Serrated ART.604	6.60.41000	6.60.42000	6.60.43000
Price	£102.55	£119.16	£136.74
Grip ART.604T	6.60.4T100	6.60.4T200	6.60.4T300
Price	£156.27	£184.60	£220.73
Step ART.608	6.60.81000	6.60.82000	6.60.83000
Price	£156.27	£184.60	£219.76
Double Step ART.614T	6.61.4T100	6.61.4T200	6.61.4T300
Price	£180.69	£220.73	£269.57

MOVABLE JAWS	Vice Size W		
	1 (49)	2 (74)	3 (99)
Smooth ART.605	6.60.51000	6.60.52000	6.60.53000
Price	£158.22	£183.62	£209.99
Serrated ART.605S	6.60.5S100	6.60.5S200	6.60.5S300
Price	£158.22	£183.62	£209.99
Grip ART.609T	6.60.9T100	6.60.9T200	6.60.9T300
Price	£291.06	£343.80	£391.65
Step ART.609	6.60.91000	6.60.92000	6.60.93000
Price	£291.06	£343.80	£391.65
Double ART.613	6.61.31000	6.61.32000	6.61.33000
Price	£491.28	£586.99	£682.71

JAW PLATES	Vice Size W		
	1 (49)	2 (74)	3 (99)
SOFT ART.610B	6.61.0B100	6.61.0B200	6.61.0B300
Price	£24.91	£29.30	£33.70
Smooth Hard ART.610C	6.61.0C100	6.61.0C200	6.61.0C300
Price	£20.51	£24.91	£29.30
Serrated ART.610D	6.61.0D100	6.61.0D200	6.61.0D300
Price	£24.91	£29.30	£33.70
Parallel ART.610E	6.61.0E100	6.61.0E200	6.61.0E300
Price	£20.51	£24.91	£29.30
Prismatic ART.610F	6.61.0F100	6.61.0F200	6.61.0F300
Price	£24.91	£29.30	£33.70

Dovetail Grip Clamping

5 axis
clamping system

Gerardi's Dovetail Grip clamping system ensures secure and accurate clamping of the workpiece with five sided machining in one step.

Simple, Fast & Strong

- The dovetail design quickly locks the part in place for extreme clamping strength and rigidity.

Small or Large Parts

- Dovetail clamps available in different sizes and configurations. Suitable for any machine.

5 Sided Access

- Exceptionally compact design ensures unobstructed machining.
- Machine all 5 sides in one set-up.

Modular

- Suitable for use with riser blocks, zero point and quick change tables.

AVAILABLE VERSIONS

IRREVERSIBLE CLAMPING SYSTEM

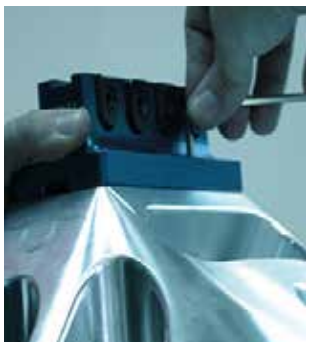
Each part can be clamped through dovetail system simply by machining the lower side of the workpiece, by creating a 3mm high template and a 60° angle. The dovetail system is an irreversible interlocking system which guarantees an exceptional rigidity of the clamping during all types of machining.





SAFE, ACCURATE & EASY TO USE

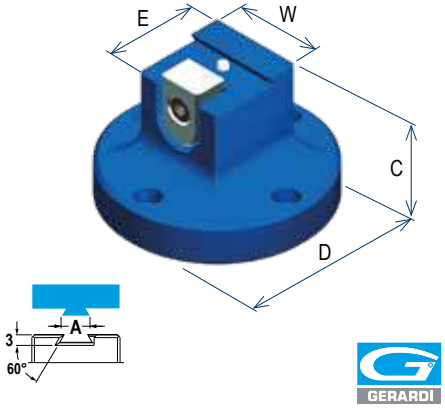
The workpiece is clamped through a dovetail nut that exploits the lever effect of the main screw and ensures effective clamping. The internal spring allows a gradual release of the locking nut. The positioning pin ensures quick and perfect workpiece centering and guarantees maximum repeatability.





DOVETAIL GRIP
Single Clamping

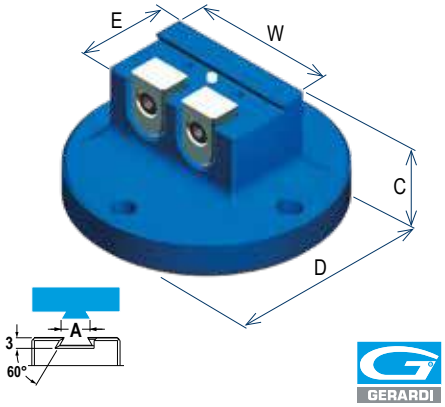
- Aluminium body with hardened steel clamps
- Dovetail widths from 7.14-57mm
- Positioning pin enables fast locating of workpeice and perfect repeatability



Size	A	C	D	E	W	Base	kg	Order Code	Price
1	7.14	50	Ø56	20	20	○	0.3	12.690.101	£758.89
2	9.53	50	Ø56	22	22	○	0.4	12.690.201	£758.89
3	12.7	50	Ø76	34	34	○	0.9	12.690.301	£788.19
4	19.5	50	Ø86	40	40	○	1.1	12.690.401	£788.19
5	38.1	70	Ø116	70	50	○	3.2	12.690.501	£788.19
6	57.15	70	88x132	88	48	□	3.6	12.690.601	£788.19

DOVETAIL GRIP
Double Clamping

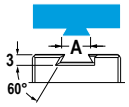
- Aluminium body with 2x hardened steel clamps
- Dovetail widths from 12.7-57mm
- Positioning pin enables fast locating of workpeice and perfect repeatability

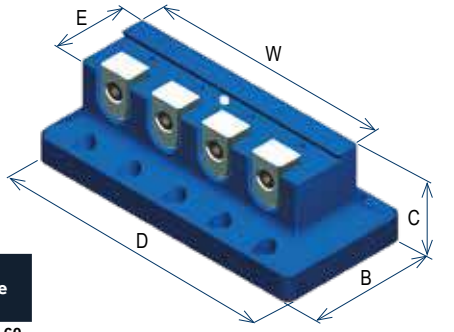


Size	A	C	D	E	W	Base	kg	Order Code	Price
3	12.7	50	Ø98	34	60	○	1.4	12.690.302	£788.19
4	19.5	50	Ø104	40	60	○	1.6	12.690.402	£788.19
5	38.1	70	110x110	70	70	□	4.4	12.690.502	£788.19
6	57.15	70	110x128	88	90	□	5.3	12.690.602	£1,225.75

DOVETAIL GRIP
Quadruple Clamping

- Aluminium body with 4x hardened steel clamps
- Dovetail widths from 12.7-57mm
- Positioning pin enables fast locating of workpeice and perfect repeatability



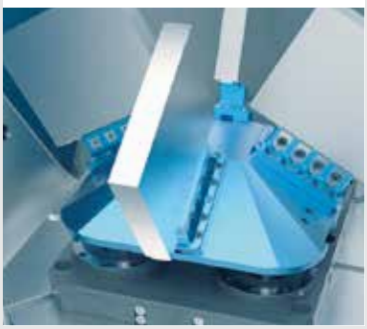


Size	A	C	D	B	E	W	Base	kg	Order Code	Price
3	12.7	50	140	64	34	120	□	2.1	12.690.304	£1,022.60
4	19.5	50	140	70	40	120	□	2.4	12.690.404	£1,894.79
5	38.1	70	190	110	70	170	□	7.9	12.690.504	£1,894.79
6	57.15	70	190	128	88	170	□	9.6	12.690.604	£1,894.79

RISER & PYRAMIDS

- Riser blocks and pyramids made to suit your machine and application
- Use with quick change plates or zero point

Please contact our technical team with your enquiry



DOVETAIL GRIP
Clamp

- Complete clamping kit for dovetail system



Size	Order Code
1	12.690.6001
2	12.690.6002
3	12.690.6003
4	12.690.6004
5	12.690.6005
6	12.690.6006

DOVETAIL
Cutters

- For pre-machining 60° dovetail
- Indexable tool takes DCMT11T3 insert





Type	Diameter mm	Order Code
HSS	16	ML12201601
Indexable	50 (4 teeth)	TKC250

GERARDI

Zero Point Clamping

Reduce set up times by 95%

The easiest and most cost effective way to reduce down time and increase profits. Can be used on a machine's bed with interface plates, 5 axis machines or tombstones.

5 Micron Repeatability

- Zero Point has a positioning accuracy of 0.005mm.
- Workpieces can be repositioned on the machine tool in seconds with the highest level of accuracy possible.

Immediate Pneumatic Clamping

- Zero Point modules clamp the workpiece, vice or fixture using high precision pull studs.
- Clamping pressure is released using pneumatic force and applied by releasing the air pressure, taking just 1-2 seconds to lock or unlock.

Any Machine Tool, Any Workpiece

- Perfect for vertical, horizontal or 5 axis machining.
- Use on small, wide, long or extremely large workpieces.

AVAILABLE VERSIONS

FLANGE MOUNTING

Ideally used for placing the pot straight onto a machine or rotary table. Can be easily moved or arranged for different workpieces. Also ideal for increasing workpiece height.



Single Zero Point clamping with anti-rotation keyway **ART.664S**





Zero Point for multiple Clamping **ART.664**



BUILT IN MOUNTING

Ideal when used with fixture such as interface plates, tombstone or riser blocks. Zero Point sits almost flush with the fixture.



Single Zero Point clamping with anti-rotation keyway **ART.665S**





Zero Point for multiple clamping **ART.665**





WHAT IS ZERO POINT?

Zero Point is a pneumatic clamping solution to reduce machine downtime and increase capacity with relatively small investment. The system positions vices, fixtures or even workpieces immediately on the machine with 0.005mm accuracy.

HOW DOES IT WORK?

- Pneumatic clamping - no hydraulics required
- Job, vice or fixture uses a pull stud which is clamped by the Zero Point pot
- Zero Point cannot let go of the pull stud even in air or power failures
- Possible to clamp small workpieces (with 1 pull stud and Zero Point) or large workpiece (with multiple modules)

WHAT MACHINES CAN USE IT?

- Vertical machining centres
- 5 axis machining centres
- Horizontal machining centres
- CMMs
- Rotary tables

RETURN ON INVESTMENT?

Zero Point can pay for itself in as quick as a few months by decreasing machine downtime by as much as 95%. Customers often roll out Zero Point across the shop floor once they experience the benefits of their first system.

WHAT CAN IT CLAMP?

- Regular machine vices
- 5 axis machine vices (with or without riser blocks)
- Vices on sub plates
- Workpieces directly to the Zero Point modules
- Interface plates
- Tombstones/cubes

WHAT ARE THE BENEFITS?

- Reduce machine downtime by as much as 95%
- Rework jobs without the need to set-up again due to immediate repositioning at almost ZERO microns
- Possible to use existing vices/fixtures through use of sub-plates
- Clamp the most irregular shaped workpieces with ease and power

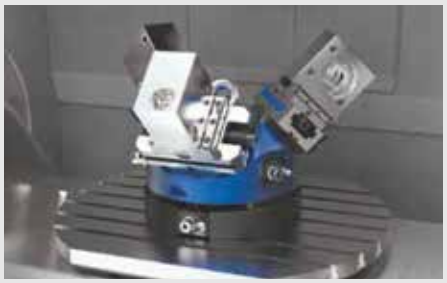
ZERO POINT APPLICATIONS



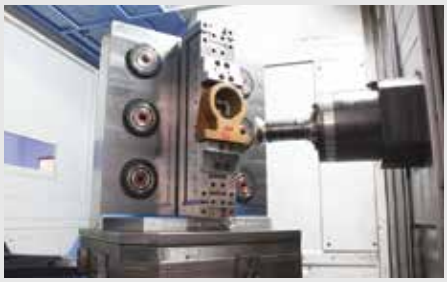
ZERO POINT PLATE CLAMPING SINGLE VICE



ZERO POINT PLATE CLAMPING MULTIFLEX VICES



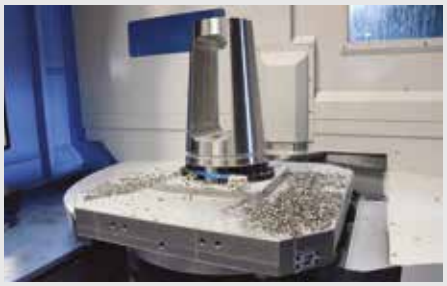
PYRAMID SUPPORT WITH 5 AXIS CompactGrip



ZERO POINT TOMBSTONE + FMS SELF CENTERING VICES



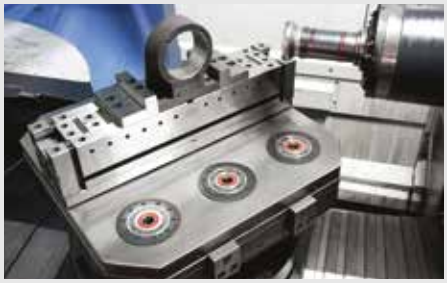
ZERO POINT TOMBSTONE DIRECT WORKPIECE CLAMPING



WORKPIECE CLAMPED DIRECTLY ONTO ZERO POINT



ALUMINIUM FIXTURE WITH ROTARY TABLE & ZERO POINT



ZERO POINT ON MACHINE PALLET WITH FMS VICES



ZERO POINT FOR 5 AXIS MACHINING

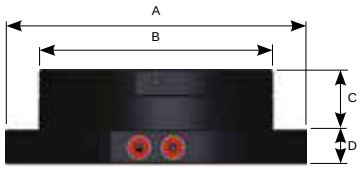
ZERO POINT MODULES (SINGLE TYPE)

Flange Mounted ART.664S

- Pneumatic clamping with 'double effect' clamping force
- Designed to be used for smaller workpieces or vices where only 1 module is required
- Supplied with positioning keyways to prevent the workpiece rotating when machining

STANDARD EQUIPMENT:
- 1 pull stud **ART.10/11A**
- 1 Teflon cap with O-ring **ART.9**






SIZE 1-2


SIZE 3

GERARDI

Zero Point Size	Max kN	Opening Pressure Bar	A	B	C	D	kg	Order Code	Price
1	12	4-6	Ø138	Ø90	30	16	2.7	9.66.4S100	**£714.94**
2	25	6-5	Ø188	Ø120	45	20	6.5	9.66.4S200	**£1,012.83**
3	41	4-7	Ø215	Ø168	45	25	11.8	9.66.4S300	**£1,166.17**

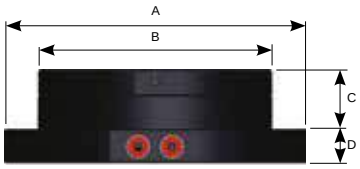
ZERO POINT MODULES (MULTIPLE TYPE)

Flange Mounted ART.664

- Pneumatic clamping
- Designed to be used for larger workpieces where multiple modules are required
- Extra keyways or calibrated holes available on request

STANDARD EQUIPMENT:
- 1 pull stud **ART.10/11A**
- 1 Teflon cap with O-ring **ART.9**






SIZE 1


SIZE 2-3

GERARDI

Zero Point Size	Max kN	Opening Pressure Bar	A	B	C	D	kg	Order Code	Price
1	12	4-6	Ø138	Ø90	30	20	2.7	9.66.41000	**£617.27**
2	14	4-14	Ø178	Ø138	35	20	5.7	9.66.42000	**£928.84**
3	41	4-7	Ø215	Ø168	45	25	11.2	9.66.43000	**£1,166.17**

ZERO POINT RISER SINGLE KIT - ART63

(ART.664S X1 + ART.63A Riser)

- Ideal for 5 axis machining
- Use with vice or direct clamping of workpiece
- Steel base

STANDARD EQUIPMENT:
- 1 pull stud **ART.10/11A**
- 1 Teflon cap with O-ring **ART.9**
- 1 positioning pin **ART.640P**
- 1 shoulder calibrated screw **ART.83**





GERARDI

Zero Point Size	Height	Base Diameter	kg	Order Code	Price
1	100	Ø138	6.1	9.63.10000	**£1,193.52**
2	125	Ø188	8	9.63.20000	**£2,017.85**

ZERO POINT RISER DOUBLE KIT - ART64

(ART.664S X2 + ART.64A Riser)

- Ideal for 5 axis machining
- Use with vice or direct clamping of workpiece
- Simultaneous clamping

STANDARD EQUIPMENT:
- 1 pull stud **ART.10/11A**
- 1 Teflon cap with O-ring **ART.9**
- 1 positioning pin **ART.640P**
- 2 shoulder calibrated screw **ART.83**





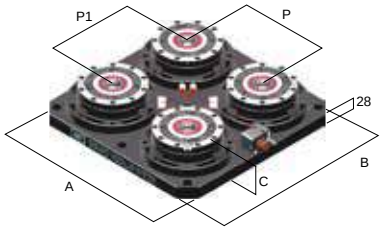
GERARDI

Zero Point Size	Height	Base Size	Pitch	kg	Order Code	Price
1	100	120x270	150	15.5	9.64.10000	**£1,895.77**
2	163	180x360	200	24.3	9.64.20000	**£3,367.65**

ART.70P SQUARE ZERO POINT KIT

Flange Mounted, 4 Modules

- Steel or aluminium base plate with 4 ART.664
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent clamping on request)
- Supplied with 4 pull studs ART.11 & 4 Teflon caps ART.9

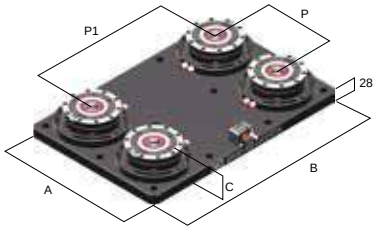


A	B	C	P	kg	Zero Points	Material	Order Code	Price
400	400	79	200	59	4 x ART.664	Steel	9.70.P4040S4-KIT	POA
				34		Aluminium	9.70.P4040A4-KIT	
500	500	79	200	78		Steel	9.70.P5050S4-KIT	
			250					
			300	35		Aluminium	9.70.P5050A4-KIT	
630	630	79	200	110		Steel	9.70.P6363S4-KIT	
			250					
			300	46		Aluminium	9.70.P6363A4-KIT	
800	800	79	200	163		Steel	9.70.P8080S4-KIT	
			300					
			400	65		Aluminium	9.70.P8080A4-KIT	

ART.71P RECTANGULAR ZERO POINT KIT

Flange Mounted, 4 Modules

- Steel or aluminium base plate with 4 ART.664
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent clamping on request)
- Supplied with 4 pull studs ART.10 & 4 Teflon caps ART.9

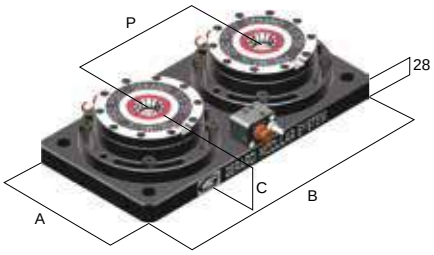


A	B	C	P	P1	kg	Zero Points	Material	Order Code	Price
400	500	79	200	300	67	4 x ART.664-2	Steel	9.71.P4050S4-Kit	POA
					31		Aluminium	9.71.P4050A4-Kit	
400	600	79	200	400	76		Steel	9.71.P4060S4-Kit	
					34		Aluminium	9.71.P4060A4-Kit	
400	700	79	200	500	85		Steel	9.71.P4070S4-Kit	
					37		Aluminium	9.71.P4070A4-Kit	
400	800	79	200	600	94		Steel	9.71.P4080S4-Kit	
					92		Aluminium	9.71.P4080A4-Kit	

ART.71P RECTANGULAR ZERO POINT KIT

Flange Mounted, 4 Modules

- Steel or aluminium base plate with 2 ART.664
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent clamping on request)
- Supplied with 2 pull studs ART.11 & 2 Teflon caps ART.9

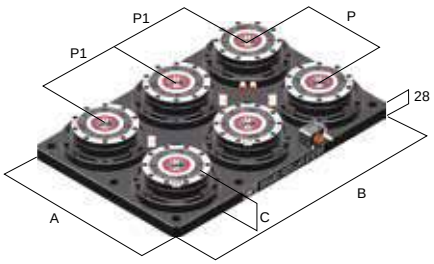


A	B	C	P	kg	Zero Points	Material	Order Code	Price
200	400	79	200	29	2 x ART.664	Steel	9.71.P2040S2-Kit	POA
				15		Aluminium	9.71.P2040A2-Kit	
200	500	79	200	35		Steel	9.71.P2050S2-Kit	
			250					
			300	17		Aluminium	9.71.P2050A2-Kit	
200	600	79	400	42		Steel	9.71.P2060S2-Kit	
				25		Aluminium	9.71.P2060A2-Kit	

ART.71P RECTANGULAR ZERO POINT KIT

Flange Mounted, 4 Modules

- Steel or aluminium base plate with 6 ART.664
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent clamping on request)
- Supplied with 6 pull studs ART.10 & 4 Teflon caps ART.9



A	B	C	P	P1	kg	Zero Points	Material	Order Code	Price
400	500	79	200	200	79	6 x ART.664-2	Steel	9.71.P4050S6-Kit	POA
					38		Aluminium	9.71.P4050A6-Kit	
400	600	79	200	200	88		Steel	9.71.P4060S6-Kit	
					41		Aluminium	9.71.P4060A6-Kit	
400	700	79	200	250	97		Steel	9.71.P4070S6-Kit	
					83		Aluminium	9.71.P4070A6-Kit	
400	800	79	200	300	106		Steel	9.71.P4080S6-Kit	
					47		Aluminium	9.71.P4080A6-Kit	

ACCESSORIES

- Plain, grid or custom interface plates
- Steel cover plates



Please contact our technical team with your enquiry.

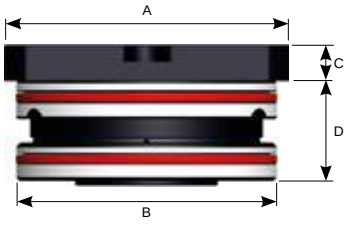
ZERO POINT MODULES (SINGLE TYPE)

Built-In Mounted ART.665S

- Pneumatic clamping with 'double effect' clamping force
- Designed to be used for smaller workpieces or vices where only 1 module is required
- Supplied with positioning keyways to prevent the workpiece rotating when machining

STANDARD EQUIPMENT:
- 1 pull stud **ART.10/11A**
- 1 Teflon cap with O-ring **ART.9**






SIZE 1-2


SIZE 3

Zero Point Size	Max kN	Opening Pressure Bar	A	B	C	D	kg	Order Code	Price
1	12	4-6	90x90	Ø84	12	30	1.5	9.66.5S100	**£595.78**
2	25	4-6	120x120	Ø110	15	42	2.5	9.66.5S200	**£892.70**
3	41	4-7	Ø168	Ø138	15	47	5.8	9.66.5S300	**£1,049.95**

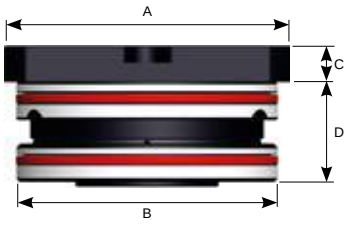
ZERO POINT MODULES (MULTIPLE TYPE)

Built-In Mounted ART.665

- Pneumatic clamping
- Designed to be used for larger workpieces where multiple modules are required
- Extra keyways or calibrated holes available on request

STANDARD EQUIPMENT:
- 1 pull stud **ART.10/11A**
- 1 Teflon cap with O-ring **ART.9**






SIZE 1


SIZE 2-3

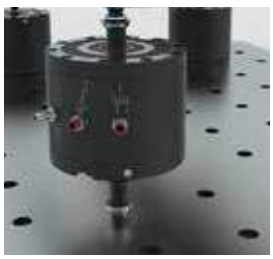
Zero Point Size	Max kN	Opening Pressure BAR	A	B	C	D	kg	Order Code	Price
1	12	4-6	90x90	Ø84	12	30	1.5	9.66.51000	**£497.14**
2	14	4-14	Ø138	Ø110	15	33	2.7	9.66.52000	**£806.75**
3	41	4-7	Ø168	Ø138	15	47	5.8	9.66.53000	**£1,049.95**

DOUBLE ZERO POINT

Built-In Mounted ART.665T

- Pneumatic Clamping
- Contains a Zero Point module on both ends, for immediate positioning of Zero Point on interface grid plate

STANDARD EQUIPMENT:
- 1 pull stud **ART.10/11A**
- 1 Teflon cap with O-ring **ART.9**











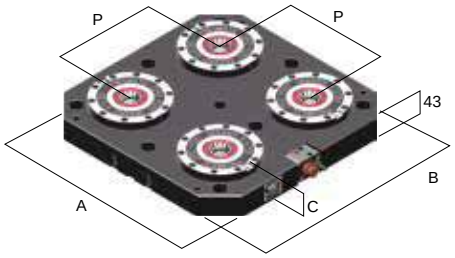
Zero Point Size	kN	Height	kg	Order Code	Price
1	12	106	5.2	9.66.5T100	**£1,470.90**
2	14	112	9.7	9.66.5T200	**£1,923.11**
3	41	142	18.8	9.66.5T300	**£2,262.03**



ART.80P SQUARE ZERO POINT KIT

Built In Type, 4 Modules

- Steel or aluminium base plate with 4 ART.665
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent clamping on request)
- Supplied with 4 pull studs ART.10 & 4 Teflon caps ART.9

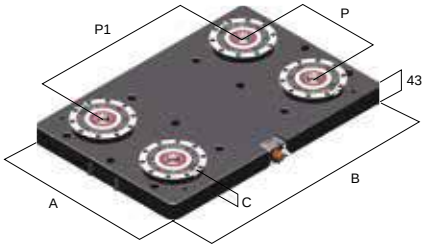


A	B	C	P	kg	Zero Points	Material	Order Code	Price
400	400	58	200	60	4 x ART.665-2	Steel	9.80.P4040S4-KIT	POA
				29		Aluminium	9.80.P4040A4-KIT	
500	500	58	250	91		Steel	9.80.P5050S4-KIT	
				44		Aluminium	9.80.P5050A4-KIT	
630	630	58	250	140		Steel	9.80.P6363S4-KIT	
			300	58		Aluminium	9.80.P6363A4-KIT	
800	800	58	200	220		Steel	9.80.P8080S4-KIT	
			300					
			400	87		Aluminium	9.80.P8080A4-KIT	

ART.81P RECTANGULAR ZERO POINT KIT

Built In Type, 4 Modules

- Steel or aluminium base plate with 4 ART.665
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent clamping on request)
- Supplied with 4 pull studs ART.10 & 4 Teflon caps ART.9

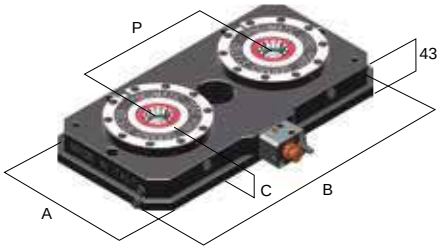


A	B	C	P	P1	kg	Zero Points	Material	Order Code	Price
400	500	58	200	300	74	4 x ART.665-2	Steel	9.81.P4050S4-KIT	POA
					34		Aluminium	9.81.P4050A4-KIT	
400	600	58	200	400	87		Steel	9.81.P4060S4-KIT	
					39		Aluminium	9.81.P4060A4-KIT	
400	700	58	200	500	100		Steel	9.81.P4070S4-KIT	
					44		Aluminium	9.81.P4070A4-KIT	
400	800	58	200	600	114		Steel	9.81.P4080S4-KIT	
					49		Aluminium	9.81.P4080A4-KIT	

ART.81P RECTANGULAR ZERO POINT KIT

Built In Type, 2 Modules

- Steel or aluminium base plate with 2 ART.665
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent clamping on request)
- Supplied with 2 pull studs ART.10 & 2 Teflon caps ART.9

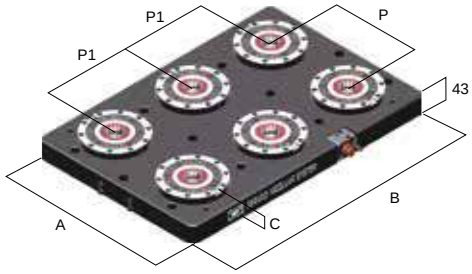


A	B	C	P	kg	Zero Points	Material	Order Code	Price
200	400	58	200	29	2 x ART.665-2	Steel	9.81.P2040S2-KIT	POA
				15		Aluminium	9.81.P2040A2-KIT	
200	500	58	250	35		Steel	9.81.P2050S2-KIT	
				17		Aluminium	9.81.P2050A2-KIT	
200	600	58	300	42		Steel	9.81.P2060S2-KIT	
				25		Aluminium	9.81.P2060A2-KIT	

ART.81P RECTANGULAR ZERO POINT KIT

Built In Type, 6 Modules

- Steel or aluminium base plate with 6 ART.665
- Pneumatic clamping
- Supplied as standard for simultaneous clamping (independent clamping on request)
- Supplied with 6 pull stud ART.10 & 6 Teflon caps ART.9



A	B	C	P	P1	kg	Zero Points	Material	Order Code	Price
400	500	58	200	150	79	6 x ART.665-2	Steel	9.81.P4050S6-KIT	POA
					39		Aluminium	9.81.P4050A6-KIT	
400	600	58	200	200	91		Steel	9.81.P4060S6-KIT	
					44		Aluminium	9.81.P4060A6-KIT	
400	700	58	200	250	105		Steel	9.81.P4070S6-KIT	
					49		Aluminium	9.81.P4070A6-KIT	
400	800	58	200	300	118		Steel	9.81.P4080S6-KIT	
					54		Aluminium	9.81.P4080A6-KIT	

ACCESSORIES

- Plain, grid or custom interface plates



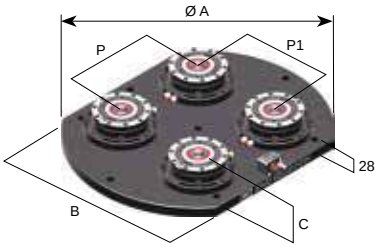
Please contact our technical team with your enquiry.

ART.72P ROUNDED HEAD PLATE ZERO POINT KIT

Flange Mounted, Size 2, 1-8 Pots

- Pneumatic clamping
- Size 2 ART.664 flange mounted zero point
- Supplied as standard for simultaneous clamping (independent clamping on request)
- For 5 axis machining centres
- Tailor-made plate on request



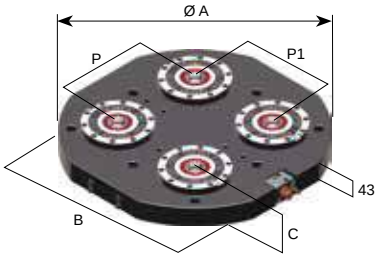


Machine	ZERO POINT KIT ART.72P										COVER PLATE ART.72CP		
	Ø A	B	C	P	P1	No. Zero Points	kg	Material	Order Code	Price	Order Code	kg	Price
Hermule C600U	280	-	79	-	-	1x ART.664	19	Steel	9.72.P2828S1-KIT	POA	9.72.CP28281	1.4	£54.69
							11	Aluminium	9.72.P2828A1-KIT				
DMG DMU 50 Evo	500	380	79	200	200	4x ART.664	61	Steel	9.72.P5038S4-KIT		9.72.CP50384	2.7	£119.16
							37	Aluminium	9.72.P5038A4-KIT				
Mazak Variax 500	500	400	79	200	200	4x ART.664	63	Steel	9.72.P5040S4-KIT		9.72.CP50404	2.8	£120.13
							38	Aluminium	9.72.P5040A4-KIT				
Hermule C40U	420	-	79	200	200	4x ART.664	65	Steel	9.72.P4242S4-KIT		9.72.CP42424	2.2	£100.60
							35	Aluminium	9.72.P4242A4-KIT				
DMG DMU 50	630	500	79	200 / 250 / 300	200 / 250 / 300	4x ART.664	85	Steel	9.72.P6350S4-KIT		9.72.CP63504	4.4	£176.78
							46	Aluminium	9.72.P6350A4-KIT				
Mazak Variax 630	630	500	79	200 / 250 / 300	200 / 250 / 300	4x ART.664	85	Steel	9.72.P6350S4-KIT		9.72.CP63504	4.4	£176.78
							46	Aluminium	9.72.P6350A4-KIT				
DMG DMU 70 Evo	700	500	79	200 / 300 / 400	200 / 300	4x ART.664	94	Steel	9.72.P7050S4-KIT		9.72.CP70504	5	£196.32
							49	Aluminium	9.72.P7050A4-KIT				
DMG DMC 635V	790	560	79	200 / 250	200 / 250 / 300	6x ART.664	124	Steel	9.72.P7956S6-KIT		9.72.CP79566	5.9	£240.27
							68	Aluminium	9.72.P7956A6-KIT				
DMG DMC 1035V	1000	560	79	200 / 300 / 350	200 / 300 / 400	8x ART.664	151	Steel	9.72.P1056S8-KIT		9.72.CP10568	7.5	£304.73
							78	Aluminium	9.72.P1056A8-KIT				
DMG DMU 80P	900	630	79	200 / 250	200 / 300 / 400	6x ART.664	149	Steel	9.72.P9063S6-KIT		9.72.CP90636	7.6	£294.96
							76	Aluminium	9.72.P9063A6-KIT				

ART.82P ROUNDED HEAD PLATE ZERO POINT KIT

Built In Type, Size 2, 2-8 Pots

- Pneumatic clamping
- Size 2 ART.665 built in mounted zero point
- Supplied as standard for simultaneous clamping (independent clamping on request)
- For 5 axis machining centres
- Tailor made plate on request



Machine	Ø A	B	C	P	P1	No. of Zero Points	kg	Material	Order Code	Price
Hermule C600U	280	-	58	150	-	2x ART.665	30	Steel	9.82.P2828S2-KIT	POA
							17	Aluminium	9.82.P2828A2-KIT	
DMG DMU 50 Evo	500	380	58	200 / 250	200	4x ART.665	67	Steel	9.82.P5038S4-KIT	
							29	Aluminium	9.82.P5038A4-KIT	
Mazak Variax 500	500	400	58	200 / 250	200 / 250	4x ART.665	69	Steel	9.82.P5040S4-KIT	
							31	Aluminium	9.82.P5040A4-KIT	
Hermule C40U	420	-	58	200	200	4x ART.665	56	Steel	9.82.P4242S4-KIT	
							26	Aluminium	9.82.P4242A4-KIT	
DMG DMU 50	630	500	58	200 / 250 / 300	200 / 250 / 300	4x ART.665	103	Steel	9.82.P6350S4-KIT	
							43	Aluminium	9.82.P6350A4-KIT	
Mazak Variax 630	630	500	58	200 / 250 / 300	200 / 250 / 300	4x ART.665	103	Steel	9.82.P6350S4-KIT	
							43	Aluminium	9.82.P6350A4-KIT	
DMG DMU 70 Evo	700	500	58	200 / 300 / 400	200 / 250 / 300	4x ART.665	116	Steel	9.82.P7050S4-KIT	
							48	Aluminium	9.82.P7050A4-KIT	
DMG DMC 635V	790	560	58	200 / 250	200 / 300 / 400	6x ART.665	149	Steel	9.82.P7956S6-KIT	
							63	Aluminium	9.82.P7956A6-KIT	
DMG DMC 1035V	1000	560	58	200 / 250 / 350	200 / 300 / 400	8x ART.665	197	Steel	9.82.P1056S8-KIT	
							83	Aluminium	9.82.P1056A8-KIT	
DMG DMU 80P	900	630	58	200 / 250 / 350	200 / 300 / 400	6x ART.664	188	Steel	9.82.P9063S6-KIT	
							87	Aluminium	9.82.P9063A6-KIT	

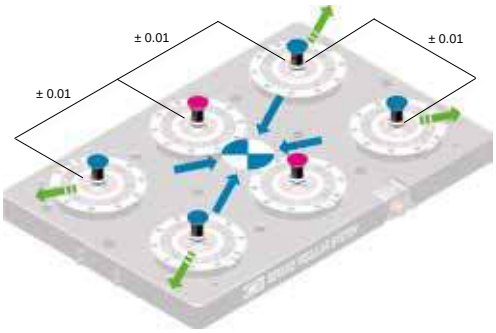
PULL STUD SELECTION GUIDE

FOR MULTIPLE TYPE ZERO POINT POTS ART.664 & 665

The Zero Point interface plate with **ART.664 & ART.665** MULTIPLE TYPE Zero Point pots is designed for clamping 1 large workpiece or sub-plate over 6 pots.

The multiple type zero-point system has a fixed central reference point & allows lateral translation eliminating centre distance variation caused by temperature. Use a maximum of 4 positioning pull-studs alternated with clamping pull-studs.

- Positioning & clamping pull-stud
- Clamping pull-stud

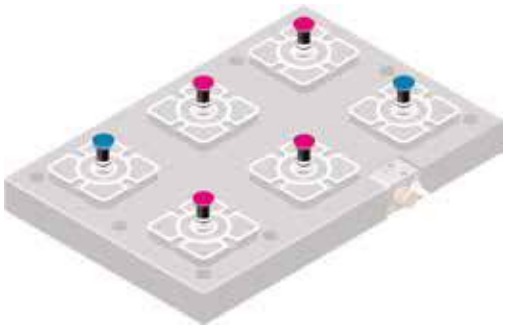


FOR INDEPENDENT TYPE ZERO POINT POTS ART.664S & 665S

Using a Zero Point interface plate with **ART.664S & ART.665S** INDEPENDENT TYPE Zero Point pots allows for dual use of the system, either clamping multiple single workpieces (1 per pot) or larger workpieces (spread over 2 or more pots).

When used for clamping a large work piece with 6 pots, the system requires a maximum of 2 positioning pull-studs, alternated with clamping pull-studs.

- Positioning & clamping pull-stud
- Clamping pull-stud



POSITIONING PULL STUD ART.10A, FEMALE THREAD		CLAMPING PULL STUD ART.10B, FEMALE THREAD		POSITIONING PULL STUD ART.11A, MALE THREAD		CLAMPING PULL STUD ART.11B, MALE THREAD	
SIZE 1		**SIZE 1**		**SIZE 1**		**SIZE 1**	
Order Code	**Price**	**Order Code**	**Price**	**Order Code**	**Price**	**Order Code**	**Price**
9.10.A1000	**£46.66**	9.10.B1000	**£46.66**	9.11.A1000	**£46.66**	9.11.B1000	**£46.66**
SIZE 2		**SIZE 2**		**SIZE 2**		**SIZE 2**	
Order Code	**Price**	**Order Code**	**Price**	**Order Code**	**Price**	**Order Code**	**Price**
9.10.A2000	**£46.66**	9.10.B2000	**£55.22**	9.11.A2000	**£46.66**	9.11.B2000	**£46.66**
SIZE 3		**SIZE 3**		**SIZE 3**		**SIZE 3**	
Order Code	**Price**	**Order Code**	**Price**	**Order Code**	**Price**	**Order Code**	**Price**
9.10.A3000	**£78.66**	9.10.B3000	**£92.01**	9.11.A3000	**£78.66**	9.11.B3000	**£78.66**

Tombstones & Cubes

Solid G30 cast iron casting with 40mm wall thickness, perfect squareness, highest precision & rigidity.

One Piece Casting

- All Gerardi tombstones and cubes made from a single casting which offers vastly improved accuracy, squareness and rigidity compared to fabricated models.
- Double stress relieved.

Wide Product Range

- 5 different geometries & available rough milled, fully machined or bespoke.

Modular

- Combine with Gerardi vices, zero point or even clamps for the perfect modular workholding system.
- Reduce set-up times and reliance on bespoke fixtures with standard clamping elements.

AVAILABLE VERSIONS



TYPE A ROUGH MILLED

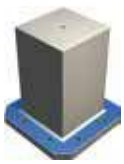
Integral G30 cast iron casting rough milled with double stress relieving heat treatment. Wall thickness 43-45mm (10mm stock).



TYPE B BASE FINISHED

Rough milled casting with base face machined and hand scraped for direct clamping on European or Japanese standard pallet.

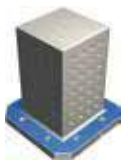
Base with 4 precision holes Ø20F7 with M16 threads' precise pitch dimensions for the use of our Zero Point or to interface with other pallets or head plates.



TYPE C COMPLETELY MACHINED

Cube completely finished with wall thickness roughly between 38-40mm.

Tolerance ± 0.02 mm

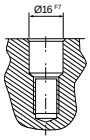


TYPE E GRID CUBE

Integral cube with calibrated holes & solid threads.

Tolerance ± 0.02mm

Holes and threads are made in the casting itself.



Type E Available On Request



TYPE F GRID CUBE WITH BUSHINGS

Integral cube with hardened bushings 100Cr6 and stainless steel helicoils.

Tolerance ± 0.02mm

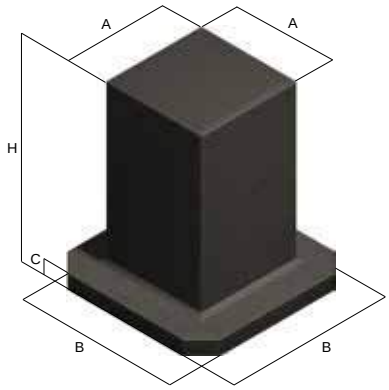
Centering bushings are in special hardened alloy steel 100 Cr6 - DIN 179C.

Type F Available On Request

ART.53A SQUARE CUBE

Rough Milled

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)

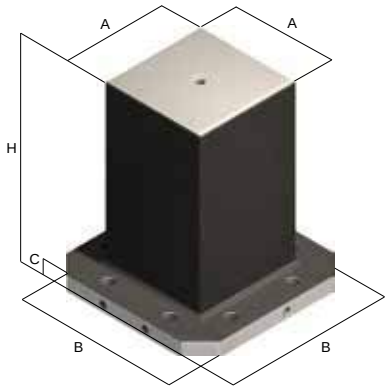


A	B	C	H	kg	Order Code	Price
90	260	45	410	44	8.53.A00009	POA
170	260	50	300	66	8.53.A00020	
210	325	50	310	96	8.53.A00030	
210	360	50	380	119	8.53.A00040	
210	360	50	535	153	8.53.A00045	
210	510	50	610	217	8.53.A00050	
260	410	50	460	179	8.53.A00060	
260	460	50	460	195	8.53.A00070	
260	410	50	560	207	8.53.A00080	
260	410	50	670	239	8.53.A00081	
260	510	50	620	258	8.53.A00090	
260	510	50	660	270	8.53.A00100	
260	510	50	760	298	8.53.A00105	
260	640	50	710	337	8.53.A00106	
260	510	50	1010	368	8.53.A00107	
280	410	50	520	210	8.53.A00110	
310	510	50	610	293	8.53.A00111	
310	510	50	760	345	8.53.A00113	
310	510	50	910	397	8.53.A00115	
340	510	50	670	335	8.53.A00120	
360	510	50	420	252	8.53.A00140	
360	510	50	460	268	8.53.A00150	
360	510	50	560	310	8.53.A00160	
360	510	50	620	334	8.53.A00170	
360	510	50	710	372	8.53.A00171	
360	640	50	710	425	8.53.A00172	
360	640	50	830	496	8.53.A00180	
360	510	50	830	420	8.53.A00181	
360	640	50	960	529	8.53.A00185	
460	640	50	560	431	8.53.A00190	
460	640	50	660	486	8.53.A00200	
510	640	50	870	655	8.53.A00211	
560	760	50	860	763	8.53.A00220	
510	810	50	810	704	8.53.A00230	

ART.53B SQUARE CUBE

Rough Milled & Base Finished

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet

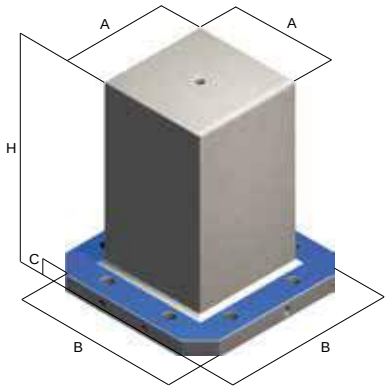


A	B	C	H	kg	Order Code	Price
90	250	40	400	40	8.53.B00009	POA
170	250	45	290	61	8.53.B00020	
210	315	45	300	89	8.53.B00030	
210	350	45	370	112	8.53.B00040	
210	350	45	525	147	8.53.B00045	
210	500	45	600	203	8.53.B00050	
260	400	45	450	169	8.53.B00060	
260	450	45	450	183	8.53.B00070	
260	400	45	550	197	8.53.B00080	
260	400	45	660	228	8.53.B00081	
260	500	45	610	244	8.53.B00090	
260	500	45	650	255	8.53.B00100	
260	500	45	750	284	8.53.B00105	
260	630	45	700	316	8.53.B00106	
260	500	45	1000	355	8.53.B00107	
280	400	45	510	198	8.53.B00110	
310	500	45	600	278	8.53.B00111	
310	500	45	750	330	8.53.B00113	
310	500	45	900	383	8.53.B00115	
340	500	45	660	321	8.53.B00120	
360	500	45	410	236	8.53.B00140	
360	500	45	450	253	8.53.B00150	
360	500	45	550	294	8.53.B00160	
360	500	45	610	319	8.53.B00170	
360	500	45	700	356	8.53.B00171	
360	630	45	700	403	8.53.B00172	
360	630	45	820	452	8.53.B00180	
360	500	45	820	403	8.53.B00181	
360	630	45	950	508	8.53.B00185	
460	630	45	550	409	8.53.B00190	
460	630	45	650	463	8.53.B00200	
510	630	45	860	631	8.53.B00211	
560	750	45	850	732	8.53.B00220	
510	800	45	800	671	8.53.B00230	

ART.53C SQUARE CUBE

Completely Machined

- General tolerance ± 0.02mm
- Cube completely finished with wall thickness roughly 38-40mm
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet



A	B	C	H	kg	Order Code	Price
80	250	35	400	33	8.53.C00009	POA
160	250	40	290	54	8.53.C00020	
200	315	40	300	79	8.53.C00030	
200	350	40	370	99	8.53.C00040	
200	350	40	525	128	8.53.C00045	
200	500	40	600	179	8.53.C00050	
250	400	40	450	150	8.53.C00060	
250	450	40	450	164	8.53.C00070	
250	400	40	550	174	8.53.C00080	
250	400	40	660	201	8.53.C00081	
250	500	40	610	215	8.53.C00090	
250	500	40	650	225	8.53.C00100	
250	500	40	750	249	8.53.C00105	
250	630	40	700	279	8.53.C00106	
250	500	45	1000	310	8.53.C00107	
270	400	40	510	176	8.53.C00110	
300	500	40	600	247	8.53.C00111	
300	500	40	750	293	8.53.C00113	
300	500	40	900	338	8.53.C00115	
330	500	40	660	287	8.53.C00120	
350	500	40	410	212	8.53.C00140	
350	500	40	450	226	8.53.C00150	
350	500	40	550	263	8.53.C00160	
350	500	40	610	284	8.53.C00170	
350	500	40	700	317	8.53.C00171	
350	630	40	700	359	8.53.C00172	
350	630	40	820	402	8.53.C00180	
350	500	40	820	358	8.53.C00181	
350	630	40	950	450	8.53.C00185	
450	630	40	550	367	8.53.C00190	
450	630	40	650	415	8.53.C00200	
500	630	40	860	565	8.53.C00211	
550	750	40	850	656	8.53.C00220	
500	800	40	800	600	8.53.C00230	

Custom Design & Turnkey Solutions

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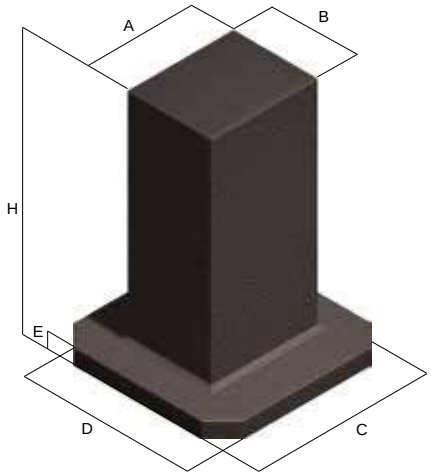




ART.54A RECTANGLE CUBE

Rough Milled

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)

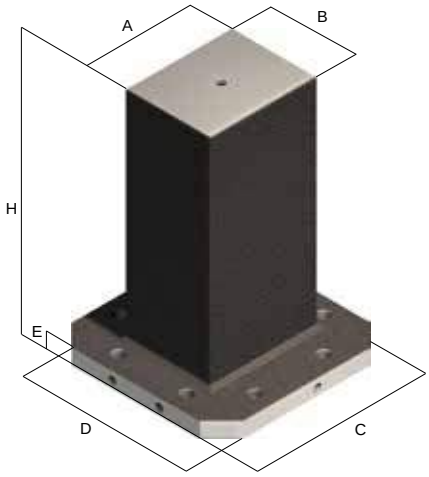


A	B	C	D	E	H	kg	Order Code	Price
310	210	460	310	50	370	142	8.54.A00010	
360	260	410	410	50	560	241	8.54.A00040	
360	260	510	510	50	760	344	8.54.A00070	
310	210	410	410	50	560	206	8.54.A00080	**POA**
460	360	640	640	50	560	397	8.54.A00100	
460	360	640	640	50	660	450	8.54.A00110	
560	360	640	640	50	660	484	8.54.A00120	

ART.54B RECTANGLE CUBE

Rough Milled & Base Finished

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet
- Double stress relieved

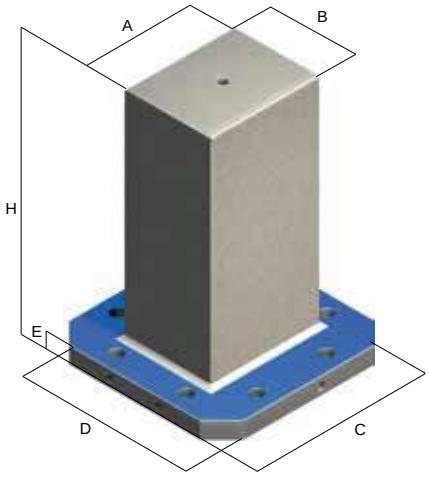


A	B	C	D	E	H	kg	Order Code	Price
310	210	450	300	45	360	134	8.54.B00010	
360	260	400	400	45	550	230	8.54.B00040	
360	260	500	500	45	750	329	8.54.B00070	
310	210	400	400	45	550	196	8.54.B00080	**POA**
460	360	630	630	45	550	375	8.54.B00100	
460	360	630	630	45	650	428	8.54.B00110	
560	360	630	630	45	650	461	8.54.B00120	

ART.54C RECTANGLE CUBE

Completely Machined

- General tolerance ±0.02mm
- Cube completely finished with wall thickness roughly 38-40mm
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet

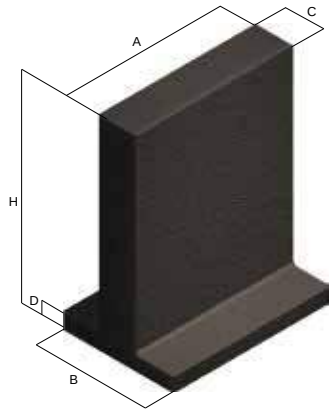


A	B	C	D	E	H	kg	Order Code	Price
300	200	450	300	45	360	127	8.54.C00010	
350	250	400	400	45	550	205	8.54.C00040	
350	250	500	500	45	750	292	8.54.C00070	
300	200	400	400	45	550	174	8.54.C00080	**POA**
450	350	630	630	45	550	336	8.54.C00100	
450	350	630	630	45	650	340	8.54.C00110	
550	350	630	630	45	650	413	8.54.C00120	

ART.55A 2 SIDED TOMBSTONE

Rough Milled

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)

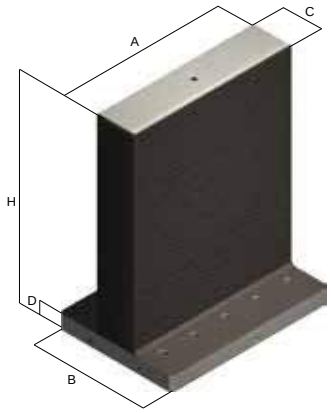


A	B	C	D	H	kg	Order Code	Price
170	210	80	55	235	31	8.55.A00010	POA
360	260	90	60	425	124	8.55.A00040	
410	360	110	60	535	221	8.55.A00050	
410	410	160	60	510	215	8.55.A00051	
410	410	160	55	670	262	8.55.A00052	
510	510	160	55	710	350	8.55.A00053	
510	510	210	60	610	340	8.55.A00054	
510	510	270	50	635	360	8.55.A00055	
460	360	110	60	535	241	8.55.A00060	
460	360	110	60	630	283	8.55.A00070	
560	360	110	70	660	368	8.55.A00080	
510	360	160	60	660	307	8.55.A00090	
460	360	160	60	620	289	8.55.A00120	
460	360	160	60	760	316	8.55.A00125	
560	360	160	70	680	352	8.55.A00150	
560	460	160	60	830	430	8.55.A00160	
640	460	160	60	830	486	8.55.A00170	
640	460	260	70	910	589	8.55.A00171	
640	640	210	60	870	579	8.55.A00172	
640	640	260	60	710	521	8.55.A00173	
360	460	160	70	660	250	8.55.A00180	
810	460	160	70	860	632	8.55.A00190	
810	810	310	60	810	782	8.55.A00191	
810	810	210	60	1010	855	8.55.A00192	

ART.55B 2 SIDED TOMBSTONE

Rough Milled & Base Finished

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet

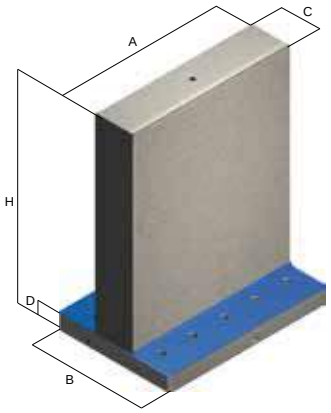


A	B	C	D	H	kg	Order Code	Price
160	200	80	50	225	29	8.55.B00010	POA
350	250	90	55	415	114	8.55.B00040	
400	350	110	55	525	207	8.55.B00050	
400	400	160	55	500	199	8.55.B00051	
400	400	160	50	660	244	8.55.B00052	
500	500	160	50	700	331	8.55.B00053	
500	500	210	55	600	316	8.55.B00054	
500	500	270	45	625	336	8.55.B00055	
450	350	110	55	525	227	8.55.B00060	
450	350	110	55	620	267	8.55.B00070	
550	350	110	65	650	350	8.55.B00080	
500	350	160	55	650	289	8.55.B00090	
450	350	160	55	610	271	8.55.B00120	
450	350	160	55	750	297	8.55.B00125	
550	350	160	65	670	332	8.55.B00150	
550	450	160	55	820	406	8.55.B00160	
630	450	160	55	820	460	8.55.B00170	
630	450	260	65	900	564	8.55.B00171	
630	630	210	55	850	545	8.55.B00172	
630	630	260	55	700	485	8.55.B00173	
350	450	160	65	650	232	8.55.B00180	
800	450	160	65	850	604	8.55.B00190	
800	800	310	55	800	732	8.55.B00191	
800	800	210	55	1000	820	8.55.B00192	

ART.55C 2 SIDED TOMBSTONE

Completely Machined

- General tolerance ± 0.02mm
- Cube completely finished with wall thickness roughly 38-40mm
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet

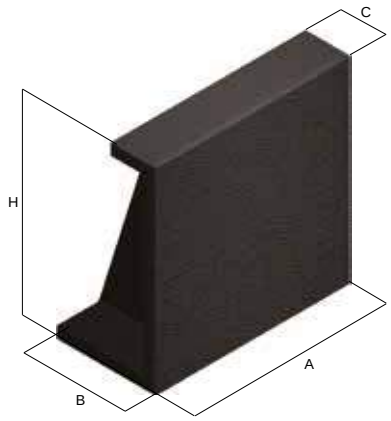


A	B	C	D	H	kg	Order Code	Price
160	200	70	45	225	24	8.55.C00010	POA
350	250	80	50	415	103	8.55.C00040	
400	350	100	50	525	190	8.55.C00050	
400	400	150	50	500	193	8.55.C00051	
400	400	150	45	660	222	8.55.C00052	
500	500	150	45	700	290	8.55.C00053	
500	500	200	50	600	287	8.55.C00054	
500	500	260	40	625	310	8.55.C00055	
450	350	100	50	525	208	8.55.C00060	
450	350	100	50	620	245	8.55.C00070	
550	350	100	60	650	321	8.55.C00080	
500	350	150	50	650	263	8.55.C00090	
450	350	150	50	610	250	8.55.C00120	
450	350	150	50	750	271	8.55.C00125	
550	350	150	60	670	303	8.55.C00150	
550	450	150	50	820	369	8.55.C00160	
630	450	150	50	820	418	8.55.C00170	
630	450	250	60	900	513	8.55.C00171	
630	630	200	50	850	504	8.55.C00172	
630	630	250	50	700	447	8.55.C00173	
350	450	150	60	650	213	8.55.C00180	
800	450	150	60	850	548	8.55.C00190	
800	800	300	50	800	674	8.55.C00191	
800	800	200	50	1000	814	8.55.C00192	

ART.56A 1 SIDED TOMBSTONE

Rough Milled

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)

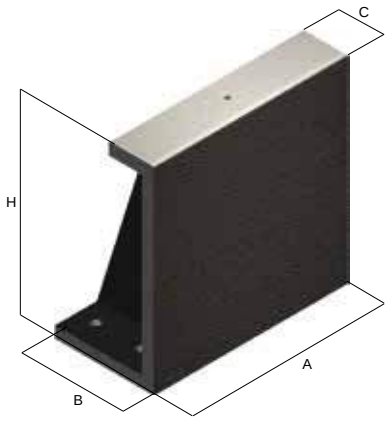


A	B	C	H	kg	Order Code	Price
360	160	65	260	50	8.56.A00008	
310	230	105	310	66	8.56.A00009	
360	240	105	370	87	8.56.A00010	
410	290	105	410	114	8.56.A00011	
210	360	40	710	120	8.56.A00012	
410	340	155	520	167	8.56.A00030	
510	350	155	510	188	8.56.A00031	
460	340	155	470	161	8.56.A00040	
460	340	155	620	197	8.56.A00050	**POA**
640	445	155	640	304	8.56.A00051	
510	240	105	370	117	8.56.A00060	
560	440	205	820	342	8.56.A00080	
660	340	155	670	285	8.56.A00100	
210	310	55	710	102	8.56.A00101	
810	340	155	570	302	8.56.A00110	
810	535	205	810	491	8.56.A00111	
810	440	205	810	450	8.56.A00120	

ART.56B 1 SIDED TOMBSTONE

Rough Milled & Base Finished

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet

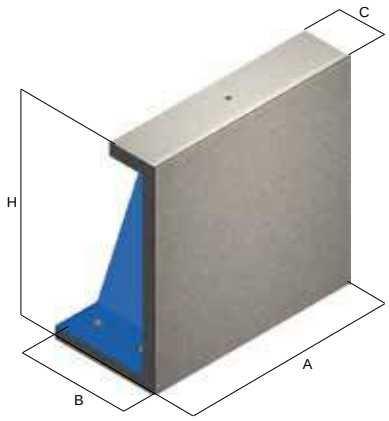


A	B	C	H	kg	Order Code	Price
350	160	65	250	46	8.56.B00008	
300	230	105	300	61	8.56.B00009	
350	240	105	360	80	8.56.B00010	
400	290	105	400	106	8.56.B00011	
200	350	35	700	104	8.56.B00012	
400	340	155	510	148	8.56.B00030	
500	350	155	500	176	8.56.B00031	
450	340	155	460	150	8.56.B00040	
450	340	155	610	185	8.56.B00050	**POA**
630	445	155	630	286	8.56.B00051	
500	240	105	360	109	8.56.B00060	
550	440	205	810	324	8.56.B00080	
650	340	155	660	269	8.56.B00100	
200	310	55	700	96	8.56.B00101	
800	340	155	560	294	8.56.B00110	
800	535	205	800	464	8.56.B00111	
800	440	205	800	427	8.56.B00120	

ART.56C 1 SIDED TOMBSTONE

Completely Machined

- General tolerance ± 0.02mm
- Cube completely finished with wall thickness roughly 38-40mm
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet



A	B	C	H	kg	Order Code	Price
350	150	60	250	42	8.56.C00008	
300	220	100	300	57	8.56.C00009	
350	230	100	360	75	8.56.C00010	
400	280	100	400	100	8.56.C00011	
200	350	35	700	100	8.56.C00012	
400	330	150	510	140	8.56.C00030	
500	340	150	500	166	8.56.C00031	
450	330	150	460	142	8.56.C00040	
450	330	150	610	174	8.56.C00050	**POA**
630	435	150	630	270	8.56.C00051	
500	230	100	360	307	8.56.C00060	
550	430	200	810	252	8.56.C00080	
650	330	150	660	245	8.56.C00100	
200	300	50	700	90	8.56.C00101	
800	330	150	560	266	8.56.C00110	
800	525	200	800	452	8.56.C00111	
800	430	200	800	402	8.56.C00120	

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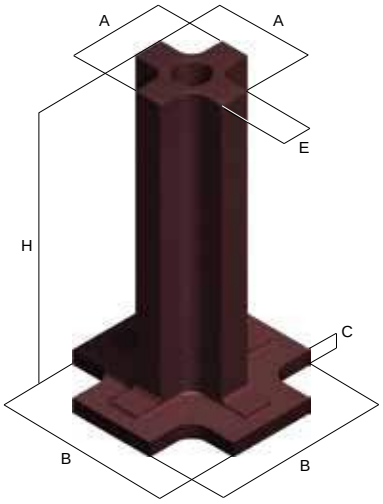


ART.57A CROSS CUBE

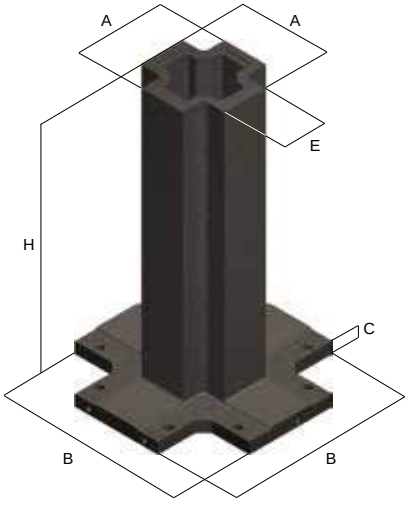
Rough Milled

- General tolerance ± 2mm
- Wall thickness 43-45mm (10mm stock)

Type 1



Type 2



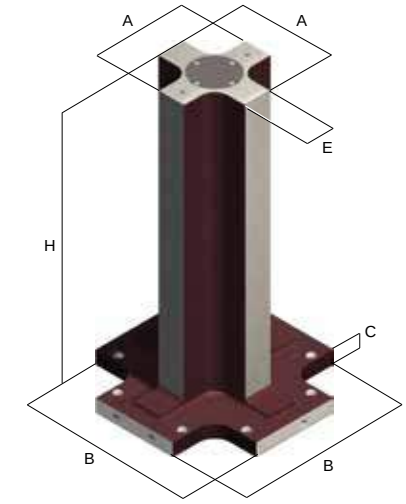
A	B	C	E	H	kg	Order Code	Price
Type 1							
210	510	45	80	760	172	8.57.A00100	POA
210	510	45	80	660	156	8.57.A00105	
260	510	45	80	760	212	8.57.A 00106	
280	510	45	80	860	254	8.57.A00110	
Type 2							
240	510	45	110	860	237	8.57.A00120	POA
310	510	45	150	860	291	8.57.A00130	
310	640	45	150	960	357	8.57.A00140	
380	510	45	200	960	419	8.57.A00145	
410	510	55	100	860	254	8.57.A00150	

ART.57B CROSS CUBE

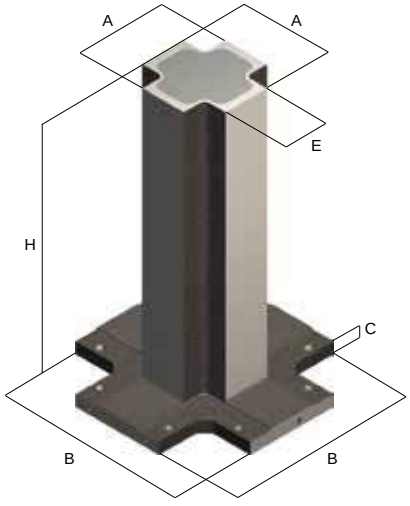
Rough Milled & Base Finished

- General tolerance ± 2mm
- Wall thickness 43-45mm (10 mm stock)
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet

Type 1



Type 2



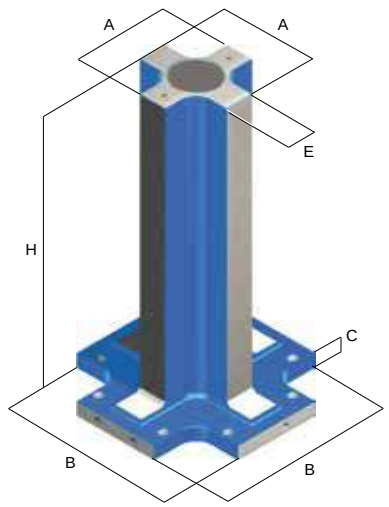
A	B	C	E	H	kg	Order Code	Price
Type 1							
203	500	40	80	750	157	8.57.B00100	POA
203	500	40	80	650	142	8.57.B00105	
253	500	40	80	750	197	8.57.B00106	
273	500	40	80	850	242	8.57.B00110	
Type 2							
233	500	40	110	850	218	8.57.B00120	POA
303	500	40	150	850	269	8.57.B00130	
303	630	40	150	950	327	8.57.B00140	
373	500	40	200	950	400	8.57.B00145	
403	500	50	100	850	241	8.57.B00150	

ART.57C CROSS CUBE

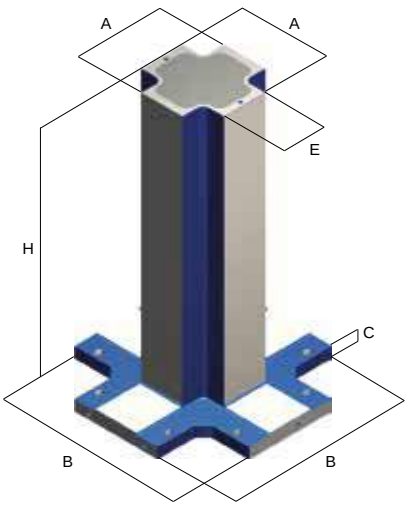
Completely Machined

- General tolerance ± 0.02mm
- Cube completely finished with wall thickness roughly 38-40mm
- Base face machined and hand scraped for direct clamping on European or Japanese standard pallet

Type 1



Type 2



A	B	C	E	H	kg	Order Code	Price
Type 1							
200	500	40	80	750	154	8.57.C00100	POA
200	500	40	80	650	140	8.57.C00105	
250	500	40	80	750	194	8.57.C00106	
270	500	40	80	850	240	8.57.C00110	
Type 2							
230	500	40	110	850	214	8.57.C00120	POA
300	500	40	150	850	264	8.57.C00130	
300	630	40	150	950	322	8.57.C00140	
370	500	40	200	950	397	8.57.C00145	
400	500	50	100	850	239	8.57.C00150	

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Collets & Collet Chucks



High precision power collet chucks available as quick change systems or standard nut with collets to suit.

QCR & CR Series - Quick Change Style or Standard Nut

- The new and improved 'Crawford style' CNC collet chuck with a quick change nut (QCR series).
- Fully compatible with Crawford, Varibore, Multibore, Rubberflex & spring collets.
- Also available with a standard fixed nut (CR series).



D Series - Gun Quick Change Style

- The highest level of precision for production machining, ideal for bar fed turning centres or high value turning.
- The largest range of collets with a huge variation of sizes, bore types and shapes.
- Fully compatible with Hainbuch collets.
- Collets can be changed in seconds using the quick release gun.

C Series - 5C & 16C Collet Chucks

- Low profile pull back collet chucks for 5C and 16C collets.

QUICK HAND CHANGE STYLE (QC Series)
Ultra-Fast 10 Second Collet Change



Unlock



Remove



Replace



Lock

GUN CHANGE STYLE (D Series)
Ultra-Fast 10 Second Collet Change



Insert & Unlock



Remove



Replace



Lock & Remove Gun

klamp



QUICK HAND CHANGE STYLE (Q-CRL Series)

3 different collet types available.



Spring Collets

Suited for second operation work, collets are size matched according to gripped diameters, enabling you to have a high gripping accuracy. Collets can be supplied as smooth or serrated as required.



Varibore Collets

Ideal for first operation work as they have a 2-3mm gripping range enabling you to handle rough bar. Supplied either as smooth, serrated or super grip.



Rubberflex Collets

The same accuracy specification as spring collets. Elastic rubber-metal vulcanization allows a clamping range of +/- 1mm to the nominal diameter, reducing the need for multiple sized spring collets.

View full range on cutwel.co.uk or contact us for a quote

... Also available with non-quick change nut (CR Series)

Ideal for high production environments where collets are not changed often, available in short body (first op only) or long length body (first & second op).



klamp



GUN QUICK CHANGE STYLE (D Series)

Widest range of collets available in round, square & hexagon with 2 bore profiles.

HAINBUCH WORKHOLDING TECHNOLOGY

CLAMPING HEADS



Smooth Bore

Suited for second operation work. Gripping range of +/-0.5mm with the same accuracy as spring collets. Compatible with Hainbuch & Klamp collet chucks.



Serrated Bore

Radial and axial grooves for the highest levels of gripping force for aggressive first operation turning of rough bar. Gripping range of +/- 0.5mm. Compatible with Hainbuch & Klamp collet chucks.

HAINBUCH WORKHOLDING TECHNOLOGY

Hainbuch clamping heads are available in Round, Hexagon and Square shape.

Sizes available:
32, 42, 52, 65, 80, 100

SPANNTOP MINI POWER 'PB' COLLET CHUCK

For Hainbuch RD Type Collets

- Pull back model (PB)
- Quick change - clamping heads can be changed in 10 seconds
- Power (hydraulic) operated
- Workpiece stabilization through axial draw force applied against the workpiece end-stop
- Converts to a fully functional bar chuck when end-stop plate is removed
- Pull back type suitable for 1st opp work



Clamping Head Size	Clamping Dia Range	Total Length	Outer Dia	Run Out	Spindle Nose	Order Code	Price
32	3-32	117	132	0.01	A2-4	10791/0010	POA
		117	132		A2-5	10791/0011	
		140	132		A2-5	10791/0012	
		117	159		A2-6	10791/0057	
42	3-42	122	134	0.01	A2-4	10791/0013	
		114	134		A2-5	10791/0014	
		122	134		A2-5	10791/0015	
		140	134		A2-5	10791/0016	
		122	159		A2-6	10791/0017	
		140	159		A2-6	10791/0018	
52	3-52	122	149	0.01	A2-5	10791/0024	
		122	159		A2-6	10791/0026	
		120	204		A2-8	10791/0054	
		145	204		A2-8	10791/0055	
65	3-65	124	165	0.01	A2-5	10791/0058	
		126	165		A2-6	10791/0003	
		130	165		A2-6	10791/0004	
		155	165		A2-6	10791/0005	
		130	204		A2-8	10791/0006	
80	4-80	132	171	0.01	A2-5	10791/0052	
		128	171		A2-6	10791/0031	
		135	171		A2-6	10791/0032	
		132	204		A2-8	10791/0034	
		150	204		A2-8	10791/0035	
100	15-100	160	221	0.015	A2-5	10791/0053	
		164	221		A2-6	10791/0039	
		170	221		A2-6	10791/0040	
		162	221		A2-8	10791/0041	
		180	280		A2-11	10791/0043	

SPANNTOP MINI POWER 'DL' COLLET CHUCK

For Hainbuch RD Type Collets

- Dead length model (DL)
- Quick change - clamping heads can be changed in 10 seconds
- Power (hydraulic) operated
- Workpiece clamping without axial movement of the clamping head
- Clamps workpieces with a short collar or shoulder
- Converts to a fully functional bar chuck when end-stop plate is removed
- Dead length suitable for second opp and sub spindle work



Clamping Head Size	Clamping Dia Range	Total Length	Outer Dia	Run Out	Spindle Nose	Order Code	Price
32	3-32	112	130	0.02	A2-4	10794/0009	POA
		114	130		A2-5	10794/0011	
		122	130		A2-5	10794/0012	
		115	159		A2-6	10794/0067	
42	3-42	125	139	0.02	A2-4	10794/0050	
		118	139		A2-5	10794/0014	
		125	139		A2-5	10794/0015	
		142	139		A2-5	10794/0016	
		124	159		A2-6	10794/0017	
		142	159		A2-6	10794/0018	
52	3-52	122	149	0.02	A2-4	10794/0021	
		122	149		A2-5	10794/0022	
		122	163		A2-6	10794/0024	
		120	202		A2-8	10794/0049	
65	3-65	128	167	0.02	A2-4	10794/0048	
		128	167		A2-5	10794/0001	
		124	167		A2-6	10794/0003	
		138	167		A2-6	10794/0004	
		133	202		A2-8	10794/0006	
80	4-80	136	180	0.02	A2-5	10794/0044	
		130	180		A2-6	10794/0030	
		137	180		A2-6	10794/0031	
		132	205		A2-8	10794/0033	
		152	205		A2-8	10794/0034	
100	15-100	171	221	0.025	A2-5	10794/0058	
		175	221		A2-6	10794/0037	
		182	221		A2-6	10794/0038	
		169	221		A2-8	10794/0039	
		185	221		A2-11	10794/0060	

MANUAL "MANOK" COLLET CHUCK

For Hainbuch RD Type Collets

- Suitable for use with Hainbuch clamping heads (collets) - utilise existing lathe workholding for use on machining centres
- Mechanically operated
- Ideal for 5-sided machining



Clamping Head Size	Clamping Dia Range	Base Length	Base Width	Repeatability	Order Code	Price
42	3-42	214	159	0.01	1201/0007	**£1,140.84**
52	3-52	214	159	0.01	1201/0006	**£1,140.84**
65	3-65	214	159	0.01	1201/0005	**£1,226.04**
80	4-80	264	210	0.01	1201/0010	**£1,576.39**
100	15-100	264	210	0.01	1201/0002	**£1,878.23**

POWER "HYDROK" COLLET CHUCK

For Hainbuch RD Type Collets

- Suitable for use with Hainbuch clamping heads (collets) - utilise existing lathe workholding for use on machining centres
- Hydraulically actuated
- Ideal for 5-sided machining or automated clamping applications



Clamping Head Size	Clamping Dia Range	Base Diameter	Height	Repeatability	Order Code	Price
32	3-32	75	42	0.01	1121/0029	POA
42	3-42	125	120	0.01	1121/0003	
52	3-52	125	120	0.01	1121/0004	
65	3-65	145	130	0.010	1121/0001	
80	4-80	160	130	0.01	1121/0005	

5C POWER COLLET CHUCK

- Suitable for 5C collets (1-28mm clamping range)
- Power (hydraulic) operated
- Pull back style
- Low profile small nose diameter
- Direct mount: Supplied with mounting bolts and a custom machined drawtube connector allowing you to use straight out of the box



klamp

Mount	Nose Dia	Length	MAX. RPM	Clamping Range	Collets	Order Code	Price
Z140		139				DEL5C-Z140	**£739.00**
A5	72	139	6000	1-28mm	5C	DEL5C-A5	**£813.68**
A6		141				DEL5C-A6	**£768.63**

16C POWER COLLET CHUCK

- Suitable for 5C collets (1-28mm clamping range)
- Power (hydraulic) operated
- Pull back style
- Low profile small nose diameter
- Direct mount: Supplied with mounting bolts and a custom machined drawtube connector allowing you to use straight out of the box



klamp

Mount	Nose Dia	Length	MAX. RPM	Clamping Range	Collets	Order Code	Price
Z140		157				DEL16C-Z170	**£894.00**
A5	85	152	6000	2-42mm	16C	DEL16C-A5	**£916.17**
A6		160				DEL16C-A6	**£916.17**

5C MANUAL COLLET CHUCK

- Suitable for 5C collets (1-28mm clamping range)
- Wrench operated scroll provides uniform, distortion free clamping
- Low profile small nose diameter
- Front mount with recessed back
- Can be used for turning, facing, boring, grinding and milling



Mount	Outside Dia	Length	Clamping Range	Collets	Order Code	Price
Front	125	117	1-28mm	5C	3911-125-5C	**£591.00**

16C MANUAL COLLET CHUCK

- Suitable for 16C collets (2-42mm clamping range)
- Wrench operated scroll provides uniform, distortion free clamping
- Low profile small nose diameter
- Front mount with recessed back
- Can be used for turning, facing, boring, grinding and milling



Mount	Outside Dia	Length	Clamping Range	Collets	Order Code	Price
Front	140	114.5	2-42mm	16C	3975-140-16C	**£1,930.00**
	160	114.5			3975-160-16C	**£2,029.00**

MULTIBORE POWER COLLET CHUCK

- Suitable for Crawford / Multibore collets (M673 & M677) or spring collets (173E DIN 6343)
- Power (hydraulic) operated
- Suitable for first and second operation
- Direct mount



CHANDOX

Mount	Nose Dia	Length	MAX. RPM	Clamping Range	Collets	Order Code	Price
A5	100	127	6000	3-42	M673 / 173E	CK42A5	**£684.67**
A6	100	127	6000	3-42	M673 / 173E	CK42A6	**£722.85**
A6	130	150	5000	4-60	M677 / 185E	CK60A6	**£804.48**

MULTIBORE POWER COLLET CHUCK WITH QUICK CHANGE NUT

- Suitable for Crawford / Multibore collets (M673 & M677) or spring collets (173E DIN 6343)
- Power (hydraulic) operated
- Suitable for first and second operation
- Direct mount with quick change nut - no wrench needed



klamp

Mount	Nose Dia	Length	MAX. RPM	Clamping Range	Collets	Order Code	Price
A5	93	136	7100	3-42	M673 / 173E	QDCRL42A5	**£1,366.79**
A6	120	164.5	6300	4-60	M677 / 185E	QDCRL60A6	**£1,713.61**

TYPE M673 CRAWFORD STYLE MULTIBORE COLLETS - ROUND OR HEXAGON BORE

- M673 / DIN 6343 collet with 2mm gripping range
- With serrated bores, ideal for first operation or rouging work
- Compatible with TYPE 173E spring collets



CUTWEL PRO

Clamping Range	Outside Diameter	Length	Order Code			
			Round	Price	Hexagon	Price
4-6	61.5	39.0	MT673-060	**£174.41**	MT673-060HEX	**£152.26**
6-8			MT673-080	**£107.79**	MT673-080HEX	
8-10			MT673-100	**£107.79**	MT673-100HEX	
10-12			MT673-120	**£109.14**	MT673-120HEX	
12-14			MT673-140	**£107.79**	MT673-140HEX	
14-16			MT673-160	**£107.79**	MT673-160HEX	
16-18			MT673-180	**£107.79**	MT673-180HEX	
18-20			MT673-200	**£107.79**	MT673-200HEX	
20-22			MT673-220	**£107.79**	MT673-220HEX	
22-24			MT673-240	**£107.79**	MT673-240HEX	
24-26			MT673-260	**£107.79**	MT673-260HEX	
26-28			MT673-280	**£107.79**	MT673-280HEX	
28-30			MT673-300	**£107.79**	MT673-300HEX	
30-32			MT673-320	**£107.79**	MT673-320HEX	
32-34			MT673-340	**£107.79**	MT673-340HEX	
34-36			MT673-360	**£107.79**	MT673-360HEX	
36-38			MT673-380	**£107.79**	MT673-380HEX	
38-40			MT673-400	**£107.79**	-	
40-42			MT673-420	**£107.79**	-	

TYPE M677 CRAWFORD STYLE MULTIBORE COLLETS - ROUND OR HEXAGON BORE

- M677 / DIN 6343 collet with 2mm gripping range
- With serrated bores, ideal for first operation or roughing work
- Compatible with type 185E spring collets



CUTWEL PRO

Clamping Range	Outside Diameter	Length	Order Code			
			Round	Price	Hexagon	Price
4-6	85.5	45	MT677-060	**£198.08**	MT677-060HEX	**£198.08**
6-8			MT677-080	**£149.56**	MT677-080HEX	
8-10			MT677-100	**£149.56**	MT677-100HEX	
10-12			MT677-120	**£149.56**	MT677-120HEX	
12-14			MT677-140	**£149.56**	MT677-140HEX	
14-16			MT677-160	**£149.56**	MT677-160HEX	
16-18			MT677-180	**£149.56**	MT677-180HEX	
18-20			MT677-200	**£149.56**	MT677-200HEX	
20-22			MT677-220	**£149.56**	MT677-220HEX	
22-24			MT677-240	**£149.56**	MT677-240HEX	
24-26			MT677-260	**£149.56**	MT677-260HEX	
26-28			MT677-280	**£149.56**	MT677-280HEX	
28-30			MT677-300	**£163.71**	MT677-300HEX	
30-32			MT677-320	**£149.56**	MT677-320HEX	
32-34			MT677-340	**£149.56**	MT677-340HEX	
34-36			MT677-360	**£149.56**	MT677-360HEX	
36-38			MT677-380	**£149.56**	MT677-380HEX	
38-40			MT677-400	**£149.56**	MT677-400HEX	
40-42			MT677-420	**£149.56**	MT677-420HEX	
42-44			MT677-440	**£149.56**	MT677-440HEX	
44-46			MT677-460	**£149.56**	MT677-460HEX	
46-48			MT677-480	**£149.56**	MT677-480HEX	
48-50			MT677-500	**£149.56**	MT677-500HEX	
50-52			MT677-520	**£149.56**	MT677-520HEX	
52-54			MT677-540	**£149.56**	-	
54-56			MT677-560	**£149.56**	-	
56-58			MT677-580	**£149.56**	-	
58-60			MT677-600	**£163.71**	-	

TYPE 173E CRAWFORD STYLE SPRING COLLETS - ROUND OR HEXAGON BORE

- Type 173E / DIN 6343 high precision collet for specific diameter clamping
- Compatible with M673 multi-bore collets
- Round bore collets: smooth <8mm, serrated bore from 8.5mm
- Hex bore collets: smooth <12mm, serrated bore from 13mm



ORION

Clamping Diameter	Outside Diameter	Length	Order Code			
			Round	Price	Hexagon	Price
1	60	94	23353010	**£50.69**	-	**£67.83**
1.5			23353015	**£50.69**	-	
2			23353020	**£50.69**	-	
2.5			23353025	**£50.69**	-	
3			23353030	**£50.69**	-	
3.5			23353035	**£50.69**	-	
4			23353040	**£50.69**	23353540	
4.5			23353045	**£50.69**	-	
5			23353050	**£50.69**	23353550	
5.5			23353055	**£50.69**	-	
6			23353060	**£50.69**	23353560	
6.5			23353065	**£50.69**	-	
7			23353070	**£50.69**	23353570	
7.5			23353075	**£50.69**	-	
8			23353080	**£50.69**	23353580	
8.5			23353085	**£50.69**	-	
9			23353090	**£50.69**	23353590	
9.5			23353095	**£50.69**	-	
10			23353100	**£50.69**	23353600	
10.5			23353105	**£50.69**	-	
11			23353110	**£50.69**	23353610	
11.5			23353115	**£50.69**	-	
12			23353120	**£50.69**	23353620	
12.5			23353125	**£50.69**	-	
13			23353130	**£50.69**	23353630	
13.5			23353135	**£50.69**	-	
14			23353140	**£50.69**	23353640	
14.5			23353145	**£50.69**	-	
15			23353150	**£50.69**	23353650	
15.5			23353155	**£50.69**	-	
16			23353160	**£50.69**	23353660	
16.5			23353165	**£50.69**	-	
17			23353170	**£50.69**	23353670	
17.5			23353175	**£50.69**	-	
18			23353180	**£50.69**	23353680	
18.5			23353185	**£50.69**	-	
19			23353190	**£50.69**	23353690	
19.5			23353195	**£49.77**	-	
20			23353200	**£49.77**	23353700	
20.5			23353205	**£49.77**	-	
21			23353210	**£49.77**	23353710	
21.5			23353215	**£49.77**	-	
22			23353220	**£49.77**	23353720	
22.5			23353225	**£49.77**	-	
23			23353230	**£49.77**	-	
23.5			23353235	**£49.77**	-	
24			23353240	**£49.77**	23353740	
24.5			23353245	**£49.77**	-	
25			23353250	**£49.77**	-	
25.5			23353255	**£49.77**	-	
26			23353260	**£49.77**	-	
26.5			23353265	**£49.77**	-	
27			23353270	**£49.77**	23353770	
27.5			23353275	**£49.77**	-	
28			23353280	**£49.77**	-	
28.5			23353285	**£49.77**	-	
29			23353290	**£49.77**	-	
29.5			23353295	**£49.77**	-	
30			23353300	**£49.77**	23353800	
30.5			23353305	**£49.77**	-	
31			23353310	**£49.77**	-	
31.5			23353315	**£49.77**	-	
32			23353320	**£49.77**	23353820	
32.5			23353325	**£49.77**	-	
33			23353330	**£49.77**	-	
33.5			23353335	**£49.77**	-	
34			23353340	**£49.77**	-	
34.5			23353345	**£49.77**	-	
35			23353350	**£49.77**	-	
35.5			23353355	**£49.77**	-	
36			23353360	**£49.77**	23353860	
36.5			23353365	**£49.77**	-	
37			23353370	**£49.77**	-	
37.5			23353375	**£49.77**	-	
38			23353380	**£49.77**	-	
38.5			23353385	**£49.77**	-	
39			23353390	**£49.77**	-	
39.5			23353395	**£49.77**	-	
40			23353400	**£49.77**	-	
40.5			23353405	**£49.77**	-	
41			23353410	**£49.77**	-	
41.5			23353415	**£49.77**	-	
42			23353420	**£49.77**	-	

TYPE 185E CRAWFORD STYLE SPRING COLLETS - ROUND OR HEXAGON BORE

- Type 185E / DIN 6343 high precision collet for specific diameter clamping
- Compatible with M677 multi-bore collets
- Round bore collets: smooth <8mm, serrated bore from 8.5mm
- Hex bore collets: smooth <12mm, serrated bore from 13mm



ORION

Clamping Diameter	Outside Diameter	Length	Order Code			
			Round	Price	Hexagon	Price
3	84	110	23354330	**£80.98**	-	**£89.54**
4			23354340	**£65.77**	-	
5			23354350	**£65.77**	-	
6			23354360	**£65.77**	-	
7			23354370	**£65.77**	-	
8			23354380	**£65.77**	23355180	
9			23354390	**£65.77**	23355190	
10			23354400	**£65.77**	23355200	
11			23354410	**£65.77**	23355210	
12			23354420	**£65.77**	23355220	
13			23354430	**£65.77**	23355230	
14			23354440	**£64.22**	23355240	
15			23354450	**£65.77**	23355250	
16			23354460	**£65.77**	23355260	
17			23354470	**£71.72**	23355270	
18			23354480	**£65.77**	-	
19			23354490	**£64.22**	23355290	
20			23354500	**£65.77**	-	
21			23354510	**£65.77**	-	
22			23354520	**£65.77**	23355320	
23			23354530	**£71.72**	-	
24			23354540	**£64.31**	23355340	
25			23354550	**£65.77**	-	
26			23354560	**£65.77**	-	
27			23354570	**£65.77**	23355370	
28			23354580	**£65.77**	-	
29			23354590	**£64.62**	-	
30			23354600	**£65.77**	23355400	
31			23354610	**£65.77**	-	
32			23354620	**£71.72**	23355420	
33			23354630	**£65.77**	-	
34			23354640	**£65.77**	-	
35			23354650	**£65.77**	23355450	
36			23354660	**£65.77**	23355460	
37			23354670	**£65.77**	-	
38			23354680	**£65.77**	23355480	
39			23354690	**£65.77**	23355490	
40			23354700	**£65.77**	-	
41			23354710	**£65.77**	23355510	
42			23354720	**£65.77**	23355520	
43			23354730	**£65.77**	-	
44			23354740	**£65.77**	-	
45			23354750	**£65.77**	23355550	
46			23354760	**£65.77**	23355560	
47			23354770	**£65.77**	-	
48			23354780	**£65.77**	-	
49			23354790	**£65.77**	-	
50			23354800	**£65.77**	23355600	
51			23354810	**£65.77**	-	
52			23354820	**£65.77**	-	
53			23354830	**£65.77**	-	
54			23354840	**£65.77**	-	
55			23354850	**£65.77**	-	
56			23354860	**£65.77**	-	
57			23354870	**£65.77**	-	
58			23354880	**£65.77**	-	
59			23354890	**£65.77**	-	
60			23354900	**£65.77**	-	

TYPE 173E CRAWFORD STYLE SPRING COLLETS - SQUARE BORE

- Type 173E / DIN 6343 high precision collet for specific diameter clamping
- Compatible with M673 multi-bore collets
- Square bore collets: smooth <12mm, serrated bore from 13mm



ORION

Clamping Diameter	Outside Diameter	Length	Order Code	Price
4	60	94	23354040	**£67.83**
5			23354050	
6			23354060	
7			23354070	
8			23354080	
9			23354090	
10			23354100	
11			23354110	
12			23354120	
13			23354130	
14			23354140	
15			23354150	
16			23354160	
17			23354170	
18			23354180	
19			23354190	
20			23354200	
22			23354220	
24			23354240	
25			23354250	
26			23354260	
28			23354280	
30			23354300	

TYPE 185E CRAWFORD STYLE SPRING COLLETS - SQUARE BORE

- Type 185E / DIN 6343 high precision collet for specific diameter clamping
- Compatible with M677 multi-bore collets
- Square bore collets: smooth <12mm, serrated bore from 13mm



ORION

Clamping Diameter	Outside Diameter	Length	Order Code	Price
4	84	110	23355640	**£89.54**
5			23355650	
6			23355660	
7			23355670	
8			23355680	
9			23355690	
10			23355700	
11			23355710	
12			23355720	
13			23355730	
14			23355740	
15			23355750	
16			23355760	
20			23355800	
22			23355820	
24			23355840	
25			23355850	
28			23355880	
30			23355900	
32			23355920	
36			23355960	

5C COLLETS ROUND OR HEXAGON BORE

- 5C type collet
- Round or hexagon smooth bore
- Specific diameter clamping
- Suitable for 1st and 2nd operation work



CUTWEL PRO

Clamping Diameter	Outside Diameter	Length	Order Code			
			Round	Price	Hexagon	Price
Metric						
1	37.5	83	5C-R-1MM	£20.63	-	£30.87
1.5			5C-R-1.5MM		-	
2			5C-R-2MM		-	
2.5			5C-R-2.5MM		-	
3			5C-R-3MM		-	
3.5			5C-R-3.5MM		-	
4			5C-R-4MM		5C-H-4MM	
4.5			5C-R-4.5MM		-	
5			5C-R-5MM		5C-H-5MM	
5.5			5C-R-5.5MM		-	
6			5C-R-6MM		5C-H-6MM	
6.5			5C-R-6.5MM		-	
7			5C-R-7MM		-	
7.5			5C-R-7.5MM		-	
8			5C-R-8MM		5C-H-8MM	
8.5			5C-R-8.5MM		-	
9			5C-R-9MM		-	
9.5			5C-R-9.5MM		-	
10			5C-R-10MM		5C-H-10MM	
10.5			5C-R-10.5MM		-	
11			5C-R-11MM		5C-H-11MM	
11.5			5C-R-11.5MM		-	
12			5C-R-12MM		5C-H-12MM	
12.5			5C-R-12.5MM		-	
13			5C-R-13MM		5C-H-13MM	
13.5			5C-R-13.5MM		-	
14			5C-R-14MM		5C-H-14MM	
14.5			5C-R-14.5MM		-	
15			5C-R-15MM		5C-H-15MM	
15.5			5C-R-15.5MM		-	
16			5C-R-16MM		5C-H-16MM	
16.5			5C-R-16.5MM		-	
17			5C-R-17MM		5C-H-17MM	
17.5			5C-R-17.5MM		-	
18			5C-R-18MM		5C-H-18MM	
18.5			5C-R-18.5MM		-	
19			5C-R-19MM		5C-H-19MM	
19.5			5C-R-19.5MM		-	
20			5C-R-20MM		5C-H-20MM	
21			5C-R-21MM		-	
22			5C-R-22MM		-	
23			5C-R-23MM		-	
24			5C-R-24MM		-	
25			5C-R-25MM		-	
26			5C-R-26MM		-	
27			5C-R-27MM		-	
28			5C-R-28MM		-	
Imperial						
1/8”	37.5	83	5C-R-1/8”	£20.63	5C-H-1/8”	£30.87
3/16”			5C-R-3/16”		5C-H-3/16”	
1/4”			5C-R-1/4”		5C-H-1/4”	
5/16”			5C-R-5/16”		5C-H-5/16”	
3/8”			5C-R-3/8”		5C-H-3/8”	
7/16”			5C-R-7/16”		5C-H-7/16”	
1/2”			5C-R-1/2”		5C-H-1/2”	
9/16”			5C-R-9/16”		5C-H-9/16”	
5/8”			5C-R-5/8”		5C-H-5/8”	
11/16”			5C-R-11/16”		5C-H-11/16”	
3/4”			5C-R-3/4”		5C-H-3/4”	
7/8”			5C-R-7/8”		-	
1”			5C-R-1”		-	

16C COLLETS ROUND OR HEXAGON BORE

- 16C type collet
- Round or hexagon smooth bore
- Specific diameter clamping
- Suitable for 1st and 2nd operation work



CUTWEL PRO

Clamping Diameter	Outside Diameter	Length	Order Code			
			Round	Price	Hexagon	Price
Metric						
2	57.5	110.5	16C-R-2MM	£49.00	-	£65.05
2.5			16C-R-2.5MM		-	
3			16C-R-3MM		-	
3.5			16C-R-3.5MM		-	
4			16C-R-4MM		16C-H-4MM	
4.5			16C-R-4.5MM		-	
5			16C-R-5MM		16C-H-5MM	
5.5			16C-R-5.5MM		-	
6			16C-R-6MM		16C-H-6MM	
6.5			16C-R-6.5MM		-	
7			16C-R-7MM		-	
7.5			16C-R-7.5MM		-	
8			16C-R-8MM		16C-H-8MM	
8.5			16C-R-8.5MM		-	
9			16C-R-9MM		-	
9.5			16C-R-9.5MM		-	
10			16C-R-10MM		16C-H-10MM	
11			16C-R-11MM		-	
12			16C-R-12MM		16C-H-12MM	
13			16C-R-13MM		-	
14			16C-R-14MM		16C-H-14MM	
15			16C-R-15MM		-	
16			16C-R-16MM		16C-H-16MM	
17			16C-R-17MM		-	
18			16C-R-18MM		16C-H-18MM	
19			16C-R-19MM		-	
20			16C-R-20MM		16C-H-20MM	
21			16C-R-21MM		-	
22			16C-R-22MM		-	
23			16C-R-23MM		-	
24			16C-R-24MM		-	
25			16C-R-25MM		16C-H-25MM	
26			16C-R-26MM		-	
27			16C-R-27MM		-	
28			16C-R-28MM		-	
29			16C-R-29MM		-	
30			16C-R-30MM		16C-H-30MM	
31			16C-R-31MM		-	
32			16C-R-32MM		-	
33			16C-R-33MM		-	
34			16C-R-34MM		-	
35			16C-R-35MM		16C-H-35MM	
36			16C-R-36MM		-	
37			16C-R-37MM		-	
38			16C-R-38MM		-	
39			16C-R-39MM		-	
40			16C-R-40MM		-	
Imperial						
1/4”	57.5	110.5	16C-R-1/4”	£49.00	-	-
5/16”			16C-R-5/16”		-	-
3/8”			16C-R-3/8”		-	-
7/16”			16C-R-7/16”		-	-
1/2”			16C-R-1/2”		-	-
9/16”			16C-R-9/16”		-	-
5/8”			16C-R-5/8”		-	-
11/16”			16C-R-11/16”		-	-
3/4”			16C-R-3/4”		-	-
7/8”			16C-R-7/8”		-	-
1”			16C-R-1”		-	-

L20 COLLETS (355E DIN 6341) ROUND BORE

- DIN 6341 355 E collet
- Round smooth bore
- Specific diameter clamping
- Suitable for 1st and 2nd operation work



CUTWEL PRO

Clamping Diameter	Outside Diameter	Length	Order Code	Price
1	28	117.5	23356010	**£39.79**
1.5			23356015	**£39.79**
2			23356020	**£39.79**
2.5			23356025	**£39.79**
3			23356030	**£30.58**
3.5			23356035	**£30.58**
4			23356040	**£30.58**
4.5			23356045	**£30.58**
5			23356050	**£30.58**
5.5			23356055	**£30.58**
6			23356060	**£30.58**
6.5			23356065	**£30.58**
7			23356070	**£30.58**
7.5			23356075	**£30.58**
8			23356080	**£30.58**
8.5			23356085	**£30.58**
9			23356090	**£30.58**
9.5			23356095	**£30.58**
10			23356100	**£30.58**
10.5			23356105	**£30.58**
11			23356110	**£30.58**
11.5			23356115	**£30.58**
12			23356120	**£30.58**
12.5			23356125	**£30.58**
13			23356130	**£30.58**
13.5			23356135	**£30.58**
14			23356140	**£30.58**
14.5			23356145	**£30.58**
15			23356150	**£30.58**
15.5			23356155	**£30.58**
16			23356160	**£30.58**
16.5			23356165	**£30.58**
17			23356170	**£30.58**
17.5			23356175	**£30.58**
18			23356180	**£30.58**

5C COLLETS SETS

- 5C type collet in storage case
- Round smooth bore
- Specific diameter clamping
- Suitable for 1st and 2nd operation work





Clamping Diameter	Qty	Increments	Order Code	Price
3-26	24	1	3000-3000-5C.26 KP	**£581.00**
3-25	45	0.5	3000-3000-5C.25 KP	**£1,100.00**

K32 COLLETS (386E DIN 6341) ROUND BORE

- DIN 6341 386 E collet
- Round smooth bore
- Specific diameter clamping
- Suitable for 1st and 2nd operation work



CUTWEL PRO

Clamping Diameter	Outside Diameter	Length	Order Code	Price
1	45	110	23356210	**£48.11**
1.5			23356215	**£43.68**
2			23356220	**£43.68**
2.5			23356225	**£43.68**
3			23356230	**£39.33**
3.5			23356235	**£39.33**
4			23356240	**£39.33**
4.5			23356245	**£39.33**
5			23356250	**£39.33**
5.5			23356255	**£39.33**
6			23356260	**£39.33**
6.5			23356265	**£39.33**
7			23356270	**£39.33**
7.5			23356275	**£39.33**
8			23356280	**£39.33**
8.5			23356285	**£39.33**
9			23356290	**£39.33**
9.5			23356295	**£39.33**
10			23356300	**£39.33**
10.5			23356305	**£39.33**
11			23356310	**£39.33**
11.5			23356315	**£39.33**
12			23356320	**£39.33**
12.5			23356325	**£39.33**
13			23356330	**£39.33**
13.5			23356335	**£39.33**
14			23356340	**£39.33**
14.5			23356345	**£39.33**
15			23356350	**£39.33**
15.5			23356355	**£39.33**
16			23356360	**£39.33**
16.5			23356365	**£39.33**
17			23356370	**£39.33**
17.5			23356375	**£39.33**
18			23356380	**£39.33**
18.5			23356385	**£39.33**
19			23356390	**£39.33**
19.5			23356395	**£39.33**
20			23356400	**£39.33**
20.5			23356405	**£39.33**
21			23356410	**£39.33**
21.5			23356415	**£39.33**
22			23356420	**£39.33**
22.5			23356425	**£39.33**
23			23356430	**£39.33**
23.5			23356435	**£39.33**
24			23356440	**£39.33**
24.5			23356445	**£39.33**
25			23356450	**£39.33**
25.5			23356455	**£39.33**
26			23356460	**£39.33**
26.5			23356465	**£39.33**
27			23356470	**£39.33**
27.5			23356475	**£39.33**
28			23356480	**£39.33**
28.5			23356485	**£39.33**
29			23356490	**£39.33**

HAINBUCH COLLETS / CLAMPING HEADS

Features
- Smooth or serrated bores
- Round, hexagon or square geometries
- Specific diameter clamping
- Run-out accuracy ≤ 0.01 mm possible
- Clamping range of +/-0.5mm (except size 100 heads +/-1.0mm)

Types
- Clamping head BZI. For raw material clamping: serrated bores from 8mm (smooth below 8mm)
- Clamping head BZIG. For clamping of finished material: smooth bores



HAINBUCH
WORKHOLDING TECHNOLOGY

Head Size	Bore Diameter	Clamping Range	Length BZI Type	Length BZIG Type	Order Code							
					Round BZI	Price	Round BZIG	Price	Hexagon BZI	Price	Square BZI	Price
32	3	2.5-3.5	47	44	-	£179.34	SK32BZIGR300	£179.34	-	POA	-	POA
	4	3.5-4.5			SK32BZIR400		SK32BZIGR400		-		-	
	5	4.5-5.5			SK32BZIR500		SK32BZIGR500		-		-	
	6	5.5-6.5			SK32BZIR600		SK32BZIGR600		-		-	
	7	6.5-7.5			SK32BZIR700		SK32BZIGR700		SK32BZIS700		SK32BZIV700	
	8	7.5-8.5			SK32BZIR800		SK32BZIGR800		SK32BZIS800		SK32BZIV800	
	9	8.5-9.5			SK32BZIR900		SK32BZIGR900		SK32BZIS900		SK32BZIV900	
	10	9.5-10.5			SK32BZIR1000		SK32BZIGR1000		SK32BZIS1000		SK32BZIV1000	
	11	10.5-11.5			SK32BZIR1100		SK32BZIGR1100		SK32BZIS1100		SK32BZIV1100	
	12	11.5-12.5			SK32BZIR1200		SK32BZIGR1200		SK32BZIS1200		SK32BZIV1200	
	13	12.5-13.5			SK32BZIR1300		SK32BZIGR1300		SK32BZIS1300		SK32BZIV1300	
	14	13.5-14.5			SK32BZIR1400		SK32BZIGR1400		SK32BZIS1400		SK32BZIV1400	
	15	14.5-15.5			SK32BZIR1500		SK32BZIGR1500		SK32BZIS1500		SK32BZIV1500	
	16	15.5-16.5			SK32BZIR1600		SK32BZIGR1600		SK32BZIS1600		SK32BZIV1600	
	17	16.5-17.5			SK32BZIR1700		SK32BZIGR1700		SK32BZIS1700		SK32BZIV1700	
	18	17.5-18.5			SK32BZIR1800		SK32BZIGR1800		SK32BZIS1800		SK32BZIV1800	
	19	18.5-19.5			SK32BZIR1900		SK32BZIGR1900		SK32BZIS1900		SK32BZIV1900	
	20	19.5-20.5			SK32BZIR2000		SK32BZIGR2000		SK32BZIS2000		SK32BZIV2000	
	21	20.5-21.5			SK32BZIR2100		SK32BZIGR2100		SK32BZIS2100		SK32BZIV2100	
	22	21.5-22.5			SK32BZIR2200		SK32BZIGR2200		SK32BZIS2200		SK32BZIV2200	
	23	22.5-23.5			SK32BZIR2300		SK32BZIGR2300		SK32BZIS2300		-	
	24	23.5-24.5			SK32BZIR2400		SK32BZIGR2400		SK32BZIS2400		-	
	25	24.5-25.5			SK32BZIR2500		SK32BZIGR2500		SK32BZIS2500		-	
	26	25.5-26.5			SK32BZIR2600		SK32BZIGR2600		SK32BZIS2600		-	
	27	26.5-27.5			SK32BZIR2700		SK32BZIGR2700		SK32BZIS2700		-	
	28	27.5-28.5			SK32BZIR2800		SK32BZIGR2800		-		-	
	29	28.5-29.5			SK32BZIR2900		SK32BZIGR2900		-		-	
	30	29.5-30.5			SK32BZIR3000		SK32BZIGR3000		-		-	
	31	30.5-31.5			SK32BZIR3100		SK32BZIGR3100		-		-	
	32	31.5-32.5			SK32BZIR3200		SK32BZIGR3200		-		-	
42	3	2.5-3.5	47	42	-	£188.62	SK42BZIGR300	£188.62	-	POA	-	POA
	3.5	3-4			-		SK42BZIGR350		-		-	
	4	3.5-4.5			SK42BZIR400		SK42BZIGR400		-		-	
	4.5	4-5			SK42BZIR450		SK42BZIGR450		-		-	
	5	4.5-5.5			SK42BZIR500		SK42BZIGR500		-		-	
	5.5	5-6			SK42BZIR550		SK42BZIGR550		-		-	
	6	5.5-6.5			SK42BZIR600		SK42BZIGR600		-		-	
	6.5	6-7			SK42BZIR650		SK42BZIGR650		-		-	
	7	6.5-7.5			SK42BZIR700		SK42BZIGR700		SK42BZIS700		SK42BZIV700	
	7.5	7-8			SK42BZIR750		SK42BZIGR750		-		-	
	8	7.5-8.5			SK42BZIR800		SK42BZIGR800		SK42BZIS800		SK42BZIV800	
	8.5	8-9			SK42BZIR850		SK42BZIGR850		-		-	
	9	8.5-9.5			SK42BZIR900		SK42BZIGR900		SK42BZIS900		SK42BZIV900	
	9.5	9-10			SK42BZIR950		SK42BZIGR950		-		-	
	10	9.5-10.5			SK42BZIR1000		SK42BZIGR1000		SK42BZIS1000		SK42BZIV1000	
	10.5	10-11			SK42BZIR1050		SK42BZIGR1050		-		-	
	11	10.5-11.5			SK42BZIR1100		SK42BZIGR1100		SK42BZIS1100		SK42BZIV1100	
	11.5	11-12			SK42BZIR1150		SK42BZIGR1150		-		-	
	12	11.5-12.5			SK42BZIR1200		SK42BZIGR1200		SK42BZIS1200		SK42BZIV1200	
	12.5	12-13			SK42BZIR1250		SK42BZIGR1250		-		-	
	13	12.5-13.5			SK42BZIR1300		SK42BZIGR1300		SK42BZIS1300		SK42BZIV1300	
	13.5	13-14			SK42BZIR1350		SK42BZIGR1350		-		-	
	14	13.5-14.5			SK42BZIR1400		SK42BZIGR1400		SK42BZIS1400		SK42BZIV1400	
	14.5	14-15			SK42BZIR1450		SK42BZIGR1450		-		-	
	15	14.5-15.5			SK42BZIR1500		SK42BZIGR1500		SK42BZIS1500		SK42BZIV1500	
	15.5	15-16			SK42BZIR1550		SK42BZIGR1550		-		-	
	16	15.5-16.5			SK42BZIR1600		SK42BZIGR1600		SK42BZIS1600		SK42BZIV1600	
	16.5	16-17			SK42BZIR1650		SK42BZIGR1650		-		-	
	17	16.5-17.5			SK42BZIR1700		SK42BZIGR1700		SK42BZIS1700		SK42BZIV1700	
	17.5	17-18			SK42BZIR1750		SK42BZIGR1750		-		-	
	18	17.5-18.5			SK42BZIR1800		SK42BZIGR1800		SK42BZIS1800		SK42BZIV1800	
	18.5	18-19			SK42BZIR1850		SK42BZIGR1850		-		-	
	19	18.5-19.5			SK42BZIR1900		SK42BZIGR1900		SK42BZIS1900		SK42BZIV1900	
	19.5	19-20			SK42BZIR1950		SK42BZIGR1950		-		-	
	20	19.5-20.5			SK42BZIR2000		SK42BZIGR2000		SK42BZIS2000		SK42BZIV2000	
	20.5	20-21			SK42BZIR2050		SK42BZIGR2050		-		-	
	21	20.5-21.5			SK42BZIR2100		SK42BZIGR2100		SK42BZIS2100		SK42BZIV2100	
	21.5	21-22			SK42BZIR2150		SK42BZIGR2150		-		-	
	22	21.5-22.5			SK42BZIR2200		SK42BZIGR2200		SK42BZIS2200		SK42BZIV2200	

HAINBUCH COLLETS / CLAMPING HEADS (CONTINUED)



Head Size	Bore Diameter	Clamping Range	Length BZI Type	Length BZIG Type	Order Code							
					Round BZI	Price	Round BZIG	Price	Hexagon BZI	Price	Square BZI	Price
42	22.5	22-23	47	42	SK42BZIR2250	£188.62	SK42BZIGR2250	£188.62	-	POA	-	POA
	23	22.5-23.5			SK42BZIR2300		SK42BZIGR2300		SK42BZIS2300		SK42BZIV2300	
	23.5	23-24			SK42BZIR2350		SK42BZIGR2350		-		-	
	24	23.5-24.5			SK42BZIR2400		SK42BZIGR2400		SK42BZIS2400		SK42BZIV2400	
	24.5	24-25			SK42BZIR2450		SK42BZIGR2450		-		-	
	25	24.5-25.5			SK42BZIR2500		SK42BZIGR2500		SK42BZIS2500		SK42BZIV2500	
	25.5	25-26			SK42BZIR2550		SK42BZIGR2550		-		-	
	26	25.5-26.5			SK42BZIR2600		SK42BZIGR2600		SK42BZIS2600		SK42BZIV2600	
	26.5	26-27			SK42BZIR2650		SK42BZIGR2650		-		-	
	27	26.5-27.5			SK42BZIR2700		SK42BZIGR2700		SK42BZIS2700		SK42BZIV2700	
	27.5	27-28			SK42BZIR2750		SK42BZIGR2750		-		-	
	28	27.5-28.5			SK42BZIR2800		SK42BZIGR2800		SK42BZIS2800		SK42BZIV2800	
	28.5	28-29			SK42BZIR2850		SK42BZIGR2850		-		-	
	29	28.5-29.5			SK42BZIR2900		SK42BZIGR2900		SK42BZIS2900		-	
	29.5	29-30			SK42BZIR2950		SK42BZIGR2950		-		-	
	30	29.5-30.5			SK42BZIR3000		SK42BZIGR3000		SK42BZIS3000		-	
	30.5	30-31			SK42BZIR3050		SK42BZIGR3050		-		-	
	31	30.5-31.5			SK42BZIR3100		SK42BZIGR3100		SK42BZIS3100		-	
	31.5	31-32			SK42BZIR3150		SK42BZIGR3150		-		-	
	32	31.5-32.5			SK42BZIR3200		SK42BZIGR3200		SK42BZIS3200		-	
	32.5	32-33			SK42BZIR3250		SK42BZIGR3250		-		-	
	33	32.5-33.5			SK42BZIR3300		SK42BZIGR3300		SK42BZIS3300		-	
	33.5	33-34			SK42BZIR3350		SK42BZIGR3350		-		-	
	34	33.5-34.5			SK42BZIR3400		SK42BZIGR3400		SK42BZIS3400		-	
	34.5	34-35			SK42BZIR3450		SK42BZIGR3450		-		-	
	35	34.5-35.5			SK42BZIR3500		SK42BZIGR3500		SK42BZIS3500		-	
	35.5	35-36			SK42BZIR3550		SK42BZIGR3550		-		-	
	36	35.5-36.5			SK42BZIR3600		SK42BZIGR3600		SK42BZIS3600		-	
	36.5	36-37			SK42BZIR3650		SK42BZIGR3650		-		-	
	37	36.5-37.5			SK42BZIR3700		SK42BZIGR3700		SK42BZIS3700		-	
	37.5	37-38			SK42BZIR3750		SK42BZIGR3750		-		-	
	38	37.5-38.5			SK42BZIR3800		SK42BZIGR3800		-		-	
	38.5	38-39			SK42BZIR3850		SK42BZIGR3850		-		-	
	39	38.5-39.5			SK42BZIR3900		SK42BZIGR3900		-		-	
	39.5	39-40			SK42BZIR3950		SK42BZIGR3950		-		-	
	40	39.5-40.5			SK42BZIR4000		SK42BZIGR4000		-		-	
	40.5	40-41			SK42BZIR4050		SK42BZIGR4050		-		-	
	41	40.5-41.5			SK42BZIR4100		SK42BZIGR4100		-		-	
	41.5	41-42			SK42BZIR4150		SK42BZIGR4150		-		-	
	42	41.5-42.5			SK42BZIR4200		SK42BZIGR4200		-		-	
52	3	2.5-3.5	46	46	-	£188.62	SK52BZIGR300	£188.62	-	POA	-	POA
	3.5	3-4			-		SK52BZIGR350		-		-	
	4	3.5-4.5			SK52BZIR400		SK52BZIGR400		-		-	
	4.5	4-5			SK52BZIR450		SK52BZIGR450		-		-	
	5	4.5-5.5			SK52BZIR500		SK52BZIGR500		-		-	
	5.5	5-6			SK52BZIR550		SK52BZIGR550		-		-	
	6	5.5-6.5			SK52BZIR600		SK52BZIGR600		-		-	
	6.5	6-7			SK52BZIR650		SK52BZIGR650		-		-	
	7	6.5-7.5			SK52BZIR700		SK52BZIGR700		SK52BZIS700		SK52BZIV700	
	7.5	7-8			SK52BZIR750		SK52BZIGR750		-		-	
	8	7.5-8.5			SK52BZIR800		SK52BZIGR800		SK52BZIS800		SK52BZIV800	
	8.5	8-9			SK52BZIR850		SK52BZIGR850		-		-	
	9	8.5-9.5			SK52BZIR900		SK52BZIGR900		SK52BZIS900		SK52BZIV900	
	9.5	9-10			SK52BZIR950		SK52BZIGR950		-		-	
	10	9.5-10.5			SK52BZIR1000		SK52BZIGR1000		SK52BZIS1000		SK52BZIV1000	
	10.5	10-11			SK52BZIR1050		SK52BZIGR1050		-		-	
	11	10.5-11.5			SK52BZIR1100		SK52BZIGR1100		SK52BZIS1100		SK52BZIV1100	
	11.5	11-12			SK52BZIR1150		SK52BZIGR1150		-		-	
	12	11.5-12.5			SK52BZIR1200		SK52BZIGR1200		SK52BZIS1200		SK52BZIV1200	
	12.5	12-13			SK52BZIR1250		SK52BZIGR1250		-		-	
	13	12.5-13.5			SK52BZIR1300		SK52BZIGR1300		SK52BZIS1300		SK52BZIV1300	
	13.5	13-14			SK52BZIR1350		SK52BZIGR1350		-		-	
	14	13.5-14.5			SK52BZIR1400		SK52BZIGR1400		SK52BZIS1400		SK52BZIV1400	
	14.5	14-15			SK52BZIR1450		SK52BZIGR1450		-		-	
	15	14.5-15.5			SK52BZIR1500		SK52BZIGR150		SK52BZIS1500		SK52BZIV1500	
	15.5	15-16			SK52BZIR1550		SK52BZIGR1550		-		-	
	16	15.5-16.5			SK52BZIR1600		SK52BZIGR1600		SK52BZIS1600		SK52BZIV1600	
	16.5	16-17			SK52BZIR1650		SK52BZIGR1650		-		-	
	17	16.5-17.5			SK52BZIR1700		SK52BZIGR1700		SK52BZIS1700		SK52BZIV1700	
	17.5	17-18			SK52BZIR1750		SK52BZIGR1750		-		-	
	18	17.5-18.5			SK52BZIR1800		SK52BZIGR1800		SK52BZIS1800		SK52BZIV1800	
	18.5	18-19			SK52BZIR1850		SK52BZIGR1850		-		-	
	19	18.5-19.5			SK52BZIR1900		SK52BZIGR1900		SK52BZIS1900		SK52BZIV1900	
	19.5	19-20			SK52BZIR1950		SK52BZIGR1950		-		-	
	20	19.5-20.5			SK52BZIR2000		SK52BZIGR2000		SK52BZIS2000		SK52BZIV2000	
	20.5	20-21			SK52BZIR2050		SK52BZIGR2050		-		-	
	21	20.5-21.5			SK52BZIR2100		SK52BZIGR2100		SK52BZIS2100		SK52BZIV2100	
	21.5	21-22			SK52BZIR2150		SK52BZIGR2150		-		-	
	22	21.5-22.5			SK52BZIR2200		SK52BZIGR2200		SK52BZIS2200		SK52BZIV2200	
	22.5	22-23			SK52BZIR2250		SK52BZIGR2250		-		-	
	23	22.5-23.5			SK52BZIR2300		SK52BZIGR2300		SK52BZIS2300		SK52BZIV2300	

HAINBUCH COLLETS / CLAMPING HEADS) (CONTINUED)



HAINBUCH
WORKHOLDING TECHNOLOGY

Head Size	Bore Diameter	Clamping Range	Length BZI Type	Length BZIG Type	Order Code							
					Round BZI	Price	Round BZIG	Price	Hexagon BZI	Price	Square BZI	Price
52	23.5	23-24	46	46	SK52BZIR2350	£188.62	SK52BZIGR2350	£188.62	-	POA	-	POA
	24	23.5-24.5			SK52BZIR2400		SK52BZIGR2400		SK52BZIS2400		SK52BZIV2400	
	24.5	24-25			SK52BZIR2450		SK52BZIGR2450		-		-	
	25	24.5-25.5			SK52BZIR2500		SK52BZIGR2500		SK52BZIS2500		SK52BZIV2500	
	25.5	25-26			SK52BZIR2550		SK52BZIGR2550		-		-	
	26	25.5-26.5			SK52BZIR2600		SK52BZIGR2600		SK52BZIS2600		SK52BZIV2600	
	26.5	26-27			SK52BZIR2650		SK52BZIGR2650		-		-	
	27	26.5-27.5			SK52BZIR2700		SK52BZIGR2700		SK52BZIS2700		SK52BZIV2700	
	27.5	27-28			SK52BZIR2750		SK52BZIGR2750		-		-	
	28	27.5-28.5			SK52BZIR2800		SK52BZIGR2800		SK52BZIS2800		SK52BZIV2800	
	28.5	28-29			SK52BZIR2850		SK52BZIGR2850		-		-	
	29	28.5-29.5			SK52BZIR2900		SK52BZIGR2900		SK52BZIS2900		SK52BZIV2900	
	29.5	29-30			SK52BZIR2950		SK52BZIGR2950		-		-	
	30	29.5-30.5			SK52BZIR3000		SK52BZIGR3000		SK52BZIS3000		SK52BZIV3000	
	30.5	30-31			SK52BZIR3050		SK52BZIGR3050		-		-	
	31	30.5-31.5			SK52BZIR3100		SK52BZIGR3100		SK52BZIS3100		SK52BZIV3100	
	31.5	31-32			SK52BZIR3150		SK52BZIGR3150		-		-	
	32	31.5-32.5			SK52BZIR3200		SK52BZIGR3200		SK52BZIS3200		SK52BZIV3200	
	32.5	32-33			SK52BZIR3250		SK52BZIGR3250		-		-	
	33	32.5-33.5			SK52BZIR3300		SK52BZIGR3300		SK52BZIS3300		SK52BZIV3300	
	33.5	33-34			SK52BZIR3350		SK52BZIGR3350		-		-	
	34	33.5-34.5			SK52BZIR3400		SK52BZIGR3400		SK52BZIS3400		SK52BZIV3400	
	34.5	34-35			SK52BZIR3450		SK52BZIGR3450		-		-	
	35	34.5-35.5			SK52BZIR3500		SK52BZIGR3500		SK52BZIS3500		SK52BZIV3500	
	35.5	35-36			SK52BZIR3550		SK52BZIGR3550		-		-	
	36	35.5-36.5			SK52BZIR3600		SK52BZIGR3600		SK52BZIS3600		SK52BZIV3600	
	36.5	36-37			SK52BZIR3650		SK52BZIGR3650		-		-	
	37	36.5-37.5			SK52BZIR3700		SK52BZIGR3700		SK52BZIS3700		-	
	37.5	37-38			SK52BZIR3750		SK52BZIGR3750		-		-	
	38	37.5-38.5			SK52BZIR3800		SK52BZIGR3800		SK52BZIS3800		-	
	38.5	38-39			SK52BZIR3850		SK52BZIGR3850		-		-	
	39	38.5-39.5			SK52BZIR3900		SK52BZIGR3900		SK52BZIS3900		-	
	39.5	39-40			SK52BZIR3950		SK52BZIGR3950		-		-	
	40	39.5-40.5			SK52BZIR4000		SK52BZIGR4000		SK52BZIS4000		-	
	40.5	40-41			SK52BZIR4050		SK52BZIGR4050		-		-	
	41	40.5-41.5			SK52BZIR4100		SK52BZIGR4100		SK52BZIS4100		-	
	41.5	41-42			SK52BZIR4150		SK52BZIGR4150		-		-	
	42	41.5-42.5			SK52BZIR4200		SK52BZIGR4200		SK52BZIS4200		-	
	42.5	42-43			SK52BZIR4250		SK52BZIGR4250		-		-	
	43	42.5-43.5			SK52BZIR4300		SK52BZIGR4300		SK52BZIS4300		-	
	43.5	43-44			SK52BZIR4350		SK52BZIGR4350		-		-	
	44	43.5-44.5			SK52BZIR4400		SK52BZIGR4400		SK52BZIS4400		-	
	44.5	44-45			SK52BZIR4450		SK52BZIGR4450		-		-	
	45	44.5-45.5			SK52BZIR4500		SK52BZIGR4500		SK52BZIS4500		-	
	45.5	45-46			SK52BZIR4550		SK52BZIGR4550		-		-	
	46	45.5-46.5			SK52BZIR4600		SK52BZIGR4600		-		-	
	46.5	46-47			SK52BZIR4650		SK52BZIGR4650		-		-	
	47	46.5-47.5			SK52BZIR4700		SK52BZIGR4700		-		-	
	47.5	47-48			SK52BZIR4750		SK52BZIGR4750		-		-	
	48	47.5-48.5			SK52BZIR4800		SK52BZIGR4800		-		-	
	48.5	48-49			SK52BZIR4850		SK52BZIGR4850		-		-	
	49	48.5-49.5			SK52BZIR4900		SK52BZIGR4900		-		-	
	49.5	49-50			SK52BZIR4950		SK52BZIGR4950		-		-	
	50	49.5-50.5			SK52BZIR5000		SK52BZIGR5000		-		-	
	50.5	50-51			SK52BZIR5050		SK52BZIGR5050		-		-	
	51	50.5-51.5			SK52BZIR5100		SK52BZIGR5100		-		-	
	51.5	51-52			SK52BZIR5150		SK52BZIGR5150		-		-	
	52	51.5-52.5			SK52BZIR5200		SK52BZIGR5200		-		-	
65	3	2.5-3.5	58	53	-	£239.77	SK65BZIGR300	£239.77	-	-	-	-
	3.5	3-4			-		SK65BZIGR350		-	-	-	-
	4	3.5-4.5			SK65BZIR400		SK65BZIGR400		-	-	-	-
	4.5	4-5			SK65BZIR450		SK65BZIGR450		-	-	-	-
	5	4.5-5.5			SK65BZIR500		SK65BZIGR500		-	-	-	-
	5.5	5-6			SK65BZIR550		SK65BZIGR550		-	-	-	-
	6	5.5-6.5			SK65BZIR600		SK65BZIGR600		-	-	-	-
	6.5	6-7			SK65BZIR650		SK65BZIGR650		-	-	-	-
	7	6.5-7.5			SK65BZIR700		SK65BZIGR700		SK65BZIS700	POA	SK65BZIV700	POA
	7.5	7-8			SK65BZIR750		SK65BZIGR750		-	-	-	-
	8	7.5-8.5			SK65BZIR800		SK65BZIGR800		SK65BZIS800	POA	SK65BZIV800	POA
	8.5	8-9			SK65BZIR850		SK65BZIGR850		-	-	-	-
	9	8.5-9.5			SK65BZIR900		SK65BZIGR900		SK65BZIS900	POA	SK65BZIV900	POA
	9.5	9-10			SK65BZIR950		SK65BZIGR950		-	-	-	-
	10	9.5-10.5			SK65BZIR1000		SK65BZIGR1000		SK65BZIS1000	POA	SK65BZIV1000	POA
	10.5	10-11			SK65BZIR1050		SK65BZIGR1050		-	-	-	-
	11	10.5-11.5			SK65BZIR1100		SK65BZIGR1100		SK65BZIS1100	POA	SK65BZIV1100	POA
	11.5	11-12			SK65BZIR1150		SK65BZIGR1150		-	-	-	-
	12	11.5-12.5			SK65BZIR1200		SK65BZIGR1200		SK65BZIS1200	POA	SK65BZIV1200	POA
	12.5	12-13			SK65BZIR1250		SK65BZIGR1250		-	-	-	-
	13	12.5-13.5			SK65BZIR1300		SK65BZIGR1300		SK65BZIS1300	POA	SK65BZIV1300	POA
	13.5	13-14			SK65BZIR1350		SK65BZIGR1350		-	-	-	-

HAINBUCH COLLETS / CLAMPING HEADS (CONTINUED)



HAINBUCH
WORKHOLDING TECHNOLOGY

Head Size	Bore Diameter	Clamping Range	Length BZI Type	Length BZIG Type	Order Code							
					Round BZI	Price	Round BZIG	Price	Hexagon BZI	Price	Square BZI	Price
	14	13.5-14.5			SK65BZIR1400		SK65BZIGR1400		SK65BZIS1400		SK65BZIV1400	
	14.5	14-15			SK65BZIR1450		SK65BZIGR1450		-		-	
	15	14.5-15.5			SK65BZIR1500		SK65BZIGR150		SK65BZIS1500		SK65BZIV1500	
	15.5	15-16			SK65BZIR1550		SK65BZIGR1550		-		-	
	16	15.5-16.5			SK65BZIR1600		SK65BZIGR1600		SK65BZIS1600		SK65BZIV1600	
	16.5	16-17			SK65BZIR1650		SK65BZIGR1650		-		-	
	17	16.5-17.5			SK65BZIR1700		SK65BZIGR1700		SK65BZIS1700		SK65BZIV1700	
	17.5	17-18			SK65BZIR1750		SK65BZIGR1750		-		-	
	18	17.5-18.5			SK65BZIR1800		SK65BZIGR1800		SK65BZIS1800		SK65BZIV1800	
	18.5	18-19			SK65BZIR1850		SK65BZIGR1850		-		-	
	19	18.5-19.5			SK65BZIR1900		SK65BZIGR1900		SK65BZIS1900		SK65BZIV1900	
	19.5	19-20			SK65BZIR1950		SK65BZIGR1950		-		-	
	20	19.5-20.5			SK65BZIR2000		SK65BZIGR2000		SK65BZIS2000		SK65BZIV2000	
	20.5	20-21			SK65BZIR2050		SK65BZIGR2050		-		-	
	21	20.5-21.5			SK65BZIR2100		SK65BZIGR2100		SK65BZIS2100		SK65BZIV2100	
	21.5	21-22			SK65BZIR2150		SK65BZIGR2150		-		-	
	22	21.5-22.5			SK65BZIR2200		SK65BZIGR2200		SK65BZIS2200		SK65BZIV2200	
	22.5	22-23			SK65BZIR2250		SK65BZIGR2250		-		-	
	23	22.5-23.5			SK65BZIR2300		SK65BZIGR2300		SK65BZIS2300		SK65BZIV2300	
	23.5	23-24			SK65BZIR2350		SK65BZIGR2350		-		-	
	24	23.5-24.5			SK65BZIR2400		SK65BZIGR2400		SK65BZIS2400		SK65BZIV2400	
	24.5	24-25			SK65BZIR2450		SK65BZIGR2450		-		-	
	25	24.5-25.5			SK65BZIR2500		SK65BZIGR2500		SK65BZIS2500		SK65BZIV2500	
	25.5	25-26			SK65BZIR2550		SK65BZIGR2550		-		-	
	26	25.5-26.5			SK65BZIR2600		SK65BZIGR2600		SK65BZIS2600		SK65BZIV2600	
	26.5	26-27			SK65BZIR2650		SK65BZIGR2650		-		-	
	27	26.5-27.5			SK65BZIR2700		SK65BZIGR2700		SK65BZIS2700		SK65BZIV2700	
	27.5	27-28			SK65BZIR2750		SK65BZIGR2750		-		-	
	28	27.5-28.5			SK65BZIR2800		SK65BZIGR2800		SK65BZIS2800		SK65BZIV2800	
	28.5	28-29			SK65BZIR2850		SK65BZIGR2850		-		-	
	29	28.5-29.5			SK65BZIR2900		SK65BZIGR2900		SK65BZIS2900		SK65BZIV2900	
	29.5	29-30			SK65BZIR2950		SK65BZIGR2950		-		-	
	30	29.5-30.5			SK65BZIR3000		SK65BZIGR3000		SK65BZIS3000		SK65BZIV3000	
	30.5	30-31			SK65BZIR3050		SK65BZIGR3050		-		-	
	31	30.5-31.5			SK65BZIR3100		SK65BZIGR3100		SK65BZIS3100		SK65BZIV3100	
	31.5	31-32			SK65BZIR3150		SK65BZIGR3150		-		-	
	32	31.5-32.5			SK65BZIR3200		SK65BZIGR3200		SK65BZIS3200		SK65BZIV3200	
	32.5	32-33			SK65BZIR3250		SK65BZIGR3250		-		-	
	33	32.5-33.5			SK65BZIR3300		SK65BZIGR3300		SK65BZIS3300		SK65BZIV3300	
	33.5	33-34			SK65BZIR3350		SK65BZIGR3350		-		-	
65	34	33.5-34.5	58	53	SK65BZIR3400	£239.77	SK65BZIGR3400	£239.77	SK65BZIS3400	POA	SK65BZIV3400	POA
	34.5	34-35			SK65BZIR3450		SK65BZIGR3450		-		-	
	35	34.5-35.5			SK65BZIR3500		SK65BZIGR3500		SK65BZIS3500		SK65BZIV3500	
	35.5	35-36			SK65BZIR3550		SK65BZIGR3550		-		-	
	36	35.5-36.5			SK65BZIR3600		SK65BZIGR3600		SK65BZIS3600		SK65BZIV3600	
	36.5	36-37			SK65BZIR3650		SK65BZIGR3650		-		-	
	37	36.5-37.5			SK65BZIR3700		SK65BZIGR3700		SK65BZIS3700		SK65BZIV3700	
	37.5	37-38			SK65BZIR3750		SK65BZIGR3750		-		-	
	38	37.5-38.5			SK65BZIR3800		SK65BZIGR3800		SK65BZIS3800		SK65BZIV3800	
	38.5	38-39			SK65BZIR3850		SK65BZIGR3850		-		-	
	39	38.5-39.5			SK65BZIR3900		SK65BZIGR3900		SK65BZIS3900		SK65BZIV3900	
	39.5	39-40			SK65BZIR3950		SK65BZIGR3950		-		-	
	40	39.5-40.5			SK65BZIR4000		SK65BZIGR4000		SK65BZIS4000		SK65BZIV4000	
	40.5	40-41			SK65BZIR4050		SK65BZIGR4050		-		-	
	41	40.5-41.5			SK65BZIR4100		SK65BZIGR4100		SK65BZIS4100		SK65BZIV4100	
	41.5	41-42			SK65BZIR4150		SK65BZIGR4150		-		-	
	42	41.5-42.5			SK65BZIR4200		SK65BZIGR4200		SK65BZIS4200		SK65BZIV4200	
	42.5	42-43			SK65BZIR4250		SK65BZIGR4250		-		-	
	43	42.5-43.5			SK65BZIR4300		SK65BZIGR4300		SK65BZIS4300		SK65BZIV4300	
	43.5	43-44			SK65BZIR4350		SK65BZIGR4350		-		-	
	44	43.5-44.5			SK65BZIR4400		SK65BZIGR4400		SK65BZIS4400		SK65BZIV4400	
	44.5	44-45			SK65BZIR4450		SK65BZIGR4450		-		-	
	45	44.5-45.5			SK65BZIR4500		SK65BZIGR4500		SK65BZIS4500		SK65BZIV4500	
	45.5	45-46			SK65BZIR4550		SK65BZIGR4550		-		-	
	46	45.5-46.5			SK65BZIR4600		SK65BZIGR4600		SK65BZIS4600		SK65BZIV4600	
	46.5	46-47			SK65BZIR4650		SK65BZIGR4650		-		-	
	47	46.5-47.5			SK65BZIR4700		SK65BZIGR4700		SK65BZIS4700		-	
	47.5	47-48			SK65BZIR4750		SK65BZIGR4750		-		-	
	48	47.5-48.5			SK65BZIR4800		SK65BZIGR4800		SK65BZIS4800		-	
	48.5	48-49			SK65BZIR4850		SK65BZIGR4850		-		-	
	49	48.5-49.5			SK65BZIR4900		SK65BZIGR4900		SK65BZIS4900		-	
	49.5	49-50			SK65BZIR4950		SK65BZIGR4950		-		-	
	50	49.5-50.5			SK65BZIR5000		SK65BZIGR5000		SK65BZIS5000		-	
	50.5	50-51			SK65BZIR5050		SK65BZIGR5050		-		-	
	51	50.5-51.5			SK65BZIR5100		SK65BZIGR5100		SK65BZIS5100		-	
	51.5	51-52			SK65BZIR5150		SK65BZIGR5150		-		-	
	52	51.5-52.5			SK65BZIR5200		SK65BZIGR5200		SK65BZIS5200		-	
	52.5	52-53			SK65BZIR5250		SK65BZIGR5250		-		-	
	53	52.5-53.5			SK65BZIR5300		SK65BZIGR5300		SK65BZIS5300		-	
	53.5	53-54			SK65BZIR5350		SK65BZIGR5350		-		-	

HAINBUCH COLLETS / CLAMPING HEADS (CONTINUED)



HAINBUCH
WORKHOLDING TECHNOLOGY

Head Size	Bore Diameter	Clamping Range	Length BZI Type	Length BZIG Type	Order Code							
					Round BZI	Price	Round BZIG	Price	Hexagon BZI	Price	Square BZI	Price
65	54	53.5-54.5	58	53	SK65BZIR5400	£239.77	SK65BZIGR5400	£239.77	SK65BZIS5400	POA	-	-
	54.5	54-55			SK65BZIR5450		SK65BZIGR5450		-		-	-
	55	54.5-55.5			SK65BZIR5500		SK65BZIGR5500		SK65BZIS5500		-	-
	55.5	55-56			SK65BZIR5550		SK65BZIGR5550		-		-	-
	56	55.5-56.5			SK65BZIR5600		SK65BZIGR5600		SK65BZIS5600		-	-
	56.5	56-57			SK65BZIR5650		SK65BZIGR5650		-		-	-
	57	56.5-57.5			SK65BZIR5700		SK65BZIGR5700		-		-	-
	57.5	57-58			SK65BZIR5750		SK65BZIGR5750		-		-	-
	58	57.5-58.5			SK65BZIR5800		SK65BZIGR5800		-		-	-
	58.5	58-59			SK65BZIR5850		SK65BZIGR5850		-		-	-
	59	58.5-59.5			SK65BZIR5900		SK65BZIGR5900		-		-	-
	59.5	59-60			SK65BZIR5950		SK65BZIGR5950		-		-	-
	60	59.5-60.5			SK65BZIR6000		SK65BZIGR6000		-		-	-
	60.5	60-61			SK65BZIR6050		SK65BZIGR6050		-		-	-
	61	60.5-61.5			SK65BZIR6100		SK65BZIGR6100		-		-	-
	61.5	61-62			SK65BZIR6150		SK65BZIGR6150		-		-	-
	62	61.5-62.5			SK65BZIR6200		SK65BZIGR6200		-		-	-
	62.5	62-63			SK65BZIR6250		SK65BZIGR6250		-		-	-
	63	62.5-63.5			SK65BZIR6300		SK65BZIGR6300		-		-	-
	63.5	63-64			SK65BZIR6350		SK65BZIGR6350		-		-	-
	64	63.5-64.5			SK65BZIR6400		SK65BZIGR6400		-		-	-
	64.5	64-65			SK65BZIR6450		SK65BZIGR6450		-		-	-
	65	64.5-65.5			SK65BZIR6500		SK65BZIGR6500		-		-	-
80	4	3.5-4.5	53	53	SK80BZIR400	£365.52	SK80BZIGR400	£365.52	-	POA	-	POA
	5	4.5-5.5			SK80BZIR500		SK80BZIGR500		-		-	
	6	5.5-6.5			SK80BZIR600		SK80BZIGR600		-		-	
	7	6.5-7.5			SK80BZIR700		SK80BZIGR700		SK80BZIS700		-	
	8	7.5-8.5			SK80BZIR800		SK80BZIGR800		SK80BZIS800		SK80BZIV800	
	9	8.5-9.5			SK80BZIR900		SK80BZIGR900		SK80BZIS900		SK80BZIV900	
	10	9.5-10.5			SK80BZIR1000		SK80BZIGR1000		SK80BZIS1000		SK80BZIV1000	
	11	10.5-11.5			SK80BZIR1100		SK80BZIGR1100		SK80BZIS1100		SK80BZIV1100	
	12	11.5-12.5			SK80BZIR1200		SK80BZIGR1200		SK80BZIS1200		SK80BZIV1200	
	13	12.5-13.5			SK80BZIR1300		SK80BZIGR1300		SK80BZIS1300		SK80BZIV1300	
	14	13.5-14.5			SK80BZIR1400		SK80BZIGR1400		SK80BZIS1400		SK80BZIV1400	
	15	14.5-15.5			SK80BZIR1500		SK80BZIGR1500		SK80BZIS1500		SK80BZIV1500	
	16	15.5-16.5			SK80BZIR1600		SK80BZIGR1600		SK80BZIS1600		SK80BZIV1600	
	17	16.5-17.5			SK80BZIR1700		SK80BZIGR1700		SK80BZIS1700		SK80BZIV1700	
	18	17.5-18.5			SK80BZIR1800		SK80BZIGR1800		SK80BZIS1800		SK80BZIV1800	
	19	18.5-19.5			SK80BZIR1900		SK80BZIGR1900		SK80BZIS1900		SK80BZIV1900	
	20	19.5-20.5			SK80BZIR2000		SK80BZIGR2000		SK80BZIS2000		SK80BZIV2000	
	21	20.5-21.5			SK80BZIR2100		SK80BZIGR2100		SK80BZIS2100		SK80BZIV2100	
	22	21.5-22.5			SK80BZIR2200		SK80BZIGR2200		SK80BZIS2200		SK80BZIV2200	
	23	22.5-23.5			SK80BZIR2300		SK80BZIGR2300		SK80BZIS2300		SK80BZIV2300	
	24	23.5-24.5			SK80BZIR2400		SK80BZIGR2400		SK80BZIS2400		SK80BZIV2400	
	25	24.5-25.5			SK80BZIR2500		SK80BZIGR2500		SK80BZIS2500		SK80BZIV2500	
	26	25.5-26.5			SK80BZIR2600		SK80BZIGR2600		SK80BZIS2600		SK80BZIV2600	
	27	26.5-27.5			SK80BZIR2700		SK80BZIGR2700		SK80BZIS2700		SK80BZIV2700	
	28	27.5-28.5			SK80BZIR2800		SK80BZIGR2800		SK80BZIS2800		SK80BZIV2800	
	29	28.5-29.5			SK80BZIR2900		SK80BZIGR2900		SK80BZIS2900		SK80BZIV2900	
	30	29.5-30.5			SK80BZIR3000		SK80BZIGR3000		SK80BZIS3000		SK80BZIV3000	
	31	30.5-31.5			SK80BZIR3100		SK80BZIGR3100		SK80BZIS3100		SK80BZIV3100	
	32	31.5-32.5			SK80BZIR3200		SK80BZIGR3200		SK80BZIS3200		SK80BZIV3200	
	33	32.5-33.5			SK80BZIR3300		SK80BZIGR3300		SK80BZIS3300		SK80BZIV3300	
	34	33.5-34.5			SK80BZIR3400		SK80BZIGR3400		SK80BZIS3400		SK80BZIV3400	
	35	34.5-35.5			SK80BZIR3500		SK80BZIGR3500		SK80BZIS3500		SK80BZIV3500	
	36	35.5-36.5			SK80BZIR3600		SK80BZIGR3600		SK80BZIS3600		SK80BZIV3600	
	37	36.5-37.5			SK80BZIR3700		SK80BZIGR3700		SK80BZIS3700		SK80BZIV3700	
	38	37.5-38.5			SK80BZIR3800		SK80BZIGR3800		SK80BZIS3800		SK80BZIV3800	
	39	38.5-39.5			SK80BZIR3900		SK80BZIGR3900		SK80BZIS3900		SK80BZIV3900	
	40	39.5-40.5			SK80BZIR4000		SK80BZIGR4000		SK80BZIS4000		SK80BZIV4000	
	41	40.5-41.5			SK80BZIR4100		SK80BZIGR4100		SK80BZIS4100		SK80BZIV4100	
	42	41.5-42.5			SK80BZIR4200		SK80BZIGR4200		SK80BZIS4200		SK80BZIV4200	
	43	42.5-43.5			SK80BZIR4300		SK80BZIGR4300		SK80BZIS4300		SK80BZIV4300	
	44	43.5-44.5			SK80BZIR4400		SK80BZIGR4400		SK80BZIS4400		SK80BZIV4400	
	45	44.5-45.5			SK80BZIR4500		SK80BZIGR4500		SK80BZIS4500		SK80BZIV4500	
	46	45.5-46.5			SK80BZIR4600		SK80BZIGR4600		SK80BZIS4600		SK80BZIV4600	
	47	46.5-47.5			SK80BZIR4700		SK80BZIGR4700		SK80BZIS4700		SK80BZIV4700	
	48	47.5-48.5			SK80BZIR4800		SK80BZIGR4800		SK80BZIS4800		SK80BZIV4800	
	49	48.5-49.5			SK80BZIR4900		SK80BZIGR4900		SK80BZIS4900		SK80BZIV4900	
	50	49.5-50.5			SK80BZIR5000		SK80BZIGR5000		SK80BZIS5000		SK80BZIV5000	
	51	50.5-51.5			SK80BZIR5100		SK80BZIGR5100		SK80BZIS5100		SK80BZIV5100	
	52	51.5-52.5			SK80BZIR5200		SK80BZIGR5200		SK80BZIS5200		SK80BZIV5200	
	53	52.5-53.5			SK80BZIR5300		SK80BZIGR5300		SK80BZIS5300		SK80BZIV5300	
	54	53.5-54.5			SK80BZIR5400		SK80BZIGR5400		SK80BZIS5400		SK80BZIV5400	
	55	54.5-55.5			SK80BZIR5500		SK80BZIGR5500		SK80BZIS5500		SK80BZIV5500	
	56	55.5-56.5			SK80BZIR5600		SK80BZIGR5600		SK80BZIS5600		SK80BZIV5600	
	57	56.5-57.5			SK80BZIR5700		SK80BZIGR5700		SK80BZIS5700		-	

HAINBUCH COLLETS / CLAMPING HEADS (CONTINUED)



Head Size	Bore Diameter	Clamping Range	Length BZI Type	Length BZIG Type	Order Code							
					Round BZI	Price	Round BZIG	Price	Hexagon BZI	Price	Square BZI	Price
	58	57.5-58.5			SK80BZIR5800		SK80BZIGR5800		SK80BZIS5800		-	-
	59	58.5-59.5			SK80BZIR5900		SK80BZIGR5900		SK80BZIS5900		-	-
	60	59.5-60.5			SK80BZIR6000		SK80BZIGR6000		SK80BZIS6000		-	-
	61	60.5-61.5			SK80BZIR6100		SK80BZIGR6100		SK80BZIS6100		-	-
	62	61.5-62.5			SK80BZIR6200		SK80BZIGR6200		SK80BZIS6200		-	-
	63	62.5-63.5			SK80BZIR6300		SK80BZIGR6300		SK80BZIS6300		-	-
	64	63.5-64.5			SK80BZIR6400		SK80BZIGR6400		SK80BZIS6400		-	-
	65	64.5-65.5			SK80BZIR6500		SK80BZIGR6500		SK80BZIS6500		-	-
	66	65.5-66.5			SK80BZIR6600		SK80BZIGR6600		SK80BZIS6600		-	-
	67	66.5-67.5			SK80BZIR6700		SK80BZIGR6700		SK80BZIS6700		-	-
	68	67.5-68.5			SK80BZIR6800		SK80BZIGR6800		SK80BZIS6800		-	-
80	69	68.5-69.5	53	53	SK80BZIR6900	£365.52	SK80BZIGR6900	£365.52	SK80BZIS6900	POA	-	-
	70	69.5-70.5			SK80BZIR7000		SK80BZIGR7000		-		-	-
	71	70.5-71.5			SK80BZIR7100		SK80BZIGR7100		-		-	-
	72	71.5-72.5			SK80BZIR7200		SK80BZIGR7200		-		-	-
	73	72.5-73.5			SK80BZIR7300		SK80BZIGR7300		-		-	-
	74	73.5-74.5			SK80BZIR7400		SK80BZIGR7400		-		-	-
	75	74.5-75.5			SK80BZIR7500		SK80BZIGR7500		-		-	-
	76	75.5-76.5			SK80BZIR7600		SK80BZIGR7600		-		-	-
	77	76.5-77.5			SK80BZIR7700		SK80BZIGR7700		-		-	-
	78	77.5-78.5			SK80BZIR7800		SK80BZIGR7800		-		-	-
	79	78.5-79.5			SK80BZIR7900		SK80BZIGR7900		-		-	-
	80	79.5-80.5			SK80BZIR8000		SK80BZIGR8000		-		-	-
	15	14-16			SK100BZR1500		SK100BZGR1500		-		-	
	16	15-17			SK100BZR1600		SK100BZGR1600		-		-	
	17	16-18			SK100BZR1700		SK100BZGR1700		-		-	
	18	17-19			SK100BZR1800		SK100BZGR1800		-		-	
	19	18-20			SK100BZR1900		SK100BZGR1900		-		-	
	20	19-21			SK100BZR2000		SK100BZGR2000		-		-	
	21	20-22			SK100BZR2100		SK100BZGR2100		-		-	
	22	21-23			SK100BZR2200		SK100BZGR2200		-		-	
	23	22-24			SK100BZR2300		SK100BZGR2300		-		-	
	24	23-25			SK100BZR2400		SK100BZGR2400		-		-	
	25	24-26			SK100BZR2500		SK100BZGR2500		-		-	
	26	25-27			SK100BZR2600		SK100BZGR2600		-		-	
	27	26-28			SK100BZR2700		SK100BZGR2700		-		-	
	28	27-29			SK100BZR2800		SK100BZGR2800		-		-	
	29	28-30			SK100BZR2900		SK100BZGR2900		-		-	
	30	29-31			SK100BZR3000		SK100BZGR3000		-		-	
	31	30-32			SK100BZR3100		SK100BZGR3100		-		-	
	32	31-33			SK100BZR3200		SK100BZGR3200		-		-	
	33	32-34			SK100BZR3300		SK100BZGR3300		-		-	
	34	33-35			SK100BZR3400		SK100BZGR3400		-		-	
	35	34-36			SK100BZR3500		SK100BZGR3500		-		-	
	36	35-37			SK100BZR3600		SK100BZGR3600		-		-	
	38	37-39			SK100BZR3800		SK100BZGR3800		-		-	
	40	39-41			SK100BZR4000		SK100BZGR4000		-		-	
	42	41-43			SK100BZR4200		SK100BZGR4200		-		-	
	44	43-45			SK100BZR4400		SK100BZGR4400		-		-	
100	46	45-47	59	59	SK100BZR4600	£501.91	SK100BZGR4600	£501.91	-	POA	-	POA
	48	47-49			SK100BZR4800		SK100BZGR4800		-		-	
	50	49-51			SK100BZR5000		SK100BZGR5000		SK100BZS5000		SK100BZV5000	
	52	51-53			SK100BZR5200		SK100BZGR5200		SK100BZS5200		SK100BZV5200	
	54	53-55			SK100BZR5400		SK100BZGR5400		SK100BZS5400		SK100BZV5400	
	56	55-57			SK100BZR5600		SK100BZGR5600		SK100BZS5600		SK100BZV5600	
	58	57-59			SK100BZR5800		SK100BZGR5800		SK100BZS5800		SK100BZV5800	
	60	59-61			SK100BZR6000		SK100BZGR6000		SK100BZS6000		SK100BZV6000	
	62	61-63			SK100BZR6200		SK100BZGR6200		SK100BZS6200		SK100BZV6200	
	64	63-65			SK100BZR6400		SK100BZGR6400		SK100BZS6400		SK100BZV6400	
	66	65-67			SK100BZR6600		SK100BZGR6600		SK100BZS6600		SK100BZV6600	
	68	67-69			SK100BZR6800		SK100BZGR6800		SK100BZS6800		SK100BZV6800	
	70	69-71			SK100BZR7000		SK100BZGR7000		SK100BZS7000		SK100BZV7000	
	72	71-73			SK100BZR7200		SK100BZGR7200		SK100BZS7200		-	
	74	73-75			SK100BZR7400		SK100BZGR7400		SK100BZS7400		-	
	76	75-77			SK100BZR7600		SK100BZGR7600		SK100BZS7600		-	
	78	77-79			SK100BZR7800		SK100BZGR7800		SK100BZS7800		-	
	80	79-81			SK100BZR8000		SK100BZGR8000		SK100BZS8000		-	
	82	81-83			SK100BZR8200		SK100BZGR8200		SK100BZS8200		-	
	84	83-85			SK100BZR8400		SK100BZGR8400		SK100BZS8400		-	
	86	85-87			SK100BZR8600		SK100BZGR8600		SK100BZS8600		-	
	88	87-89			SK100BZR8800		SK100BZGR8800		-		-	
	90	89-91			SK100BZR9000		SK100BZGR9000		-		-	
	92	91-93			SK100BZR9200		SK100BZGR9200		-		-	
	94	93-95			SK100BZR9400		SK100BZGR9400		-		-	
	96	95-97			SK100BZR9600		SK100BZGR9600		-		-	
	98	97-99			SK100BZR9800		SK100BZGR9800		-		-	
	100	99-101			SK100BZR10000		SK100BZGR10000		-		-	

Kitagawa

CNC Power Chucks & Jaws

High performance CNC power chucks from the leading name in rotary workholding, Kitagawa. Plus over 1,200 different jaws to suit almost any CNC power chuck on earth!



BR Series - High Performance With The Highest Accuracy

- Run-out <0.01mm and no need to reform jaws when re-attaching them (when using Kitagawa Tnut-Plus).
- Jaw lift reduced by 50% compared to standard power chucks.
- Can be used for first and second op work.

QJR Series - Quick Change 3 Jaw Chuck

- Change jaws by hand and save vital downtime compared to a normal power chuck.
- Compatible with standard Kitagawa jaws with 60° serrations.

POWER CHUCK JAWS & ACCESSORIES



SOFT JAWS

Wide range of soft jaws to suit almost any power chuck. Flat or pointed nose, standard, long, high and extra high. There are over 1,000 soft jaw options. View our 60° serration jaws on the following pages or use our jaw finder to select jaws according to your chuck.



PIE JAWS

Aluminium or steel pie jaws for full concentric clamping of your workpiece. Ideal for thin wall tube or finishing applications where you do not want to mark the workpeice.



HARD JAWS

Standard reversible hard jaws, bar gripper jaws, claw jaws, hard top inner and outer jaws available in a wide range of sizes to suit different diameter bar. View our 60° serration jaws on the following pages or use our jaw finder to select jaws according to your chuck.

BR SERIES HIGH PRECISION POWER CHUCK

Large Through-Hole, High Speed

- Gripping accuracy of 0.01mm T.I.R. or less
- Reduced jaw-lift for more stable turning
- Uses standard 60° 1.5mm serration soft and hard jaws
- Made in Japan



BR SERIES

kitagawa

Diameter	Through Hole	Grip Range		Max RPM	Jaw Keyway	Order Code	Price
		Min	Max				
170	53	16	170	6000	12	BR06	**£1,656.07**
210	66	22	210	5000	14	BR08	**£1,892.22**
254	81	31	254	4500	16	BR10	**£2,145.24**
315	106	44	315	3500	21	BR12	**£2,807.08**

2405-KW SERIES POWER CHUCK

Large Through-Hole

- Interchangeable with Kitagawa type BB200
- Uses standard 60° 1.5mm serration soft and hard jaws
- With large diameter through hole
- For more information, please contact the technical team



BISON

Diameter	Through Hole	Max RPM	Jaw Keyway	Order Code	Price
169	53	6000	12	2405-160-53K	**£1,243.00**
210	66	5000	14	2405-200-66K	**£1,588.00**
254	81	4200	16	2405-250-81K	**£1,891.00**
315	110	3300	21	2405-315-110K	**£3,618.00**

2405-K SERIES POWER CHUCK

Standard Through-Hole

- Interchangeable with Kitagawa type B-200
- Uses standard 60° 1.5mm serration soft and hard jaws
- For more information, please contact the technical team



BISON

Diameter	Through Hole	Max RPM	Jaw Keyway	Order Code	Price
135	34	7000	10	2405-135-34K	**£1,143.00**
169	45	6000	12	2405-160-45K	**£1,201.00**
210	52	5000	14	2405-200-52K	**£1,414.00**
254	75	4200	16	2405-250-75K	**£1,779.00**
315	91	3300	21	2405-315-91K	**£2,544.00**
400	120	2500	25.5	2405-400-120K	**£4,485.00**
500	160	1600	25	2405-500-160K	**£7,934.85**
630	200	1200	25	2405-630-200K	**POA**
800	255	800	25	2405-800-255K	**POA**

N SERIES HIGH PRECISION POWER CHUCK

Closed centre, High Speed

- Gripping accuracy of 0.01mm T.I.R. or less
- Reduced jaw-lift for more stable turning
- Uses standard 60° 1.5mm serration soft and hard jaws
- Made in Japan



kitagawa

Diameter	Grip Range		Max RPM	Jaw Keyway	Order Code	Price
	Min	Max				
110	8	110	6000	10	N-04	**£838.93**
135	16	135	5500	10	N-05	**£856.13**
165	15	165	5270	12	N-06	**£886.70**
210	23	210	4760	14	N-08	**£902.95**
254	24	254	4010	16	N-10	**£1,163.80**
304	26	304	3380	21	N-12	**£1,841.25**
381	72	381	3040	22	N-15	**£3,437.89**
450	133	450	2710	22	N-18	**£6,143.87**
530	69	530	1940	25	N-21	**£7,925.87**
610	152	610	1760	25	N-24	**£10,661.47**

QJR SERIES QUICK CHANGE POWER CHUCK

Large Through-Hole, High Speed

- Quck change base jaws for rapid jaw change
- Uses standard 60° 1.5mm serration soft and hard jaws
- Supplied with t-wrench and 2 sets of base jaws
- Made in Japan





QJR series

kitagawa

Diameter	Through Hole	Grip Range		Max RPM	Jaw Keyway	Order Code	Price
		Min	Max				
178	53	9	178	6000	12	QJR07-BJ00	**£308.00**
215	66	16	210	5000	14	QJR08-BJ00	**£345.00**
254	81	22	254	4500	16	QJR10-BJ00	**£414.00**
315	106	18	315	3500	21	QJR12-BJ00	**£548.00**

2305-K SERIES QUICK CHANGE POWER CHUCK

Standard Through-Hole

- Change over jaws in less than one minute
- Safety key feature means jaws are protected from falling out
- Chuck supplied with base jaws only - top jaws sold separately



BISON

Diameter	Through Hole	Max RPM	Jaw Key-way	Order Code	Price
206	45	5500	10	2305-200-45	**£3,147.00**
257	72	4500	12	2305-250-72	**£3,859.00**
315	91	3500	12	2305-315-91	**£5,061.00**

POWER CHUCK SOFT JAWS

1.5mm & 3mm X 60° Serrations

- 60 degree pitch, 1.5mm & 3.0mm serrations (Kitagawa, Samchully, Chandox etc)
- Supplied in a set of 3
- Available in standard, extra high & extra long
- Flat or point nose
- Other sizes, geometries and serrations available on request
- Items marked * are best selling ECONOMY jaws (EN32C steel)
- Items marked ** are best selling PREMIUM jaws (EN8 steel)



*Chuck size is a guide only, please check keyway and hole centres before ordering.

CUTWEL PRO

Chuck Size*	Key way	Hole Centres	Length	Width	Height	Serration	Nose Type	Order Code	Price
110/4"	8	15	50	20	25	1.5x60°	Pointed	SJ04002P	£34.00
			50	22	25	1.5x60°	Pointed	SJ04P	£19.18
			48	20	40	1.5x60°	Pointed	SJ04001P	£46.43
			50	20	50	1.5x60°	Pointed	SJ04H50P	£29.94
			50	25	50	1.5x60°	Pointed	SJ04003P	£56.63
110/4"	10	14	50	25	25	1.5x60°	Flat	SJ204005	£42.42
			52	22	24	1.5x60°	Pointed	SJ04023C	£28.55
			57	24	31	1.5x60°	Pointed	SJ05027C	£28.55
			57	24	50	1.5x60°	Pointed	SJ05048C	£46.48
135/5"	10	18	60	25	30	1.5x60°	Pointed	SJ510001P	£41.49
			57	25	32	1.5x60°	Pointed	SJ510003P	£51.48
			55	25	50	1.5x60°	Pointed	SJ05H50P	£29.94
			55	22	47	1.5x60°	Pointed	SJ510002P	£51.48
			60	25	50	1.5x60°	Pointed	SJ510004P	£58.43
170/6"	12	20	72	30	31	1.5x60°	Flat	SJ06F	£25.20
			72	30	80	1.5x60°	Flat	SJ06H80F	£88.21
			72	30	100	1.5x60°	Flat	SJ06H100F	£116.33
			72	35	35	1.5x60°	Pointed	SJ06W35X35P	£87.89
			72	30	50	1.5x60°	Pointed	SJ06050B	£43.23
			72	50	50	1.5x60°	Pointed	SJ06W50X50P	£81.58
			72	30	60	1.5x60°	Pointed	SJ06H60P	£65.89
			82	35	60	1.5x60°	Pointed	SJ06008P	£90.63
			72	30	31	1.5x60°	Pointed	SJ06030B*	£26.18
			82	30	31	1.5x60°	Pointed	SJ06L82P	£29.24
210/8"	14	25	95	35	37	1.5x60°	Flat	SJ08037E	£30.31
			95	60	40	1.5x60°	Flat	SJ08W60X40F	£92.64
			95	80	40	1.5x60°	Flat	SJ08W80X40F	£106.52
			95	35	37	1.5x60°	Pointed	SJ08037B*	£29.89
			95	40	40	1.5x60°	Pointed	SJ08W40X40P	£60.62
			120	40	40	1.5x60°	Pointed	SJ08L120P	£72.69
			140	40	40	1.5x60°	Flat	SJ08L140F	£116.41
			95	35	50	1.5x60°	Pointed	SJ08H50P	£74.09
			95	50	50	1.5x60°	Pointed	SJ08W50X50P	£68.32
			95	35	60	1.5x60°	Flat	SJ08H60F	£79.52
			95	35	60	1.5x60°	Pointed	SJ08H60P	£68.32
			95	35	79	1.5x60°	Pointed	SJ08080B	£66.91
			95	35	100	1.5x60°	Flat	SJ08H100F	£106.04
			102	40	100	1.5x60°	Pointed	SJ08005P	£122.74
			95	35	120	1.5x60°	Flat	SJ08H120F	£100.11
254/10"	16	30	110	60	40	1.5x60°	Flat	SJ10W60X40F	£96.63
			110	80	40	1.5x60°	Flat	SJ10W80X40F	£111.27
			110	40	42	1.5x60°	Pointed	SJ10042B*	£43.12
			150	50	50	1.5x60°	Flat	SJ10L150F	£120.16
			180	50	50	1.5x60°	Flat	SJ10L180F	£164.13
			90	40	59	1.5x60°	Flat	SJ10H60FS	£48.25
			110	40	60	1.5x60°	Flat	SJ10H60F	£96.63
			110	40	59	1.5x60°	Pointed	SJ10H60P	£50.32
			125	40	60	1.5x60°	Pointed	SJ10015P	£129.26
			110	40	79	1.5x60°	Pointed	SJ10080B	£89.02
			90	50	80	1.5x60°	Flat	SJ10006	£116.44
			110	40	100	1.5x60°	Flat	SJ10H100F	£120.96
			125	40	100	1.5x60°	Pointed	SJ10004P	£117.05
			110	40	120	1.5x60°	Flat	SJ10H120F	£137.05

Chuck Size*	Key way	Hole Centres	Length	Width	Height	Serration	Nose Type	Order Code	Price
304/12"	18	30	130	50	50	1.5x60°	Flat	SJ12048B18	£62.37
			130	80	50	1.5x60°	Flat	SJ12W80X50F	£138.01
			145	50	50	1.5x60°	Pointed	SJ12L145P*	£64.30
			160	50	50	1.5x60°	Flat	SJ12L160F	£133.26
			180	50	50	1.5x60°	Flat	SJ12L180F	£153.13
			200	50	50	1.5x60°	Flat	SJ12L200F	£214.95
			130	50	79	1.5x60°	Flat	SJ12080B18	£100.93
			130	50	100	1.5x60°	Flat	SJ12H100F	£123.57
			145	50	100	1.5x60°	Pointed	SJ12005P	£133.99
			130	50	120	1.5x60°	Flat	SJ12H120F	£161.47
			130	50	140	1.5x60°	Flat	SJ12H140F	£225.05
304/12"	21	30	129	50	50	1.5x60°	Flat	SJ12048B21	£62.37
			130	80	50	1.5x60°	Flat	SJ212W80X50F	£138.01
			145	50	50	1.5x60°	Pointed	SJ12060170A21*	£64.30
			160	50	50	1.5x60°	Flat	SJ212L160F	£133.26
			180	50	50	1.5x60°	Flat	SJ212L180F	£153.13
			129	50	60	1.5x60°	Flat	SJ212007	£82.64
			129	50	79	1.5x60°	Flat	SJ12080B21	£100.93
			130	80	80	1.5x60°	Flat	SJ212W80X80F	£250.31
			129	50	100	1.5x60°	Flat	SJ212001	£222.31
			130	50	100	1.5x60°	Flat	SJ212H100F	£151.38
			145	50	100	1.5x60°	Pointed	SJ212004P	£160.98
			129	50	120	1.5x60°	Flat	SJ212002	£248.74
			130	50	120	1.5x60°	Flat	SJ212H120F	£161.47
			129	50	140	1.5x60°	Flat	SJ212H140F	£238.69
380/450 15"/18"	22	43	165	60	60	1.5x60°	Flat	SJ15001	£182.84
			185	60	60	1.5x60°	Pointed	SJ15003P	£234.31
			200	70	70	1.5x60°	Flat	SJ15L200F	£278.21
			230	70	70	1.5x60°	Flat	SJ15L230F	£268.42
			165	60	72	1.5x60°	Flat	SJ15062A-22	£139.86
			165	60	80	1.5x60°	Flat	SJ15H80F	£149.36
			165	80	80	1.5x60°	Flat	SJ15W80X80F	£260.42
			165	60	100	1.5x60°	Flat	SJ15H100F	£172.94
			165	60	120	1.5x60°	Flat	SJ15H120F	£254.14
			165	60	140	1.5x60°	Flat	SJ15H140F	£337.69
380/450 15"/18"	25.5	43	135	60	60	1.5x60°	Flat	SJ215001	£132.69
			165	60	60	1.5x60°	Flat	SJ215002	£211.26
			165	60	70	1.5x60°	Flat	SJ215F	£145.89
			135	60	80	1.5x60°	Flat	SJ215003	£165.26
			165	60	80	1.5x60°	Flat	SJ215005	£217.58
			165	60	80	1.5x60°	Flat	SJ215H80F	£159.90
			165	60	100	1.5x60°	Flat	SJ215H100F	£212.42
			135	60	120	1.5x60°	Flat	SJ215004	£186.50
			165	60	120	1.5x60°	Flat	SJ215H120F	£286.94
			165	60	140	1.5x60°	Flat	SJ215H140F	£350.22
530/21"	25	60	180	70	70	3x60°	Flat	SJ21F	£185.15
			200	70	70	3x60°	Flat	SJ21001	£399.36
			195	80	80	3x60°	Flat	SJ21003	£466.21
			230	80	80	3x60°	Flat	SJ21L230F	£305.15
			180	80	100	3x60°	Flat	SJ21H100F	£365.47
			180	75	115	3x60°	Flat	SJ21004	£498.53
			180	80	120	3x60°	Flat	SJ21H120F	£353.01
			180	80	140	3x60°	Flat	SJ21H140F	£490.64
			180	75	155	3x60°	Flat	SJ21005	£717.37

Jaw Finder & Technical Info

View jaw drawings, find other sizes or geometries and check compatibility with your chuck on the Cutwel Jaw Finder. Scan the QR code to get started.

POWER CHUCK SOFT JAWS

1.5mm & 3mm x 60° Serrations

- 60 degree pitch, 1.5mm serrations (Kitagawa, Samchully, Chandox etc)
- Supplied in a set of 3
- High quality 15MnCr5 steel suitable for case hardening
- Pointed nose
- Made in Germany



SCHUNK

Chuck Size	Keyway	Hole Centres	Length	Width	Height	Order Code	Price
170/6"	12	20	82	32	32	KM-WBL60	**£41.63**
170/6"	12	20	82	35	60	KM-WBL62	**£66.83**
210/8"	14	25	102	35	40	KM-WBL80	**£41.63**
210/8"	14	25	102	40	100	KM-WBL82	**£90.55**
254/10"	16	30	125	40	42	KM-WBL100	**£53.35**
254/10"	16	30	125	40	100	KM-WBL101	**£85.57**
304/12"	18	30	145	50	50	KM-WBL120	**£74.78**
304/12"	18	30	130	50	100	KM-WBL123	**£84.75**
304/12"	21	30	145	50	50	KM-WBL121	**£74.91**
304/12"	21	30	145	50	100	KM-WBL125	**£98.49**
380/15"	22	43	185	60	60	KM-WBL150	**£136.71**

HARD STEPPED JAWS

1.5mm x 60° Serrations

- For Kitagawa, Chandox & Samchully power chucks
- 60 degree pitch, 1.5mm serrations
- For OD and ID clamping
- Supplied in a set of 3



kitagawa

Chuck Size	Keyway	Hole Centres	Width	Order Code	Price
110/4"	10	14	23	HB04N1	**£647.36**
135/5"	10	14	23	HJ05	**£199.35**
170/6"	12	20	31	HJ06	**£198.81**
210/8"	14	25	35	HJ08	**£228.42**
254/10"	16	30	40	HJ10	**£280.49**
304/12"	18	30	50	HJ12-18	**£374.20**
304/12"	21	30	50	HJ12-21	**£374.20**
380/15"	22	43	62	HJ15-22	**£662.67**
450/21"	25	50	80	HJ21	**£853.93**

POWER CHUCK STEPPED HARD JAWS

1.5mm x 60° Serrations

- 60 degree pitch, 1.5mm serrations (Kitagawa, Samchully, Chandox etc)
- For OD and ID clamping
- Supplied in a set of 3
- Made in Germany



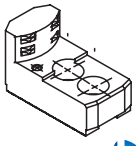
SCHUNK

Chuck Size	Keyway	Hole Centres	Length	Width	Height	Order Code	Price
135/5"	12	20	67	28	36	SHB-J60	**POA**
210/8"	14	25	87	35	51	SHB-J80	
254/10"	16	30	101.5	40	54	SHB-J100	
304/12"	18	30	106	50	62	SHB-J123	
304/21"	21	30	128	50	62	SHB-J126	

HARD JAWS INNER GRIP

1.5mm X 60° Serrations

- 60 degree pitch, 1.5mm serrations
- Supplied in a set of 3



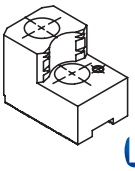
kitagawa

Chuck Size	Keyway	Hole Centres	Width	Jaw Height	Grip Height	Min Grip Ø	Max Grip Ø	Swing Ø	Order Code	Price
210/8"	14	25	35	53	20	93	128	221	KGJ089012	**£390.95**
			40			123	159	223	KGJ081215	
						145	181	240	KGJ08005	
						181	218	278	KGJ08006	
254/10"	16	30	40	58	25	63	106	266	KGJ10001	**£460.21**
						99	146	266	KGJ10002	
						135	183	266	KGJ10003	
						169	218	270	KGJ10004	
304/12"	18	30	50	65	25	79	147	322	KGJ12001	**£564.21**
						132	208	322	KGJ12002	
						196	273	322	KGJ12003	
						248	325	366	KGJ12004	
304/12"	21	30	50	65	25	84	158	333	KGJ212001	**£658.63**
						138	219	334	KGJ212002	
						203	284	334	KGJ212003	
						254	337	378	KGJ212004	
380/450 15"/18"	22	43	60	85	33	117	193	421	KGJ15002	**£847.59**
						170	249	421	KGJ15003	
						225	304	421	KGJ15004	
						294	374	428	KGJ15005	
						354	435	480	KGJ15006	

HARD JAWS INNER GRIP

1.5mm x 60° Serrations

- 60 degree pitch, 1.5mm serrations
- Supplied in a set of 3



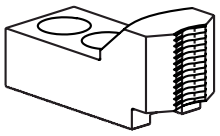
kitagawa

Chuck Size	Keyway	Hole Centres	Width	Jaw Height	Grip Height	Min Grip Ø	Max Grip Ø	Swing Ø	Order Code	Price
169/6"	12	20	30	47	20	31	58	183	KGJ063050	**£371.69**
						45	74	183	KGJ065070	
			35			61	90	184	KGJ067090	
						75	104	184	KGJ06001	
			40			91	120	182	KGJ069011	
						117	146	208	KGJ061113	
210/8"	14	25	35	53	25	37	70	220	KGJ083060	**£390.95**
						62	98	220	KGJ086090	
			40			93	128	221	KGJ089012	
						123	159	223	KGJ081215	
						145	181	240	KGJ08005	
						181	218	278	KGJ08006	
254/10"	16	30	40	58	25	42	87	265	KGJ104080	**£437.48**
						82	129	265	KGJ108012	
						125	173	269	KGJ101216	
						170	219	284	KGJ101620	
						205	254	316	KGJ102028	
304/12"	18	30	50	65	25	44	118	322	KGJ125010	**£521.15**
						102	178	322	KGJ121015	**£521.15**
						168	244	336	KGJ121520	**£521.15**
						323	309	380	KGJ122030	**£614.05**
304/12"	21	30	50	65	25	51	130	334	KGJ2125010	**£521.15**
						109	189	334	KGJ212009	
						174	256	348	KGJ212010	
						238	320	392	KGJ212011	
380/450 15"/18"	22	43	60	85	33	61	137	421	KGJ15001	**£844.00**
						116	195	427	KGJ151015	
						176	255	427	KGJ151520	
						236	316	447	KGJ152027	
						296	376	464	KGJ152735	
						356	436	516	KGJ153542	
380/450 15"/18"	22	43	60	85	33	117	193	421	KGJ15002	**£847.59**
						170	249	421	KGJ15003	
						225	304	421	KGJ15004	
						294	374	428	KGJ15005	
						354	435	480	KGJ15006	

HARD BAR GRIPPER JAWS

1.5mm x 60° Serrations

- For Kitagawa, Chandox & Samchully power chucks
- 60 degree pitch, 1.5mm serrations
- Supplied in a set of 3



Chuck Size	Keyway	Hole Centres	Width	Jaw Height	Min Grip Ø	Max Grip Ø	Swing Ø	Order Code	Price
169/6"	12	20	30	30	5	18	173	KGJ060415	**£388.52**
					15	29	173	KGJ061530	**£388.52**
210/8"	14	25	35	35	5	23	217	KGJ080415	**£451.89**
					15	38	217	KGJ081535	**£451.89**
254/10"	16	30	40	50	5	30	258	KGJ100420	**£465.05**
					18	54	258	KGJ102045	**£493.23**
304/12"	18	30	48	50	5	42	306	KGJ12005	**£637.16**
					18	61	306	KGJ123050	**£631.26**
304/12"	21	30	48	50	5	54	320	KGJ2120530	**£631.26**
					18	73	320	KGJ2123050	**£631.26**

FULL GRIP SOFT PIE JAWS

1.5mm x 60° Serrations

- 60 degree pitch, 1.5mm serrations (Kitagawa, Samchully, Chandox etc)
- Supplied in a set of 3
- Aluminium or steel



Chuck Size	Keyway	Hole Centres	Material	Height	Order Code	Price
110/4"	10	14	Alu	32	FW-A04032	**£168.36**
135/5"	10	14	Alu	32	FW-A05032	**£151.54**
169/6"	12	20	Alu	40	FW-A06040	**£169.19**
169/6"	12	20	Steel	40	FW06040	**£227.38**
210/8"	14	25	Alu	40	FW-A08040	**£177.04**
210/8"	14	25	Steel	50	FW08040	**£237.52**
210/8"	14	25	Alu	50	FW-A08050	**£188.19**
254/10"	16	30	Alu	50	FW-A10050	**£239.78**
254/10"	16	30	Steel	50	FW10050	**£318.56**
304/12"	18	30	Alu	50	FW-A12050-18	**£493.29**
304/12"	21	30	Alu	50	FW-A12050-21	**£493.29**

POWER CHUCK PREMIUM SOFT JAWS

1/16" x 90° Serrations

- 90 degree pitch, 1/16" serrations (Schunk, Rohm, SMW, Forkardt etc)
- Supplied in a set of 3
- High quality 15MnCr5 steel suitable for case hardening
- Pointed nose
- Made in Germany



Keyway	Hole Centres	Length	Width	Height	Order Code	Price
10	12	55.5	25	30	SWB-FR130	POA
12	15	55.5	30	38	SWB-FR162	
14	20	80	35	40	SWBL165	
17	22	78	35	40	SWBL160	
17	22	98	35	40	SWBL200	
21	28	120	50	50	SWBL250-21	

FULL GRIP SOFT DIAMOND JAWS

1.5mm x 60° Serrations

- 60 degree pitch, 1.5mm serrations (Kitagawa, Samchully, Chandox etc)
- Supplied in a set of 3
- High quality 15MnCr5 steel suitable for case hardening or aluminium
- Pointed nose
- Made in Germany



Chuck Size	Keyway	Hole Centres	Length	Height	Material	Order Code	Price
170/6"	12	20	120	40	Alu	KMWB-SA165	POA
170/6"	12	20	120	40	Steel	KMWB-SM165	
210/8"	14	25	140	50	Alu	KMWB-SA210	
210/8"	14	25	140	50	Steel	KMWB-SM210	
254/10"	16	30	180	45	Alu	KMWB-SA250	
254/10"	16	30	180	45	Steel	KMWB-SM250	
304/12"	18	30	240	55	Alu	KMWB-SA300	
304/12"	18	30	240	55	Steel	KMWB-SM300	
304/12"	21	30	240	55	Alu	KMWB-SA301	
304/12"	21	30	240	55	Steel	KMWB-SM301	

POWER CHUCK STEPPED HARD JAWS

1/16" x 90° Serrations

- 90 degree pitch, 1/16" serrations (Schunk, Rohm, SMW, Forkardt etc)
- Supplied in a set of 3
- High quality 15MnCr5 steel suitable for case hardening
- Pointed nose
- Made in Germany



Keyway	Hole Centres	Length	Width	Height	Order Code	Price
10	12	58	26	37.5	SHB-FR130	POA
12	15	57	30	38	SHB130	
14	22	79.7	30	46	SHB165	
17	19	72.5	40	49	SHB200	
21	25	103.5	50	58	SHB250	
21	30	128	50	58	SHB315	

FULL GRIP SOFT DIAMOND JAWS

1/16" x 90° Serrations

- 90 degree pitch, 1/16" serrations (Schunk, Rohm, SMW, Forkardt etc)
- Supplied in a set of 3
- High quality 15MnCr5 steel suitable for case hardening OR aluminium
- Pointed nose
- Made in Germany



Keyway	Hole Centres	Length	Height	Material	Order Code	Price
10	12	100	43	Alu	FR-SA130	POA
10	12	100	43	Steel	FR-SM130	
12	15	120	48	Alu	FR-SA160	
12	15	120	48	Steel	FR-SM160	
14	20	120	48	Alu	SWB-SA165	
14	20	120	48	Steel	SWB-SM165	
17	22	140	50	Alu	SWB-SA200	
17	22	140	50	Steel	SWB-SM200	
21	28	180	63	Alu	SWB-SA250-21	
21	28	180	63	Steel	SWB-SM250-21	

POWER CHUCK T-NUTS

Metric

- For Kitagawa, Chandox & Smachully power chucks
- Supplied in a set of 3



CUTWEL PRO

Chuck Size	Kitagawa Chuck	Width/ Keyway	Hole Centres	Height	Order Code	Price
169/6"	B-06	12	20	22.5	TB06	**£75.82**
210/8"	B-08	14	25	25.5	TB08	**£89.88**
254/10"	B-10	16	30	25.5	TB10	**£98.05**
304/12"	B-12	18	30	33.5	TB12	**£130.03**
110/4"	B-204	10	14	15	KTNB204	**£153.68**
135/5"	B-205	10	14	15	T05	**£73.43**
169/6"	B-206	12	20	18.5	T06	**£73.43**
210/8"	B-208	14	25	20.5	T08 (T-NUT)	**£87.31**
254/10"	B-210	16	30	21.5	T10	**£94.88**
304/12"	B-212	21	30	27.8	T12	**£127.84**
380/15"	B-15	24	43	45.5	T15 (T-NUT)	**£240.10**
450/21"	B-21	25	60	45	T21	**£294.62**

POWER CHUCK T-NUTS

Metric Serration Chucks

- Tempered and precision ground
- Including screws
- Supplied in single pairs (front & back t-nut included)
- Made in Germany



SCHUNK

Width (Keyway Size)	Height	Screw	Order Code	Price
14	24.5	M12 x 35	0146004	
14	20.5	M12 x 30	0146005	
16	24.5	M12 x 35	0146003	**POA**
16	21.5	M12 x 30	0146002	
18	33.5	M14 x 45	0146001	
21	28	M16 x 60	0146000	

POWER CHUCK T-NUTS

Imperial Serration Chucks

- Tempered and precision ground
- Including screws
- Supplied in singles
- Made in Germany



Type 1



Type 2

SCHUNK

Width (Keyway Size)	Type	Height	Screw	Order Code	Price
11	1	21	M8 x 30	0143100	
12	1	17.2	M8 x 22	0140100	
14	1	25.5	M10 x 35	0143101	
14	2	18.5	M10 x 25	0143104	
17	1	27	M12 x 30	0140101	**POA**
17	1	23	M12 x 35	0142101	
17	2	20.5	M12 x 25	0143106	
21	2	26.5	M16 x 35	0143107	
25.5	1	29	M20 x 40	0140103	

POWER CHUCK COMBI T-NUTS

Metric Serration Chucks

- Tempered and precision ground
- Including screws
- Supplied in singles
- Made in Germany



SCHUNK

Width (Keyway Size)	Height	Screw	Order Code	Price
12	22	M10 x 25	0146100	
12	18.5	M10 x 25	0146133	
14	24.5	M12 x 35	0146101	
14	20.5	M12 x 30	0146131	
16	24.5	M12 x 35	0146102	**POA**
16	21.5	M12 x 30	0146132	
18	33.5	M14 x 45	0146103	
21	28	M16 x 40	0146123	
24	45.5	M20 x 60	0146125	

Power Chuck Jaw Finder

Over 1,200 chuck jaws and accessories for CNC lathe power chucks.

Scan to use

- **Hard reversible jaws, claw jaws and bar gripper jaws.**
- **T-nuts, Stop screws and other accessories.**
- **Browse by manufacturer including Kitagawa, Schunk, SMW, Forkardt, Bison, Rohm & Samchully.**
- **Find jaw by dimension and serration.**
- **Huge range of soft jaws in different lengths, heights and styles, including pie jaws made from steel or aluminium.**



Manual Chucks & Jaws

Bison & Chandox scroll chucks, independent chucks & accessories. High quality 3 to 8 jaw manual chucks from Ø80-800mm.



Rear Mount (Plain Back)

- With recessed back, can be used with additional adapter plate such as camlock style.
- Ideal for conventional lathes.

Front Mount (Plain Back)

- As per rear mount design, but with drilled holes. Can be mounted from front or back.
- Ideal for conventional lathes or for mounting on milling machine or rotary table.

Camlock Mount

- Supplied with complete camlock adaptor plate to fit straight onto a conventional lathe.
- Adapter plate can be removed.
- Full range of camlock plates can be supplied for all front or rear mount chucks.

3 JAW SELF CENTERING SCROLL CHUCKS

With 1 Piece Jaws (Rear Or Front Mount)

- 1pc solid jaw type
- Available in cast iron or steel body
- Front mount features pre-drilled through holes & recessed back for use with adapter plate
- Rear mount features recessed back for use with adapter plate
- Supplied with 1 set of inside and outside jaws





Chuck Diameter	Bore Diameter	Soft Jaws	Rear Mount (Plain Back)				Front Mount (Plain Back)	
			Order Code (Cast Iron Body)	Price	Order Code (Steel Body)	Price	Order Code (Cast Iron Body)	Price
80	16	SJM 3500 3200-80	3204-80	**£389.00**	3504-80	**£547.00**	3274-80	**£518.00**
100	20	SJM 3500 3200-100	3204-100	**£443.00**	3504-100	**£594.00**	3274-100	**£574.00**
125	32	SJM 3500 3200-125	3204-125	**£473.00**	3504-125	**£772.00**	3274-125	**£636.00**
160	42	SJM 3500 3200-160	3204-160	**£553.00**	3504-160	**£878.00**	3274-160	**£661.00**
200	55	SJM 3500 3200-200	3204-200	**£695.00**	3504-200	**£1,077.00**	3274-200	**£715.00**
250	76	SJM 3500 3200-250	3204-250	**£950.00**	3504-250	**£1,286.00**	3274-250	**£985.00**
315	103	SJM 3500 3200-315	3204-315	**£1,415.00**	3504-315	**£1,921.00**	3274-315	**£1,540.00**
400	136	SJM 3500 3200-400	3204-400	**£2,836.00**	3504-400	**£3,869.00**	3274-400	**£3,539.00**
500	190	SJM 3500 3200-500	3204-500	**£4,745.00**	3504-500	**£8,494.00**	3274-500	**£6,339.00**
630	252	SJM 3500 3200-630	3204-630	**£7,570.00**	3504-630	**£12,153.00**	3274-630	**£8,930.00**

3 JAW SELF CENTERING SCROLL CHUCKS

With 2 Piece Jaws (Rear Mount)

- 2pc tongue and groove jaws
- Available in cast iron or steel body
- Front mount features pre-drilled through holes & recessed back for use with adapter plate
- Rear mount features recessed back for use with adapter plate
- Supplied with 1 set of hard top jaws & master jaws





Chuck Diameter	Bore Diameter	Soft Jaws	Rear Mount (Plain Back)				Front Mount (Plain Back)	
			Order Code (Cast Iron Body)	Price	Order Code (Steel Body)	Price	Order Code (Cast Iron Body)	Price
125	32	SGM 3500 3200-125	3205-125	**£594.00**	3505-125	**£929.00**	3275-125	**£667.00**
160	42	SGM 3500 3200-160	3205-160	**£636.00**	3505-160	**£979.00**	3275-160	**£706.00**
200	55	SGM 3500 3200-200	3205-200	**£770.00**	3505-200	**£1,174.00**	3275-200	**£802.00**
250	76	SGM 3500 3200-250	3205-250	**£1,025.00**	3505-250	**£1,386.00**	3275-250	**£1,086.00**
315	103	SGM 3500 3200-315	3205-315	**£1,446.00**	3505-315	**£1,989.00**	3275-315	**£1,573.00**
400	136	SGM 3500 3200-400	3205-400	**£379.49**	3505-400	**£3,812.00**	3275-400	**£3,786.00**
500	190	SGM 3500 3200-500	3205-500	**£426.47**	3505-500	**£8,043.00**	3275-500	**£5,966.00**
630	252	SGM 3500 3200-630	3205-630	**£7,051.00**	3505-630	**£11,535.00**	3275-630	**£8,369.00**

3 JAW SELF CENTERING SCROLL CHUCKS

With 1 Piece Jaws (Camlock Mount)

- 1pc solid jaw type
- Available in cast iron or steel body
- With integral camlock adapter plate
- Supplied with 1 set of inside and outside jaws



Chuck Diameter	Camlock Size	Soft Jaws	Camlock Mount			
			Order Code (Cast Iron Body)	Price	Order Code (Steel Body)	Price
160	D1-3	SJM 3500 3200-160	3244-160-3	**£715.00**	3544-160-3	**£915.00**
160	D1-4	SJM 3500 3200-160	3244-160-4	**£715.00**	3544-160-4	**£915.00**
160	D1-5	SJM 3500 3200-160	3244-160-5	**£715.00**	3544-160-5	**£915.00**
200	D1-4	SJM 3500 3200-200	3244-200-4	**£931.00**	3544-200-4	**£1,186.00**
200	D1-5	SJM 3500 3200-200	3244-200-5	**£931.00**	3544-200-5	**£1,186.00**
200	D1-6	SJM 3500 3200-200	3244-200-6	**£931.00**	3544-200-6	**£1,186.00**
250	D1-6	SJM 3500 3200-250	3244-250-6	**£1,209.00**	3544-250-6	**£1,408.00**
250	D1-8	SJM 3500 3200-250	3244-250-8	**£1,209.00**	3544-250-8	**£1,408.00**
315	D1-6	SJM 3500 3200-315	3244-315-6	**£1,811.00**	3544-315-6	**£2,058.00**
315	D1-8	SJM 3500 3200-315	3244-315-8	**£1,811.00**	3544-315-8	**£2,058.00**
315	D1-11	SJM 3500 3200-315	3244-315-11	**£1,811.00**	3544-315-11	**£2,058.00**

4 JAW SELF CENTERING SCROLL CHUCKS

With 1 Piece Jaws (Rear Mount)

- 1pc solid jaw type
- Available in cast iron or steel body
- Rear mount features recessed back for use with adapter plate
- Supplied with 1 set of inside and outside



Chuck Diameter	Bore Diameter	Soft Jaws	Rear Mount (Plain Back)			
			Order Code (Cast Iron Body)	Price	Order Code (Steel Body)	Price
125	32	SJM 3600 3700-125	3604-125	**£632.00**	3704-125	**£941.00**
160	42	SJM 3600 3700-160	3604-160	**£695.00**	3704-160	**£1,051.00**
200	55	SJM 3600 3700-200	3604-200	**£809.00**	3704-200	**£1,342.00**
250	76	SJM 3600 3700-250	3604-250	**£1,079.00**	3704-250	**£1,595.00**
315	103	SJM 3600 3700-315	3604-315	**£1,622.00**	3704-315	**£2,412.00**
400	136	SJM 3600 3700-400	3604-400	**£3,463.00**	3704-400	**£5,151.00**
500	190	SJM 3600 3700-500	3604-500	**£6,053.00**	3704-500	**£11,440.00**

6 JAW SELF CENTERING SCROLL CHUCKS

With 1 Piece Jaws (Rear Or Front Mount)

- 1pc solid jaw type
- Rear mount with recessed back for use with adapter plate
- Supplied with 1 set of inside and outside jaws + chuck wrench
- Cast iron body
- Plain back



Chuck Diameter	Bore Diameter	Order Code	Price
200	55	3804-200	**£1,878.00**
250	76	3804-250	**£2,153.00**
315	103	3804-315	**£2,927.00**
400	136	3804-400	**£5,557.00**
500	190	3804-500	**£8,481.00**
630	252	3804-630	**£13,561.00**

6 JAW SELF CENTRING SCROLL CHUCKS

With 2 Piece Jaws (Rear Mount)

- 2pc tongue and groove jaws
- Rear mount with recessed back for use with adapter plate
- Supplied with 1 set of hard top jaws & master jaws + chuck wrench
- Cast iron body
- Plain back



Chuck Diameter	Bore Diameter	Order Code	Price
200	55	3805-200	**£2,112.00**
250	76	3805-250	**£2,355.00**
315	103	3805-315	**£3,131.00**
400	136	3805-400	**£5,945.00**
500	190	3805-500	**£7,708.00**
630	252	3805-630	**£12,331.00**

6 JAW SELF CENTERING SCROLL CHUCKS

With 1 Piece Jaws High Precision Type

- Fine adjustment radially set screws provide nearly 0mm run-out
- 1pc solid jaw type
- Front mount features pre-drilled through holes & recessed back for use with adapter plate
- Supplied with 1 set of inside and outside jaws + chuck wrench
- Steel body
- Plain back



Chuck Diameter	Bore Diameter	Order Code	Price
125	35	3864-125	**£1,435.00**
160	42	3864-160	**£1,555.00**
200	55	3864-200	**£1,914.00**
250	76	3864-250	**£2,124.00**
315	103	3864-315	**£3,200.00**
400	136	3864-400	**£6,394.00**

6 JAW SELF CENTERING SCROLL CHUCKS

With 2 Piece Jaws (Front Mount) High Precision Type

- Fine adjustment radially set screws provide nearly 0mm run-out
- 1pc solid jaw type
- Front mount features pre-drilled through holes & recessed back for use with adapter plate
- Supplied with 1 set of inside and outside jaws and chuck wrench
- Steel body
- Plain back



Chuck Diameter	Bore Diameter	Order Code	Price
125	35	3865-125	**£1,326.60**
160	42	3865-160	**£1,554.30**
200	55	3865-200	**£2,060.00**
250	76	3865-250	**£2,238.00**
315	103	3865-315	**£2,824.80**
400	136	3865-400	**£4,939.07**
500	190	3865-500	**£7,604.24**
630	252	3865-630	**£11,489.36**

6 JAW SELF CENTERING SCROLL CHUCKS

Lever Type For Tool Grinding

- For grinding twist drills and other cutting tools
- Fine adjustment radially set screws provide nearly 0mm run-out
- 1pc solid jaw type
- Supplied with 1 set of hard solid jaws and operating lever
- Steel body



Chuck Diameter	Bore Diameter	Order Code	Price
125	38	3866-125	**£1,395.00**
160	52	3866-160	**£2,737.00**

6 JAW SELF CENTERING SCROLL CHUCKS

For Tool Grinding

- For grinding twist drills and other cutting tools
- Rear mount with recessed back for use with adapter plate
- 1pc solid jaw type
- Supplied with 1 set of hard solid jaws and wrench
- Steel body
- Plain back



Chuck Diameter	Bore Diameter	Order Code	Price
85	25.5	3867-85	**£874.00**

4 JAW INDEPENDENT CHUCKS

With 1 Piece Jaws (Front Mount)

- 1pc solid jaw type
- Available in cast iron or steel body
- Front mount features pre-drilled through holes & recessed back for use with adapter plate
- Supplied with 1 set of hard solid reversible jaws & wrench



Chuck Diameter	Bore Diameter	Front Mount (Plain Back)			
		Order Code (Cast Iron Body)	Price	Order Code (Steel Body)	Price
100	25	-	-	4306-100	**£791.00**
160	42	-	-	4306-160	**£871.00**
200	50	4304-200	**£855.00**	4306-200	**£1,177.00**
250	65	4304-250	**£1,060.00**	4306-250	**£1,334.00**
315	80	4304-315	**£1,367.00**	4306-315	**£1,785.00**
400	100	4304-400	**£2,008.00**	4306-400	**£2,515.00**
500	125	4304-500	**£3,712.00**	4306-500	**£4,565.00**
630	160	4304-630	**£4,793.00**	4306-630	**£6,894.00**

4 JAW INDEPENDENT CHUCKS

With 2 Piece Jaws (Front Mount)

- 2pc tongue and groove jaws
- Available in cast iron or steel body
- Front mount features pre-drilled through holes & recessed back for use with adapter plate
- Supplied with 1 set of hard top jaws & master jaws + chuck wrench



Chuck Diameter	Bore Diameter	Front Mount (Plain Back)			
		Order Code (Cast Iron Body)	Price	Order Code (Steel Body)	Price
400	100	-	-	4307-400	**£2,851.15**
500	125	4305-500	**£4,602.00**	4307-500	**£5,287.00**
630	160	4305-630	**£5,330.00**	4307-630	**£7,264.00**

STEEL 4 JAW SCROLL CHUCK

Super Thin (MC Series)

- Low profile super thin design
- Ideal for machining centres
- Ground working surfaces
- Supplied with 1 set of hard reversible jaws + 2 wrenches



Chuck Diameter	Base Length	Base Width	Order Code	Price
165	215	165	MC-06	**£581.34**
200	250	200	MC-08	**£715.95**
250	310	250	MC-10	**£871.59**
310	380	310	MC-12	**£1,288.27**

STEEL 3 JAW SCROLL CHUCK

Super Thin (NBK Series)

- Low profile super thin design
- Ideal for machining centres
- Ground working surfaces
- Supplied with 1 set of hard reversible jaws + 1 wrench



Chuck Diameter	Base Diameter	Order Code	Price
170	220	NBK-06	**£760.98**
210	270	NBK-08	**£897.29**
255	315	NBK-10	**£1,285.12**
305	370	NBK-12	**£1,750.50**

OIL COUNTRY 3 JAW SCROLL CHUCK

With 2 Piece Jaws (Rear Mount)

- Large through-holes are designed for gripping long and heavy workpieces or pipes during heavy-duty (HD) machining
- Self centering
- 2pc tongue and groove jaws
- Cast iron body
- Supplied with 1 set of base jaws, soft top jaws & wrench



Chuck Diameter	Bore Diameter	Order Code	Price
400	220	3295-400	**£2,912.00**
508	320	3295-500	**£4,297.00**
660	406	3295-660	**£7,080.00**

OIL COUNTRY 3 JAW SCROLL CHUCK

With 2 Piece Jaws (A2 Mount)

- Large through-holes are designed for gripping long and heavy workpieces or pipes during heavy-duty (HD) machining
- 2pc tongue and groove jaws
- Steel body
- Supplied with 1 set of hard top jaws & master jaws + chuck wrench



Chuck Diameter	Bore Diameter	Mount	Order Code	Price
20”	8”	A2-15	4317-20-15-8-HD	**POA**
25”	10.5”	A2-15	4317-25-15-10.5-HD	
25”	10.5”	A2-20	4317-25-20-10.5-HD	
25”	12.5”	A2-20	4317-25-20-12.5-HD	
32”	12.5”	A2-20	4317-32-20-12.5-HD	
32”	14.5”	A2-20	4317-32-20-14.5-HD	

BOX JAWS

MSP Type

- Set of 4 box jaws with Jakob power MSP screws
- Steel body with hardened and ground guideways
- Hardened clamping jaws HRC 57-60
- High clamping force with minimum operator effort



Clamping Force	Weight Per Jaw	Size mm LxWxH	Order Code	Price
660kN	164kg	430x330x150	9171-430-20T MSP	**POA**

BOX JAWS

MSPD Type

- Set of 4 box jaws with Jakob power MSPD screws
- Steel body with hardened and ground guideways
- Hardened clamping jaws HRC 57-60
- High clamping force with minimum operator effort



Clamping Force	Weight Per Jaw	Size mm LxWxH	Order Code	Price
400kN	705kg	630x448x410	9171-630-40TMSPD	**POA**

FACE PLATE JAWS

- Primarily for use on face plates for holding irregular shaped parts
- Set of 4



Width	Height	Clamping Force	Order Code	Price
130	159.8	28kN	9170-150	**£1,978.34**
140	169.8	35kN	9170-200	**£2,344.45**





Market Leading Pratt Burnerd Chucks & Jaws

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SCROLL CHUCK SOFT JAWS - SET OF 3 OR 4

1PC Type

- Compatible with Bison scroll chucks



Chuck Size	Order Code			
	Set of 3 Jaws	Price	Set of 4 Jaws	Price
80	SJM32003500-80	**£85.00**	-	-
100	SJM32003500-100	**£91.00**	SJM36003700-100	**£138.00**
125	SJM35003200-125	**£96.00**	SJM36003700-125	**£142.00**
160	SJM32003500-160	**£107.00**	SJM36003700-160	**£160.00**
200	SJM32003500-200	**£120.00**	SJM36003700-200	**£185.00**
250	SJM32003500-250	**£179.00**	SJM36003700-250	**£274.00**
315	SJM32003500-315	**£237.00**	SJM36003700-315	**£401.00**
400	SJM32003500-400	**£252.00**	SJM3600-400	**£419.00**
500	SJM32003500-500	**£606.00**	SJM3600-500	**£1,141.00**
630	SJM32003500-630	**£872.00**	SJM36003700-630	**£1,422.00**

SCROLL CHUCK SOFT JAWS - SET OF 3 OR 4

Tongue & Groove Type

- Compatible with Bison scroll chucks with 2pc jaws



Chuck Size	Order Code			
	Set of 3 Jaws	Price	Set of 4 Jaws	Price
125	SGM32003500-125	**£85.00**	SGM36003700-125	**£108.00**
160	SGM32003500-160	**£97.00**	SGM36003700-160	**£131.00**
200	SGM32003500-200	**£100.00**	SGM36003700-200	**£135.00**
250	SGM32003500-250	**£136.00**	SGM36003700-250	**£196.00**
315	SGM32003500-315	**£174.00**	SGM36003700-315	**£236.00**
400	SGM32003500-400	**£245.00**	SGM36003700-400	**£315.00**
500	SGM32003500-500	**£319.00**	SGM3600-500	**£424.00**
630	SGM32003500-630800	**£443.00**	SGM36003700-800	**£571.00**

SCROLL CHUCK HARD JAWS - SET OF 3

Inside Clamping

- Compatible with Bison scroll chucks



Chuck Size	Order Code	Price
80	SJZ32003500-80	**£108.00**
100	SJZ32003500-100	**£132.00**
125	SJZ32003500-125	**£139.00**
160	SJZ32003500-160	**£181.00**
200	SJZ32003500-200	**£186.00**
250	SJZ32003500-250	**£214.00**
315	SJZ32003500-315	**£329.00**
400	SJZ32003500-400	**£422.00**
500	SJZ32003500-500	**£962.00**
630	SJZ32003500-630	**£1,232.00**

SCROLL CHUCK HARD JAWS - SET OF 3

External Clamping

- Compatible with Bison scroll chucks



Chuck Size	Order Code	Price
80	SJW35003200-80	**£109.00**
100	SJW35003200-100	**£128.00**
125	SJW35003200-125	**£160.00**
160	SJW35003200-160	**£186.00**
200	SJW35003200-200	**£193.00**
250	SJW35003200-250	**£226.00**
315	SJW35003200-315	**£377.00**
400	SJW35003200-400	**£417.00**
500	SJW3200-500	**£960.00**
630	SJW32003500-630	**£1,232.00**

ADAPTER PLATES - CAMLOCK MOUNT

Fully Finished

- For use with plain back self centring scroll chucks, front
- For support selecting the right adapter plate please call our technical team



Chuck Size	Camlock Mount	Order Code	Price
125	D1-4	8240-125-4-X	**£253.00**
160	D1-4	8240-160-4-X	**£297.00**
160	D1-5	8240-160-5-X	**£297.00**
200	D1-4	8240-200-4-X	**£324.00**
200	D1-5	8240-200-5-X	**£324.00**
200	D1-6	8240-200-6-X	**£324.00**
250	D1-6	8240-250-6-X	**£422.00**
250	D1-8	8240-250-8-X	**£422.00**
315	D1-6	8240-315-6-X	**£557.00**
315	D1-8	8240-315-8-X	**£557.00**
315	D1-11	8240-315-11-X	**£557.00**

ADAPTER PLATES - A2 MOUNT

Fully Finished

- For use with plain back self centring scroll chucks, front
- For support selecting the right adapter plate please call our technical team



Chuck Size	Camlock Mount	Order Code	Price
125	A2-3	8210-125-3A2-X	**£126.00**
160	A2-4	8210-160-4A2-X	**£233.00**
160	A2-5	8210-160-5A2-X	**£233.00**
200	A2-5	8210-200-5A2-X	**£248.00**
200	A2-6	8210-200-6A2-X	**£248.00**
250	A2-5	8210-250-5A2-X	**£307.00**
250	A2-6	8210-250-6A2-X	**£307.00**
250	A2-8	8210-250-8A2-X	**£307.00**
315	A2-6	8210-315-6A2-X	**£457.00**
315	A2-8	8210-315-8A2-X	**£457.00**

Lathe Centres & Mandrels

STANDARD LIVE CENTRE

- High quality universal live centre
- Available in standard 60° nose (type A) or extended 60° nose (type B)



Type A Type B

Morse Taper	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
1	100	7000	0.005	15	17	36		800006761	**£128.00**
2	200	7000	0.005	20	23.5	45		800006763	**£128.00**
3	400	6300	0.005	22	27.5	50		800006623	**£139.00**
3	500	5000	0.005	25	30.5	60	A	800006765	**£159.00**
4	800	3800	0.005	32	40	70		800006624	**£270.00**
5	2000	3000	0.005	40	49.5	90		800006625	**£339.00**
6	3500	2600	0.01	50	57.5	105		800006769	**£604.00**
1	80	7000	0.01	15	23	36		800006536	**£155.00**
2	140	7000	0.005	20	33.5	45		800006537	**£179.00**
3	400	5000	0.005	25	43.5	60	B	800006538	**£179.00**
4	500	3800	0.005	32	52	70		800006539	**£326.00**
5	1200	3000	0.005	40	65.3	90		800005509	**£409.00**
6	2500	2600	0.01	50	77.5	105		800006540	**£679.00**

PRO DESIGN LIVE CENTRE

- High quality universal live centre
- Available in standard 60° nose (type A) or extended 60° nose (type B)
- Lifetime lubrication for minimum required maintenance



Type A Type B

Morse Taper	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
1	100	7000	0.005	15	17	34.5		RHM-43400	**£266.90**
2	200	7000	0.005	20	24	43		RHM-43115	**£266.90**
3	400	6300	0.005	22	27	48.5		RHM-42315	**£277.72**
3	500	5000	0.005	25	30.5	58.5	A	RHM-42776	**£324.61**
4	800	3800	0.005	32	40	68.5		RHM-42175	**£371.50**
5	2000	3000	0.005	40	49.5	88.5		RHM-42843	**£539.81**
6	3500	2600	0.008	50	57	102.5		RHM-43532	**£1,077.22**
1	80	7000	0.01	15	27	34.5		RHM-58668	**£321.00**
2	140	7000	0.005	20	34	43		RHM-58669	**£321.00**
3	400	5000	0.005	25	47	58.5	B	RHM-58670	**£391.93**
4	500	3800	0.005	32	53	68.5		RHM-58671	**£449.64**
5	1200	3000	0.005	40	64	88.5		RHM-58672	**£646.81**
6	2500	2600	0.01	50	78	102.5		RHM-58673	**£1,292.42**

STANDARD LIVE CENTRE WITH CARBIDE TIP

- High quality universal live centre with carbide point for extra durability
- Available in standard 60° nose (type A)



Type A

Morse Taper	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
2	120	5000	0.008	18	22	40		800002480	**£110.00**
3	320	4000	0.008	25	28	56		800002482	**£150.00**
4	500	3000	0.008	32	34	64	A	800002484	**£192.00**
5	1250	2500	0.01	40	44	85		800002486	**£297.00**
6	2200	2000	0.01	62	64	130		800002488	**£643.00**

PRO DESIGN LIVE CENTRE WITH CARBIDE TIP

- High quality universal live centre with carbide point for extra durability
- Available in standard 60° nose (type A)
- Lifetime lubrication for minimum required maintenance



Type A

Morse Taper	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
2	120	7000	0.005	20	24	43		RHM-32140	**£535.00**
3	240	6300	0.005	22	27	48.5		RHM-90089	**£556.64**
3	360	5000	0.005	25	30.5	58.5		RHM-237413	**£651.62**
4	500	3800	0.005	32	40	68.5	A	RHM-93306	**£744.19**
5	1000	3000	0.005	40	49.5	88.5		RHM-221016	**£1,077.22**
6	1800	2800	0.01	50	57	102.5		RHM-221017	**£2,158.04**

PRO DESIGN STANDARD LIVE CENTRE

With Cylindrical Shank

- High quality universal live centre
- Available in standard 60° nose (type A)



Type A

Shank Dia	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
20	130	7000		20	24	43		RHM-1316054	**£323.41**
25	200	5000	0.005	25	30.5	48.5	A	RHM-1316055	**£396.74**
30	400	3800		32	40	68.5		RHM-1316056	**£453.25**

PRO DESIGN HIGH PRECISION LIVE CENTRE

- High quality high accuracy live centre with lower run-out than standard live centre
- Available in standard 60° nose (type A)
- Lifetime lubrication for minimum required maintenance



Type A

Morse Taper	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
2	200	7000		20	24	43		RHM-82392	**£348.65**
3	500	5000		25	30.5	55		RHM-318227	**£361.88**
4	800	3800	0.003	32	40	68.5	A	RHM-82394	**£489.32**
5	2000	3000		40	49.5	88.5		RHM-82395	**£698.51**
6	3500	2600		50	56.9	102.5		RHM-1263871	**£1,394.61**

SLIM DESIGN LIVE CENTRE

- Compact body design
- Available in standard 60° nose (type A) or extended 60° nose (type B)




Type A


Type B

MT	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
2	200	7000	0.005	15	18	32		800006024	**£159.00**
3	400	7000	0.005	15	18	34		800006705	**£172.00**
4	800	6300	0.005	20	25	42	A	800006706	**£230.00**
5	1600	4300	0.01	30	34	58		800006707	**£313.00**
6	3500	3000	0.02	42	49	80		800006708	**£544.00**
2	170	7000	0.008	15	29	32		800006709	**£164.00**
3	340	7000	0.008	15	30	34		800006710	**£180.00**
4	700	6300	0.008	20	38	42	B	800006245	**£253.00**
5	1400	4300	0.01	30	49	58		800006711	**£357.00**
6	3000	3000	0.02	42	70	80		800006712	**£609.00**

SLIM DESIGN LIVE CENTRE

- Compact design with minimum body diameter
- Available in standard 60° nose (type A) or extended 60° nose (type B)
- Lifetime lubrication for minimum required maintenance




Type A


Type B

Morse Taper	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
2	200	7000	0.005	15	19.5	32		RHM-5336	**£215.20**
3	400	7000	0.005	15	19.5	34		RHM-5429	**£223.62**
4	800	6300	0.005	20	24.5	42	A	RHM-5469	**£298.16**
5	1600	4300	0.01	30	37	58		RHM-5490	**£430.41**
6	3500	3000	0.02	42	49.5	80		RHM-5547	**£860.81**
2	170	7000	0.008	15	29.5	32		RHM-362080	**£258.48**
3	340	7000	0.008	15	32	34		RHM-362081	**£269.30**
4	700	6300	0.008	20	37.5	42	B	RHM-362082	**£358.27**
5	1400	4300	0.01	30	51.5	58		RHM-362083	**£515.77**
6	3000	3000	0.02	42	70.5	80		RHM-362084	**£1,035.14**

HEAVY DUTY LIVE CENTRE

- Robust 4-fold precision bearing for high speeds as well as high axial and radial loads
- Reliable and safe clamping of heavy workpieces
- Available in extended 60° nose (type B)
- Lifetime lubrication for minimum required maintenance




Type B

Morse Taper	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
4	1000	7000	0.005	32	44.5	70		RHM-303598	**£930.54**
5	2000	6000	0.005	42	59.5	95	B	RHM-303599	**£1,346.52**
6	3000	4800	0.005	58	76	120		RHM-301696	**£2,699.06**

SLIM DESIGN PROFILED POINT LIVE CENTRE

- Compact design with minimum body diameter
- Enlarged work area and better workpiece accessibility thanks to profiled and extended centre point
- Lifetime lubrication for minimum required maintenance



Morse Taper	Max kg	Max RPM	Run Out	Nose Dia 1	Nose Dia 2	Nose Length	Body Dia	Order Code	Price
2	50	7000	0.008	15	6	29.5	32	RHM-1241695	**£301.77**
3	100	7000	0.008	15	8	32	34	RHM-1243505	**£313.79**
4	150	6300	0.008	20	10	37.5	42	RHM-1243507	**£418.38**
5	180	4300	0.01	30	12	51.5	58	RHM-1243509	**£604.73**

HEAVY DUTY LIVE CENTRE WITH DRAW OFF NUT

- Heavy duty
- Available in standard 60° nose (type A)




Type A

MT	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
1	100	5000	0.008	15	17	38		800002547	**£114.00**
2	180	5000	0.008	18	21.5	40		800002549	**£123.00**
3	450	4000	0.008	25	27.5	56	A	800002551	**£153.00**
4	1000	3000	0.008	32	33.5	64		800002553	**£189.00**
5	1900	2500	0.010	40	44	85		800002555	**£303.00**
6	3700	2000	0.010	62.4	64	130		800002557	**£626.00**

PRO DESIGN PROFILED POINT LIVE CENTRE

- High quality live centre
- Enlarged work area and better workpiece accessibility thanks to profiled and extended centre point
- Lifetime lubrication for minimum required maintenance



Morse Taper	Max kg	Max RPM	Run Out	Nose Dia 1	Nose Dia 2	Nose Length	Body Dia	Order Code	Price
2	100	7000	0.005	20	8	34	43	RHM-1241689	**£373.90**
3	150	5000	0.005	25	10	47	58.5	RHM-1241691	**£458.06**
4	180	3800	0.005	32	12	53	68.5	RHM-1241693	**£522.98**
5	280	3000	0.005	40	14	64	88.5	RHM-1241694	**£755.01**

HIGH SPEED DESIGN LIVE CENTRE

- Special design for very high speeds with extended centre point and wear-resistant carbide insert for extra durability
- Available in extended 60° nose (type B)
- Lifetime lubrication for minimum required maintenance





Type B

Morse Taper	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
2	100	12000	0,01	20	40	45	B	RHM-772389	**£643.20**
3	100	12000	0,01	20	40	45		RHM-772390	**£668.45**
4	250	9000	0,01	32	63	66		RHM-772391	**£893.27**
5	250	9000	0,01	32	63	66		RHM-772392	**£1,292.42**

LIVE CENTRE WITH RADIAL COMPENSATION

8823/8824 Series

- Adjustable radial compensation





Type A



Type B

MT	Max kg	Max RPM	Run Out	Nose Dia	Nose Length	Body Dia	Type	Order Code	Price
2	100	8000	0.006	24	26.5	44	A	800002574	**£145.00**
3	200	6000	0.006	28	32.5	48		800002576	**£175.00**
4	400	4500	0.006	38	43.5	60		800002578	**£190.00**
5	650	4000	0.006	50	55.5	75		800002580	**£270.00**
6	1400	3000	0.008	60.5	62.5	90		800002582	**£526.00**
2	90	8000	0.015	24	38.5	44	B	800002588	**£164.00**
3	180	6000	0.015	28	47.5	48		800002589	**£182.00**
4	350	4500	0.015	38	66.5	60		800002590	**£233.00**
5	600	4000	0.015	50	86.5	75		800002591	**£290.00**
6	1300	3000	0.015	60.5	94.5	90		800002592	**£635.00**

LIVE CENTRE KIT WITH INTERCHANGEABLE INSERTS

8831-KPL Series

- Live centre kits with 6 interchangeable inserts including: 60°, 75°, 90°, 60° extended nose, hollow bull nose and female 60°



MT	Max kg	Max RPM	Run Out	Order Code	Price
2	70	5000	0.01	800002610	**£275.00**
3	120	4000	0.01	800002612	**£298.00**
4	280	3000	0.01	800002614	**£372.00**
5	650	2500	0.015	800002616	**£593.00**
6	1200	2000	0.015	800002618	**£1,087.00**

LIVE CENTRE KIT WITH INTERCHANGEABLE INSERTS

8832-KPL Series

- Live centre kits with 7 interchangeable inserts including: 60°, 90°, bull nose, 90° female x 2, hollow and flat serrated



MT	Max kg	Max RPM	Run Out	Order Code	Price
2	70	5000	0.01	800002635	**£298.00**
3	120	4000	0.01	800002637	**£372.00**
4	280	3000	0.01	800002639	**£515.00**
5	650	2500	0.015	800002641	**£643.00**
6	1200	2000	0.015	800002643	**£1,009.00**

'FLEX' LIVE CENTRE KIT WITH INTERCHANGEABLE INSERTS

- With interchangeable inserts made of wear-resistant tool steel for maximum flexibility
- Assortment with different inserts

Content

- 1 basic body for interchangeable inserts
- 1 extractor for disassembly
- 1 insert 60°, 75°, 90°, 60° VL
- Insert for tubular workpieces 60°
- 2 inserts for centerless workpieces 60°



Morse Taper	Max kg	Max RPM	Run Out	Order Code	Price
2	40	7000	0.01	RHM-61702	**£667.25**
3	130	6300	0.01	RHM-61703	**£758.62**
3	150	5000	0.01	RHM-61704	**£856.00**
4	250	3800	0.01	RHM-61705	**£1,001.48**
5	650	3000	0.015	RHM-61706	**£1,322.48**

BULL NOSED LIVE CENTRE

8825 Series

- Bull nosed
- Suitable for pipe turning



MT	Max kg	Max RPM	Run Out	Nose Length	Min Dia	Max Dia	Angle	Order Code	Price
1	100	5000	0.008	35	20	50	60°	800002598	**£109.00**
2	180	5000	0.008	35	30	60		800002599	**£128.00**
3	350	4500	0.008	53	30	80		800002601	**£180.00**
3	550	3000	0.008	61	40	100		800002602	**£218.00**
3	600	3000	0.008	70	50	120		800002603	**£248.00**
4	600	3000	0.008	61	40	100		800002604	**£199.00**
4	700	3000	0.008	70	50	120		800002605	**£267.00**
4	700	3000	0.01	70	70	140		800002606	**£298.00**
5	750	3000	0.01	70	50	120		800002607	**£317.00**
5	750	2000	0.02	70	100	170		800002608	**£338.00**
6	2000	1000	0.05	107	180	292		800002609	**£1,186.00**

CARBIDE TIPPED DEAD CENTRE

8711 Series

- Carbide
- 60° solid centre



MT	Length	Body Dia	Order Code			
			Bison	Price	Orion	Price
1	80	12.2	8711-1	**£33.00**	-	-
2	100	18	8711-2	**£34.00**	22107020	**£21.04**
3	125	24.1	8711-3	**£52.00**	22107030	**£24.44**
4	160	31.6	8711-4	**£77.00**	22107040	**£31.94**
5	200	44.7	8711-5	**£120.00**	22107050	**£50.31**
6	270	63.8	8711-6	**£184.00**	-	-

DEAD CENTRE

8712 Series

- Steel tipped
- 60° solid centre



MT	Length	Body Dia	Order Code			
			Bison	Price	Orion	Price
1	80	12.2	8712-1	**£16.20**	-	-
2	100	18	8712-2	**£17.50**	22104020	**£14.23**
3	125	24.1	8712-3	**£24.00**	22104030	**£14.90**
4	160	31.6	8712-4	**£38.00**	22104040	**£14.58**
5	200	44.7	8712-5	**£68.00**	22104050	**£25.89**
6	270	63.8	8712-6	**£150.00**	-	-

CARBIDE TIPPED DEAD CENTRE WITH SPANNER FLATS

8721 Series

- Carbide tipped
- Spanner flats
- 60° solid centre



MT	Length	Body Diameter	Carbide Tip Diameter	Spanner Flat Width	Order Code	Price
1	90	12.2	7	10	8721-1	**£41.00**
2	112	18	7	13	8721-2	**£41.00**
3	138	24.1	11	19	8721-3	**£54.00**
4	175	31.6	14	24	8721-4	**£85.00**
5	217	44.7	18	36	8721-5	**£149.00**
6	290	63.8	18	55	8721-6	**£297.00**

DEAD CENTRE WITH SPANNER FLATS

8720 Series

- Steel tipped
- Spanner flats
- 60° solid centre



MT	Length	Body Diameter	Spanner Flat Width	Order Code	Price
1	90	12.2	10	8720-1	**£19.30**
2	112	18	13	8720-2	**£19.30**
3	138	24.1	19	8720-3	**£25.00**
4	175	31.6	24	8720-4	**£45.00**
5	217	44.7	36	8720-5	**£76.00**
6	290	63.8	55	8720-6	**£166.00**

CARBIDE TIPPED DEAD CENTRE WITH DRAW OFF NUT

8726 Series

- Carbide tipped
- Spanner flats
- 60° solid centre



MT	Length	Body Diameter	Carbide Tip Diameter	Spanner Size	Order Code	Price
1	90	12.2	7	24	8726-1	**£53.00**
2	112	18	7	32	8726-2	**£56.00**
3	138	24.1	11	41	8726-3	**£74.00**
4	175	31.6	14	55	8726-4	**£109.00**
5	217	44.7	18	75	8726-5	**£141.00**
6	290	63.8	18	100	8726-6	**£250.00**

DEAD CENTRE WITH DRAW OFF NUT

8725 Series

- Steel tipped
- Spanner flats
- 60° solid centre



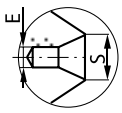
MT	Length	Body Diameter	Spanner Size	Order Code	Price
1	90	12.2	24	8725-1	**£39.00**
2	112	18	32	8725-2	**£43.00**
3	138	24.1	41	8725-3	**£51.00**
4	175	31.6	55	8725-4	**£68.00**
5	217	44.7	75	8725-5	**£114.00**
6	290	63.8	100	8725-6	**£248.00**

DEAD CENTRE WITH HOLLOW POINT

8735 Series

- Carbide tipped
- Spanner flats
- 60° solid centre





MT	Length	Body Diameter	E	S	Order Code	Price
1	74	12.2	1.6	3.35	8735-1	**£22.00**
2	94	18	2.5	5.3	8735-2	**£22.00**
3	115	24.1	4	8.5	8735-3	**£27.00**
4	146	31.6	6.3	13.2	8735-4	**£49.00**

DEAD CENTRE WITH HALF POINT

8730 Series

- Steel tipped
- Half point type
- 60° solid centre



MT	Length	Body Diameter	Half Point Height	Order Code	Price
1	80	12.2	7.6	8730-1	**£21.00**
2	100	18	11	8730-2	**£21.00**
3	125	24.1	15	8730-3	**£27.00**
4	160	31.6	20.8	8730-4	**£45.00**
5	200	44.7	29.3	8730-5	**£77.00**
6	270	63.8	42.6	8730-6	**£174.00**

MANUALLY ACTUATED CARTRIDGE MANDREL

MZB Series

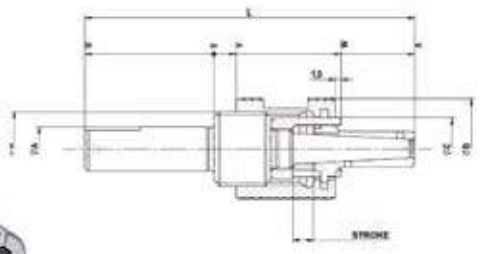
Application

Internal clamping of round workpieces. Turning, milling, grinding and toothing operations, as well as for balancing and measuring. Ideal for very small clamping diameters starting from 5.5mm or small workpieces.

Advantages

- Sturdy clamping of the workpiece thanks to axial tension against the workpiece stop
- High concentricity and repeatability
- Lightweight and reduced height thanks to compact design





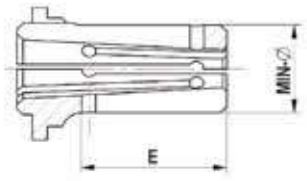
Type	Sleeve Dia Range	Expansion Ø	Clamping Ø max	Shank Ø	Ø B	Ø C	Ø D	Stroke G	L	U	V	W	X	Order Code	Price
MZB 00	5.5-7	0.5	7.5	10	M14x1.5	10.8	19.5	5	74.5	30	5.5	29	44.5	RHM-1130361	**£474.89**
MZB 01	7.5-9	0.5	9.5	12	M16x1.5	13	23	5.5	79.5	30	6	33.5	48.5	RHM-1130362	**£474.89**
MZB 02	9.5-11.5	0.5	12	12	M20x1.5	16.8	28	5.5	89.5	35	6	34.5	53.5	RHM-1130363	**£477.29**
MZB 03	12-14.5	0.5	15	14	M24x1.5	20.8	31	5.5	97.5	35	6	36.5	61.5	RHM-1130364	**£484.51**
MZB 04	14.5-19	0.5	19.5	18	M30x1.5	26.8	38	5.5	102.5	35	6	37.5	66.5	RHM-1130365	**£507.35**
MZB 05	19.5-24.5	0.5	25	20	M36x1.5	31.8	47	6	113.5	40	6	37.5	72.5	RHM-1130366	**£542.22**
MZB 06	24.7-28.7	1.0	29.7	25	M42x1.5	36.8	54	6	136	45	7	48.5	89	RHM-1130367	**£598.72**
MZB 07	29.7-33.7	1.0	34.7	30	M45x1.5	41.8	57.5	6	144.5	50	7	48.5	92.5	RHM-1130368	**£662.44**
MZB 08	34.7-38.7	1.0	39.7	40	M52x1.5	47.8	66	6	156	55	7	48.5	99	RHM-1130369	**£811.52**
MZB 09	39.7-43.7	1.0	44.7	40	M56x1.5	52.5	74	6	166.5	60	7	48.5	104.5	RHM-1130370	**£864.42**
MZB 10	44.7-53.7	1.0	54.7	45	M65x1.5	61.8	83	6	197	67	7	53.5	128	RHM-1130371	**£1,021.91**
MZB 11	54.7-63.7	1.0	64.7	50	M75x2	71.8	93	6.5	208.5	67	7	56.5	139.5	RHM-1130372	**£1,161.38**

CARTRIDGE MANDREL SLEEVES

MZB Series

- Clamping sleeves and workstops for manually actuated mandrels





Type	Min Ø	Expansion Ø	Length E	Order Code	Price
MZB 00	5.5	0.5	11.5	RHM-315139	**£262.09**
MZB 00	6	0.5	11.5	RHM-315152	**£262.09**
MZB 00	6.5	0.5	11.5	RHM-315165	**£262.09**
MZB 00	7	0.5	11.5	RHM-315178	**£262.09**
MZB 01	7.5	0.5	15	RHM-315140	**£262.09**
MZB 01	8	0.5	15	RHM-315153	**£262.09**
MZB 01	8.5	0.5	15	RHM-315166	**£262.09**
MZB 01	9	0.5	15	RHM-315179	**£262.09**
MZB 02	9.5	0.5	19	RHM-315141	**£227.23**
MZB 02	10	0.5	19	RHM-315154	**£227.23**
MZB 02	10.5	0.5	19	RHM-315167	**£227.23**
MZB 02	11	0.5	19	RHM-315180	**£227.23**
MZB 02	11.5	0.5	19	RHM-315191	**£227.23**
MZB 03	12	0.5	20.5	RHM-315142	**£227.23**
MZB 03	12.5	0.5	20.5	RHM-315155	**£227.23**
MZB 03	13	0.5	20.5	RHM-315168	**£227.23**
MZB 03	13.5	0.5	20.5	RHM-315181	**£227.23**
MZB 03	14	0.5	20.5	RHM-315192	**£227.23**
MZB 03	14.5	0.5	20.5	RHM-315202	**£227.23**
MZB 04	14.5	0.5	28.5	RHM-315143	**£227.23**
MZB 04	15	0.5	28.5	RHM-315156	**£227.23**
MZB 04	15.5	0.5	28.5	RHM-315169	**£227.23**
MZB 04	16	0.5	28.5	RHM-315182	**£227.23**
MZB 04	16.5	0.5	28.5	RHM-315193	**£227.23**
MZB 04	17	0.5	28.5	RHM-315203	**£227.23**
MZB 04	17.5	0.5	28.5	RHM-315209	**£227.23**
MZB 04	18	0.5	28.5	RHM-315215	**£227.23**
MZB 04	18.5	0.5	28.5	RHM-315221	**£227.23**
MZB 04	19	0.5	28.5	RHM-315227	**£227.23**
MZB 05	19.5	0.5	34	RHM-315144	**£239.25**
MZB 05	20	0.5	34	RHM-315157	**£239.25**
MZB 05	20.5	0.5	34	RHM-315170	**£239.25**
MZB 05	21	0.5	34	RHM-315183	**£239.25**
MZB 05	21.5	0.5	34	RHM-315194	**£239.25**
MZB 05	22	0.5	34	RHM-315204	**£239.25**
MZB 05	22.5	0.5	34	RHM-315210	**£239.25**
MZB 05	23	0.5	34	RHM-315216	**£239.25**
MZB 05	23.5	0.5	34	RHM-315222	**£239.25**
MZB 05	24	0.5	34	RHM-315228	**£239.25**
MZB 05	24.5	0.5	34	RHM-315233	**£239.25**

Type	Min Ø	Expansion Ø	Total Length	Order Code (Basic Mandrel)	Price
MZB 06	24.7	1	34	RHM-315145	**£283.73**
MZB 06	25.7	1	34	RHM-315158	**£283.73**
MZB 06	26.7	1	34	RHM-315171	**£283.73**
MZB 06	27.7	1	34	RHM-315184	**£283.73**
MZB 06	28.7	1	34	RHM-315195	**£283.73**
MZB 07	29.7	1	40	RHM-315146	**£305.37**
MZB 07	30.7	1	40	RHM-315159	**£305.37**
MZB 07	31.7	1	40	RHM-315172	**£305.37**
MZB 07	32.7	1	40	RHM-315185	**£305.37**
MZB 07	33.7	1	40	RHM-315196	**£305.37**
MZB 08	34.7	1	50	RHM-315147	**£335.43**
MZB 08	35.7	1	50	RHM-315160	**£335.43**
MZB 08	36.7	1	50	RHM-315173	**£335.43**
MZB 08	37.7	1	50	RHM-315186	**£335.43**
MZB 08	38.7	1	50	RHM-315197	**£335.43**
MZB 09	39.7	1	55.5	RHM-315148	**£372.70**
MZB 09	40.7	1	55.5	RHM-315161	**£372.70**
MZB 09	41.7	1	55.5	RHM-315174	**£372.70**
MZB 09	42.7	1	55.5	RHM-315187	**£372.70**
MZB 09	43.7	1	55.5	RHM-315198	**£372.70**
MZB 10	44.7	1	74	RHM-315149	**£495.33**
MZB 10	45.7	1	74	RHM-315162	**£495.33**
MZB 10	46.7	1	74	RHM-315175	**£495.33**
MZB 10	47.7	1	74	RHM-315188	**£495.33**
MZB 10	48.7	1	74	RHM-315199	**£495.33**
MZB 10	49.7	1	74	RHM-315205	**£495.33**
MZB 10	50.7	1	74	RHM-315211	**£495.33**
MZB 10	51.7	1	74	RHM-315217	**£495.33**
MZB 10	52.7	1	74	RHM-315223	**£495.33**
MZB 11	54.7	1	74	RHM-315150	**£584.29**
MZB 11	55.7	1	74	RHM-315163	**£584.29**
MZB 11	56.7	1	74	RHM-315176	**£584.29**
MZB 11	57.7	1	74	RHM-315189	**£584.29**
MZB 11	58.7	1	74	RHM-315200	**£584.29**
MZB 11	59.7	1	74	RHM-315206	**£584.29**
MZB 11	60.7	1	74	RHM-315212	**£584.29**
MZB 11	61.7	1	74	RHM-315218	**£584.29**
MZB 11	62.7	1	74	RHM-315224	**£584.29**
MZB 11	63.7	1	74	RHM-315230	**£584.29**

MANUALLY ACTUATED CARTRIDGE MANDREL

MZE Series - For Long Clamping Lengths

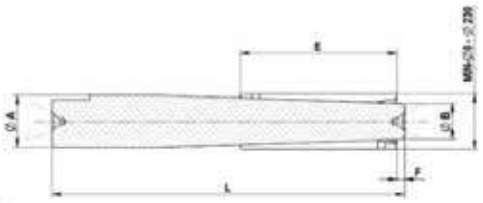
Application

Internal clamping of round workpieces. Measuring operations and light grinding operations. Ideal for long clamping lengths / long workpieces.

Advantages

- Quick change of clamping sleeve without tools
- High concentricity and repeatability
- High flexibility thanks to mount on the shaft or between points
- Short retrofitting times





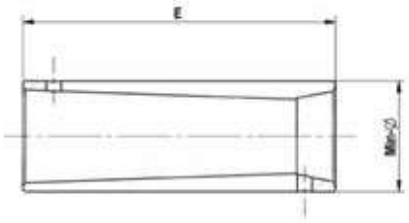
Type	Sleeve Dia Range	Expansion Ø	Clamping Ø max	A Ø	Ø B	E	F	L	Order Code (Basic Mandrel)	Price
MZE 00	8-9	+1.5	10.5	8	4.1	40	3	75	RHM-315000	£162.30
MZE 01	10-11	+1.5	12.5	10	5.3	45	3	110	RHM-315001	£162.30
MZE 02	12-13	+2	15	12	5.7	60	4	125	RHM-315002	£93.66
MZE 03	14-15	+2	17	14	6.9	70	4	140	RHM-315003	£107.72
MZE 04	16-18	+2	20	16	8.5	70	4	150	RHM-315004	£107.72
MZE 05	19-21	+2	23	19	10.7	80	4	170	RHM-315005	£125.03
MZE 06	22-24	+2	26	21	12.2	80	4	175	RHM-315006	£125.03
MZE 07	25-34	+3	37	25	14.6	100	4	225	RHM-315007	£139.46
MZE 08	35-44	+3	47	33	22.6	100	5	225	RHM-315008	£181.54
MZE 09	45-54	+5	59	45	31.1	125	5	300	RHM-315009	£226.02
MZE 10	55-65	+5	70	53	38	135	5	330	RHM-315010	£275.32
MZE 11	68-80	+5	85	64	48.2	150	5	350	RHM-315011	£465.27
MZE 12	80-100	+5	105	76	60.9	150	5	350	RHM-315012	£906.50
MZE 13	105-135	+5	140	99	80.4	170	5	400	RHM-315013	£1,611.02
MZE 14	135-180	+5	185	124	97.4	180	82	442	RHM-315014	£1,905.57
MZE 15	185-230	+5	235	145.5	122.4	200	63	443	RHM-315015	£3,438.44

CARTRIDGE MANDREL SLEEVES

MZE Series

- Clamping sleeves for manually actuated mandrels





Type	Min Ø	Expansion Ø	Total Length	Order Code	Price
MZE 00	8	+1.5	40	RHM-315016	£305.37
MZE 00	9	+1.5	40	RHM-315032	£305.37
MZE 01	10	+1.5	45	RHM-315017	£305.37
MZE 01	11	+1.5	45	RHM-315033	£305.37
MZE 02	12	+2	60	RHM-315018	£207.99
MZE 02	13	+2	60	RHM-315034	£207.99
MZE 03	14	+2	70	RHM-315019	£207.99
MZE 03	15	+2	70	RHM-315035	£207.99
MZE 04	16	+2	70	RHM-315020	£207.99
MZE 04	17	+2	70	RHM-315036	£207.99
MZE 04	18	+2	70	RHM-315048	£207.99
MZE 05	19	+2	80	RHM-315021	£207.99
MZE 05	20	+2	80	RHM-315037	£207.99
MZE 05	21	+2	80	RHM-315049	£207.99
MZE 06	22	+2	80	RHM-315022	£207.99
MZE 06	23	+2	80	RHM-315038	£207.99
MZE 06	24	+2	80	RHM-315050	£207.99
MZE 07	25	+3	100	RHM-315023	£221.21
MZE 07	26	+3	100	RHM-315039	£221.21
MZE 07	28	+3	100	RHM-315051	£221.21
MZE 07	30	+3	100	RHM-315060	£221.21
MZE 07	32	+3	100	RHM-315069	£221.21
MZE 07	34	+3	100	RHM-315078	£221.21
MZE 08	35	+3	100	RHM-315024	£269.30
MZE 08	36	+3	100	RHM-315040	£269.30
MZE 08	38	+3	100	RHM-315052	£269.30
MZE 08	40	+3	100	RHM-315061	£269.30
MZE 08	42	+3	100	RHM-315070	£269.30
MZE 08	44	+3	100	RHM-315079	£269.30
MZE 09	45	+5	125	RHM-315025	£323.41
MZE 09	48	+5	125	RHM-315041	£323.41
MZE 09	50	+5	125	RHM-315053	£323.41
MZE 09	52	+5	125	RHM-315062	£323.41
MZE 09	54	+5	125	RHM-315071	£323.41
MZE 10	45	+5	135	RHM-315026	£459.26
MZE 10	48	+5	135	RHM-315042	£459.26
MZE 10	50	+5	135	RHM-315054	£459.26
MZE 10	52	+5	135	RHM-315063	£459.26
MZE 10	54	+5	135	RHM-315072	£459.26

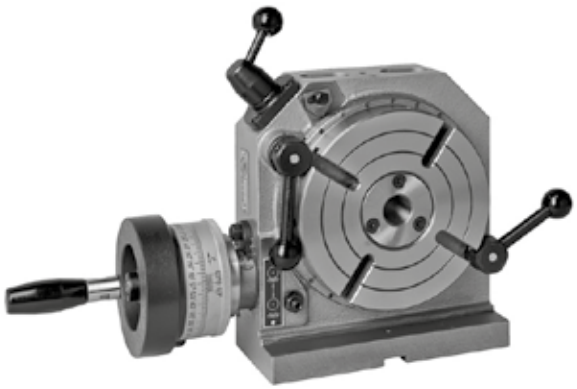
Type	Min Ø	Expansion Ø	Total Length	Order Code	Price
MZE 11	68	+5	150	RHM-315027	£592.71
MZE 11	70	+5	150	RHM-315043	£592.71
MZE 11	72	+5	150	RHM-315055	£592.71
MZE 11	75	+5	150	RHM-315064	£592.71
MZE 11	78	+5	150	RHM-315073	£592.71
MZE 11	80	+5	150	RHM-315080	£592.71
MZE 12	80	+5	170	RHM-315028	£795.89
MZE 12	85	+5	170	RHM-315044	£795.89
MZE 12	90	+5	170	RHM-315056	£795.89
MZE 12	95	+5	170	RHM-315065	£795.89
MZE 12	100	+5	170	RHM-315074	£795.89
MZE 13	105	+5	170	RHM-315029	£1,256.35
MZE 13	110	+5	170	RHM-315045	£1,256.35
MZE 13	115	+5	170	RHM-315057	£1,256.35
MZE 13	120	+5	170	RHM-315066	£1,256.35
MZE 13	125	+5	170	RHM-315075	£1,256.35
MZE 13	130	+5	170	RHM-315081	£1,256.35
MZE 13	135	+5	170	RHM-315084	£1,256.35
MZE 14	135	+5	180	RHM-315030	£2,620.91
MZE 14	140	+5	180	RHM-315046	£2,620.91
MZE 14	145	+5	180	RHM-315058	£2,620.91
MZE 14	150	+5	180	RHM-315067	£2,620.91
MZE 14	155	+5	180	RHM-315076	£2,620.91
MZE 14	160	+5	180	RHM-315082	£2,620.91
MZE 14	165	+5	180	RHM-315085	£2,620.91
MZE 14	170	+5	180	RHM-315087	£2,620.91
MZE 14	175	+5	180	RHM-315089	£2,620.91
MZE 14	180	+5	180	RHM-315091	£2,620.91
MZE 15	185	+5	170	RHM-315031	£3,799.12
MZE 15	190	+5	170	RHM-315047	£3,799.12
MZE 15	195	+5	170	RHM-315059	£3,799.12
MZE 15	200	+5	170	RHM-315068	£3,799.12
MZE 15	205	+5	170	RHM-315077	£3,799.12
MZE 15	210	+5	170	RHM-315083	£3,799.12
MZE 15	215	+5	170	RHM-315086	£3,799.12
MZE 15	220	+5	170	RHM-315088	£3,799.12
MZE 15	225	+5	170	RHM-315090	£3,799.12
MZE 15	230	+5	170	RHM-315092	£3,799.12

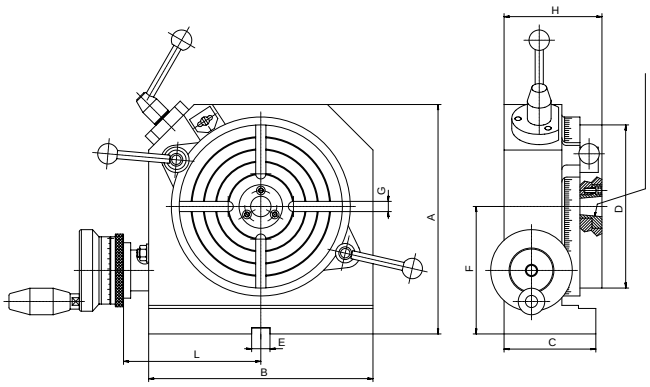
Rotary Tables, Angle Tables & Tailstocks

ROTARY TABLE

5859 Series

- Can be used vertically or horizontally
- Worm gear can be disengaged for rapid indexing
- Centring morse taper sleeves are hardened and ground, extending machine life
- Depending on the size gear ratio is 1:60, 1:90, 1:120





Worm Ratio	A	B	C	D	E	F	G	H	L	Morse Taper	Adapter Ø	Chuck Ø	Tailstock 5818	Tailstock 5819	Horizontal Max Kg	Vertical Max Kg	kg	Order Code	Price
1:60	225	200	90	160	14	125	4x10	96	127	3	160	160	125	95-130	85	40	20	5859-160	**£4,222.00**
1:60	270	240	95	200	14	150	4x10	98	147	3	160, 200	160, 200	-	130-170	120	45	25	5859-200	**£4,332.00**
1:90	318	285	115	250	18	175	4x12	115	175	3	250	250	-	170-200	160	80	55	5859-250	**£5,299.00**
1:90	374	348	115	320	18	200	4x12	120	207	3	315, 250	315, 250	200	170-200	210	110	80	5859-320	**£5,907.00**
1:90	465	430	125	400	18	250	6x14	135	248	4	400	400	250	220-250	350	125	122	5859-400	**£8,879.00**
1:120	582	535	170	500	18	315	8x16	175	310	5	-	-	--	-	420	200	260	5859-500	**£14,511.00**

INDEXING FIXTURE

5901/5911 Series

- Horizontal / vertical - Chuck not included
- Compact design with two types of indexing;
  1. Basic 2, 3, 4, 6, 8,12 and 24 divisions
  2. Angular 360° in 1° increments, indexing accuracy 2'
- Compatible with plain back front mount chucks



Chuck Size	Centre Height	Order Code	Price
125	100	5901-100	**£2,413.00**
160	125	5901-125	**£2,500.00**
200	160	5901-160	**£2,982.00**
250	200	5911-200	**£6,659.00**
315	250	5911-250	**£7,475.00**

SWIVEL ANGLE PLATE

5155 Series

- Easily set at any angle between horizontal and vertical plates
- Swivel plate type 5155 (sine) permit acurate angle setting in 0-60° range by means of gauge blocks



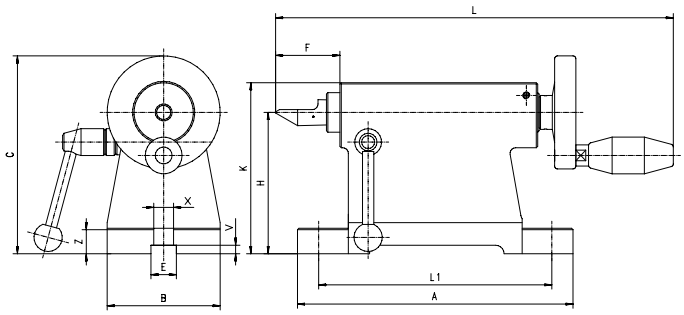
T Slot	Max Weight Load kg	Order Code	Price
12	60	5155-200X250	**£1,722.00**
14	100	5155-250X315	**£1,771.00**

TAILSTOCK

5818 Series

- This tailstock is designed for use with indexing fixtures, rotary tables and dividing heads



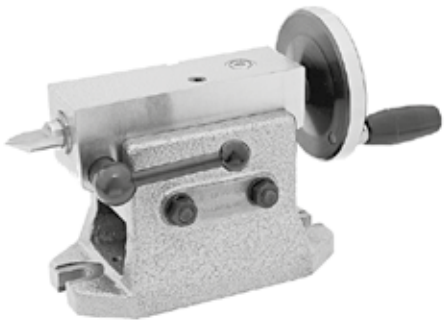


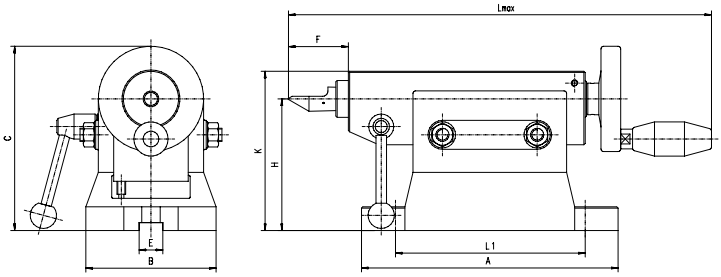
A	B	C	E	V	X	Z	F Min	F Max	H	K	L	L Max	Morse Taper	kg	Order Code	Price
164	68	120	18	6	14	14.5	26.0	44	80	95	244	134	1	2.5	5818-80	**£386.35**
195	80	140	18	6	14	18.0	33.0	63	100	121	299	165	2	6.1	5818-100	**£559.00**
195	90	178	18	6	14	18.0	39.0	69	125	146	315	165	2	7.4	5818-125	**£599.00**
250	115	213	18	6	18	18.0	48.0	85	160	187	366	210	3	12.7	5818-160	**£707.00**
275	130	253	18	6	18	20.0	59.5	99.5	200	233	420	235	4	17.9	5818-200	**£875.00**
280	150	303	18	6	18	23.0	59.5	99.5	250	283	420	240	4	23.1	5818-250	**£1,000.00**

TAILSTOCK

5819 Series

- Height (H) is precisely adjusted by means of a screw and, after the adjustment, the spindle is locked in a vertical position
- These tailstocks are designed for use with indexing fixtures, rotary tables and dividing heads





A	B	C	E	F Min	F Max	H Min	H Max	K	L Max	L1	Morse Taper	kg	Order Code	Price
195	100	183	18	40	70	95	130	155	335	165	2	12	5819-95-130	**£1,243.00**
250	120	223	18	50	90	130	170	200	409	210	3	18.8	5819-130-170	**£1,307.00**
280	142	253	18	50	90	170	200	230	433	240	3	25.5	5819-170-200	**£1,443.00**
280	142	270	18	50	90	200	220	250	433	240	3	28.7	5819-200-220	**£1,786.00**
300	164	303	18	60	100	220	250	285	465	260	4	43	5819-220-250	**£1,859.00**

Vacuum Clamping

GRID VACUUM CHUCK SETS

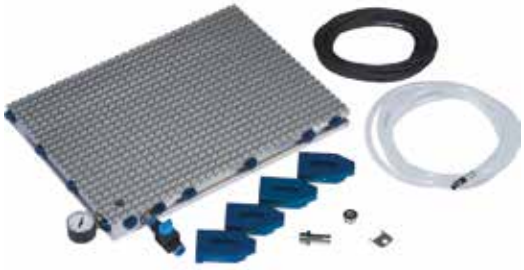
With Venturi Nozzle for Dry Processing

Application
For simple geometric workpieces with rough shapes without breakouts or large breakouts that can be sealed with sealing cords (size must be a multiple of the grid).

Features
- With venturi nozzle
- All grid vacuum plates can also be connected to conventional vacuum pump no. 24501110 or no. 24501120
- Operating pressure approx. 6 bar
- Depending on conditions of use, end vacuum up to 92%, air consumption approx. 95 l/min

Advantage
- Minor unevenness and curvatures are sealed and compensated for with the elastic sealing cords
- Good sealing, also suitable for rough (e.g. sawn) surfaces
- High retention forces, especially suitable for heavy machining such as milling and grinding

Contents
- 1x matching vacuum grid plate with a grid pattern of 12.5mm, including built-in compressed air vacuum ejector. Mounting grooves and height-adjustable stop discs, 4x adjustable clamp with a groove width of 14mm, 1x plastic hose connection for 3m quick-release coupling, black vacuum sealing cord with 4mm diameter, 10m, 1x vacuum generator including silencer and shut-off valve, 1x connection for conventional vacuum pump



ATORN®

Model	Pieces	Vacuum Panel Length mm	Vacuum Panel Width mm	Weight g	Order Code	Price
RV 1	13	300	200	210	24504010	**£1,608.53**
RV 2		400	300	205	24504020	**£3,241.48**
RV 3		600	400	160	24504030	**£4,073.54**

SLOTTED VACUUM CHUCK SETS

With Venturi Nozzle for Dry Processing

Application
Ideal for light machining tasks such as milling or drilling - e.g. printed circuit boards or electronic components - or also engraving. It is thus also possible to securely clamp workpieces that are much smaller than the clamping surface of the vacuum plate.

Features
- The narrowing of the cross section within the Venturi pipe causes a vacuum here, which draws the air in
- Distance between slots 5mm
- All slotted vacuum plates can also be connected also to conventional vacuum pump no. 24501110 or no. 24501120
- The noise level is just 57 db A
- Vacuum generation through compressed air vacuum ejector: max. vacuum approx. 5-6 bar. End vacuum of up to 87% depending on conditions of use. Air consumption approx. 90 l/min.

Advantage
- High process reliability
- Can be adapted individually to the geometry of the part
- Low-cost entry-level set
- High max. vacuum at approx. 5-6 bar
- Venturi technology requiring little maintenance

Contents
- 1x matching vacuum grid plate with a width of 1mm, distance between centres 5mm, incl. compressed air vacuum ejector. Mounting grooves and height-adjustable stop plates. 4x adjustable clamps per slot width = 14mm, 1x hose connection for quick-action coupling and 3m plastic hose, 1x suitable brown rubber adapter mat, 1x black rubber adapter mat, incl. silencer and shut-off valve, 1 connection for conventional vacuum pump





ATORN®

Model	Length mm	B mm	Height mm	Average Slot Spacing mm	Order Code	Price
SV 1	300	200	32.5	5	24503010	**£2,253.45**
SV 2	400	300		5	24503020	**£4,160.20**
SV 3	600	400		5	24503030	**£5,113.59**

VACUUM CLAMPING SYSTEM AND ADAPTER MAT SET

For Dry and Wet Processing

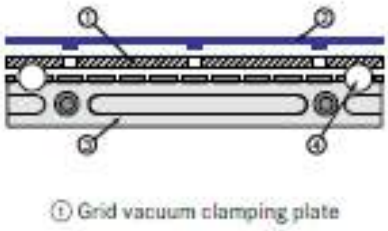
Application
For clamping workpieces by means of vacuum.



Features
- One system with two possibilities, Fig. 1 + 2
- Fig. 1 with adapter mats, quick clamping without a device for workpieces with and without breakouts
- Fig. 1 + 2 for use with vacuum pumps only (sets without Venturi nozzle)
- Fig. 2, good sealing, also suitable for rough (e.g. sawn) surfaces; particularly well suited for heavy-duty machining
- Unevenness on the workpiece clamping surface is sealed by means of the elastic sealing cords
- Up to 0.5 mm of unevenness or curvature can be compensated for with the sealing cord
- The modular structure makes it possible to connect several vacuum plates across all patterns
- Operating vacuum of the individual plates comes from the connection elements

Advantage
- Reduces clamping times
- For fast clamping without equipment
- For clamping non-magnetic workpieces
- Only one clamping cycle for five-sided machining
- Universal clamping system for a wide range of different workpieces

Contents
- 1x each of compatible modular, grid and vacuum clamping plate, 1x compatible adapter plate for the Vac-Mat system, 10x blue adapter mats, 4x adjustable clamps for modular plates, slot width = 14mm, 1x assembly tool for replacing blanking plugs, 13m vacuum suction connection, 10m black vacuum sealing cord, 4mm diameter







ATORN®

Model	Adapter Plate Length L mm	Adapter Plate Width B mm	For Number of Adapter Mats	Order Code	Price
VM 1	300	200	1	24500010	**£1,958.75**
VM 2	400	300	2	24500015	**£3,449.49**
VM 3	600	400	4	24500020	**£4,420.22**

ADAPTER MATS

Accessories for Vacuum Clamping System With Adapter Mats

Features
- Blue & green adapter mats for milling breakouts
- Black adapter mat for leakage-free covering of vacant clamping surfaces on aluminium adapter plates







ATORN®

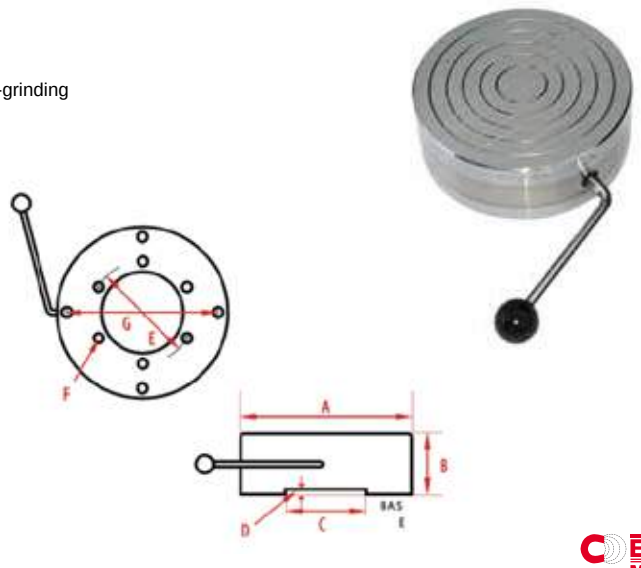
Colour	Length mm	Thickness mm	Width mm	Order Code	Price
Blue	300	2.5	200	24502025	**£11.06**
Green				24502050	
Black				24502060	

Magnetic Clamping

CIRCULAR PREMIER RANGE CHUCKS

Precision, Performance & Durability

- Unique top plate concentrates magnetic energy on to the chuck face
- The all-metal top plate is extra thick to ensure accuracy after frequent re-grinding
- Chrome plated side and end stops for packing and positioning
- The chucks can be partially magnetised to allow part positioning
- Removable, ergonomically designed handles allow easy switching



ECLIPSE MAGNETICS

A mm	B mm	C mm	D mm	E mm	F mm	G mm	Weight kg	Order Code	Price
121	45	50.8	65	76.2	M6	101.6	4.23	AX475C/P	**£863.51**
167	60	76.22	65	101.6	M10	139.7	9.66	AX651C/P	**£1,111.09**
229	60	85.8	65	114.3	M10	190.5	20	AX91C/P	**£1,628.33**
305	72	152.4	152.4	184.15	M12	254	45.5	AX12C/P	**£3,488.50**

NEOMICRO ROUND PERMANENT MAGNETIC CHUCK

Particularly Narrow Parallel Pole Pitch



Application

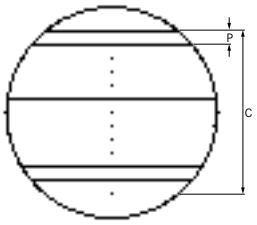
The micro pole pitch of this magnetic clamping plate makes it possible to clamp medium-sized as well as very flat turning, grinding and erosion parts.

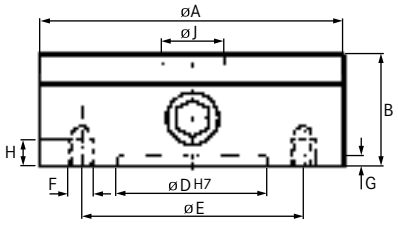
Features

- Powerful magnetic system with Neodym magnets and low magnetic field height of 8mm
- Continuously variable adhesive force adjustment simplifies workpiece alignment
- Machining on both sides at the centre of the pole plate is possible with dimension J

Advantage

- The low magnetic field height is ideal for clamping very thin and small workpieces from a diameter of 150, nominal adhesive force 100 N/cm2 (where A = Ø 100: 70 N/cm2)
- The pole plate can also be machined with holes for driving pins and centring aids, max. incorporation 5mm low profile and low weight





[SAV]

A mm	B mm	D mm	G mm	E mm	C mm	P mm	Wear of Pole Surface mm	Machining of Pole Panel Ø x depth	F	Max. Rotation Speed (RPM)	Magnetic Field Height mm	Nominal Adhesive Strength (N/cm2)	Weight kg	Order Code	Price
100	50	60		85	77			20 x 14mm		780		70	3	24367100	**£555.36**
150	50	110		142	117			24 x 5mm		680		100	9	24367150	**£834.79**
200	57	150	4	180	154	0.5/1.4	5	200 x 5mm	M8	600	8	100	15	24367200	**£1,223.11**
250	57	200		232	192			250 x 5mm		500		100	20	24367250	**£1,767.25**
300	62	250		285	227			300 x 5mm		450		100	31	24367300	**£2,304.71**

STANDARD RANGE CHUCK - CIRCULAR

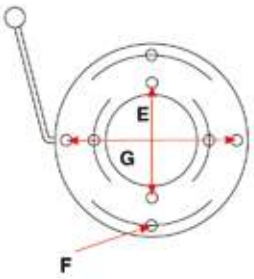
Dynamically Balanced To Enable Use At High RPM

- Clamping force: 80N/cm2 on test piece steel ring 52mm ø outer 38mm, 10mm thick
- Brass and steel top plates
- All chucks are supplied with side and end stops, with clamps
- Removable hexagon key handles ensure ease of operation through a 180 degree arc

Fine Pole
1.5mm steel / 0.5mm brass, ideal for thin and small work pieces less than 3mm thick down to 0.7mm

Standard Pole
4mm steel / 2mm brass, effectively clamping all work pieces above 3mm thick





ECLIPSE MAGNETICS

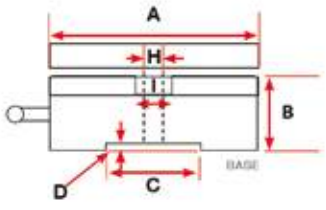
A	B	C	D	PCD E	F	PCD G	Weight kg	Order Code			
								Standard Pole	Price	Fine Pole	Price
100		50.8		76.2	M6	-	6	ECSP100	**£378.25**	ECFP100	**£402.39**
125		50.8		76.2	M6	101.6	9.38	ECSP125	**£516.97**	ECFP125	**£542.48**
160		76.2		101.6	M10	139.7	13.5	ECSP160	**£917.10**	ECFP160	**£840.95**
195	50	76.2	6.35	101.6	M10	139.7	18	ECSP195	**£1,317.79**	ECFP195	**£1,356.29**
255		85.73		114.3	M10	190.5	22.5	ECSP255	**£2,356.42**	ECFP255	**£2,103.28**
310		152.4		184.15	M12	254	32	ECSP310	**£2,736.03**	ECFP310	**£3,190.12**
350		196.85		196.85	M12	-	40	ECSP350	**£3,686.02**	ECFP350	**£3,752.70**

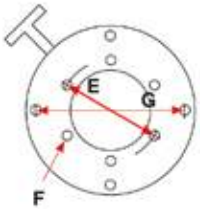
PREMIER RANGE CHUCK - RADIAL POLE

Dynamically Balanced To Enable Use At High RPM

- All metal top plate and a rugged industrial build ensures accuracy and longevity
- Through-bored (except NR100C) allows through-flushing of coolant during machining
- Optional centre plug available







ECLIPSE MAGNETICS

A	B	C	D	E	F	G	No. of Poles	Weight kg	Order Code	Price
100	48	50.8	6.5	N/A	M6	76	5	3.08	NR100C	**£824.86**
150	69	76.2	4	N/A	M10	102	10	8.79	NR150C	**£1,247.87**
225	71	85.8	5	114.3	M10	190.5	14	18.5	NR225C	**£1,877.66**
300	71	152.4	54.75	184.15	M12	354	18	40	NR300C	**£3,416.42**

PERMANENT MAGNET ROUND CHUCK

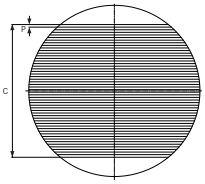
With Parallel Pole Pitch

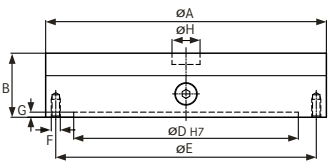
Application
Suitable for clamping large and small workpieces. For use on lathes and grinding machines, dividing and tracer divider devices.

Features
- High-performance neodymium magnetic system with low magnetic field height of 8mm for workpieces from 10mm upwards
- Integrated concentric grooves simplify workpiece centring
- Die clamping surfaces can be machined down to a depth of 6mm (wear of pole surface)
- Centre drilling is possible at the centre, see table

Advantage
- Compact design and hence low weight
- Nominal adhesive force 150 N/cm2, from Ø 200mm, nominal adhesive force 100 N/cm2





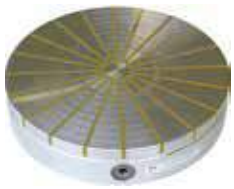


[SAV]

A mm	B mm	D mm	G mm	E mm	F	C mm	P mm	Max. Rotation Speed (RPM)	Wear of Pole Surface mm	Magnetic Field Height mm	Nominal Adhesive Strength (N/cm2)	Weight kg	Order Code	Price
200	57	150	4	180	M8	146	8/3	600			120	13	24371200	**£1,139.13**
250	57	200	4	232	M8	198	12/3	500			150	20	24371250	**£1,483.26**
300	62	250	4	285	M8	228	12/3	450	6	10	150	31	24371300	**£2,017.10**
350	62	300	5	334	M8	288	12/3	400			150	43	24371350	**£2,650.97**
400	67	300	5	350	M10	318	12/3	350			150	60	24371400	**£3,705.24**

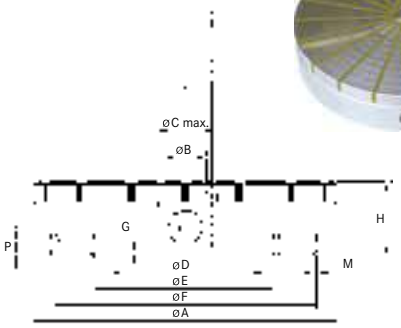
PERMANENT MAGNET ROUND CHUCK

With Parallel Pole Pitch



Application
Suitable for clamping large and small workpieces. For use on lathes and grinding machines, dividing and tracer divider devices.

Features
- High-performance neodymium magnetic system with low magnetic field height of 8 mm for workpieces from 10 mm upwards
- Integrated concentric grooves simplify workpiece centring
- Die clamping surfaces can be machined down to a depth of 6 mm (wear of pole surface)
- Centre drilling is possible at the centre, see table



Advantage
- Compact design and hence low weight
- Nominal adhesive force 150 N/cm², from Ø 200mm, nominal adhesive force 100 N/cm²

[SAV]

A mm	H mm	D mm	B mm	C mm	F mm	M	E mm	Pole Plate Thickness mm	Wear of Pole Surface mm	Number of Magnetic Terminals (PCS)	Nominal Adhesive Strength (N/cm2)	Weight kg	Order Code	Price
350	73	170	40	58	300	M8	220	20	5	20	100	49	24376350	**£2,173.96**
300	73	150	40	58	260	M8	180		5	16		30	24376300	**£1,719.41**
250	70	80	30	50	220	M6	140		5	16		20	24376250	**£1,315.58**
200	57	60	28	30	180	M6	110		5	12		13	24376200	**£1,152.41**
150	57	50	20	24	120	M6	80		5	10		7	24376150	**£848.49**
400	75	200	40	58	340	M8	260		10	20		75	24376400	**£2,566.09**

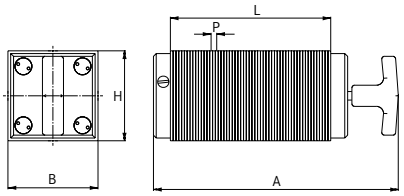
PERMANENT MAGNET CLAMPING BLOCKS

With 4 Magnetic Clamping Surfaces



Application
For flat, angular, coordinate and profile grinding, countersinking and wire erosion, measuring and testing.

Features
- With 4 magnetic clamping surfaces
- Firm clamping for small and thin parts
- Sealed to prevent fluid ingress
- Magnetic field height approx. 2mm
- Regrinding possible on all 4 sides up to the height of the two front panels



Notes
Order code: 030 stainless version with high-alloy chrome steel poles for use on wire eroding machines. Less suitable for grinding, as stainless steel version has reduced adhesive force.

A mm	L mm	B/H mm	Magnetic Field Height mm	P mm	Max. Wear of Pole Surface mm	Type	Order Code	Price
175	115	64	2	2/2	4	-	24355010	**£828.26**
195	135					-	24355020	**£923.84**
175	115					Stainless Steel	24355030	**£930.96**

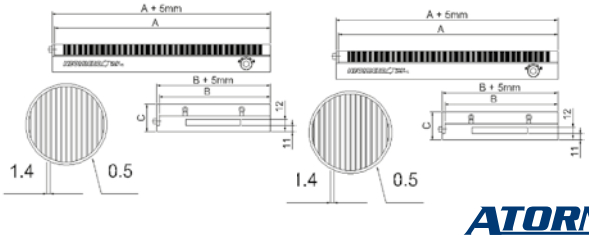
PERMANENT MAGNETIC CLAMPING PLATES

Particularly Narrow Transverse Pole Pitch



Application
For high-precision grinding and eroding work.

Features
- Double neodymium magnetic system generates an adhesive force of up to 100 N/cm2
- Universal clamping of extremely small, thin and large workpieces
- Very sturdy structure with solid basic body and solid pole plate
- No deformation during switching operation due to special switch method
- Sealed against coolant and dielectric
- Easy switching using hexagon key



Contents
2 limit stop strips, 2 adjustable clamps and hexagon key, operating instructions

ATORN®

A mm	B mm	Magnetic Field Height mm	Height mm	Pole Pitch ST/NE	Pole Plate Thickness mm	Wear of Pole Surface mm	Weight kg	Order Code	Price
150	150	6	51	1.4/0.5mm	20	8	9	24355030	**£930.96**
175	100	6	49	1.4/0.5mm	20	8	7	24314175	**£512.67**
200	100	6	49	1.4/0.5mm	20	8	8	24314200	**£558.50**
250	150	6	51	1.4/0.5mm	20	8	15	24314250	**£618.56**
350	150	6	51	1.4/0.5mm	20	8	22	24314350	**£881.55**
400	200	6	51	1.4/0.5mm	20	8	35	24314400	**£1,311.82**

PREMIER RANGE CHUCK - RECTANGULAR

Strong clamping force suitable for light to medium milling and grinding applications

- Unique top plate concentrates magnetic energy on to the chuck face
- Easy, instant on-off switching - removable operating handle
- Allows adjustment of position before full hold is engaged
- Fail-safe permanent magnetic technology



ECLIPSE MAGNETICS

Length mm	Height mm	Width mm	Pole Pitch	Weight kg	Order Code	Price
203	42	127	17.6	8.2	AX47/P	**£930.39**
276	53	129	35	16	AX510/P	**£1,019.41**
322	63	151	32	22	AXS612/P	**£993.99**
360	63	151	32	22	AXS614/P	**£1,029.28**
451	63	151	32	36	AXS618/P	**£1,292.07**
601	63	201	35	56	AXM824/P	**£2,591.29**

STANDARD RANGE CHUCK - RECTANGULAR

Strong clamping force suitable for light to medium milling and grinding applications

- Clamping force: 80N/cm2 on test piece steel ring 52mm ø outer 38mm, 10mm thick
- Brass and steel top plates
- All chucks are supplied with side and end stops, with clamps
- Removable hexagon key handles ensure ease of operation through a 180 degree arc

Fine Pole
1.5mm steel / 0.5mm brass, ideal for thin and small work pieces less than 3mm thick down to 0.7mm

Standard Pole
4mm steel / 2mm brass, effectively clamping all work pieces above 3mm thick



ECLIPSE MAGNETICS

Length mm	Width mm	Height mm	Weight kg	Order Code			
				Standard Pole	Price	Fine Pole	Price
255	130	50	15	ERSP1325	**£686.43**	ERFP1325	**£623.94**
300	150	50	20.5	ERSP1530	**£714.84**	ERFP1530	**£960.22**
350	150	50	23.5	ERSP1535	**£789.53**	ERFP1535	**£823.78**
450	150	50	30	ERSP1545	**£1,312.74**	ERFP1545	**£1,254.36**
600	200	50	52	ERSP2060	**£2,029.60**	ERFP2060	**£2,059.19**

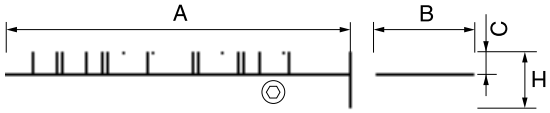
NEOMILL PERMANENT MAGNETIC CLAMPING PLATES

Compact Dimensions and High Holding Force

Application
For milling tasks.



Features
- With narrow transverse pole pitch
- Double neodymium magnetic system for high adhesive force up to 150 N/cm2
- The pole pitch allows universal clamping, even for workpieces with rough or uneven contact surface
- Adhesive force for workpiece thickness from 6mm
- Maximum stability due to one-piece housing and solid pole plate
- Easy to switch on/off using hexagon key
- Sealed against dirt and coolant



Contents
With hexagon key, clamping plates, operating instructions

[SAV]

A mm	B mm	Magnetic Field Height mm	Height mm	Pole pitch ST/NE	Pole Plate Thickness mm	Wear of Pole Surface mm	Weight kg	Order Code	Price
250	150	12	57	12/3 mm	20	5	17	24341110	**£888.46**
300	200		60		23		26	24341140	**£1,121.21**
350	150		57		20		24	24341120	**£1,186.98**
400	200		60		23		35	24341150	**£1,496.60**
500	200		60		23		44	24341160	**£1,777.49**
600	300		64		23		67	24341170	**£3,007.07**

DEMAGNETISING DEVICES

For Connection to 230 V AC, 50 Hz, Power on Time 100% (50% at Full Load)

Features

- For connection to 230 V AC, 50 Hz, 100% operating time (50% at full load)
- Unlike other devices, the intensity of the magnetic field is increased automatically with these devices to correspond to the size of the workpiece, i.e. no workpiece equals low power consumption and low heat development. The devices are therefore also suitable for use underneath a conveyor belt. The devices are fitted with a signal lamp, toggle switch, 3m cable and plug.
- Workpieces machined on permanent magnet or electromagnetic clamping plates become slightly magnetised. Demagnetising devices are used to remove this magnetisation. The workpieces are placed on one pole of the device and pushed over to the other pole.
- The process must be repeated a few times depending on the size and shape of the parts. The plates must not be switched off until the workpieces have been removed, as otherwise they will be magnetised again.

Notes

- Particularly ideal for demagnetising high-alloy steel, e.g. ring bearings, stamps and moulds.





ECLIPSE MAGNETICS

Model	Length mm	Width mm	Height mm	Current Consumption with Workpiece A	Current Consumption without Workpiece A	Nominal Voltage (V/AC)	Max. Penetration Depth mm	Weight kg	Order Code	Price
3	250	180	87	4	1.5	230	50	11	24491130	**£752.59**
4	200	266						18	24491140	**£1,024.34**
5	400	306						24	24491150	**£1,327.48**

MANUAL DEMAGNETISING DEVICE

For Connection to 230 V AC, 50 Hz, IP40 Protection, Power-On Time 50%

Application

- Handy device with plastic housing for focused demagnetising of large surfaces. The device is also suitable for separating steel parts and for conveying lightweight bulk material. The device is switched on and off via an illuminated pushbutton. Supply cable, 3m with plug.

Execution

- For connection to 230 V AC, 50 Hz, IP40 protection, 50% operating time



Model	Length mm	Width mm	Height mm	Max. Penetration Depth mm	Max. Switch-On Time (min)	Real Switch-On Time (%)	Nominal Voltage (V/AC)	Weight kg	Order Code	Price
HD-1	200	105	75	20	5	30	230	1.9	24492210	**£773.49**
HD-2	215	150	95	40	5	30	230	2.2	24492220	**£1,013.90**

TABLE-TOP DEMAGNETISER

- Lightweight unit for the removal of residual magnetism from components after workholding
- CE approved
- Max usage: 2 mins in any 4 minute period



Voltage	Width mm	Height mm	Depth mm	Weight kg	Order Code	Price
240	150	117	87	3.83	DA955	**£254.58**

MAGNETIC CHUCK VEE-BLOCKS

- Use to extend the flux paths of a magnetic chuck with parallel poles
- Can be machined to accommodate awkward workpieces



*Along width

Length mm	Height mm	Width mm	Pole Direction	Weight kg	Order Code	Price
60	30	75	Longitudinal*	2.4	950	**£167.24**
50	40	100			950V	**£152.12**

MAGNETIC 'V' BLOCKS

- 'V' blocks are ideal for holding cylindrical and complex workpieces for marking, spark erosion, grinding and measurement operations
- Can be used on its base, side or end



Width mm	Length mm	Height mm	Max Dia. of Workpiece Top 'V' mm	Max Dia. of Workpiece Bottom 'V' mm	Weight kg	Type	Order Code	Price
25 Micron Accuracy								
70	101.6	95	65	22	1.98	Individual	E934	**£393.82**
	101.6				3.96	Pairs	E934MP	**£819.71**
	80				3.12	Individual	E935	**£358.02**
	80				6.24	Pairs	E935MP	**£604.84**

MAGNETIC POSITIONERS

- 2 magnetic blocks connected by 2 non magnetic steel straps
- The blocks contain ferrite magnetic material
- Magnetic on 2 faces
- ON / OFF switch coated at each end



Length mm	Height mm	Width mm	Weight kg	Pull Force kg	Pull On V Face kg	Order Code	Price
206	63.5	76	3.17	80	80	922	**£370.85**
63.5		51	1.48			922SU	**£175.15**

HEAVY DUTY WELDING CLAMPS

- Holds workpieces at an exact 45° or 90° angle to each other
- 10kg and 15kg of magnetic pull make these ideal for a range of workshop welding and applications



ECLIPSE MAGNETICS

Angles	Depth mm	Height mm	Width mm	Weight kg	Pull Force kg	Order Code	Price
45°, 90°	14	82	120	0.3	10	E954	**£17.81**
	18	102	160	0.7	15	E955	**£22.27**

HOLDFASTS

- Supplied with screw release handle
- Can be built into workholding, handling and assembly fixtures to provide a high clamping force and positive grip



ECLIPSE MAGNETICS

Diameter mm	Height mm	Fixing Holes PCD mm	Holes mm	Weight kg	Pull Force kg	Order Code	Price
44.5	44.5	31.75	2 x M8	0.6	20	E939	**£69.42**
54	49.2	38.1	2 x M8	1	40	E940	**£72.29**
70	64.5	50.8	2 x M8	2	88	E941	**£119.58**
101.6	74.6	69	3 n/a	4.7	183	E942	**£266.69**

WELD HOLDER

- Provides the welder with a powerful, rigid support on flat and round components at various angles during welding preparation applications



ECLIPSE MAGNETICS

Length mm	Height mm	Width mm	Weight kg	Pull Force kg	Order Code	Price
108	140	108	5.67	100	E925	**£516.54**

STEEL PLATE DRAG

- Used to remove steel sheets from a stack and transport sheets to and from machines
- Contains permanent ferrite magnets in an aluminium housing



ECLIPSE MAGNETICS

Length mm	Height mm	Width mm	Weight kg	Pull Force kg	Order Code	Price
118	98	38	2.8	170	E964	**£247.62**

MAGNETIC 90˚ FIXED WELDING CLAMPS SWITCHABLE

- Convenience of ON/OFF switches
- Two ON/OFF switches for independent operation
- Easy and safe set-up!
- Machined flat and V-surfaces are ideal for round and square tubing, angle, and flat stock
- Heavy duty construction





*Magnetic force is based on 10mm thick steel

Angle	Dimensions mm	Weight kg	Pull Force* kg	Order Code	Price
90˚	152 x 152 x 38	1.2	55	FWCSS	**£136.73**
	197 x 197 x 48	2.7	120	FWCSL	**£255.23**

MAGNETIC ADJUSTABLE LINKS

- Ferrite magnetic material
- Clamp components at any angle for welding and assembly applications



Length mm	Height mm	Width mm	Weight kg	Pull Force kg	Order Code	Price
60	25	29	0.35	12	920SU (Single)	**£26.77**
127		51	0.70		920 (Pair)	**£42.11**

MAGNETIC ADJUSTABLE CLAMPING LINKS

- Alnico magnetic material
- Clamp components at any angle for welding and assembly applications



Length mm	Height mm	Width mm	Weight kg	Pull Force kg	Order Code	Price
60	25	25	0.32	12	920SUOT (Original Single)	**£35.70**
127		48	0.70		920OTPR (Original Pair)	**£68.47**

Measuring & Inspection



INSIZE BOWERS Mitutoyo JBO HAIMER

The UK's Leading Measuring & Inspection Range

The UK's biggest range of precision measuring tools, gauges & test equipment from leading brands Insize, JBO, Mitutoyo, Bowers, Moore & Wright, Haimer & more.



Calipers 1302
Digital, dial & vernier calipers



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Outside & inside digital or mechanical micrometers



Bore Gauges 1316
Digital, dial & pistol grip bore gauges



Depth Measurement 1322
Vernier, digital depth gauges & micrometers for quick & accurate depth measurements up to 1500mm (12")



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Analogue, digital & ultra high premium height measurement systems



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Digital, dial & analogue indicators, dial test indicators, stands & holders



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Digital & dial gauges



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Includes German made precision thread gauges from JBO in all thread forms & sizes



Gauge Blocks & Pin Gauges 1340
Individual slip gauge blocks & gauge block sets in workshop & inspection grades



Assorted Gauges & Measuring Tools 1344
Wide range of hand tools including rules, straight edges, protractors, pitch gauges, radius gauges & much more



Setting & Inspection Tools 1360
Including angle blocks, angle plates, V-Blocks, surface plates, & vices



Zero Setters & Edge Finders 1368
Dial & electronic zero setters, electronic edge finders, ceramic edge finders & basic edge finders



3D Sensors 1370
3D sensors, zero masters & probes including models from leading manufacturer Haimer



Test Equipment 1372
Including hardness testers, roughness testers, test meters, force gauges, multimeters & test balls



Scales & Counters 1378
Including linear scales, digital vertical scales, digital horizontal scales & counters



Data Output Cables 1379
For transmitting measuring data to computer devices



Tool Presetters 1380
Entry level to high performance Italian made tool presetters for accurate presetting

DIGITAL CALIPER
1108 Series

- Resolution: 0.01mm/0.0005”
- Button function: zero, on/off, mm/inch
- Battery CR2032, automatic power
- Data output
- Meet DIN862
- Made of stainless steel



INSIZE

Range mm/inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	±0.03	Yes	1108-150	**£24.99**
0-200 / 0-8”			1108-200	**£39.00**
0-300 / 0-12”			1108-300	**£79.00**
0-150 / 0-6”	±0.03	No	1108-150W	**£24.99**
0-200 / 0-8”			1108-200W	**£39.00**
0-300 / 0-12”			1108-300W	**£79.00**

HEAVY DUTY DIGITAL CALIPER
1114 Series

- Zinc alloy housing for digital unit
- Resolution: 0.01mm/0.0005”
- Button function: on/off, zero, mm/inch
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Made of stainless steel



INSIZE

Range mm/inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	±0.03	Yes	1114-150A	**£39.06**
0-200 / 0-8”			1114-200A	**£54.01**
0-300 / 0-12”			1114-300A	**£93.42**
0-150 / 0-6”	±0.03	No	1114-150AW	**£38.94**
0-200 / 0-8”			1114-200AW	**£54.01**
0-300 / 0-12”			1114-300AW	**£96.01**

IP67 DIGITAL CALIPER
1118 Series

- Resolution: 0.01mm/0.0005”
- Button function: zero, on/off, mm/inch, ABS/REL, hold
- Battery CR2032, automatic power
- Meet DIN862
- Made of stainless steel



IP67

INSIZE

Range mm/inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	±0.03	Yes	1118-150B	**£101.03**
0-200 / 0-8”			1118-200B	**£156.99**
0-300 / 0-12”			1118-300B	**£195.31**
0-150 / 0-6”	±0.03	No	1118-150BW	**£101.03**
0-200 / 0-8”			1118-200BW	**£153.29**
0-300 / 0-12”			1118-300BW	**£195.31**

BLUETOOTH IP67 DIGITAL CALIPER
30-810 Series

- IP67 dust/waterproof
- Integrated Bluetooth wireless technology (connectivity with Sylcom Pro, Sylvan Anywhere and Vmux measuring software)
- Programmable to your needs
- Large display unit

FREE Measuring Software Included

SWISS MADE



IP67 BLUETOOTH® DATA OUTPUT

sylvac

Range mm/inch	Accuracy mm	Order Code	Price
0-150 / 0-6”	±0.02	30-810-1506/50	**£231.00**
0-200 / 0-8”	±0.03	30-810-1526	**£352.50**
0-300 / 0-12”	±0.04	30-810-1536	**£434.00**

STANDARD WORKSHOP DIGITAL CALIPER
110 Series

- Resolution: 0.01mm/0.0005”
- Standard: DIN 862
- Zero point at any position
- All metal parts made of hardened stainless steel
- Thumb wheel for fine adjustment
- CR2032 battery



Range mm/inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	±0.03	Yes	MW110-15DBL	**£63.00**
0-200 / 0-8”	±0.03		MW110-20DBL	**£107.50**
0-300 / 0-12”	±0.04		MW110-30DBL	**£173.50**

LARGE DISPLAY DIGITAL CALIPER
110 Series

- Easy to read extra large LCD display
- Reading options: Metric / Inch / Fraction
- High measuring speed: 120” per second
- Resolution: 0.01mm/0.0005”
- Thumb wheel for fine adjustment
- Stainless steel frame with extra smooth movements
- CR2032 battery



Range mm/inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	±0.03	Yes	MW110-15DFC	**£60.00**
0-200 / 0-8”	±0.03		MW110-20DFC	**£103.00**
0-300 / 0-12”	±0.03		MW110-30DFC	**£168.00**

IP67 DIGIMATIC DIGITAL CALIPER

500 Series

- IP67 dust/waterproof
- Large display unit
- Convenient interface input tool is available so that measurement data can be converted to keyboard signals and input directly to commercial spreadsheet software



IP67

Mitutoyo

Range mm/inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	±0.02	Yes	500-752-20	**£208.88**
0-200 / 0-8”	±0.02		500-753-20	**£287.23**
0-300 / 0-12”	±0.03		500-754-20	**£375.90**

STANDARD DIGIMATIC DIGITAL CALIPER

500 Series

- Made of hardened stainless steel
- Smooth slider movement makes for comfortable operation
- 20,000 hours battery life



Mitutoyo

Range mm/inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	±0.02	Yes	500-196-30	**£144.16**
0-200 / 0-8”	±0.02		500-197-30	**£221.35**
0-300 / 0-12”	±0.03		500-193-30	**£475.31**

WIDE RANGE/LONG JAW DIGITAL CALIPER

1106 Series

- Resolution: 0.01mm/0.0005”
- Button function: on/off, zero, mm/inch, ABS, data preset
- Battery CR2032
- Data output
- Made of stainless steel



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Jaw Length	Order Code	Price
0-300 / 0-12”	±0.05	150	1106-302	**£280.60**
0-500 / 0-20”	±0.05	100	1106-501	**£224.97**
0-500 / 0-20”	±0.06	150	1106-502	**£377.02**
0-600 / 0-24”	±0.05	100	1106-601	**£294.20**
0-1000 / 0-40”	±0.08	150	1106-1002	**£673.69**
0-1500 / 0-60”	±0.11	150	1106-1502	**£1,540.22**
0-2000 / 0-80”	±0.14	150	1106-2002	**£2,279.45**

WIDE RANGE/LONG JAW DIGITAL CALIPER

1136 Series

- Resolution: 0.01mm/0.0005”
- Button function: on/off, zero, mm/inch, ABS, data preset
- With inside and stepped outside measuring jaws
- Data output
- Made of stainless steel



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Jaw Length	Order Code	Price
0-300 / 0-12”	±0.05	100	1136-301	**£297.91**
0-500 / 0-20”	±0.05	100	1136-501	**£284.31**
0-500 / 0-20”	±0.06	150	1136-502	**£431.41**
0-600 / 0-24”	±0.05	100	1136-601	**£373.32**
0-1000 / 0-40”	±0.08	150	1136-1002	**£833.15**
0-1500 / 0-60”	±0.11	150	1136-1502	**£1,771.39**
0-2000 / 0-80”	±0.14	150	1136-2002	**£2,609.49**

LARGE DIGITAL WORKSHOP CALIPER

150 Series

- Long jaws with internal measuring nibs
- Ground micro-lapped measuring surfaces
- Thumb wheel for fine adjustment



DATA OUTPUT

Range mm/inch	Jaw Length	Order Code	Price
0-500 / 0-20"	100	MW150-50DDL	**£239.50**
0-600 / 0-24"	100	MW150-60DDL	**£311.50**
0-1000 / 0-40"	125	MW150-75DDL	**£598.50**

WIDE RANGE/LONG JAW DIGITAL CALIPER

1135 Series

- Resolution: 0.01mm/0.0005”
- Button function: on/off, zero, mm/inch, ABS, data preset
- With inside and stepped outside measuring jaws
- Data output
- Made of stainless steel



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Jaw Length	Order Code	Price
0-450 / 0-18”	±0.05	100	1135-451	**£354.77**
0-600 / 0-24”	±0.05	100	1135-601	**£379.49**
0-1000 / 0-40”	±0.08	150	1135-1002	**£945.64**

WIRELESS DIGITAL CALIPERS

1113 Series

- Built-in wireless data transfer module, Zigbee signal
- Transfer distance of 6 meters
- Resolution: 0.01mm/0.0005”
- Button function: on/off, zero, mm/inch, data transmission
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Made of stainless steel
- Optional accessory: wireless receiver **(7315-2, 7315-3)**



DATA OUTPUT

INSIZE

Range mm / inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	+0.03	Yes	1113-150	**£100.04**
0-200 / 0-8”			1113-200	**£120.87**
0-300 / 0-12”			1113-300	**£171.42**
0-150 / 0-6”	+0.03	No	1113-150W	**£97.13**
0-200 / 0-8”			1113-200W	**£117.34**
0-300 / 0-12”			1113-300W	**£166.44**

DIGITAL CALIPER WITH CARBIDE TIPPED JAWS

1110 Series

- Carbide tipped jaws for inside and outside measurements extremely wear-resistant, non-magnetic, non-conductive
- Resolution: 0.01mm/0.0005”
- Button function: zero, on/off, mm/inch
- Automatic power off, (move the digital unit) to turn on power
- Battery CR2032, data output, meet DIN862
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)
- Supplied with manufacturers inspection certificate traceable to DKD Germany



DATA OUTPUT

INSIZE

Range mm / inch	Accuracy mm	Carbide Jaws	Order Code	Price
0-150 / 0-6”	+0.03	Inside & Outside	1110-150A	**£148.34**
0-300 / 0-12”			1110-200A	**£101.05**
0-200 / 0-8”			1110-300A	**£178.01**
0-200 / 0-8”	+0.03	Outside	1110-150B	**£127.21**
0-150 / 0-6”			1110-200B	**£245.99**
0-300 / 0-12”			1110-300B	**£193.22**

LEFT HAND DIGITAL CALIPER

1130 Series

- Resolution: 0.01mm/0.0005”
- Button function: zero, on/off, mm/inch
- Automatic power off, (move the digital unit) to turn on power
- Battery LR44
- Meets DIN862
- Made of stainless steel
- Supplied with manufacturers inspection certificate traceable to DKD Germany
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2)**



DATA OUTPUT

INSIZE

Range mm / inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	+0.03	Yes	1130-150	**£131.03**
0-200 / 0-8”			1130-200	**£150.02**
0-300 / 0-12”			1130-300	**£217.23**
0-150 / 0-6”	+0.03	No	1130-150W	**£131.03**
0-200 / 0-8”			1130-200W	**£150.02**
0-300 / 0-12”			1130-300W	**£217.23**

DIGITAL CALIPER WITH ROUND DEPTH BAR

1119 Series

- Resolution: 0.01mm/0.0005”
- Button function: on/off, set, mm/inch, preset (+,-)
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable
- Supplied with manufacturer’s inspection certificate traceable to DKD Germany
- Supplied with inside and outside measuring jaws and a 1.6mm diameter round depth bar



DATA OUTPUT

INSIZE

Range mm / inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	±0.03	Yes	1119-150	**£44.38**
0-150 / 0-6”		No	1119-150W	**£44.38**

DIGITAL CALIPER WITH CERAMIC TIPPED JAWS

1193 Series

- Ceramic tipped jaws for outside measurement, extremely wear-resistant, non-magnetic, non-conductive
- Resolution: 0.01mm/0.0005”
- Button function: zero, on/off, mm/inch
- Automatic power off, (move the digital unit) to turn on power
- Battery CR2032, data output, meet DIN862, made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)
- Supplied with manufacturers inspection certificate traceable to DKD Germany



DATA OUTPUT

INSIZE

Range mm / inch	Accuracy mm	Thumb Wheel	Order Code	Price
0-150 / 0-6”	+0.03	Yes	1193-150	**£93.33**
0-200 / 0-8”			1193-200	**£93.33**
0-300 / 0-12”			1193-300	**£113.97**
0-150 / 0-6”	+0.03	No	1193-150W	**£113.97**
0-200 / 0-8”			1193-200W	**£159.47**
0-300 / 0-12”			1193-300W	**£155.76**

MINI DIGITAL CALIPER

1111 Series

- Resolution: 0.01mm/0.0005”
- Button function: zero, on/off, mm/inch
- Automatic power off, (move the digital unit) to turn on power
- Battery LR44
- Meets DIN862
- Made of stainless steel



INSIZE

Range mm / inch	Accuracy mm	Order Code	Price
0-75 / 0-3”	+0.02	1111-75A	**£42.77**
0-100 / 0-4”		1111-100A	**£42.77**

PLASTIC DIGITAL CALIPER
1139 Series

- Made of hard plastic, non-magnetic and non-conductive
- Prevent workpieces from scratching by calipers
- Resolution: 0.01mm/0.0005”
- Button function: zero, on/off, mm/inch
- Battery CR2032, automatic power off



INSIZE

Range mm / inch	Accuracy mm	Order Code	Price
0-150 / 0-6”	+0.1	1139-150	**£16.94**

POLYCARBONATE DIGITAL CALIPER
110 Series

- Polycarbonate frame to make the caliper lighter and easier to use.
- 4 way measurements: outside, inside, depth and step
- Resolution: 0.01mm/0.0005”
- Button function: mm/inch conversion, ABS/INC, on/off, zero setting
- Battery CR2032



Range mm / inch	Accuracy mm	Order Code	Price
0-150 / 0-6”	+0.2	MW110-15DPC	**£28.00**

VERNIER CALIPER WITH THUMB CLAMP
1223 Series

- Meets DIN862
- Made of stainless steel
- Satin chrome plated reading surface



INSIZE

Range mm / inch	Accuracy mm	Graduation mm / inch	Order Code	Price
0-150 / 0-6"	+0.05	0.05 / 1 / 128”	1223-150	**£27.44**
0-200 / 0-8"			1223-200	**£43.39**
0-150 / 0-6"	+0.03	0.02 / 0.001”	1223-1502	**£27.81**
0-200 / 0-8"			1223-2002	**£44.38**

VERNIER CALIPER WITH THUMB WHEEL
1205 Series

- Meets DIN862
- Made of stainless steel
- Satin chrome plated reading surface



INSIZE

Range mm / inch	Accuracy mm	Graduation	Order Code	Price
0-150 / 0-6"	+0.05	0.02	1205-150S	**£24.19**
0-200 / 0-8"			1205-200S	**£41.66**
0-300 / 0-12"			1205-300S	**£79.48**
0-150 / 0-6"	+0.03	0.05	1205-1502S	**£24.33**
0-200 / 0-8"			1205-2002S	**£44.99**
0-300 / 0-12"			1205-3002S	**£83.69**

METRIC VERNIER CALIPER
530 Series

- Stepped graduation face prevents dust ingress between the main scale and slider
- The small vernier face angle (14°) provides easy reading
- Can measure outside and inside dimensions, depth, and steps



Mitutoyo

Range mm	Accuracy mm	Graduation	Order Code	Price
0-150	+0.05	0.05	530-101	**£43.35**
0-200	+0.08		530-108	**£84.91**
0-300	+0.08		530-109	**£208.82**

DIAL CALIPER
1311/1312 Series

- Shockproof dial indicator
- Made of stainless steel
- With thumb roller



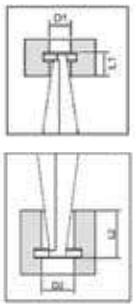
INSIZE

Range mm	Accuracy mm	Graduation	Order Code	Price
0-150	+0.03	0.01	1311-150A	**£51.30**
0-200			1311-200A	**£85.79**
0-300			1311-300A	**£133.51**
0-150	+0.03	0.02	1312-150A	**£45.98**
0-200			1312-200A	**£65.76**
0-300			1312-300A	**£116.57**

DIGITAL INSIDE GROOVE CALIPER
1176 Series

- Measure diameters of grooves inside bores
- Resolution: 0.01mm/0.0005”
- Button function: on/off, set, mm/inch, preset (+,-)
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel





DATA OUTPUT

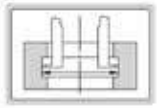
INSIZE

Upper Jaw Range	Lower Jaw Range mm	Accuracy mm	Order Code	Price
9-150mm / 0.35-6”	15-150mm / 0.59-6”	±0.05	1176-150	**£205.21**

DIGITAL INSIDE GROOVE CALIPER
1120 Series

- Measure internal groove diameters
- Resolution: 0.01mm/0.0005”
- Button function: on/off, set, mm/inch, preset (+,-)
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel





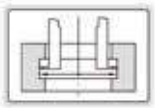
DATA OUTPUT

INSIZE

Range mm	Measuring Tip Thickness	Accuracy mm	Jaw Lengths mm	Order Code	Price
22-150	1	±0.04	30	1120-150A	**£139.68**
25-200	1	±0.04	40	1120-200A	**£168.12**
30-300	1.5	±0.05	50	1120-300A	**£221.26**

DIGITAL INSIDE GROOVE CALIPER
1520 Series

- Resolution: 0.01mm/0.0005”
- Button function: on/off, set, mm/inch, preset (+,-)
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel
- Jaw length 41mm
- Optional accessory: depth stop (Code 6143), data output cable (Code **7302-SPC5A**)





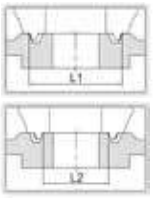
DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
11-150mm / 0.43/6”	±0.04	1520-150	**£137.22**

DIGITAL RTJ RING GROOVE CALIPER
1179 Series

- Measure ring grooves of flange
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)





DATA OUTPUT

INSIZE

Range (Inside diameter of RTJ ring grove)	Range (Outside diameter of RTJ ring grove)	Accuracy mm	Order Code	Price
10-300mm/0.4-12”	25-300mm/1-12”	+0.06	1179-300	**£339.94**
10-600mm/0.4-24”	25-600mm/1-24”	+0.07	1179-600	**£541.44**
15-1000mm/0.6-40”	30-1000mm/1.2-40”	+0.09	1179-1000	**£1,574.58**

IP54 INTERNAL GROOVE DIGITAL CALIPER
DABS Series

- Ideal for inside groove applications
- IP54 rating for dust and water protection
- Thumb wheel for fine adjustment
- Resolution: 0.01mm/0.0005”

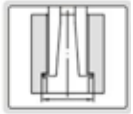


IP54

Range mm/inch	Accuracy mm	Order Code	Price
11-200 / 0.43-8”	±0.03	MW125-20DABS	**£121.00**

LONG JAW INSIDE GROOVE DIGITAL CALIPER
1178 Series

- Designed for measuring groove diameters inside bores
- Buttons: on/off, set, mm/inch, preset (+,-)
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: depth stop (code **6143**), data output cable





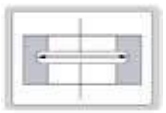
DATA OUTPUT

INSIZE

Range mm/inch	Measuring Leg Length	Accuracy mm	Order Code	Price
25-300 / 1.18-12”	110mm	±0.05	1178-300	**£299.14**

DIGITAL INSIDE POINT CALIPER
1121 Series

- Measure internal groove diameters
- Resolution: 0.01mm/0.0005”
- Button function: on/off, set, mm/inch, preset (+,-)
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)

DATA OUTPUT

INSIZE

Range mm	Measuring Tips Ø	Accuracy mm	Jaw Lengths mm	Order Code	Price
24-150	Ø2mm	±0.04	28	1121-150A	**£170.60**
25-200	Ø2mm	±0.04	37	1121-200A	**£180.48**
50-300	Ø3mm	±0.06	77	1121-3001A	**£323.86**

DIGITAL OUTSIDE POINT CALIPER
1185 Series

- For measuring wall thickness inside bores and recesses
- Buttons: on/off, zero, mm/inch
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel
- Jaw length 40mm
- Optional accessory: depth stop (Code **6143**)
- Data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)



DATA OUTPUT

INSIZE

Range mm/inch	Measuring Tips Ø	Measuring Tip Length	Accuracy mm	Order Code	Price
0-150 / 0-6”	Ø2mm	5mm	±0.04	1185-150A	**£132.27**

DIGITAL INSIDE KNIFE-EDGE CALIPER
1123 Series

- Measure diameter of deep step holes
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
15-150/0.6-6”	+0.05	1123-150A	**£179.25**
20-200/0.8-8”	+0.06	1123-200A	**£254.43**
24-300/0.9-12”	+0.05	1123-300A	**£400.84**

DIGITAL OUTSIDE NECK CALIPER
1187 Series

- Buttons: on/off, zero, mm/inch
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)



DATA OUTPUT

INSIZE

Range mm/inch	Measuring Tip Thickness	Accuracy mm	Order Code	Price
0-150 / 0-6”	1	±0.04	1187-150A	**£122.38**

DIGITAL CALIPER WITH INTERCHANGEABLE POINTS
1526 Series

- Supplied with 3 pairs of points and zero setting block for external measurement
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, set, mm/inch, preset (+,-)
- Automatic power off, (move the digital unit) to turn on power
- Battery CR2032
- Made of stainless steel
- Jaw length 30mm
- Optional accessory: points (code **1526-T101, 7392, 7391, 7381, 7321**), depth stop (code **6143**), data output cable (code **7306-20,7302-SPC1A/SPC1B,7305-SPC2**)



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
12-212	+0.03	1526-200	**£286.79**

DIGITAL CALIPER WITH INTERCHANGEABLE POINTS
1124 Series

- Supplied with 4 pairs of points and zero setting block for external measurement
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, set, mm/inch, preset (+,-)
- Automatic power off, (move the digital unit) to turn on power
- Battery CR2032
- Made of stainless steel
- Jaw length 70mm
- Optional accessory: points (code **1526-T101, 7392, 7391, 7381, 7321**), depth stop (code **6143**), data output cable (code **7306-20,7302-SPC1A/SPC1B,7305-SPC2**)



DATA OUTPUT

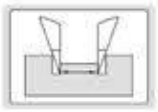
INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
24-324	+0.04	1124-300A	**£373.32**

DIGITAL POINT CALIPER

1183 Series

- Pointed jaws fit into small grooves and recesses
- Resolution 0.01mm/0.0005”
- Automatic power off (move digital unit to turn on)
- Buttons: on/off, zero, mm/inch
- Battery CR2032
- Data output
- Made of stainless steel





DATA OUTPUT

INSIZE

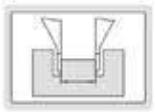
Range mm/inch	Accuracy mm	Order Code	Price
0-150 / 0-6”	±0.03	1183-150A	**£107.29**

DIGITAL SMALL POINT CALIPER

1169 Series

- Small pointed jaws fit into small grooves and recesses
- Resolution: 0.01mm/0.0005”
- Buttons: on/off zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/ SPC1B, 7305-SPC2**)





DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
0-150 / 0-6”	+0.03	1169-150	**£91.84**

LONG UPPER JAWDIGITAL CALIPER

1138 Series

- Longer upper jaws for measuring deep holes
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
0-200 / 0-8”	+0.04	1138-200	**£324.03**

DIGITAL BLADE CALIPER

1188 Series

- Blade jaws fit into small grooves
- Resolution: 0.01mm/0.0005”
- Buttons: on/off zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/ SPC1B, 7305-SPC2**)





DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Blade Thickness mm	Order Code	Price
0-150/0-6”	+0.03	0.85	1188-150A	**£94.06**
0-200/0-8”	+0.03	0.85	1188-200A	**£129.62**
0-300/0-12”	+0.04	1	1188-300A	**£206.42**

DIGITAL BACK-JAW CENTERLINE CALIPER

1177 Series

- Adjustable caliper to measure hole centres on same or stepped planes
- Resolution: 0.01mm/0.0005”
- Button function: on/off, set, mm/inch, preset (+,-)
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7302-SPC5A**)



DATA OUTPUT

INSIZE

Range mm	Accuracy mm	Order Code	Price
10-200 / 1.2-40”	±0.10	1177-200	**£278.12**
10-300 / 0.4-8”	±0.10	1177-300	**£339.94**
20-500 / 0.4-12”	±0.10	1177-500	**£815.85**
30-1000 / 0.8-20”	±0.12	1177-1000	**£1,331.32**

DIGITAL HOOK CALIPER

1122 Series

- Measure width and distance of groove inside bores
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable



DATA OUTPUT

INSIZE

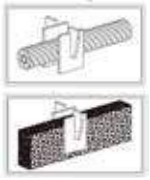
Range mm/inch	Accuracy mm	Order Code	Price
4-300 / 0.16-12”	±0.04	1122-300	**£342.04**

DIGITAL CALIPER WITH LARGE MEASURING FACE

1172 Series

- Measure diameter of wire rope and thickness of soft materials like rubber, sponge etc
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)





DATA OUTPUT

INSIZE

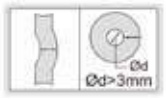
Range mm/inch	Accuracy mm	Order Code	Price
0-200 / 0-8	+0.07	1172-200	**£300.38**

DIGITAL TUBE THICKNESS CALIPER

1161 Series

- Measure wall thickness of tubes
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)





DATA OUTPUT

INSIZE

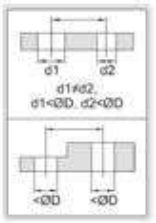
Range mm/inch	Accuracy mm	Order Code	Price
0-150 / 0-6	+0.05	1161-150A	**£163.18**

DIGITAL OFFSET CENTERLINE CALIPER

1192 Series

- Measure hole center distance in the same or offset planes
- Resolution: 0.01mm/0.0005”
- Buttons: on/off set mm/inch preset (+,-)
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)





DATA OUTPUT

INSIZE

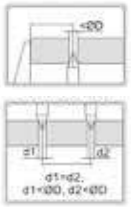
Range mm	Accuracy mm	Order Code	Price
10-150	+0.05	1192-150A	**£228.68**
10-200	+0.07	1192-200A	**£279.37**
10-300	+0.09	1192-300A	**£326.34**

DIGITAL CENTERLINE EDGE TO CENTER CALIPER

1525 Series

- Measure hole center distance or edge to hole distance
- Resolution: 0.01mm/0.0005”
- Buttons: on/off set mm/inch preset (+,-)
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)





DATA OUTPUT

INSIZE

Range of Upper Jaw (Edge to Center)	Range of Lower Jaw (Edge to Center)	Accuracy mm	Order Code	Price
5-300mm / 0.2-12”	10-300mm / 0.4-12”	+0.08	1525-300	**£374.55**

DIGITAL GEAR TOOTH CALIPER

1181 Series

- Non waterproof
- Resolution: 0.01mm/0.0005”
- Carbide tips
- Measure the tooth thickness by positioning the tooth height (for tooth height >1mm)
- Buttons: zero, on/off, mm/inch
- Automatic power off, move the digital unit to turn on power
- Battery CR2032
- Made of stainless steel



DATA OUTPUT

INSIZE

Range mm	Accuracy of Height Measurement	Accuracy of Thickness Measurement	Total Accuracy	Order Code	Price
M1-25	+0.03	+0.03	+0.04	1181-M25A	**£326.34**
M5-50				1181-M50A	**£402.98**

DIGITAL DISK BRAKE & PAD CALIPER

1167 Series

- Measure thickness of disk brakes and pad wear
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)





DATA OUTPUT

INSIZE

Radius Range mm/inch	Accuracy mm	Order Code	Price
0-150/0-6”	+0.07	1167-150A	**£165.64**

DIGITAL OUTSIDE MICROMETER
3109 Series

- Resolution: 0.001mm/0.00005”
- Button function: on/off, set, mm/inch, ABS/INC
- Carbide measuring faces
- Battery SR44 or LR44
- Supplied with spherical anvil
- Setting standards are included (except 0-25mm/0-1”)



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
0-25 / 0-1"	±0.002	3109-25A	**£67.78**
25-50 / 1-2"	±0.002	3109-50A	**£89.31**
50-75 / 2-3"	±0.003	3109-75A	**£107.90**
75-100 / 3-4"	±0.003	3109-100A	**£122.37**

IP65 DIGITAL OUTSIDE MICROMETERS
3101 Series

- IP65 dust/waterproof
- Resolution: 0.001mm/0.00005”
- Button function: on/off, zero, mm/inch, ABS/INC, data output
- Carbide measuring faces
- Data output
- Supplied with spherical anvil



IP65 DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Resolution mm/inch	Order Code	Price
0-25 / 0-1"	±0.002	0.001 / 0.00005”	3101-25A	**£143.39**
25-50 / 1-2"	±0.002	0.001 / 0.00005”	3101-50A	**£184.19**
50-75 / 2-3"	±0.003	0.001 / 0.00005”	3101-75A	**£201.50**
75-100 / 3-4"	±0.003	0.001 / 0.00005”	3101-100A	**£223.74**
100-125 / 4-5"	±0.003	0.001 / 0.00005”	3101-125A	**£263.29**
125-150 / 5-6"	±0.003	0.001 / 0.00005”	3101-150A	**£274.42**
150-175 / 6-7"	±0.004	0.001 / 0.00005”	3101-175A	**£286.79**
175-200 / 7-8"	±0.004	0.001 / 0.00005”	3101-200A	**£310.27**
200-225 / 8-9"	±0.005	0.001 / 0.00005”	3101-225A	**£336.23**
225-250 / 9-10"	±0.005	0.001 / 0.00005”	3101-250A	**£362.19**
250-275 / 10-11"	±0.006	0.01 / 0.0001”	3101-275A	**£379.49**
275-300 / 11-12"	±0.006	0.01 / 0.0001”	3101-300A	**£421.53**

DIGITAL OUTSIDE MICROMETER
200 Series

- Resolution: 0.001mm/0.00005”
- Large LCD display
- Absolute and Incremental modes
- Carbide measuring faces
- Hammertone finished frame with high quality insulated grip



Range mm/inch	Order Code	Price
0-25 / 0-1"	MW200-01DBL	**£92.50**
25-50 / 1-2"	MW200-02DBL	**£111.50**
50-75 / 2-3"	MW200-03DBL	**£130.50**
75-100 / 3-4"	MW200-04DBL	**£161.00**

IP65 METRIC DIGITAL OUTSIDE MICROMETERS
3108 Series

- IP65 dust/waterproof
- Resolution: 0.001mm
- Carbide measuring faces
- Supplied with spherical anvil
- Button function: on/off, set, ABS/INC
- Supplied with manufacturers inspection certificate traceable to DKD Germany



IP65

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
0-25 / 0-1"	±0.002	3108-25A	**£97.77**
25-50 / 1-2"	±0.002	3108-50A	**£124.85**
50-75 / 2-3"	±0.003	3108-75A	**£150.81**
75-100 / 3-4"	±0.003	3108-100A	**£165.64**
100-125 / 4-5"	±0.003	3108-125A	**£187.90**
125-150 / 5-6"	±0.003	3108-150A	**£200.24**
150-175 / 6-7"	±0.004	3108-175A	**£217.55**
175-200 / 7-8"	±0.004	3108-200A	**£238.57**

IP65 METRIC DIGIMATIC MICROMETER
293 Series

- IP65 dust/waterproof
- Resolution: 0.001mm/0.00005”
- Data output



IP65 DATA OUTPUT

Mitutoyo

Range mm/inch	Accuracy mm	Order Code	Price
Metric			
0-25	±0.001	293-230-30	**£301.04**
25-50	±0.001	293-231-30	**£320.12**
50-75	±0.001	293-232-30	**£364.64**
75-100	±0.002	293-233-30	**£394.32**
Metric & Imperial			
0-25.4 / 0-1”	±0.001	293-340-30	**£227.90**
25.4-50.8 / 1-2”	±0.001	293-341-30	**£284.08**
50.8-76.2 / 2-3”	±0.001	293-342-30	**£333.90**
76.2-101.6 / 3-4”	±0.002	293-343-30	**£376.30**

IP54 DIGITAL OUTSIDE MICROMETER
201 Series

- IP54 dust/waterproof
- Resolution: 0.001mm/0.00005”
- Large LCD display
- Absolute and Incremental modes
- Carbide measuring faces
- Ball attachment included



IP54

Range mm/inch	Order Code	Price
0-25 / 0-1"	MW201-01DAB	**£118.00**
25-50 / 1-2"	MW201-02DAB	**£145.00**
50-75 / 2-3"	MW201-03DAB	**£158.50**
75-100 / 3-4"	MW201-04DAB	**£195.00**

QUANTUMIKE IP65 DIGIMATIC MICROMETER

293 Series

- IP65 dust/waterproof
- Fast action type: 2mm spindle feed per revolution
- Resolution: 0.001mm/0.00005”
- Carbide measuring facing



IP65

Mitutoyo

Range mm/inch	Accuracy mm	Order Code	Price
0-25.4 / 0-1”	±0.001	293-185-30	£241.68
25.4-50.8 / 1-2”	±0.001	293-186-30	£304.22
50.8-76.2 / 2-3”	±0.001	293-187-30	£354.04
76.2-101.6 / 3-4”	±0.002	293-188-30	£386.90

IP67 DIGITAL EXTERNAL MICROMETER

DM Series

- Solid carbide contact faces
- IP67 - highest protection against coolant & dust
- Compatible with Sylcom software via bluetooth
- Huge LCD display – Easy to read
- Bluetooth IOT ready
- Resolution 0.001mm/0.00005”
- Supplied as standard with UKAS certification



IP67 BLUETOOTH® MADE IN BRITAIN

Bowers Group

Range mm	Accuracy mm	Order Code	Price
0-25	±0.002	DM025	£367.50
25-50	±0.002	DM050	£388.50
50-75	±0.003	DM075	£404.50
75-100	±0.003	DM100	£441.00

ANALOGUE OUTSIDE MICROMETERS

103 Series

- Cut-away frame (behind anvil) for measuring in hard-to-reach places
- Heat-insulated frame
- Measuring faces: Carbide
- Sizes 300-1000mm are available online



Mitutoyo

Range mm/inch	Graduation mm	Accuracy mm	Order Code	Price
0-25	0.01	±0.002	103-137	£58.51
0-25	0.001	±0.002	103-129	£67.31
25-50	0.01	±0.002	103-138	£78.55
25-50	0.001	±0.002	103-130	£87.13
50-75	0.01	±0.002	103-139-10	£103.46
75-100	0.01	±0.003	103-140-10	£116.60
100-125	0.01	±0.003	103-141-10	£129.32
125-150	0.01	±0.003	103-142-10	£143.10
150-175	0.01	±0.004	103-143-10	£155.82
175-200	0.01	±0.004	103-144-10	£179.14
200-225	0.01	±0.004	103-145-10	£192.92
225-250	0.01	±0.006	103-146-10	£220.48
250-275	0.01	±0.006	103-147-10	£233.20
275-300	0.01	±0.006	103-148-10	£244.86

ANALOGUE OUTSIDE MICROMETERS

3203 Series

- Graduation: 0.01mm
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)



Individual

INSIZE

Range mm	Accuracy mm	Order Code	Price
0-25	±0.004	3203-25A	£21.24
25-50	±0.004	3203-50A	£25.18
50-75	±0.005	3203-75A	£31.30
75-100	±0.005	3203-100A	£35.06
100-125	±0.006	3203-125A	£47.66
125-150	±0.006	3203-150A	£54.59
150-175	±0.007	3203-175A	£69.19
175-200	±0.007	3203-200A	£72.01
200-225	±0.008	3203-225A	£77.66
225-250	±0.008	3203-250A	£89.65
250-275	±0.009	3203-275A	£99.78
275-300	±0.009	3203-300A	£106.01

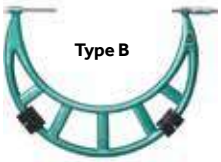
Sets

Range mm	No. Micrometers Included	Order Code	Price
0-75	3pcs	3203-753A	£88.25
0-100	4pcs	3203-1004A	£112.37
0-150	6pcs	3203-1506A	£207.08
150-300	6pcs	3203-3006A	£500.06
0-300	12pcs	3203-3012A	£728.32

OUTSIDE MICROMETER WITH INTERCHANGEABLE ANVILS

3206 Series

- Graduation: 0.001mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards



Type B



Type A

INSIZE

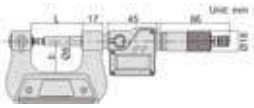
Range mm	Type	Accuracy mm	Order Code	Price
0-100	A	±0.005	3206-100A	£170.60
0-150		±0.006	3206-150A	£200.24
150-300		±0.006	3206-151A	£181.72
100-200		±0.007	3206-200A	£222.50
150-300		±0.009	3206-300A	£258.35
200-300		±0.009	3206-301A	£252.16
300-400	B	±0.011	3206-400	£440.06
400-500		±0.013	3206-500	£500.64
500-600		±0.014	3206-600	£573.57
600-700		±0.016	3206-700	£662.57
700-800		±0.018	3206-800	£780.00
900-1000		±0.022	3206-1000	£1,009.93

DIGITAL SCREW THREAD MICROMETER
3581 Series

- Measure pitch diameter of screw threads
- Resolution 0.001mm/0.00005”
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Non-rotating spindle
- Ratchet stop
- Supplied with 60 setting standards (except 0-25mm/0-1”)
- Optional accessory: 55 setting standards data output cable (code **3281-SP**), (code **7306-30, 7302-SPC2A, 7305-SPC3)**
- Measuring tips not included see opposite

DATA OUTPUT





INSIZE

Range mm/inch	L	b	Order Code	Price
0-25 / 0-1”	42	26	3581-25A	**£263.29**
25-50 / 1-2”	67	38	3581-50A	**£285.54**
50-75 / 2-3”	92	50	3581-75A	**£313.98**
75-100 / 3-4”	117.6	62	3581-100A	**£334.99**

SCREW THREAD MICROMETER
3281 Series

- For measuring the pitch diameter of screw threads
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Measuring tips not included see page opposite



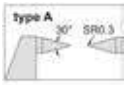
INSIZE

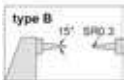
Range mm	Order Code	Price
0-25	3281-25A	**£106.36**
25-50	3281-50A	**£122.37**
50-75	3281-75A	**£141.19**
75-100	3281-100A	**£151.78**
100-125	3281-125A	**£163.55**
125-150	3281-150A	**£195.32**
150-175	3281-175A	**£211.79**
175-200	3281-200A	**£231.79**

IP54 DIGITAL POINT MICROMETER
3530 Series

- Measure the web thickness of drills, small grooves and keyways
- IP54 dust/waterproof
- Resolution 0.001mm/0.00005”
- Data output
- LR44 battery
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm)







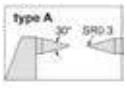
IP54 DATA OUTPUT

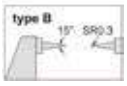
INSIZE

Range mm/inch	Type	Accuracy mm	Order Code	Price
0-25 / 0-1”	A	±0.004	3530-25A	**£233.62**
25-50 / 1-2”		±0.004	3530-50A	**£252.03**
50-75 / 2-3”		±0.005	3530-75A	**£271.23**
75-100 / 3-4”		±0.005	3530-100A	**£294.03**
0-25 / 0-1”	B	±0.004	3530-25BA	**£234.86**
25-50 / 1-2”		±0.004	3530-50BA	**£249.63**
50-75 / 2-3”		±0.005	3530-75BA	**£272.43**
75-100 / 3-4”		±0.005	3530-100BA	**£294.03**

POINT MICROMETER
3230 Series

- Measure the web thickness of drills, small grooves and keyways
- Graduation 0.01mm
- Ratchet stop
- Carbide tips
- Supplied with setting standards (except 0-25mm)







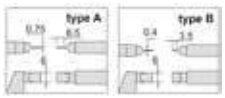
INSIZE

Range m/inch	Type	Accuracy mm	Order Code	Price
0-25 / 0-1”	A	±0.004	3230-25A	**£89.50**
25-50 / 1-2”		±0.004	3230-50A	**£97.17**
50-75 / 2-3”		±0.005	3230-75A	**£105.82**
75-100 / 3-4”		±0.005	3230-100A	**£122.13**
0-25 / 0-1”	B	±0.004	3230-25BA	**£89.50**
25-50 / 1-2”		±0.004	3230-50BA	**£97.17**
50-75 / 2-3”		±0.005	3230-75BA	**£106.18**

DIGITAL BLADE MICROMETER
3532 Series

- Measure the groove diameter of shafts and keyways
- Resolution 0.001mm/0.00005”
- Non-rotating spindle
- Data output
- LR44 battery
- Ratchet stop
- Supplied with setting standards (except 0-25mm)





DATA OUTPUT

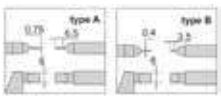
INSIZE

Range mm/inch	Type	Accuracy mm	Order Code	Price
0-25 / 0-1”	A	±0.004	3532-25A	**£343.65**
25-50 / 1-2”		±0.004	3532-50A	**£365.90**
50-75 / 2-3”		±0.005	3532-75A	**£379.25**
75-100 / 3-4”		±0.005	3532-100A	**£402.05**
0-25 / 0-1”	B	±0.004	3532-25BA	**£333.64**
25-50 / 1-2”			3532-50BA	**£355.24**

BLADE MICROMETER
3232 Series

- Measure the groove diameter of shafts and keyways
- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with setting standards (except 0-25mm)





INSIZE

Range mm/inch	Type	Accuracy mm	L	b	Order Code	Price
0-25mm	A	4µm	57	32	3232-25A	**£145.87**
25-50mm		4µm	82	44.5	3232-50A	**£180.48**
50-75mm		5µm	107	57	3232-75A	**£196.55**
75-100mm		5µm	132.6	69.5	3232-100A	**£213.86**
100-125mm		6µm	158	82	3232-125A	**£250.93**
125-150mm		6µm	183.4	94.5	3232-150A	**£273.18**
150-175mm		7µm	208.8	107	3232-175A	**£301.62**
0-25mm	B	4µm	57	32	3232-25BA	**£171.83**
25-50mm			82	44.5	3232-50BA	**£200.24**

SCREW THREAD MICROMETER TIPS

7381 Series

- Measuring tips for screw thread micrometers
- Metric/UN set includes 6 pairs
- Whitworth set includes 10 pairs
- Suitable for 3281/3581 series



Metric and Unified Thread (60°)

Pitch / TPI	Order Code	Price
0.4-0.5 / 64-68	7381-T11	**£21.39**
0.6-0.9 / 44-28	7381-T12	**£21.39**
1-1.75 / 24-14	7381-T13	**£21.39**
2-3 / 13-9	7381-T14	**£21.39**
3.5-5 / 8-5	7381-T15	**£21.39**
5.5-7 / 4.5-3.5	7381-T16	**£21.39**
6 pairs/set, including all above tips	7381-TS	**£111.75**

Whitworth Thread (55°)

Pitch / TPI	Order Code	Price
60-48	7381-T21	**£20.88**
48-40	7381-T22	**£20.88**
40-32	7381-T23	**£20.88**
32-24	7381-T24	**£20.88**
24-18	7381-T25	**£20.75**
18-14	7381-T26	**£20.75**
14-10	7381-T27	**£20.75**
10-7	7381-T28	**£20.75**
7-4.5	7381-T29	**£20.88**
4.5-3.5	7381-T210	**£20.88**
10 pairs/set, including all above tips	7381-T2S	**£189.13**

GROOVE MICROMETER

3287 Series

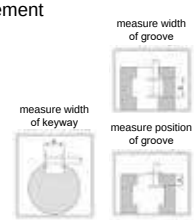
- Measure width of grooves inside bores
- Graduation 0.01mm
- Two graduations for inside and outside measurement
- Non-rotating spindle
- Type A: No ratchet stop
- Type B: Two-directional ratchet stop

Type A



Type B



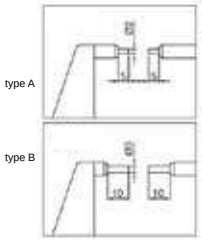


Internal Range	External Range	Accuracy mm	Type	Order Code	Price
0-25	1.6-25	0.01	A	3287-25A	**£350.08**
25-50	26.5-51.5			3287-50A	**£402.59**
50-75	51.6-76.5			3287-75A	**£465.31**
75-100	76.5-101.5			3287-100A	**£539.69**
0-25	1.6-25	0.01	B	3287-25B	**£393.64**
25-50	26.5-51.5			3287-50B	**£456.05**
50-75	51.6-76.5			3287-75B	**£531.65**
75-100	76.5-101.5			3287-100B	**£612.07**

SPLINE MICROMETER

3233 Series

- Measure splined shafts, slots and keyways
- Graduation: 0.01mm
- Ratchet stop
- Measuring faces: Carbide
- Supplied with setting standards (except 0-25mm)





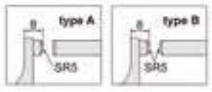
Range mm	Accuracy mm	Type	Order Code	Price
0-25	±0.004	A	3233-25A	**£89.50**
0-25	±0.004	B	3233-25BA	**£92.46**
25-50	±0.004		3233-50BA	**£100.88**
50-75	±0.005		3233-75BA	**£109.26**
75-100	±0.005		3233-100BA	**£126.09**
100-125	±0.006		3233-125BA	**£155.76**
125-150	±0.006		3233-150BA	**£171.83**
150-175	±0.007		3233-175BA	**£194.08**

SPHERICAL ANVIL TUBE MICROMETER

3260 Series

- Measure wall thickness of tubes
- Graduation: 0.01mm
- Ratchet stop
- Measuring faces: Carbide
- Supplied with setting standards (except 0-25mm)





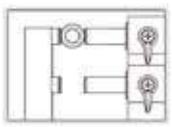
Range mm	Accuracy mm	Type	Order Code	Price
0-25	±0.004	A	3260-25A	**£46.61**
25-50	±0.004		3260-50A	**£60.70**
50-75	±0.005		3260-75A	**£86.64**
75-100	±0.005		3260-100A	**£103.84**
0-25	±0.004	B	3260-25SA	**£49.58**
25-50	±0.004		3260-50SA	**£63.91**
50-75	±0.005		3260-75SA	**£102.11**
75-100	±0.005		3260-100SA	**£118.05**

LIMIT MICROMETER

3235 Series

- Used as Go/No-Go gauge by setting upper & lower limits
- Graduation 0.002mm
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)





Range mm	Accuracy mm	L mm	Order Code	Price
0-25	4µm	32	3235-25A	**£132.27**
25-50		57	3235-50A	**£159.47**

MICROMETER WITH COUNTER

3400 Series

- Counter resolution 0.01mm
- Thimble graduation 0.01mm
- Carbide measuring faces
- Meet DIN863-1
- Ratchet stop
- Supplied with setting standards (except 0-25mm)



Range mm	Accuracy mm	L mm	Order Code	Price
0-25	4µm	32	3400-25	**£69.22**
25-50	4µm	57	3400-50	**£81.33**
50-75	5µm	82	3400-75	**£78.75**
75-100	5µm	107	3400-100	**£88.87**

SHEET METAL MICROMETER
3239 Series

- Deep frame suitable for sheet metal, paper and plastic
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces

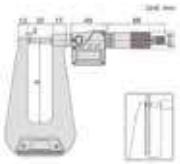


Range mm	Accuracy mm	Type	b	Order Code	Price
0-25	5µm	A	155	3239-253	**£116.57**
	5µm	B	155	3239-253F	**£126.09**
	6µm	B	310	3239-253S	**£118.31**
	5µm	C	155	3239-254F	**£173.06**

IP65 DIGITAL SHEET METAL MICROMETER
3539 Series

- Deep frame suitable for sheet metal, paper and plastic
- Resolution 0.001mm/0.00005”
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Optional accessory: data output cable (code **7306-30,7302-SPC2A, 7305-SPC3**)



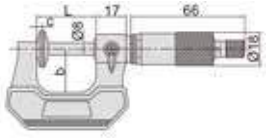


IP65 DATA OUTPUT

Range mm/inch	Accuracy mm	Type	b	Order Code	Price
0-25 / 0-1”	5µm	A	155	3539-253A	**£323.86**
	5µm	B	155	3539-253FA	**£323.86**
	6µm	B	310	3539-254FA	**£362.19**
	5µm	C	155	3539-253SA	**£316.44**

DISK MICROMETER
3282 Series

- Measure root tangent length of gear
- Graduation 0.01mm
- Ratchet stop
- Supplied with setting standards





Range mm/inch	Accuracy mm	Parallel-ism	L	b	c	D	S	d	Order Code	Price
0-25	4µm	5µm	34	24	3.3	20	0.7	8	3282-25	**£86.89**
25-50	4µm	5µm	59	32					3282-50	**£104.29**
50-75	5µm	5µm	85	45					3282-75	**£119.65**
75-100	5µm	5µm	110	57					3282-100	**£144.01**

NON ROTATING SPINDLE UNIVERSAL MICROMETER
3280 Series

- Graduation 0.01mm
- Non-rotating spindle
- Ratchet stop
- Supplied with 7 pairs of anvil/spindle tip
- Setting standards are included (except 0-25mm)
- Optional accessory: 55 anvil/spindle tip (code **3280-SP1** and **3280-SP2**)



Range mm	Accuracy mm	L	b	Order Code	Price
0-25	4µm	42	26	3280-25A	**£243.51**
25-50		67	38	3280-50A	**£260.82**

V-ANVIL MICROMETER
3290 Series

- Measure the outside diameter of cutting tools (such as taps, reamers, end mills) with 3 of 5 flutes
- Graduation 0.01mm
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standards



Range mm	Flutes	Accuracy mm	Order Code	Price
1-15	3	4µm	3290-153A	**£166.89**
5-20	3		3290-203A	**£179.25**
5-25	3		3290-255A	**£189.13**
5-25	7		3290-257A	**£225.62**
20-35	3	5µm	3290-353A	**£207.66**
25-45	5		3290-455A	**£262.06**
25-45	7		3290-457A	**£285.63**
35-50	3		3290-503A	**£260.82**
50-65	3	6µm	3290-653A	**£283.08**
45-65	5		3290-655A	**£283.08**
45-65	7		3290-657A	**£326.44**
65-80	3		3290-803A	**£304.09**
65-85	5	7µm	3290-855A	**£339.94**
45-65	7		3290-857A	**£366.04**
80-95	3		3290-953A	**£330.05**

IP54 DIGITAL V-ANVIL MICROMETER
3590 Series

- Measure the outside diameter of cutting tools (such as taps, reamers, end mills) with 3 flutes
- Resolution 0.001mm/0.00005”
- IP54 dust/waterproof
- Button function: on/off, set, mm/inch, ABS/INC, data output
- Data output
- LR44 battery, automatic power off
- Ratchet stop
- Carbide measuring faces
- Supplied with setting standard
- Optional accessory: data output cable (code **7306-30,7302-SPC2A, 7305-SPC3**)



IP54 DATA OUTPUT

Range mm / inch	Accuracy mm	Flutes	Order Code	Price
1-15 / 0.04-0.6”	4µm	3	3590-153A	**£378.26**
5-20 / 0.2-0.8”	4µm		3590-203A	**£399.28**
20-35 / 0.8-1.4”	5µm		3590-353A	**£423.99**
35-50 / 1.4-2.0”	5µm		3590-503A	**£475.91**

MICROMETER STAND
6301 Series

- Suitable for micrometers up to 1000mm



INSIZE

Suitable Micrometers	Order Code	Price
Up to 100mm	6301	**£19.06**

MICROMETER SETTING STANDARDS
6310 Series

- Available in sizes up to 1950mm

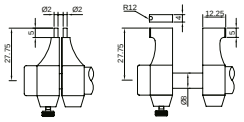


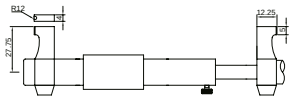
INSIZE

Length	Accuracy	Ø	Order Code	Price
25	±0.0015	7	6310-25	**£5.15**
50	±0.002	7	6310-50	**£5.75**
75	±0.0025	7	6310-75	**£7.19**
100	±0.003	8	6310-100	**£9.21**

INSIDE MICROMETER
3220 Series

- Graduation: 0.001mm
- Ratchet stop
- Measuring faces: Carbide
- Optional accessory: setting ring (code **6312**)





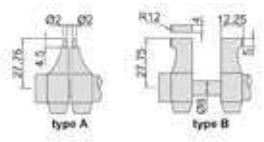


INSIZE

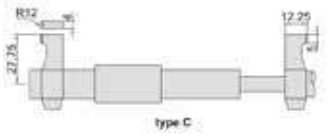
Range mm	Accuracy mm	Type	Setting Ring	Order Code	Price
5-30	±0.005	A	5mm (included)	3220-30	**£72.72**
25-50	±0.006	B	25mm (included)	3220-50	**£78.48**
50-75	±0.007	B	50mm (optional)	3220-75	**£92.12**
75-100	±0.008	C	75mm (optional)	3220-100	**£103.42**

DIGITAL INSIDE MICROMETER
3520 Series

- Resolution: 0.001mm/0.00005”
- Data output
- Measuring faces: Carbide
- Optional accessory: data output cable, setting ring (code **6312**)







DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Type	Setting Ring	Order Code	Price
5-30 / 0.2-1.2”	±0.005	A	5mm (included)	3520-30	**£263.29**
25-50 / 1-2”	±0.006	B	25mm (included)	3520-50	**£283.08**
50-75 / 2-3”	±0.007	B	50mm (optional)	3520-75	**£311.50**
75-100 / 3-4”	±0.008	C	75mm (optional)	3520-100	**£332.52**

TUBULAR INSIDE MICROMETER
3221 Series

- Graduation: 0.01mm
- Accuracy: (6+L/50)µm
  L=maximum measuring length mm



INSIZE

Range mm	Order Code	Price
25-32	3221-32	**£100.50**
25-50	3221-50	**£126.09**
50-63	3221-63	**£112.86**
50-200	3221-200	**£189.13**
50-300	3221-300	**£213.86**
200-225	3221-225	**£155.76**
200-500	3221-500	**£268.24**
200-1000	3221-1000	**£652.67**

TUBULAR INSIDE MICROMETER
3222 Series

- Graduation: 0.01mm
- Carbide measuring faces
- Supplied with setting standards



INSIZE

Range mm	Order Code	Price
50-63	3222-63	**£103.71**
50-150	3222-150	**£113.36**
50-300	3222-300	**£155.76**
50-500	3222-500	**£201.50**
50-600	3222-600	**£213.86**
50-1000	3222-1000	**£385.67**
50-1500	3222-1500	**£531.54**

ANALOGUE 3-POINT BORE MICROMETER

3227 Series

- 6-12mm graduation: 0.001mm
- 12-300mm graduation: 0.005mm
- Ratchet stop
- Supplied with setting ring (up to 100mm) and extension rods



Sets



Type B | Type C | Type D

Individual

INSIZE

Range mm	Accuracy mm	Type	Setting Ring	Extension Rod mm (included)	Order Code	Price
6-8	±0.004	B	6mm(incl)	100	3227-8	**£264.74**
8-10	±0.004		8mm(incl)		3227-10	**£264.74**
10-12	±0.004		10mm(incl)		3227-12	**£264.74**
12-16	±0.004	C	16mm(incl)	150	3227-16	**£210.61**
16-20	±0.004		16mm(incl)		3227-20	**£210.61**
20-25	±0.004		25mm(incl)		3227-25	**£276.50**
25-30	±0.004		25mm(incl)		3227-30	**£276.50**
30-40	±0.004		6mm(incl)		3227-40	**£315.33**
40-50	±0.005		40mm(incl)		3227-50	**£342.39**
50-63	±0.005	D	40mm(incl)		3227-63	**£380.04**
62-75	±0.005		62mm(incl)		3227-75	**£392.98**
75-88	±0.005		62mm(incl)		3227-88	**£412.99**
87-100	±0.005		87mm(incl)		3227-100	**£434.17**
100-125	±0.005		87mm(opt)		3227-125	**£543.59**
125-150	±0.005		112.5mm(opt)		3227-150	**£615.36**
150-175	±0.005		137.5mm(opt)		3227-175	**£681.25**
175-200	±0.005		162mm(opt)		3227-200	**£787.15**
200-225	±0.007		187.5mm(opt)		3227-225	**£1,002.46**
225-250	±0.007		212.5mm(opt)		3227-250	**£1,134.24**
250-275	±0.007		262.5mm(opt)		3227-275	**£1,314.26**
275-300	±0.007		287.5mm(opt)		3227-300	**£1,527.23**

Sets

Range mm	No. Micrometers	Micrometers Included	Order Code	Price
6-12	3	6-8, 8-10, 10-12	3227-123	**£620.05**
12-20	2	12-16, 16-20	3227-202	**£362.47**
20-50	4	20-25, 25-30, 30-40, 40-50	3227-504	**£857.81**
50-100	4	50-63, 62-75, 75-88, 87-10	3227-1004	**£1,224.94**

IP65 DIGITAL 3-POINT BORE MICROMETER

3127 Series

- IP65 dust/waterproof
- Resolution: 0.001mm/0.00005”
- Data output
- Optional accessory: data output cable (code **7302-SPC6**)



Sets



Type B | Type C | Type D

IP65 | DATA OUTPUT

Individual

INSIZE

Range mm	Accuracy mm	Type	Order Code	Price
6-8	±0.004	B	3127-8	**£432.65**
8-10	±0.004		3127-10	**£432.65**
10-12	±0.004		3127-12	**£432.65**
12-16	±0.004	C	3127-16	**£466.02**
12-16	±0.004		3127-20	**£457.37**
20-25	±0.004		3127-25	**£480.85**
25-30	±0.004		3127-30	**£480.85**
30-40	±0.004		3127-40	**£530.31**
40-50	±0.005		3127-50	**£530.31**
50-63	±0.005	D	3127-63	**£573.57**
62-75	±0.005		3127-75	**£605.71**
75-88	±0.005		3127-88	**£630.42**
87-100	±0.005		3127-100	**£668.75**
100-125	±0.005		3127-125	**£689.76**
125-150	±0.005		3127-150	**£792.37**
150-175	±0.005		3127-175	**£906.09**
175-200	±0.005		3127-200	**£1,059.37**
200-225	±0.007		3127-225	**£1,263.33**
225-250	±0.007		3127-250	**£1,469.76**
250-275	±0.007		3127-275	**£1,729.36**
275-300	±0.007		3127-300	**£1,885.10**

Sets

Range mm	No. Micrometers	Order Code	Price
6-12	3	3127-123	**£1,202.43**
12-20	2	3127-202	**£838.76**
20-50	4	3127-504	**£1,757.12**
50-100	4	3127-1004	**£2,112.21**

WIDE RANGE 3-POINT INTERNAL MICROMETER

3228 Series

- 0.001mm Graduation
- Carbide measuring faces
- Ratchet stop



INSIZE

Range mm	Accuracy mm	Setting Ring (Included)	Order Code	Price
50-70	±0.005	50	3228-70	**£445.01**
70-100	±0.005	70	3228-100	**£590.88**
100-150	±0.006	100	3228-150	**£1,018.58**
150-250	±0.006	150	3228-250	**£2,102.67**

IP54 DIGITAL WIDE RANGE 3-POINT INTERNAL MICROMETER

3128 Series

- Resolution: 0.001mm/0.00005”
- IP54 dust/waterproof
- Data output



IP54 | DATA OUTPUT

INSIZE

Range mm	Accuracy mm	Setting Ring	Extension Rod (Included)	Order Code	Price
50-70	±0.005	50	150	3128-70	**£534.02**
70-100	±0.005	70		3128-100	**£709.54**
100-150	±0.006	100		3128-150	**£1,185.45**
150-250	±0.008	150		3128-250	**£2,389.45**
200-300	±0.009	200		3128-300	**£3,332.63**

ANALOGUE 3-POINT BORE GAUGES
MXTA Micro Series

- Resolution: 0.001mm
- 3 point self-centring measurement
- Ability to measure blind bores
- Ratchet stop
- Supplied with setting ring & UKAS certificates



Sets



Individual

Range mm	Depth mm	Accuracy mm	Order Code	Price
2-2.5	9	±0.004	MXTA1M	£696.50
2.5-3	9		MXTA2M	£696.50
3-4	12		MXTA3M	£623.50
4-5	18		MXTA4M	£623.50
5-6	18		MXTA5M	£623.50
6-8	58		MXTA6M	£296.50
8-10	58		MXTA8M	£308.00
10-12.5	58		MXTA10M	£308.00
12.5-16	62		MXTA12M	£308.00
16-20	62		MXTA16M	£314.00

Sets

Range mm	No. Micrometers	Order Code	Price
2-3	2	SMXTA1M	£1,268.00
3-6	3	SMXTA2M	£1,708.50
6-10	2	SMXTA3M	£548.00
10-20	3	SMXTA4M	£830.00

ANALOGUE 3-POINT BORE GAUGES
XTA Series

- Traditional analogue bore gauges with ratchet stop to ensure consistent measurement
- 3 point self-centring measurement (2-6mm: 2 point)
- Tungsten carbide measuring faces on all 3-point heads from 12.5mm
- Supplied with setting rings & UKAS calibration



Sets



Individual

Range mm	Depth mm	Accuracy mm	Order Code	Price
20-25	66	±0.004	XTA20M	£332.50
25-35	66	±0.004	XTA25M	£477.50
35-50	80	±0.004	XTA35M	£487.00
50-65	80	±0.005	XTA50M	£578.50
65-80	80	±0.005	XTA65M	£578.50
80-100	100	±0.005	XTA80M	£732.50
100-125	115	±0.006	XTA100M	£722.00
125-150	115	±0.006	XTA125M	£834.50
150-175	115	±0.007	XTA150M	£1,073.50
175-200	115	±0.007	XTA175M	£1,225.00
200-225	118	±0.008	XTA200M	£1,269.50
225-250	118	±0.008	XTA225M	£1,310.50
250-275	118	±0.009	XTA250M	£1,429.50
275-300	118	±0.009	XTA275M	£1,491.50

Sets

Range mm	No. Micrometers	Order Code	Price
20-50	3	SXTA5M	£1,265.50
50-100	3	SXTA6M	£1,719.00
100-150	2	SXTA7M	£1,726.00
150-200	2	SXTA8M	£1,894.00



BLUETOOTH IP67 3-POINT DIGITAL BORE MICROMETERS & SETS

XTD Series

- Ergonomic design with larger and clearer LCD display
- IP67 dust/waterproof
- Resolution: 0.001mm/0.00005”
- UKAS certificates supplied as standard with all setting rings and micrometers
- Proximity output with built-in Bluetooth
- Bore gauges manufactured according to DIN 863, part 4
- 2-6mm 2 point measurement / 6-300mm 3 point measurement
- Supplied in fitted wooden case
- Bi-directional communication
- Tungsten carbide measuring faces on all 3-point heads from 12.5mm
- Extensions available above 6mm for deep hole measurement
- Ratchet stop to ensure consistent measurement



Sets



IP67 BLUETOOTH® DATA OUTPUT

BOWERS GROUP

Individual

Range mm	Accuracy mm	Depth mm	Setting Ring mm	Order Code	Price
2-2.5	±0.004	9	2.5	XTD1M-BT	**£1,057.50**
2.5-3		9	2.5	XTD2M-BT	**£1,078.00**
3-4		12	4	XTD3M-BT	**£1,078.00**
4-5		18	4	XTD4M-BT	**£1,078.00**
5-6		18	5	XTD5M-BT	**£1,078.00**
6-8		58	8	XTD6M-BT	**£956.00**
8-10		58	8	XTD8M-BT	**£956.00**
10-12.5		58	12.5	XTD10M-BT	**£956.00**
12.5-16		62	12.5	XTD12M-BT	**£977.00**
16-20		62	20	XTD16M-BT	**£977.00**
20-25		66	20	XTD20M-BT	**£1,167.00**
25-35		66	35	XTD25M-BT	**£1,316.50**
35-50		80	35	XTD35M-BT	**£1,456.50**
50-65	±0.005	80	65	XTD50M-BT	**£1,530.00**
65-80		80	65	XTD65M-BT	**£1,530.00**
80-100		100	80	XTD80M-BT	**£1,612.50**
100-125	±0.006	115	125	XTD100M-BT	**£1,596.00**
125-150		115	125	XTD125M-BT	**£1,732.00**
150-175	±0.007	115	175	XTD150M-BT	**£1,888.00**
175-200		115	175	XTD175M-BT	**£2,003.50**
200-225	±0.008	118	225	XTD200M-BT	**£2,034.50**
225-250		118	225	XTD225M-BT	**£2,095.00**
250-275	±0.009	118	275	XTD250M-BT	**£2,169.00**
275-300		118	275	XTD275M-BT	**£2,366.50**

Sets

Range mm	No. Heads	No. Setting Rings	No. Display Units	Order Code	Price
2-6	5	3	1	SXTD1M-BT	**£3,093.00**
6-10	2	1	1	SXTD3M-BT	**£1,304.00**
10-20	3	2	1	SXTD4M-BT	**£1,565.00**
20-50	3	2	1	SXTD5M-BT	**£2,135.00**
50-100	3	2	1	SXTD6M-BT	**£2,366.50**
100-150	2	1	1	SXTD7M-BT	**£1,981.50**
150-200	2	1	1	SXTD8M-BT	**£2,727.00**
100-200	4	2	1	SXTD9M-BT	**£4,337.50**
6-10	2	1	2	SXTD3U-BT	**£2,173.00**
10-20	3	2	3	SXTD4U-BT	**£2,492.00**
20-50	3	2	3	SXTD5U-BT	**£3,378.50**
50-100	3	2	3	SXTD6U-BT	**£3,990.50**

BLUETOOTH IP67 PISTOL GRIP 3-POINT DIGITAL BORE GAUGE

XTH Series

- Ergonomic design with larger and clearer LCD display
- IP67 dust/waterproof
- Resolution: 0.001mm/0.00005”
- UKAS certificates supplied as standard with all setting rings and gauges
- Proximity output with built-in Bluetooth
- Bore gauges manufactured according to DIN 863, part 4
- 2-6mm 2 point measurement / 6-300mm 3 point measurement
- Bi-directional communication
- Self-centring heads
- Tungsten carbide measuring faces on all 3-point heads from 12.5mm
- Extensions available above 6mm for deep hole measurement





Sets

IP67 BLUETOOTH® DATA OUTPUT

BOWERS GROUP

Individual

Range mm	Accuracy mm	Depth mm	Setting Ring mm	Order Code	Price
2-2.5	±0.004	9	2.5	XTH1M-BT	**£1,113.50**
2.5-3		9	2.5	XTH2M-BT	**£1,113.50**
3-4		12	4	XTH3M-BT	**£1,113.50**
4-5		18	4	XTH4M-BT	**£1,113.50**
5-6		18	5	XTH5M-BT	**£1,113.50**
6-8		58	8	XTH6M-BT	**£1,113.50**
8-10		58	8	XTH8M-BT	**£1,114.50**
10-12.5		58	12.5	XTH10M-BT	**£1,174.00**
12.5-16		62	12.5	XTH12M-BT	**£1,190.50**
16-20		62	20	XTH16M-BT	**£1,190.50**
20-25		66	20	XTH20M-BT	**£1,314.50**
25-35		66	35	XTH25M-BT	**£1,422.00**
35-50		80	35	XTH35M-BT	**£1,456.50**
50-65	±0.005	80	65	XTH50M-BT	**£1,495.50**
65-80		80	65	XTH65M-BT	**£1,495.50**
80-100		100	80	XTH80M-BT	**£1,588.00**
100-125	±0.006	115	125	XTH100M-BT	**£1,692.50**
125-150		115	125	XTH125M-BT	**£1,792.50**
150-175	±0.007	115	175	XTH150M-BT	**£1,894.00**
175-200		115	175	XTH175M-BT	**£1,972.50**
200-225	±0.008	118	225	XTH200M-BT	**£2,087.50**
225-250		118	225	XTH225M-BT	**£2,154.50**
250-275	±0.009	118	275	XTH250M-BT	**£2,230.50**
275-300		118	275	XTH275M-BT	**£2,457.00**

Sets

Range mm	No. Heads	No. Setting Rings	Order Code	Price
2-6	5	3	SXTH1M-BT	**£3,300.50**
6-10	2	1	SXTH3M-BT	**£1,345.50**
10-20	3	2	SXTH4M-BT	**£1,582.00**
20-50	3	2	SXTH5M-BT	**£2,054.00**
50-100	3	2	SXTH6M-BT	**£2,291.50**
100-150	2	1	SXTH7M-BT	**£2,054.00**
150-200	2	1	SXTH8M-BT	**£2,727.00**
6-20	5	3	SXTH10M-BT	**£2,033.00**
20-100	6	4	SXTH11M-BT	**£3,753.50**
100-200	4	2	SXTH9M-BT	**£4,337.50**

PISTOL GRIP 3-POINT BORE GAUGE
2124 Series

- Available individually or in sets
- Supplied with inspection certificate
- Extension rod included
- Optional accessory: digital indicators (code **2108-101F**, resolution 0.001mm/0.00005"), setting rings (code **6312**)



Individual

Range mm	Type	Accuracy mm	Setting Ring mm (inc)	Extension Rod (included)	Order Code	Price
6-8	A	±0.004	6	100	2124-8	**£384.44**
8-10	A	±0.004	8		2124-10	**£381.97**
10-12	A	±0.004	10		2124-12	**£400.51**
12-16	B	±0.004	16	150	2124-16	**£404.22**
16-20	B	±0.004	16		2124-20	**£428.94**
20-25	B	±0.004	25		2124-25	**£456.14**
25-30	B	±0.004	25		2124-30	**£487.04**
30-40	B	±0.004	40		2124-40	**£517.94**
40-50	B	±0.005	40		2124-50	**£552.56**
50-63	C	±0.005	62		2124-63	**£593.35**
62-75	C	±0.005	62		2124-75	**£632.90**
75-88	C	±0.005	87		2124-88	**£674.92**
87-100	C	±0.005	87		2124-100	**£718.20**
100-125	C	±0.006	Optional		2124-125	**£746.62**
125-150	C	±0.006			2124-150	**£859.11**
150-175	C	±0.007			2124-175	**£1,007.46**
175-200	C	±0.007			2124-200	**£1,184.22**
200-225	C	±0.008			2124-225	**£1,378.30**
225-250	C	±0.008			2124-250	**£1,645.29**
250-275	C	±0.009			2124-275	**£1,938.25**
275-300	C	±0.009			2124-300	**£2,184.25**

Sets

Range mm	Sizes Included mm	Setting Ring included mm	Extension Rod (included)	Order Code	Price
6-12	6-8, 8-10, 10-12	6, 8, 10	100	2124-S123	**£974.08**
12-20	12-16, 16-20	16	150	2124-S202	**£589.61**
20-50	20-25, 25-30, 30-40, 40-50	25, 40		2124-S504	**£1,441.63**
50-100	50-63, 62-75, 75-88, 87-100	62, 87		2124-S1004	**£1,830.59**

DIAL BORE GAUGE SET
2824 Series

- Repeatability: 0.003mm
- Accuracy: +/-0.018mm
- Optional accessory: setting ring (code **6312**), long handle (code **7351**)
- Range 10mm
- Graduation 0.01mm



Range mm	Indicator	Gauges Included mm	Accuracy mm	Repeatability	Order Code	Price
18-160	230810FA	18-35	±0.015	0.003mm	2824-S3	**£257.12**
		35-60	±0.018			
		50-160	±0.018			

DIAL BORE GAUGE
2322 Series

- Ceramic/steel contact points
- Repeatability: 0.003mm
- Accuracy: +/-0.018mm
- Optional accessory: setting ring (code **6312**), long handle (code **7351**)



Range mm	Indicator	Accuracy mm	Order Code	Price
18-35	Dial indicator range 10mm graduation 0.01mm (code **2308-10FA**)	±0.015	2322-35A	**£103.59**
35-60		±0.018	2322-60A	**£105.94**
50-100		±0.018	2322-100A	**£110.14**
50-160		±0.018	2322-160A	**£108.04**
100-160		±0.018	2322-161A	**£123.62**
160-250		±0.018	2322-250A	**£159.47**
250-450		±0.018	2322-450A	**£192.84**

HOLTEST 3-POINT BORE GAUGE
368 Series

- Titanium-coated measuring pins
- Stable measurement through automatic centering
- Ratchet Stop ensures constant-force, repeatable measurement
- Optional setting rings are available



Range	Accuracy	Repeatability	Order Code	Price
6-8	±2µm	0.001mm	368-161	**£336.02**
8-10			368-162	**£336.02**
10-12			368-163	**£336.02**
12-16		0.005mm	368-164	**£409.16**
16-20			368-165	**£430.36**
20-25	±3µm		368-166	**£430.36**
25-30			368-167	**£430.36**
30-40			368-168	**£535.30**
40-50			368-169	**£548.02**
50-63			368-170	**£551.20**

BORE GAUGE
2122 Series

- Optional accessory: setting ring (code **6312**), long handle (code **7351**)
- Range 12.7mm / 0.5"
- Graduation 0.002mm / 0.0001"



Range mm	Indicator	Accuracy mm	Repeatability	Order Code	Price
18-35	2108-10F	+0.015	0.003mm	2122-35A	**£267.00**
35-60		+0.018		2122-60A	**£268.24**
50-100		+0.018		2122-100A	**£265.77**
50-160		+0.018		2122-160A	**£269.47**
100-160		+0.018		2122-161A	**£271.95**
160- 50		+0.018		2122-250A	**£316.44**
50-450		+0.018		2122-450A	**£332.52**

BORE GAUGE FOR SMALL HOLES

2852 Series

- Optional accessory: setting ring (code **6312**)
- Range 3mm
- Graduation 0.01mm



INSIZE

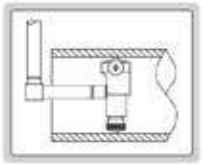
Range mm	Accuracy mm	Repeatability	Indicator	Order Code	Price
6-10	+0.012	0.003mm	2311-3F	2852-10	**£163.18**
10-18.5				2852-18	**£154.52**

BORE GAUGE

2827 Series

- Optional accessory: setting ring (code **6312**)
- Range 10mm
- Graduation 0.01mm





INSIZE

Range mm	Indicator	Accuracy mm	Repeatability	Order Code	Price
50-160	230810FA	+0.018	0.003mm	2827-160A	**£201.50**
160-250				2827-250A	**£264.53**
250-450				2827-450A	**£288.02**

MICROGAUGE 2-POINT BORE GAUGE SETS

SMG Series

- Designed specifically for the measurement of small bores between 1.0-10.0mm
- Set includes digital readout, measuring heads and setting rings with UKAS certificate
- Optional depth stop: MGSTOP

DATA OUTPUT

For full set contents please visit www.cutwel.co.uk



BOWERS GROUP

Range mm	Order Code	Price
0.95-1.55	SMG001M	**£1,385.00**
1.50-2.45	SMG002M	**£877.50**
2.25-4.25	SMG003M	**£1,262.00**
3.65-6.35	SMG004M	**£1,027.00**
6.15-10.35	SMG005M	**£1,870.50**
0.95-2.45	SMG010M	**£2,260.00**
1.50-4.25	SMG011M	**£1,793.50**
2.25-6.35	SMG012M	**£1,944.50**

TELESCOPING GAUGE SET

4206 Series

- 6 gauges per set
- For quick measurement of inside diameter of holes width of slots
- Satin chrome finish



INSIZE

Range mm	Gauges Included	Order Code	Price
8-150	8-12.7, 12.7-19 19-32,32-54 54-90, 90-150	4206-1	**£32.38**

BORE GAUGE SETTER

2395 Series

- Used together with gauge blocks to set bore gauges
- Gauge blocks not included





INSIZE

Setting range	Order Code	Price
18-400mm	2395-400	**£923.40**

BORE GAUGE SETTER

7353 Series

- Vertical and horizontal use
- To be used with gauge blocks
- Optional gauge block set included (meets ISO3650, grade 2)





INSIZE

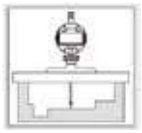
Range	Repeatability	Gauge Block Set Included	Order Code	Price
0-160	1.2µm	Yes	7353-160	**£526.60**
		No	7353-160W	**£400.51**

DIGITAL DEPTH GAUGE

2141 Series

- Digital indicator stroke: 12.7mm/0.5”
- Buttons: on/off, zero, mm/inch, ABS, data preset, change measuring direction
- Automatic power off
- Battery CR2032
- Stainless steel base
- Data output
- Extension rods: 12.5mm (1pc), 25mm (1pc), 50mm (1pc), 75mm (1pc), 100mm (2pcs)
- Supplied with pointed tip and ball tip
- Optional accessory: data output cable (code **7306-40, 7302-SPC3A, 7305-SPC1A**)





DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Resolution mm/inch	Base mm	Order Code	Price
0-300 / 0-12”	±0.02	0.01 / 0.0005"	63x17	2141-201A	**£180.48**
	±0.02	0.01 / 0.0005"	101.5x17	2141-202A	**£180.48**
	±0.005	0.001 / 0.0005"	63x17	2141-301	**£241.04**
	±0.005	0.001 / 0.0005"	101.5x17	2141-302	**£241.04**

IP67 DIGITAL DEPTH GAUGE

1149 Series

- Resolution 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch, ABS/REL, hold
- Automatic power off (move digital unit to turn on)
- Battery CR2032
- Automatic power off
- Made from stainless steel



IP67

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
0-150 / 0-6”	±0.03	1149-150	**£182.95**
0-200 / 0-8”	±0.03	1149-200	**£249.70**
0-300 / 0-12”	±0.04	1149-300	**£326.34**

DEPTH MICROMETER

3241 Series

- Graduation: 0.01mm
- Rods with flat end
- Ratchet stop



INSIZE

Range mm	Accuracy mm	No. Rods	Order Code	Price
0-25	±0.03	1	3241-25	**£76.15**
0-50		2	3241-50	**£89.98**
0-75		3	3241-75	**£106.31**
0-100		4	3241-100	**£116.08**
0-150		6	3241-150	**£152.05**
0-200		8	3241-200	**£186.66**
0-300		12	3241-300	**£226.20**

IP65 DIGITAL DEPTH MICROMETER

3540 Series

- IP65 dust/waterproof
- Resolution: 0.001mm/0.00005”
- Micrometer head accuracy: +/-3µm
- Rod accuracy: +/-(2+L/75)
- Button function: on/off, set, mm/inch, ABS/INC
- Data output
- LR44 battery, automatic power off
- Rods with flat end
- Ratchet stop



IP65 DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	No. Rods	Order Code	Price
0-50 / 0-2”	±0.03	2pcs	3540-50	**£267.00**
0-150 / 0-6”		6pcs	3540-150	**£333.75**
0-300 / 0-12”		12pcs	3540-300	**£421.53**

DIGITAL DEPTH GAUGE CALIPER

170 Series

- Ground micro-lapped measuring surfaces
- Functions : mm / inch conversion, on / off, zero-setting, battery low indication
- Available with hook or without hook
- Hook width 2mm



Range mm	Base	With Hook	Order Code	Price
0-150 / 0-6”	100	No	MW170-15DB	**£71.00**
0-200 / 0-8”	100		MW170-20DB	**£88.00**
0-300 / 0-12”	150		MW170-30DB	**£112.00**
0-150 / 0-6”	100	Yes	MW170-15DH	**£83.00**
0-200 / 0-8”			MW170-20DH	**£102.00**
0-300 / 0-12”			MW170-30DH	**£130.50**

DEPTH GAUGE MICROMETER

890/891/892 Series

- Complies with BS6468:1984
- Interchangeable depth rods, 4.5mm diameter
- 63.5mm / 2 1/2” base length, 16mm / 0.63” width
- Speeder’ type ratchet
- Lock screw

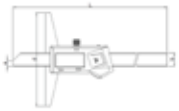


Range mm	Order Code	Price
0-25	890M	**£137.00**
0-75	891M75	**£170.50**
0-150	891M150	**£240.00**
0-300	891M300	**£356.00**
0-75	892M75	**£187.00**
0-150	892M150	**£240.00**
0-300	892M300	**£356.00**

DIGITAL DEPTH GAUGE
1141 Series



- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)



DATA OUTPUT

INSIZE

Range mm / inch	Accuracy mm	L	a	b	d	Order Code	Price
0-150 / 0-6”	±0.03	230	6	14.5	100	1141-150A	**£58.72**
0-200 / 0-8”	±0.03	280	6	14.5	100	1141-200A	**£71.44**
0-300 / 0-12”	±0.03	380	6	14.5	150	1141-300A	**£152.05**
0-500 / 0-20”	±0.05	585	7	15	150	1141-500A	**£318.92**
0-500 / 0-20”	±0.05	585	7	15	200	1141-5001A	**£456.05**
0-1000 / 0-40”	±0.07	1188	7	18	150	1141-1000A	**£897.70**
0-1000 / 0-40”	±0.07	1188	7	18	200	1141-10001A	**£1,117.32**
0-1000 / 0-40”	±0.07	1188	7	18	250	1141-10002A	**£1,371.75**
0-1000 / 0-40”	±0.07	1188	7	18	300	1141-10003A	**£1,509.77**
0-1500 / 0-60”	±0.11	1695	7	18	200	1141-1500A	**£1,750.99**

MINI DIGITAL DEPTH GAUGE
1145 Series

- Measures depth of small grooves and holes
- Also suitable for measuring depth of tire treads
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Supplied with zero set surface
- Automatic power off (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel



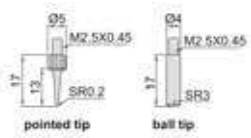
DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
0-25/0-1”	+0.03	1145-25A	**£70.59**

DIAL DEPTH GAUGE
2341 Series

- Dial indicator graduation: 0.01mm
- Accuracy: +0.017mm
- Stainless steel base
- Supplied with pointed tip and ball tip





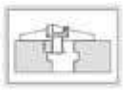
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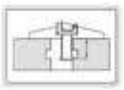
Range mm	Dial Indicator Stroke	Base	Order Code	Price
0-10	10	63x17	2341-101A	**£80.59**

DIGITAL DOUBLE HOOK DEPTH GAUGE
1144 Series

- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off (move the digital unit) to turn on power
- Meet DIN862
- Battery CR2032
- Data output
- Made of stainless steel
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)







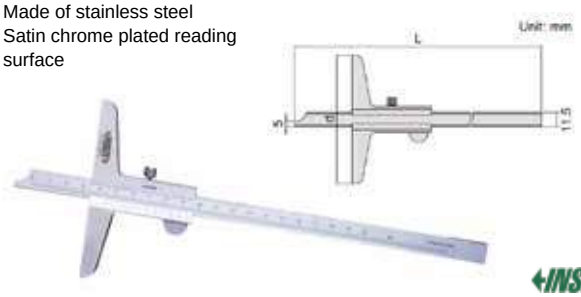
DATA OUTPUT

INSIZE

Range mm / inch	Accuracy mm	Order Code	Price
0-150 / 0-6”	±0.03	1144-150A	**£105.70**
0-200 / 0-8”	±0.03	1144-200A	**£124.85**
0-300 / 0-12”	±0.03	1144-300A	**£233.62**
0-500 / 0-20”	±0.05	1144-500A	**£540.06**
0-500 / 0-20”	±0.05	1144-5001A	**£638.47**
0-1000 / 0-40”	±0.07	1144-1000A	**£1,148.53**
0-1000 / 0-40”	±0.07	1144-10001A	**£1,358.55**
0-1000 / 0-40”	±0.07	1144-10002A	**£1,752.19**

VERNIER DEPTH GAUGE
1240 Series

- Made of stainless steel
- Satin chrome plated reading surface



INSIZE

Range mm	Accuracy mm	L	d	Order Code	Price
0-150	+0.05	245	100	1240-150	**£35.41**
0-200	+0.05	282	100	1240-200	**£38.04**
0-300	+0.08	382	100	1240-300	**£50.32**
0-500	+0.09	585	150	1240-500	**£105.32**

DIAL DEPTH GAUGE
2342 Series

- Dial indicator graduation: 0.01mm
- Accuracy: +0.03mm
- Stainless steel base
- Extension rods: 25mm (1pc), 50mm (1 pc), 75mm (1pc), 100mm (2pc)
- Supplied with pointed tip and ball tip



INSIZE

Range mm	Dial Indicator Stroke	Base	Order Code	Price
0-300	30	63x17	2342-201	**£134.74**
		101.5x17	2342-202	**£134.74**

DIGITAL HEIGHT GAUGE WITH DRIVING WHEEL

1156 Series

- Resolution: 0.02mm/0.001”
- Buttons: on/off, mm/inch, preset (+/-), hold
- Carbide tipped scriber
- Made of stainless steel (except base)
- Battery CR2032, auto power off (move digital unit to power on)
- Supplied with dust cover
- Optional accessory: data output cable (code **7302-SPC5A**), dial test indicator holder (code **6293-6**), clamp for protractors (code **2372-CLAMP**)



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
0-300 / 0-12”	±0.03	1156-300	**£414.16**
0-600 / 0-24”	±0.05	1156-600	**£607.13**

DIGITAL HEIGHT GAUGE

DBL Series

- Easy to read LCD display
- Functions: mm/inch conversion, on/off, zero setting, battery low indication
- Soft keys for maximum operating comfort
- Ground micro-lapped measuring surfaces
- Fine adjustment for high precision measurement
- Resolution 0.01 mm 0.001 (inch)
- Accuracy 0-300 (0.04 mm) 0-500/0-600 (0.05mm)
- Base size 0-300 (90 x 140mm)
- Base size 0-500 & 0-600 (120 x 180mm)



Range mm	Order Code	Price
0-300	MW190-30DBL	**£405.50**
0-500	MW190-50DBL	**£521.00**
0-600	MW190-60DBL	**£569.50**

DIGITAL HEIGHT GAUGE

1154 Series

- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off, (move the digital unit) to turn on power
- Carbide tipped scriber
- With fine adjustment
- Made of stainless steel
- Battery CR2032
- Data output
- Optional accessory: data output cable (code **7315, 7302, 7305**), dial test indicator holder (**7315-CL1**)



DATA OUTPUT

INSIZE

Range mm / inch	Accuracy mm	Wireless	Order Code	Price
0-150mm / 0-6”	±0.03	No	1154-150	**£138.45**
		Built In	1154-150WL	**£225.62**

DIGITAL HEIGHT GAUGE

1150 Series

- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch, ABS/INC, data hold, TOL, set
- ABS/INC is for incremental measurement
- TOL is for tolerance measurement
- Carbide tipped scriber
- Made of stainless steel (except the base)
- LR44 battery, data output
- Supplied with dial test indicator holder
- Supplied with dust cover
- Optional accessory: wireless transmitter (**7315-1150**), data output cable (**7302-SPC7**, keyboard format), clamp for protractors (**2372-CLAMP**, for **1150-300**)



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
0-300mm/0-12”	±0.04	1150-300	**£327.57**
0-500mm/0-20”	±0.06	1150-500	**£469.73**
0-600mm/0-24”	±0.06	1150-600	**£610.66**
0-1000mm/0-40”	±0.08	1150-1000	**£1,246.03**

BLUETOOTH DIGITAL HEIGHT GAUGE

Hi Gauge One Series

SWISS MADE

- First height measuring and scribing instrument with Bluetooth® wireless technology
- Bluetooth® connectivity with Sylcom Pro, Slyvan Anywhere and Vmux measuring software
- New blocking system
- 400 and 600mm versions
- Robust mechanics
- Proximity, Power and Bluetooth® data outputs
- Introduction of a constant value



DATA OUTPUT BLUETOOTH®

sylvac

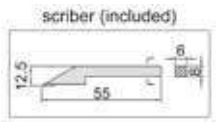
Range mm	Accuracy mm	Order Code	Price
0-400	±0.04	30-840-0406	**£1,071.00**
0-600	±0.05	30-840-0606	**£1,196.00**

DIGITAL HEIGHT GAUGE

1253 Series

- Graduation: 0.02mm/0.001”
- Carbide tipped scriber
- Made of stainless steel (except the base)
- Satin chrome plated scale
- Optional accessory: dial test indicator holder (**7315-CL1**)





INSIZE

Range mm / inch	Accuracy mm	Order Code	Price
0-150mm / 0-6”	±0.03	1253-150	**£115.94**
0-200mm / 0-8”		1253-200	**£168.12**

HIGH PRECISION DIGITAL MINI HEIGHT GAUGE

1155 Series

- Measuring force: 0.8~1.2N
- Power supply: 5V/1A (adapter or charge pal)
- High stability, high precision, high response speed, (5000mm/s)
- High brightness LED display
- Ceramic base flatness: 1μm
- USB output



Measuring Tips included:



DATA OUTPUT

INSIZE

Range	Resolution	Accuracy (20°C)	Order Code	Price
0-50mm	0.5μm / 0.00002”	1.5μm	1155-505	**£2,800.80**
0-50mm	0.1μm / 0.000005”	1μm	1155-510	**£4,095.32**

BLUETOOTH DIGITAL HEIGHT GAUGES

V3, V4 & V5 Series

Manufactured in Switzerland, this vertical height gauge guarantees robust, precise and reliable measurement. The display provides functions that are accessible and depicted with symbols that are easy to understand. This allows for easy and quick handling even by unqualified personnel.

V3
- Manual balance adjustment system
- Measuring range 400 and 700mm, single probe position only
- Manual operation

V4
- Manual balance adjustment system
- Air cushion
- Measuring range 400 and 700mm in lower probe position (up to 719 & 1023mm in higher probe position)
- Manual operation

V5
- Manual balance adjustment system
- Air cushion
- Measuring range 400 and 700mm in lower probe position (up to 719 & 1023mm in higher probe position)
- Automatic operation (Motorised)



DATA OUTPUT | BLUETOOTH®

*optional

Trimos V3 Digital Height Gauges

Range mm/inch	Accuracy mm	Order Code	Price
0-407 / 0-16”	±0.007	20-V3-400	**£2,742.50**
0-711 / 0-28”	±0.008	20-V3-700	**£3,254.50**

Trimos V4 & V5 Digital Height Gauges

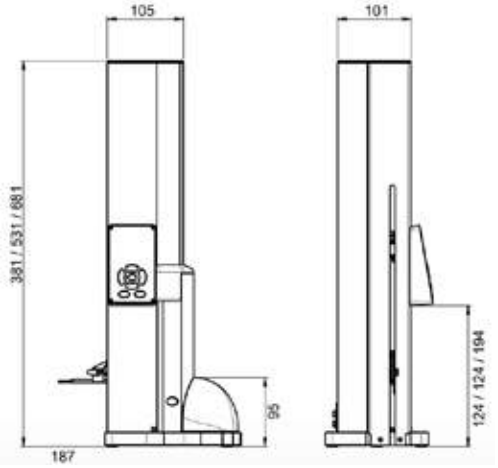
Range mm/inch	Accuracy mm	Order Code	Price
0-407 / 0-16”	±0.0045	20-V4-400	**£3,999.00**
0-711 / 0-28”	±0.006	20-V4-700	**£4,799.00**
0-407 / 0-16”	2.5 + Lmm/300	20-V5-400	**£5,399.00**
0-711 / 0-28”	2.5 + Lmm/300	20-V5-700	**£6,299.00**

BLUETOOTH DIGITAL HEIGHT GAUGES

Hi_Cal V2 Smart Series

SWISS MADE

- Available in three models: 150mm, 300mm and 450mm
- Motorised carriage with 2 progressive speed ranges
- Light and compact with a small footprint
- Simultaneous display of diameter and centreline
- Measures internal and external diameter, centreline, height, thickness and depth
- Extremely low measuring force
- USB or RS232
- Supplied with setting master and standard probe
- Bluetooth® connectivity with Sylcom Pro, Slyvan Anywhere and Vmux measuring software.





DATA OUTPUT | BLUETOOTH®

sylvac

Range mm	Accuracy mm	Weight kg	Resolution mm	Order Code	Price
0-150	±0.002	4	0.01	30-830-0156	**£4,045.62**
0-300		4.7	0.001	30-830-0306	**£4,413.53**
0-450		6.8	0.0005	30-830-0456	**£5,164.44**

LINEAR HEIGHT DIGIMATIC 2D MEASUREMENT SYSTEM

518 Series

- Range: 0-972mm
- Resolution (switchable): 0.0001 / 0.001 / 0.01 / 0.1 mm or .000001 / .00001 / .0001 / .001”
- Made by Mitutoyo - Market leader in the engineering measuring tool sector
- Excellent accuracy of (1.1+0.6L/600) µm with 0.1 µm / 0.4 µm resolution/repeatability
- High-accuracy height gauge incorporating a wide range of measurement functions
- To achieve best-in-class accuracy, a high-accuracy reflective-type linear encoder and an exceptionally straight guide are used
- Measurement can be implemented by icon-based commands that also support easy one-key operation. Perpendicularity (frontal) of 5 µm and straightness of 4 µm are guaranteed
- A best-in-class large colour LCD with excellent visibility is used
- Pneumatic full/semi-floating suspension system allows adjustment of air-cushion height
- Basic statistical functions are provided and additionally, RS232C data output provides the option of evaluating measurement data externally with SPC software on a PC



DATA OUTPUT

Mitutoyo

Range mm	Accuracy µm	Power Grip	Order Code	Price
0-972	1.1+0.6L/600	-	518-351E-21	**£6,031.40**
		Pre-Installed	518-352E-21	**£6,349.40**

QM-HEIGHT ABSOLUTE DIGIMATIC HIGH PRECISION HEIGHT GAUGE

518 Series

- Models available in 0-350mm and 0-600mm
- Resolution (switchable): 0.001 / 0.0005 mm (.00005” / .00001”)
- Made by Mitutoyo - Market leader in the engineering measuring tool sector
- High-performance height gauge with best-inclass accuracy and perpendicularity plus GO/±NG judgement functionality
- Redesigned control panel features a dual-numeric display that shows the difference between the previous measurement value and the current value as well as the current value
- Newly developed high accuracy and high resolution ABSOLUTE linear encoder for position detection. Once origin is set, origin setting is not required each time you turn the power ON (except in the case of a large environmental temperature change)
- Inside/outside diameters can be measured via a unique method (detect circle apex by tracing measurement.)



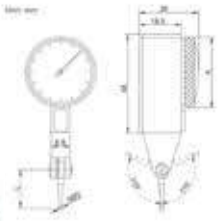
DATA OUTPUT

Mitutoyo

Range mm/inch	Accuracy µm	Order Code	Price
0-350 / 0-14”	±(2.4+2.1L/600)	518-245	**£3,540.40**
0-600 / 0-24”		518-247	**£4,017.40**

DIAL TEST INDICATOR
2380/2381 Series

- Carbide contact point
- 2 measuring directions
- Anti magnetic body
- Supplied with 2 clamps: Ø4mm and Ø8mm





INSIZE

Range mm	Accuracy mm	Dial Reading	Hysteresis (µm)	Graduation mm	A	L	Order Code	Price
0.8	±0.013	0-40-0	3	0.01	30	13.5	2380-08	**£46.83**
0.8	±0.013	0-40-0	3	0.01	37.5	13.5	2381-08	**£52.24**
0.2	±0.006	0-100-0	2	0.002	30	12.5	2380-02	**£74.84**
0.2	±0.006	0-100-0	2	0.002	37.5	12.5	2381-02	**£79.89**

LONG STYLI DIAL TEST INDICATOR
2383 Series

- Graduation: 0.01mm
- Carbide contact point
- Jeweled bearing
- 2 measuring directions
- Anti magnetic body
- Supplied with 2 clamps: Ø4mm and Ø8mm



INSIZE

Range mm	Accuracy mm	Dial Reading	Dial Ø mm	Order Code	Price
0.8	±0.013	0-40-0	37	2383-08A	**£100.37**

BACK PLUNGER TYPE DIAL TEST INDICATOR
2398 Series

- Graduation: 0.01mm
- Carbide contact point
- Jeweled bearing
- 2 measuring directions
- Anti magnetic body
- Supplied with 2 clamps: Ø4mm and Ø8mm



INSIZE

Range mm	Graduation	Accuracy mm	Hysteresis	Dial Reading	Order Code	Price
0.8	0.01mm	13	3	37	2398-08	**£73.55**

STYLI FOR DIAL TEST INDICATORS
6284 Series

- Available in steel, carbide and ruby



INSIZE

Contact Point Material	For Dial Test Indicator	Length mm	Dia mm	Order Code	Price
Steel	2380-08 2398-08 2381-08 2399-08	13.5	1	6284-1	**£7.03**
Carbide			2	6284-3	**£8.65**
Ruby			2	6284-4	**£8.65**
Carbide			3	6284-8	**£8.65**
Steel	2380-02 2381-02	12.5	1	6284-21	**£6.49**
Carbide			2	6284-22	**£8.65**
Carbide			3	6284-23	**£8.65**
Carbide	2896-05 2899-05	34.6	1	6284-51	**£53.52**
Carbide			2	6284-52	**£54.40**

DIAL TEST INDICATOR
513 Series

- Measuring force is 0.3N or less
- Graduation: 0.01mm
- High sensitivity
- Provides easy access to shrouded surfaces that cannot be reached with conventional dial indicators



Mitutoyo

Range mm	Accuracy mm	Dial Reading	Dial Ø mm	Order Code	Price
0.5	±0.005	0-25-0	40	513-424-10E	**£117.66**
0.5	±0.01	0-25-0		513-414-10E	**£147.58**
0.8	±0.008	0-40-0		513-404-10E	**£112.24**
1	±0.01	0-50-0		513-415-10E	**£140.50**

DIAL TEST INDICATOR
420 Series

- Standard: ANSI B89.1.10, DIN2270
- Automatic reversal of measuring direction
- High precision fully jewelled bearings
- Rotating dial
- Two dovetail clamps
- Carbide points
- Styli length: 12mm / 1/2", M1.4 thread



Range mm	Dial Reading	Dial Ø mm	Order Code	Price
0.8	0-40-0	25	MW420-03	**£62.50**
		37	MW420-04	**£73.50**

DIAL TEST INDICATOR HOLDER
6293 Series

- 4mm and 8mm diameter stem holes
- Comes in a range of shank lengths





INSIZE

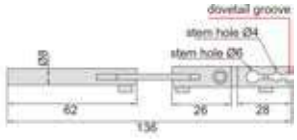
Stem Section mm	Stem Length mm	Order Code	Price
9 x 9	100	6293-1	**£13.72**
9 x 9	50	6293-6	**£17.92**
Ø8	115	6293-2	**£14.59**

DIAL TEST INDICATOR HOLDER
6296 Series

- Supplied with hex key







INSIZE

Order Code	Price
6296-1	**£18.05**

DIAL INDICATOR
2308 Series

- Graduation: 0.01mm / .001”
- Jewelled bearing
- Supplied with limit pointers and bezel clamp
- Range/rev 1mm



INSIZE

Range mm	Accuracy mm	Dial Reading	Back Type	Order Code	Price
3	±0.012	0-100	Flat	2308-3FA	£31.88
5	±0.014			2308-5FA	£29.91
10	±0.017			2308-10FA	£22.95
3	±0.012		Lug	2308-3A	£30.55
5	±0.014			2308-5A	£31.77
10	±0.017			2308-10A	£23.42

PRECISION DIAL INDICATOR
2313 Series

- Graduation: 0.01mm / .001”
- Dial reading 0-100-0
- Jeweled bearing
- Supplied with limit pointers and bezel clamp
- Range/rev 0.2mm



INSIZE

Range mm	Accuracy mm	Dial Reading	Back Type	Order Code	Price
1	±0.005	0-100	Flat	2313-1FA	£55.36
2	±0.008			2313-2FA	£143.39
1	±0.005		Lug	2313-1A	£55.62
2	±0.008			2313-2A	£143.39

IP54 DIAL INDICATOR
2324 Series

- Graduation: 0.01mm / .001”
- IP54 dust/waterproof
- Jeweled bearing
- With limit pointers



IP54

INSIZE

Range mm	Accuracy mm	Dial Reading	Back Type	Order Code	Price
10	±0.017	0-100	Lug	2324-10A	£63.91

LONG STROKE DIAL INDICATOR
2309 Series

- Graduation: 0.01mm / .001”
- Shockproof
- Supplied with limit hands
- With limit pointers
- Jeweled bearing
- Flat back supplied with spare lug back



INSIZE

Range mm	Accuracy mm	Dial Reading	Back Type	Order Code	Price
30	±0.035	0-100	Lug	2309-30	£77.88
30	±0.035		Flat	2309-30F	£76.52
50	±0.040			2309-50*	£118.91
80	±0.050			2309-80*	£223.74
50	±0.040			2309-50D*	£135.98
100	±0.050			2309-100D*	£302.85

DIAL INDICATOR
2 Series

- Graduation: 0.01mm / .001”
- Adjustable-hand dial gauge and peak-hold dial gauge



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Range mm	Accuracy mm	Dial Reading	Back Type	Order Code	Price
10	±0.01	±0-100	Lug	2046S-60	£122.96

DIAL INDICATOR
400 Series

- Graduation: 0.01mm / .001”
- With tungsten carbide contact point
- Double dial indicator for measuring stroke
- Adjustable bezel with stop screw



*Flat back supplied with spare lug back

Range mm	Back Type	Order Code	Price
0-1.0	Flat	MW400-01	£56.50
0-1.0	Lug	MW400-02	£56.50
0-3.0	Lug & Flat	MW400-03	£36.50
0-5.0	Lug	MW400-04	£36.50
0-10.0	Flat	MW400-05	£26.00
0-10.0	Lug	MW400-06	£59.00
0-30.0	Lug	MW400-08	£54.50
0-50.0	Lug	MW400-09	£113.00

DIGITAL INDICATOR

2112 Series

- CR2032 battery, auto power off
- Optional accessory: data output cable (code **7302-SPC3A**)



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Back Type	Order Code	Price
12.7 / 0.5"	±0.02	Lug	2112-10	**£70.10**
25.4 / 1"	±0.02		2112-25	**£96.54**
50.8 / 2"	±0.03		2112-50	**£220.03**
12.7 / 0.5"	±0.02	Flat	2112-10F	**£66.75**
25.4 / 1"	±0.02		2112-25F	**£96.54**
50.8 / 2"	±0.03		2112-50F	**£220.03**

HIGH PRECISION DIGITAL INDICATOR

2133 Series

- Linear ball bearings for ten million times use
- Absolute encoder, the original data remains after power off
- Display flips over when spindle faces up
- Reading in digital & analogue
- Data output



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Back Type	Adjustable Resolution	Order Code	Price
12.7 / 0.5"	±0.03	Flat	0.0005 0.001 0.01	2133-10	**£243.51**
25.4 / 1"	±0.03			2133-25	**£334.99**
12.7 / 0.5"	±0.015		0.0002 0.001 0.01	2133-101	**£402.98**
25.4 / 1"	±0.018			2133-251	**£553.79**

DIGIMATIC SOLAR INDICATOR

543 Series

- Range: 0.05" / 12.7mm
- Accuracy: .00012" / 0.003mm
- Measuring Force: 1.5N or less
- An analogue bar indicator has been integrated to make upper/lower limit and turnover point reading more comfortable
- With the ABSOLUTE Linear Encoder technology



DATA OUTPUT

Mitutoyo

Range mm/inch	Accuracy mm	Back Type	Order Code	Price
12.7 / 0.5"	±0.03	Lug	543-501	**£305.28**

COMPACT DIGITAL INDICATOR

2114 Series

- Resolution 0.01mm/0.0005"
- Accuracy 0.02mm
- Buttons: on/off, mm/inch, zero, ABS/INC
- CR1632 battery, auto power off
- Flat back
- Optional accessory: data output cable (code **7302-SPC3A**)



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Back Type	Order Code	Price
5 / 0.2"	±0.02	Flat	2114-5F	**£84.93**

BORE GAUGE DIGITAL INDICATOR

2108 Series

- Specially designed for bore gauges
- Minimum value tracking function can find diameter automatically
- Read the diameter directly after inputting the size of setting ring
- Reading in digital & analogue
- 320° rotatable display
- Data output





DATA OUTPUT

INSIZE

Range mm/inch	Resolution mm/inch	Accuracy mm	Back Type	Order Code	Price
12.7 / 0.5"	0.002 / 0.0001"	±0.02	Flat	2108-10F	**£155.76**
5 / 0.2"	0.001 / 0.00005			2108-101F	**£282.03**

INDICATOR CONTACT POINTS

6282 Series



Ball



Conical



Knife Edge



Tapered Needle Point



Spherical Ball



Spherical



Flat



Blade Points



Shell



Needle Points



Roller Point

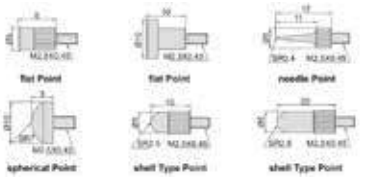
Shape	Material Of Measuring Face	L	Order Code	Price
Ball	Carbide	7.3	6282-0101	£4.43
	Carbide	7.3	6282-0102	£4.65
	Ceramic	7.3	6282-0103	£4.94
	Carbide	8.3	6282-0104	£3.01
	Carbide	12.1	6282-0106	£4.43
	Carbide	14	6282-0107	£3.96
	Carbide	15	6282-0108	£5.48
	Ceramic	15	6282-0109	£5.84
	Carbide	17	6282-0110	£5.05
	Carbide	19.3	6282-0111	£6.23
	Carbide	20	6282-0112	£6.23
	Ceramic	20	6282-0113	£6.36
	Carbide	22	6282-0114	£5.59
	Carbide	25	6282-0115	£6.74
	Ceramic	25	6282-0116	£7.53
	Carbide	30	6282-0117	£7.53
	Ceramic	30	6282-0118	£8.84
Spherical Ball	Steel	1	6282-0301	£4.17
	Carbide	1.5	6282-0302	£4.94
	Carbide	1.8	6282-0303	£4.43
	Carbide	2.5	6282-0304	£4.17
	Carbide	4	6282-0305	£4.43
Shell	Steel	5	6282-0202	£3.96
		10	6282-0203	£4.25
		15	6282-0205	£3.69
		19.05	6282-0206	£5.45
		20	6282-0207	£5.05
		25	6282-0208	£5.59
		30	6282-0210	£6.89
Conical	Steel	10	6282-0601	£6.83
		6	6282-0701	£7.09
		9	6282-0801	£13.23
		15	6282-0901	£16.81
Spherical	Steel	5	6282-0401	£5.84

Shape	Material Of Measuring Face	L	Order Code	Price
Knife Edge	Steel	15	6282-1001	£8.84
Flat	Steel	8	6282-1101	£12.24
	Steel	10	6282-1102	£20.41
	Steel	10	6282-1201	£13.23
	Steel	15	6282-1202	£19.29
	Steel	25	6282-1204	£21.76
	Steel	30	6282-1205	£23.28
	Carbide	8	6282-1301	£17.65
Needle Points	Steel	3	6282-1701	£11.58
	Steel	5	6282-1702	£14.64
	Carbide	3	6282-1703	£18.48
	Carbide	5	6282-1704	£26.52
	Carbide	10	6282-1706	£28.57
	Carbide	20	6282-1707	£30.24
	Carbide	40	6282-1708	£31.68
	Carbide	5	6282-1709	£27.85
	Carbide	10	6282-1710	£30.24
	Carbide	13	6282-1711	£22.45
	Carbide	20	6282-1712	£33.13
	Carbide	40	6282-1713	£36.47
	Carbide	8	6282-1714	£24.36
	Carbide	18	6282-1715	£27.60
	Carbide	28	6282-1716	£28.80
	Carbide	40	6282-1717	£36.47
Tapered Needle Point	Steel	15	6282-1601	£6.29
		17	6282-1602	£5.75
		25	6282-1603	£7.64
		35	6282-1604	£9.86
Blade Points	Steel	10	6282-1801	£11.73
			6282-1802	£13.97
			6282-1803	£16.07
Roller Point	Steel	10	6282-1901	£63.54

INDICATOR CONTACT POINT SET

6282 Series





INSIZE

Shape	Material Of Measuring Face	L	Order Code	Price
2x Flat 1x Needle 1x Spherical 2x Shell	Steel	Flat: 8, 10 Needle: 11 Spherical: 5 Shell: 10, 20	6282-S6	£51.30

STEEL INDICATOR EXTENSION RODS

6282 Series

- Rod diameter Ø4mm
- Thread size M2.5x0.45



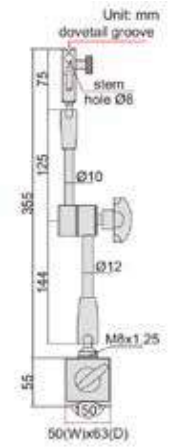
INSIZE

Shape	L	Order Code	Price
Extension Rods	10	6282-2001	£2.46
	15	6282-2002	£2.66
	20	6282-2003	£2.73
	25	6282-2004	£2.92
	30	6282-2005	£3.37
	35	6282-2006	£3.36
	40	6282-2007	£3.36
	45	6282-2008	£3.90
	50	6282-2009	£3.91
	55	6282-2010	£3.90
	60	6282-2011	£4.17
	65	6282-2012	£4.17
	70	6282-2013	£4.52
	75	6282-2014	£4.52
	80	6282-2015	£4.52
	90	6282-2016	£5.30
	100	6282-2017	£5.98

UNIVERSAL MAGNETIC STAND
6208 Series

- For digital/dial indicators dial test indicators
- With fine adjustment and dovetail groove





INSIZE

Magnetic Force kgf	Applicable Holding Stem	Order Code	Price
80	8	6208-80A	**£53.52**

MAGNETIC INDICATOR STAND
6200 Series

- For digital/dial indicators and dial test indicators



INSIZE

Magnetic Force kgf	Applicable Stem Ø	Remark	Order Code	Price
60	8mm, 4mm, 3/4"	Without fine adjustment	6200-60	**£22.71**
60	8mm, 4mm, 3/4"	With fine adjustment	6201-60	**£22.12**
80	8mm, 4mm, 3/4"	With fine adjustment	6202-80	**£35.18**
100	8mm, 4mm, 3/4"	With fine adjustment	6202-100	**£56.48**

MAGNETIC INDICATOR STAND
6210 Series

- For digital/dial indicators and dial test indicators
- Fine adjustment
- Dovetail groove



INSIZE

Magnetic Force kgf	Applicable Stem mm	Order Code	Price
80	Ø8	6210-81	**£93.69**
80	Ø8	6210-80	**£97.53**
100	Ø8	6210-100	**£140.93**

MAGNETIC STAND W/ FINE ADJUSTMENT
6272 Series

- With double fine adjustments on the head and on the base
- For digital/dial indicators and dial test indicators





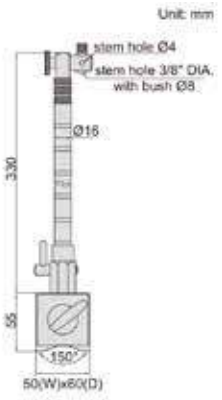
INSIZE

Magnetic Force kgf	Applicable Holding Stem	Order Code	Price
80	8	6272-80	**£106.93**

FLEX ARM MAGNETIC STAND
6207 Series

- For dial test indicators





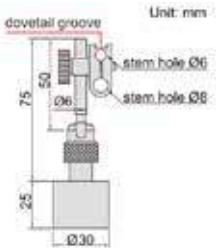
INSIZE

Magnetic Force kgf	Applicable Holding Stem	Order Code	Price
80	Ø8mm, Ø4mm, 3/8" DIA	6207-80A	**£46.36**

MINI MAGNETIC STAND
6211 Series

- For dial test indicators
- With dovetail groove





INSIZE

Magnetic Force kgf	Applicable Holding Stem	Order Code	Price
10	Ø6mm, Ø8mm	6211-10	**£40.92**

MAGNETIC INDICATOR BACKS
7331 Series

- For use with digital/dial indicators





INSIZE

ØD mm	For Indicators	Order Code	Price
51.5	2103, 2104, 2108, 2109, 2112, 2115, 2116, 2117, 2118, 2138, 2139, 2501, 2301, 2302, 2308, 2309, 2313, 2314, 2316, 2324, 2801	7331-M1	**£14.71**
54	2318	7331-M2	**£15.20**

INDICATOR BACKS
7330 Series

- Available in flat back or lug back



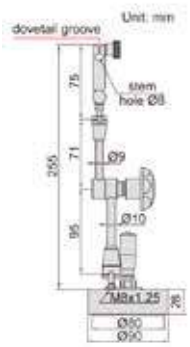
INSIZE

For Indicators	Type	Order Code	Price
2301, 2302, 2308 2309, 2313, 2314, 2316, 2324, 2801	Lug	7330-L2	**£2.11**
	Flat	7330-F2	**£1.78**
2103, 2104, 2108, 2109, 2112, 2115, 2116, 2117, 2118, 2138, 2139, 2501	Lug	7330-L5	**£2.27**
	Flat	7330-F5	**£2.27**

VACUUM STAND
6217 Series

- Suitable for granite surface plates or cast iron surface plates
- For digital/dial indicators and dial test indicators
- With fine adjustment and dovetail groove





INSIZE

Diameter of Vacuum Disc mm	Vacuum Force kgf	Applicable holding stem	Order Code	Price
80	80	8mm	6217-B	**£105.32**

BENCH CENTER
4782 Series

- Hardened cast-iron guide surface
- Movable column
- V slot for cylinder 4-22mm



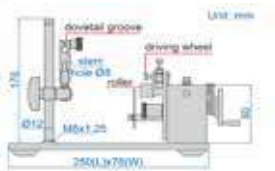
INSIZE

Horizontal Parallelism mm	Vertical Parallelism mm	Centre height	Distance Between Two Centres	Taper of centre	Load	Order Code	Price
0.01	0.015	80	300	MT1	25kg	4782-300	**£1,620.68**

CONCENTRICITY GAUGE
4789 Series

- Accuracy 2µm
- Optional accessorv: dial test indicator





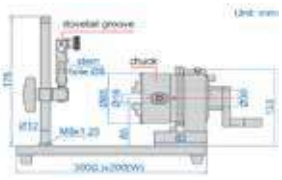
INSIZE

Applicable Diameter mm	Order Code	Price
Ø3.5mm-25	4789-1	**£1,010.63**
Ø1mm-25	4789-3	**£1,015.53**

CONCENTRICITY GAUGE
4786 Series

- Accuracy: 8µm
- Optional accessory: dial test indicator



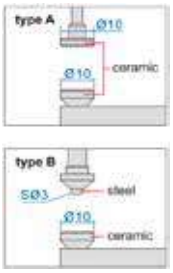


INSIZE

Applicable Inside Diameter mm	Applicable Outside Diameter	Order Code	Price
Ø24-64	Ø2-70mm	4786-1	**£3,075.97**

THICKNESS GAUGE
2365 Series





INSIZE

Range mm	Accuracy mm	Graduation	Type	Order Code	Price
0-10	+0.02	0.01mm	A	2365-10	**£104.08**
0-20	+0.03			2365-20	**£144.64**
0-10	+0.02		B	2365-10B	**£114.35**
0-20	+0.03			2365-20B	**£159.47**

TUBE THICKNESS GAUGE
2367 Series

- Measure tube wall thickness



INSIZE

Range mm	Accuracy mm	Graduation	Order Code	Price
0-10	+0.02	0.01mm	2367-10A	**£138.01**

DIGITAL THICKNESS GAUGE
2871 Series

- Ceramic spindle tip and anvil
- Buttons: on/off, zero, mm/inch
- Battery CR2032, automatic power off
- Optional accessory: data output cable (**7302-SPC3B**)



DATA OUTPUT

INSIZE

Range mm/inch	Resolution mm/inch	Accuracy mm	Order Code	Price
0-10 / 0-0.4"	0.01 / 0.0005"	±0.02	2871-10	**£115.20**
0-10 / 0-0.4"	0.001 / 0.00005"	±0.005	2871-101	**£254.64**

THICKNESS GAUGE
2364 Series

- Ceramic spindle tip and anvil
- Graduation 0.001mm



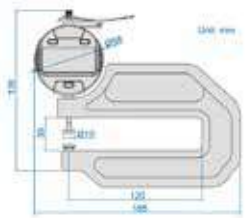
INSIZE

Range mm	Accuracy mm	Order Code	Price
0-10	±0.02	2364-10	**£68.98**
0-1	±0.005	2364-1	**£129.80**

DIGITAL THICKNESS GAUGE
2872 Series

- Ceramic spindle tip and anvil
- Buttons: on/off, zero, mm/inch
- Resolution 0.01mm/0.0005"
- Battery CR2032, automatic power off
- Optional accessory: data output cable (**7302-SPC3B**)





DATA OUTPUT

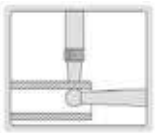
INSIZE

Range mm/inch	Resolution mm/inch	Accuracy mm	Order Code	Price
0-10 / 0-0.4"	0.01 / 0.0005"	±0.02	2872-10	**£149.58**

DIGITAL TUBE THICKNESS GAUGE
2876 Series

- Buttons: on/off, zero, mm/inch
- Resolution 0.01mm/0.0005"
- Battery CR2032, automatic power off
- Data output
- Optional accessory: data output cable (**7302-SPC3B**)





DATA OUTPUT

INSIZE

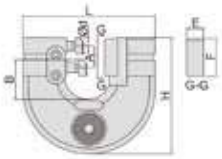
Range mm/inch	Resolution mm/inch	Accuracy mm	Order Code	Price
0-10 / 0-0.4"	0.01 / 0.0005"	±0.02	2876-10	**£182.95**

ADJUSTABLE SNAP GAUGE

2187 Series

- Used to Go/No-Go gauge by setting upper and lower limits for fast and accurate measurements of cylinders
- Flatness of anvil: 1.5µm
- Parallelism of measuring faces:
- Range 0-32mm: 3µm
- Range 32-89mm: 4µm
- Range 89-300mm: 5µm





INSIZE

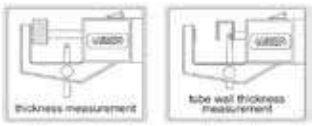
Range mm	L	A	B	E	F	H	ØD	Order Code	Price
0-6	74	15	23.5	12.2	27.2	71.5	7	2187-6	**£96.06**
6-13	85	15	26	12.2	27.2	79.5	12.3	2187-13	**£96.06**
13-19	93	15	30	12.2	27.2	83	12.3	2187-19	**£106.18**
19-25	100	15	33.5	12.2	27.2	89.5	12.3	2187-25	**£107.05**
25-32	111	18	38.5	15.2	35.2	104	15.3	2187-32	**£122.13**
32-38	117	18	41.5	15.2	35.2	105	15.3	2187-38	**£122.13**
38-44	123	18	44.5	15.2	35.2	109	15.3	2187-44	**£126.09**
44-51	130	18	48	15.2	35.2	117	15.3	2187-51	**£129.80**
51-57	136	18	51	15.2	35.2	119	15.3	2187-57	**£144.64**
57-63	143	18	54.5	15.2	35.2	122	15.3	2187-63	**£144.64**
63-70	156	20	58	15.2	35.2	132	15.3	2187-70	**£154.52**
70-76	163	20	60.5	15.2	35.2	137	15.3	2187-76	**£155.76**
76-82	169	20	64.5	15.2	35.2	140	15.3	2187-82	**£168.12**
82-89	175	20	66.5	15.2	35.2	146	15.3	2187-89	**£168.12**
89-95	181	20	69.5	15.2	35.2	149	15.3	2187-95	**£181.72**
95-101	188	20	73	15.2	35.2	154	15.3	2187-101	**£181.72**
101-108	198	24	79	15.2	35.2	166	15.3	2187-108	**£196.55**
108-114	204	24	81	15.2	39.2	172	15.3	2187-114	**£195.31**
114-120	210	24	86	15.2	39.2	179	15.3	2187-120	**£210.15**
120-127	217	24	89.5	15.2	39.2	186	15.3	2187-127	**£213.86**
127-133	223	24	92.5	15.2	39.2	192	15.3	2187-133	**£249.70**
133-139	229	24	95.5	15.2	39.2	197	15.3	2187-139	**£250.93**
139-146	235	24	98.5	15.2	39.2	201	15.3	2187-146	**£294.20**
146-152	242	21.4	102	15.2	39.2	205	15.3	2187-152	**£294.20**
152-163	273	21.4	106.7	18.2	39.2	211	18.3	2187-163	**£462.31**
163-175	273	21.4	106.7	18.2	39.2	211	18.3	2187-175	**£462.31**
175-188	298.5	21.4	119.7	18.2	39.2	227	18.3	2187-188	**£517.94**
188-200	298.5	21.4	119.7	18.2	39.2	227	18.3	2187-200	**£531.54**
200-213	324	21.4	131.7	18.2	39.2	242	18.3	2187-213	**£588.40**
213-225	324	21.4	131.7	18.2	39.2	242	18.3	2187-225	**£588.40**
225-238	349.5	21.4	144.7	18.2	39.2	250	18.3	2187-238	**£663.80**
238-250	349.5	21.4	144.7	18.2	39.2	250	18.3	2187-250	**£669.98**
250-263	375.5	21.4	157.7	18.2	39.2	278	18.3	2187-263	**£713.24**
263-275	375.5	21.4	157.7	18.2	39.2	278	18.3	2187-275	**£721.90**
275-288	400	21.4	170.7	18.2	39.2	291	18.3	2187-288	**£826.98**
288-300	400	21.4	170.7	18.2	39.2	291	18.3	2187-300	**£826.98**

DIGITAL SNAP GAUGE

2163 Series

- Resolution: 0.01mm/0.0005”
- Accuracy: ±0.04mm
- For thickness and tube wall thickness measurement





DATA OUTPUT

INSIZE

Thickness Range	Tube Wall Thickness Range	Order Code	Price
0-25mm / 0-1”	0.2mm / 0.08”	2163-25	**£75.15**

DIAL SNAP GAUGE

2186 Series

- For quick Go/No-Go judgement of diameter of cylinders and shafts
- Left anvil retracting stroke: 2 mm
- Measuring force 6-8µm
- Flatness of anvil: 1.5µm
- Repeatability: 1µm
- Carbide measuring faces for anvils
- Front edges of anvils are chamfered for easy workpiece insertion
- Optional accessory: dial indicators and digital indicators (reading 0.001mm or 0.01mm)



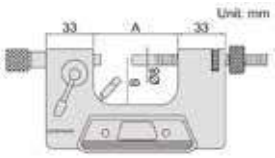
INSIZE

Range mm	Parallelism of Measuring Faces	Order Code	Price
0-25	4	2186-25	**£623.00**
25-50	4	2186-50	**£693.47**
50-75	5	2186-75	**£718.20**
75-100	6	2186-100	**£778.77**
100-125	6	2186-125	**£805.96**
125-150	8	2186-150	**£846.75**
150-175	8	2186-175	**£901.15**
175-200	10	2186-200	**£944.41**
200-225	10	2186-225	**£1,007.46**
225-250	10	2186-250	**£1,043.31**
250-275	12	2186-275	**£1,098.92**
275-300	12	2186-300	**£1,173.09**

DIAL SNAP GAUGE

2184 Series

- For quick Go/No-Go judgement of diameter of cylinders and shafts
- Anvil retracting stroke: 3mm
- Measuring force: 6-9N
- Carbide measuring faces
- Optional accessory: dial indicators (graduation 0.01mm), dial indicators (resolution 0.01mm/0.0005”)





INSIZE

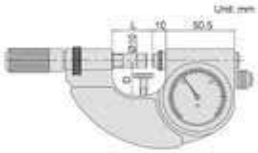
Range mm/inch	A	B	Order Code	Price
0-25	34	18	2184-25W	**£137.22**
0-50	62	32	2184-50W	**£168.12**
50-100	112	62	2184-100W	**£202.73**
100-150	162	85	2184-150W	**£245.99**
150-200	212	110	2184-200W	**£286.79**

IP54 DIAL SNAP GAUGE

3334 Series

- Go/No-Go judgement for mass production
- Dial indicator: range +0.04mm, graduation 0.001mm, accuracy 0.001mm
- IP54 dust/waterproof
- Measuring force: 5-10N
- Carbide measuring faces
- Supplied with setting standards (except 0-25mm)





IP54

INSIZE

Range mm/inch	L	D	Order Code	Price
0-25	28.5	25	3334-25	**£426.47**
25-50	53.5	35	3334-50	**£454.85**
50-75	78.5	47.5	3334-75	**£505.26**
75-100	103.5	60	3334-100	**£541.26**

METRIC COARSE THREAD GAUGES

- Metric Coarse
- Right Hand
- Made in Germany
- Calibration available on request
- Gauge dimensions acc. DIN ISO 1502





Dia.	Pitch mm	Order Code					
		6H Plug Gauge (Go/No-Go)	Price	6g Ring Gauge (Go)	Price	6g Ring Gauge (No-Go)	Price
M2	0.4	JBO-PG-511859	£74.38	JBO-RG-501700	£73.38	JBO-RG-500404	£73.38
M2.2	0.45	JBO-PG-511873	£79.20	JBO-RG-501714	£81.91	JBO-RG-500419	£81.91
M2.3	0.4	JBO-PG-511879	£81.91	JBO-RG-501720	£135.53	JBO-RG-500425	£135.53
M2.5	0.45	JBO-PG-511883	£65.44	JBO-RG-501724	£57.70	JBO-RG-500429	£57.70
M2.6	0.45	JBO-PG-511894	£79.54	JBO-RG-501739	£73.00	JBO-RG-500441	£73.00
M3	0.5	JBO-PG-512036	£53.88	JBO-RG-501903	£44.49	JBO-RG-500596	£44.49
M3.5	0.6	JBO-PG-512059	£55.71	JBO-RG-501919	£45.95	JBO-RG-500611	£45.95
M4	0.7	JBO-PG-512177	£50.64	JBO-RG-502047	£40.53	JBO-RG-500734	£40.53
M4.5	0.75	JBO-PG-512202	£68.93	JBO-RG-502069	£65.10	JBO-RG-500752	£65.10
M5	0.8	JBO-PG-512218	£49.42	JBO-RG-502138	£40.53	JBO-RG-500822	£40.53
M6	1	JBO-PG-512252	£47.81	JBO-RG-502214	£43.10	JBO-RG-500896	£40.53
M7	1	JBO-PG-512286	£52.13	JBO-RG-502271	£47.81	JBO-RG-500948	£47.81
M8	1.25	JBO-PG-512305	£49.42	JBO-RG-502301	£41.64	JBO-RG-500980	£41.64
M9	1.25	JBO-PG-512345	£64.88	JBO-RG-502347	£57.21	JBO-RG-501024	£57.21
M10	1.5	JBO-PG-511646	£53.01	JBO-RG-501452	£47.81	JBO-RG-500158	£47.81
M11	1.5	JBO-PG-511679	£69.17	JBO-RG-501492	£67.08	JBO-RG-500201	£67.08
M12	1.75	JBO-PG-511689	£56.71	JBO-RG-501512	£53.38	JBO-RG-500218	£53.38
M14	2	JBO-PG-511730	£61.13	JBO-RG-501572	£56.95	JBO-RG-500277	£56.95
M16	2	JBO-PG-511776	£65.49	JBO-RG-501623	£63.27	JBO-RG-500327	£63.27
M18	2.5	JBO-PG-511820	£70.92	JBO-RG-501663	£73.49	JBO-RG-500370	£73.49
M20	2.5	JBO-PG-511902	£76.10	JBO-RG-501748	£81.04	JBO-RG-500447	£81.04
M22	2.5	JBO-PG-511934	£80.55	JBO-RG-501782	£89.20	JBO-RG-500479	£89.20
M24	3	JBO-PG-511965	£90.81	JBO-RG-501815	£98.53	JBO-RG-500508	£95.50
M27	3	JBO-PG-512005	£101.91	JBO-RG-501868	£107.12	JBO-RG-500559	£107.12
M30	3.5	JBO-PG-512075	£112.93	JBO-RG-501929	£117.10	JBO-RG-500623	£117.10
M33	3.5	JBO-PG-512108	£124.77	JBO-RG-501975	£128.61	JBO-RG-500664	£128.61
M36	4	JBO-PG-512144	£134.77	JBO-RG-502011	£138.50	JBO-RG-500696	£138.50
M39	4	JBO-PG-512166	£148.73	JBO-RG-502039	£150.71	JBO-RG-500723	£150.71

NPT/NPTF THREAD GAUGES

- NPT/NPTF stepped limit gauges
- Right Hand
- Made in Germany
- Calibration available on request





NPT NPTF	TPI	Order Code			
		Plug Gauge (Go/No-Go)	Price	Ring Gauge (Go/No-Go)	Price
NPT					
1/8"	27	JBO-PG-512505	£140.94	JBO-RG-502675	£233.10
1/4"	18	JBO-PG-512504	£150.35	JBO-RG-502673	£238.54
3/8"	18	JBO-PG-512510	£161.09	JBO-RG-502681	£250.78
1/2"	14	JBO-PG-512503	£175.77	JBO-RG-502672	£273.01
3/4"	14	JBO-PG-512509	£198.65	JBO-RG-502680	£297.71
1"	11.5	JBO-PG-512499	£228.20	JBO-RG-502668	£337.25
1 1/4"	11.5	JBO-PG-512501	£295.23	JBO-RG-502670	£395.29
1 1/2"	11.5	JBO-PG-512500	£333.52	JBO-RG-502669	£436.08
2"	11.5	JBO-PG-512506	£379.98	JBO-RG-502677	£516.02
2 1/2"	8	JBO-PG-512507	£485.48	JBO-RG-502678	£609.00
3"	8	JBO-PG-512508	£589.25	JBO-RG-502679	£779.48
4"	8	JBO-PG-512511	£874.60	JBO-RG-502683	£1,281.00
NPTF					
1/8"	27	JBO-PG-512545	£214.63	JBO-RG-502700	£260.83
1/4"	18	JBO-PG-512544	£229.31	JBO-RG-502699	£228.51
3/8"	18	JBO-PG-512547	£246.66	JBO-RG-502702	£354.64
1/2"	14	JBO-PG-512543	£267.97	JBO-RG-502698	£383.96
3/4"	14	JBO-PG-512546	£298.65	JBO-RG-502701	£423.96
1"	11.5	JBO-PG-512539	£345.29	JBO-RG-502697	£478.62
1 1/4"	11.5	JBO-PG-512541	£417.30	JBO-RG-503479	£559.95
1 1/2"	11.5	JBO-PG-512540	£471.94	JBO-RG-503480	£617.26
2"	11.5	JBO-PG-513622	£459.91	JBO-RG-505713	£753.26
2 1/2"	8	JBO-PG-517008	£686.61	JBO-RG-505885	£682.92
3"	8	JBO-PG-517007	£834.59	JBO-RG-505886	£874.44

BSPT THREAD GAUGES

- BSPT stepped limit gauges
- Right Hand
- Made in Germany
- Calibration available on request



BSPT	TPI	Order Code			
		Plug Gauge (Go/No-Go)	Price	Ring Gauge (Go/No-Go)	Price
1/8"	28	JBO-PG-514570	£182.58	JBO-RG-503880	£131.57
1/4"	19	JBO-PG-514571	£193.20	JBO-RG-503881	£140.94
3/8"	19	JBO-PG-514572	£209.40	JBO-RG-503882	£169.12
1/2"	14	JBO-PG-514573	£226.80	JBO-RG-503883	£202.59
3/4"	14	JBO-PG-514574	£253.25	JBO-RG-503884	£232.12
1"	11	JBO-PG-514575	£297.71	JBO-RG-503885	£249.52
1 1/4"	11	JBO-PG-514576	£354.53	JBO-RG-503886	£296.48
1 1/2"	11	JBO-PG-514577	£400.24	JBO-RG-503887	£360.72
2"	11	JBO-PG-514578	£490.41	JBO-RG-503888	£403.96
2 1/2"	11	JBO-PG-514579	£576.90	JBO-RG-503889	£442.25
3"	11	JBO-PG-517141	£684.35	JBO-RG-506024	£508.95
4"	11	JBO-PG-516167	£966.02	JBO-RG-546002	£623.84

UNC THREAD GAUGES

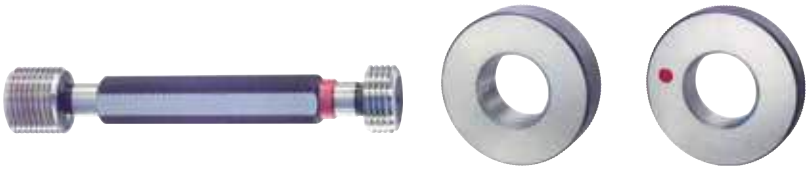
- Unified Coarse
- Right Hand
- Made in Germany
- Unified national coarse thread ASME B1.1
- Gauge dimensions acc. ANSI / ASME B1.2
- Calibration available on request



UNC	TPI	Order Code					
		2B Plug Gauge (Go/No-Go)	Price	2A Ring Gauge (Go)	Price	2A Ring Gauge (No-Go)	Price
No1	64	JBO-PG-512363	£112.79	JBO-RG-502377	£94.98	JBO-RG-501051	£94.98
No2	56	JBO-PG-512368	£85.23	JBO-RG-502382	£75.50	JBO-RG-501057	£75.50
No3	48	JBO-PG-512373	£85.23	JBO-RG-502386	£86.48	JBO-RG-501061	£86.48
No4	40	JBO-PG-512375	£75.80	JBO-RG-502388	£66.22	JBO-RG-501063	£66.22
No5	40	JBO-PG-512382	£72.52	JBO-RG-502392	£60.54	JBO-RG-501066	£60.54
No6	32	JBO-PG-512384	£60.66	JBO-RG-502393	£51.64	JBO-RG-501067	£51.64
No8	32	JBO-PG-512389	£57.56	JBO-RG-502396	£48.67	JBO-RG-501070	£48.67
No10	24	JBO-PG-512365	£56.46	JBO-RG-502379	£46.73	JBO-RG-501053	£46.73
No12	24	JBO-PG-512367	£61.05	JBO-RG-505676	£51.41	JBO-RG-501055	£51.41
1/4"	20	JBO-PG-512403	£56.83	JBO-RG-502406	£45.61	JBO-RG-501080	£42.46
5/16"	18	JBO-PG-512410	£55.10	JBO-RG-502416	£48.44	JBO-RG-501088	£48.44
3/8"	16	JBO-PG-512408	£56.71	JBO-RG-502413	£52.87	JBO-RG-501085	£52.87
7/16"	14	JBO-PG-512415	£61.53	JBO-RG-502421	£57.45	JBO-RG-501093	£57.45
1/2"	13	JBO-PG-512401	£63.13	JBO-RG-502404	£63.13	JBO-RG-501078	£63.13
9/16"	12	JBO-PG-512419	£68.45	JBO-RG-502425	£69.43	JBO-RG-501097	£69.43
5/8"	11	JBO-PG-512413	£70.55	JBO-RG-502419	£74.26	JBO-RG-501091	£74.26
3/4"	10	JBO-PG-512406	£80.41	JBO-RG-502411	£87.33	JBO-RG-501083	£87.33
7/8"	9	JBO-PG-512417	£93.52	JBO-RG-502423	£106.74	JBO-RG-501095	£106.74
1"	8	JBO-PG-512392	£99.29	JBO-RG-502398	£116.24	JBO-RG-501072	£108.23
1 1/8"	7	JBO-PG-512398	£119.82	JBO-RG-502401	£137.11	JBO-RG-501075	£121.74
1 1/4"	7	JBO-PG-512396	£128.24	JBO-RG-502400	£149.49	JBO-RG-501074	£149.49
1 3/8"	6	JBO-PG-512399	£150.11	JBO-RG-502403	£166.89	JBO-RG-501077	£166.89
1 1/2"	6	JBO-PG-512394	£166.76	JBO-RG-502399	£158.18	JBO-RG-501073	£158.18

UNF THREAD GAUGES

- Unified Fine
- Right Hand
- Made in Germany
- Unified national fine thread ASME B1.1
- Gauge dimensions acc. ANSI / ASME B1.2
- Calibration available on request



UNF	TPI	Order Code					
		2B Plug Gauge (Go/No-Go)	Price	2A Ring Gauge (Go)	Price	2A Ring Gauge (No-Go)	Price
No. 0	80	JBO-PG-512421	£137.31	JBO-RG-502426	£142.64	JBO-RG-501099	£142.64
No. 1	72	JBO-PG-512424	£120.78	JBO-RG-502428	£119.06	JBO-RG-501101	£119.06
No. 2	64	JBO-PG-512432	£134.66	JBO-RG-502436	£118.90	JBO-RG-501108	£118.90
No. 3	56	JBO-PG-512434	£126.26	JBO-RG-502438	£118.51	JBO-RG-501110	£118.51
No. 4	48	JBO-PG-512436	£109.99	JBO-RG-502440	£104.92	JBO-RG-501112	£104.92
No. 5	44	JBO-PG-512438	£97.99	JBO-RG-502442	£84.13	JBO-RG-501114	£84.13
No. 6	40	JBO-PG-512440	£65.39	JBO-RG-502444	£81.05	JBO-RG-501116	£81.05
No. 8	36	JBO-PG-512442	£78.00	JBO-RG-502446	£74.93	JBO-RG-501118	£74.93
No. 10	32	JBO-PG-512426	£67.64	JBO-RG-502430	£59.57	JBO-RG-501103	£59.45
No. 12	28	JBO-PG-512431	£78.53	JBO-RG-502433	£52.44	JBO-RG-501106	£52.44
1/4"	28	JBO-PG-512456	£70.37	JBO-RG-502458	£58.51	JBO-RG-501130	£56.27
5/16"	24	JBO-PG-512466	£70.80	JBO-RG-502469	£62.04	JBO-RG-501140	£62.77
3/8"	24	JBO-PG-512462	£72.99	JBO-RG-502466	£66.84	JBO-RG-501137	£65.98
7/16"	20	JBO-PG-512472	£76.00	JBO-RG-502475	£57.97	JBO-RG-501146	£73.20
1/2"	20	JBO-PG-512454	£80.90	JBO-RG-502455	£78.25	JBO-RG-501127	£64.39
9/16"	18	JBO-PG-512478	£86.24	JBO-RG-502481	£87.45	JBO-RG-501152	£87.45
5/8"	18	JBO-PG-512469	£90.65	JBO-RG-502472	£76.62	JBO-RG-501143	£76.62
3/4"	16	JBO-PG-512460	£96.30	JBO-RG-502461	£111.58	JBO-RG-501133	£109.15
7/8"	14	JBO-PG-512476	£114.50	JBO-RG-502478	£131.45	JBO-RG-501149	£132.26
1"	12	JBO-PG-512444	£126.33	JBO-RG-502448	£118.56	JBO-RG-501120	£118.56
1 1/8"	12	JBO-PG-512451	£144.00	JBO-RG-502453	£166.65	JBO-RG-501125	£166.65
1 1/4"	12	JBO-PG-512449	£147.51	JBO-RG-502452	£181.30	JBO-RG-501124	£181.30
1 3/8"	12	JBO-PG-512453	£170.66	JBO-RG-502454	£198.64	JBO-RG-501126	£198.64
1 1/2"	12	JBO-PG-512446	£189.32	JBO-RG-502451	£210.64	JBO-RG-501123	£210.64

WHITWORTH THREAD GAUGES

BSW/BSF/BSP(G)

- Right Hand
- Made in Germany







BSW BSF BSP(G)	TPI	Order Code					
		Plug Gauge (Go / No-Go)	Price	Ring Gauge (Go)	Price	Ring Gauge (No-Go)	Price
BSW							
1 / 8"	40	JBO-PG-512632	**£110.18**	JBO-RG-502615	**£95.76**	JBO-RG-501273	**£95.76**
3 / 16"	24	JBO-PG-512641	**£76.98**	JBO-RG-502626	**£70.77**	JBO-RG-501280	**£70.77**
1 / 4"	20	JBO-PG-512631	**£78.18**	JBO-RG-502614	**£68.06**	JBO-RG-501272	**£68.06**
5 / 16"	18	JBO-PG-512646	**£76.35**	JBO-RG-502631	**£73.49**	JBO-RG-501285	**£73.49**
3 / 8"	16	JBO-PG-512644	**£77.70**	JBO-RG-502629	**£76.98**	JBO-RG-501283	**£76.98**
7 / 16"	14	JBO-PG-512650	**£81.17**	JBO-RG-502635	**£81.17**	JBO-RG-501288	**£81.17**
1 / 2"	12	JBO-PG-512630	**£86.00**	JBO-RG-502613	**£86.00**	JBO-RG-501271	**£86.00**
9 / 16"	12	JBO-PG-512653	**£93.75**	JBO-RG-502640	**£96.61**	JBO-RG-501293	**£96.61**
5 / 8"	11	JBO-PG-512649	**£97.72**	JBO-RG-502633	**£103.26**	JBO-RG-501287	**£103.26**
3 / 4"	10	JBO-PG-512643	**£111.68**	JBO-RG-502628	**£113.78**	JBO-RG-501282	**£113.78**
7 / 8"	9	JBO-PG-512652	**£126.26**	JBO-RG-502638	**£131.07**	JBO-RG-501291	**£131.07**
1"	8	JBO-PG-512625	**£146.39**	JBO-RG-502606	**£147.02**	JBO-RG-501263	**£144.02**
1 1 / 8"	7	JBO-PG-513033	**£163.31**	JBO-RG-502608	**£163.31**	JBO-RG-501266	**£163.31**
1 1 / 4"	7	JBO-PG-512628	**£174.78**	JBO-RG-503134	**£178.89**	JBO-RG-501265	**£178.89**
1 3 / 8"	6	JBO-PG-516821	**£194.45**	JBO-RG-502611	**£197.15**	JBO-RG-501269	**£197.15**
1 1 / 2"	6	JBO-PG-512627	**£214.07**	JBO-RG-503133	**£214.07**	JBO-RG-501264	**£214.07**
BSF							
3 / 16"	32	JBO-PG-513282	**£121.98**	JBO-RG-540040	**£113.35**	JBO-RG-520239	**£113.35**
7 / 32"	28	JBO-PG-520126	**£130.78**	JBO-RG-520234	**£121.98**	JBO-RG-520240	**£121.98**
1 / 4"	26	JBO-PG-512529	**£89.85**	JBO-RG-502498	**£83.03**	JBO-RG-501168	**£83.03**
9 / 32"	26	JBO-PG-520127	**£130.78**	JBO-RG-520235	**£121.98**	JBO-RG-520241	**£121.98**
5 / 16"	22	JBO-PG-513872	**£113.35**	JBO-RG-502501	**£109.99**	JBO-RG-501170	**£109.99**
3 / 8"	20	JBO-PG-513553	**£92.63**	JBO-RG-502500	**£106.16**	JBO-RG-501169	**£118.90**
7 / 16"	18	JBO-PG-518434	**£129.20**	JBO-RG-520236	**£96.00**	JBO-RG-520242	**£102.32**
1 / 2"	16	JBO-PG-512528	**£128.24**	JBO-RG-502497	**£131.87**	JBO-RG-501167	**£131.87**
9 / 16"	16	JBO-PG-514907	**£141.33**	JBO-RG-507251	**£146.63**	JBO-RG-507252	**£146.63**
5 / 8"	14	JBO-PG-520128	**£144.00**	JBO-RG-520237	**£150.64**	JBO-RG-520243	**£150.64**
11 / 16"	14	JBO-PG-513216	**£182.66**	JBO-RG-520238	**£181.30**	JBO-RG-520244	**£181.30**
3 / 4"	12	JBO-PG-512530	**£161.33**	JBO-RG-502499	**£169.33**	JBO-RG-505546	**£169.33**
7 / 8"	11	JBO-PG-516815	**£181.30**	JBO-RG-540035	**£190.66**	JBO-RG-540017	**£190.66**
1"	10	JBO-PG-512527	**£165.95**	JBO-RG-502496	**£218.64**	JBO-RG-501166	**£218.64**
BSP(G)							
1 / 16"	28	JBO-PG-511577	**£86.48**	JBO-RG-501361	**£97.97**	JBO-RG-500066	**£97.97**
1 / 8"	28	JBO-PG-511589	**£58.94**	JBO-RG-501376	**£51.64**	JBO-RG-500083	**£51.64**
1 / 4"	19	JBO-PG-511584	**£64.73**	JBO-RG-501371	**£61.53**	JBO-RG-500077	**£62.67**
3 / 8"	19	JBO-PG-511597	**£74.38**	JBO-RG-501399	**£70.92**	JBO-RG-500104	**£70.92**
1 / 2"	14	JBO-PG-511578	**£85.23**	JBO-RG-501362	**£83.90**	JBO-RG-500067	**£83.90**
5 / 8"	14	JBO-PG-511601	**£93.75**	JBO-RG-501408	**£96.48**	JBO-RG-500112	**£96.48**
3 / 4"	14	JBO-PG-511593	**£100.82**	JBO-RG-501391	**£101.91**	JBO-RG-500098	**£101.91**
7 / 8"	14	JBO-PG-511602	**£122.17**	JBO-RG-501414	**£125.02**	JBO-RG-500117	**£125.02**
1"	11	JBO-PG-511573	**£121.07**	JBO-RG-501337	**£123.77**	JBO-RG-500043	**£123.77**
1 1 / 8"	11	JBO-PG-511576	**£146.01**	JBO-RG-501358	**£148.60**	JBO-RG-500063	**£148.60**

View full range online, including left hand, different tolerances etc



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- Metric Fine Conduit
- UN
- UNEF
- UNJC
- PG
- Trapezoidal
- Thread Repair

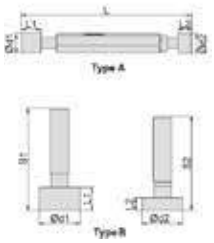
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PLAIN PLUG GAUGE

4124 Series

- Supplied with Go and No-Go together
- Class H7
- Hardness HRC60+/-2
- Standard DIN7150-2
- Ø52mm > Ø100mm (B Type - Go & No/Go supplied on separate handles)





INSIZE

Dia Ø mm	Order Code	Price	Dia Ø mm	Order Code	Price	Dia Ø mm	Order Code	Price	Dia Ø mm	Order Code	Price
2	4124-2	**£23.36**	17	4124-17	**£24.60**	32	4124-32	**£40.17**	47	4124-47	**£56.74**
3	4124-3	**£23.25**	18	4124-18	**£25.22**	33	4124-33	**£40.05**	48	4124-48	**£58.10**
4	4124-4	**£20.41**	19	4124-19	**£28.44**	34	4124-34	**£40.05**	49	4124-49	**£69.10**
5	4124-5	**£20.28**	20	4124-20	**£28.80**	35	4124-35	**£38.20**	50	4124-50	**£59.46**
6	4124-6	**£20.02**	21	4124-21	**£29.91**	36	4124-36	**£42.03**	52	4124-52	**£74.54**
7	4124-7	**£20.65**	22	4124-22	**£29.91**	37	4124-37	**£42.16**	55	4124-55	**£73.43**
8	4124-8	**£20.65**	23	4124-23	**£29.91**	38	4124-38	**£42.16**	60	4124-60	**£74.54**
9	4124-9	**£20.65**	24	4124-24	**£30.16**	39	4124-39	**£56.00**	65	4124-65	**£90.48**
10	4124-10	**£21.14**	25	4124-25	**£33.38**	40	4124-40	**£47.59**	70	4124-70	**£96.29**
11	4124-11	**£21.14**	26	4124-26	**£33.74**	41	4124-41	**£56.37**	75	4124-75	**£114.83**
12	4124-12	**£21.14**	27	4124-27	**£34.12**	42	4124-42	**£50.19**	80	4124-80	**£115.33**
13	4124-13	**£21.14**	28	4124-28	**£34.24**	43	4124-43	**£56.63**	85	4124-85	**£124.85**
14	4124-14	**£21.25**	29	4124-29	**£36.09**	44	4124-44	**£50.43**	90	4124-90	**£137.22**
15	4124-15	**£24.96**	30	4124-30	**£34.38**	45	4124-45	**£52.04**	95	4124-95	**£145.87**
16	4124-16	**£24.60**	31	4124-31	**£41.28**	46	4124-46	**£55.51**	100	4124-100	**£145.87**

SETTING RING / PLAIN RING GAUGE

6312 Series

- For zero setting of inside micrometers, 3 point bore micrometers & bore gauges
- Tolerance +0.01mm
- Hardness HRC 60 +/-2



INSIZE

Dia Ø mm	Order Code	Price	Dia Ø mm	Order Code	Price	Dia Ø mm	Order Code	Price	Dia Ø mm	Order Code	Price
1.5	6312-1D5	**£169.35**	15.5	6312-15D5	**£184.19**	29.5	6312-29D5	**£194.08**	80	6312-80	**£121.51**
2	6312-2	**£110.26**	16	6312-16	**£53.03**	30	6312-30	**£64.16**	85	6312-85	**£150.81**
2.5	6312-2D5	**£237.33**	16.5	6312-16D5	**£186.66**	31	6312-31	**£68.23**	87	6312-87	**£152.05**
3	6312-3	**£102.11**	17	6312-17	**£53.03**	32	6312-32	**£61.45**	90	6312-90	**£152.05**
3.5	6312-3D5	**£244.75**	17.5	6312-17D5	**£182.95**	33	6312-33	**£68.23**	95	6312-95	**£168.12**
4	6312-4	**£48.96**	18	6312-18	**£53.03**	34	6312-34	**£64.03**	100	6312-100	**£205.21**
4.5	6312-4D5	**£185.43**	18.5	6312-18D5	**£180.48**	35	6312-35	**£65.27**	112.5	6312-112D5	**£503.11**
5	6312-5	**£47.59**	19	6312-19	**£54.26**	36	6312-36	**£68.73**	125	6312-125	**£338.70**
5.5	6312-5D5	**£184.19**	19.5	6312-19D5	**£184.19**	37	6312-37	**£74.17**	137.5	6312-137D5	**£697.18**
6	6312-6	**£47.35**	20	6312-20	**£54.26**	38	6312-38	**£69.47**	150	6312-150	**£482.10**
6.5	6312-6D5	**£140.93**	20.5	6312-20D5	**£199.02**	39	6312-39	**£73.30**	162.5	6312-162D5	**£1,148.37**
7	6312-7	**£47.35**	21	6312-21	**£61.06**	40	6312-40	**£73.30**	175	6312-175	**£742.91**
7.5	6312-7D5	**£154.52**	21.5	6312-21D5	**£194.08**	41	6312-41	**£77.88**	187.5	6312-187D5	**£859.11**
8	6312-8	**£47.35**	22	6312-22	**£56.86**	42	6312-42	**£76.64**	200	6312-200	**£928.34**
8.5	6312-8D5	**£154.52**	22.5	6312-22D5	**£190.37**	43	6312-43	**£77.88**	212.5	6312-212D5	**£1,961.75**
9	6312-9	**£47.35**	23	6312-23	**£60.70**	44	6312-44	**£76.64**	225	6312-225	**£1,328.85**
9.5	6312-9D5	**£186.66**	23.5	6312-23D5	**£194.08**	45	6312-45	**£76.64**	237.5	6312-237D5	**£2,488.34**
10	6312-10	**£47.35**	24	6312-24	**£56.86**	46	6312-46	**£82.20**	250	6312-250	**£1,618.10**
10.5	6312-10D5	**£186.66**	24.5	6312-24D5	**£199.02**	47	6312-47	**£82.20**	262.5	6312-262D5	**£3,049.55**
11	6312-11	**£48.21**	25	6312-25	**£57.48**	48	6312-48	**£82.20**	275	6312-275	**£2,032.21**
11.5	6312-11D5	**£182.95**	25.5	6312-25D5	**£199.02**	49	6312-49	**£84.55**	287.5	6312-287D5	**£3,992.72**
12	6312-12	**£48.70**	26	6312-26	**£61.06**	50	6312-50	**£82.82**	300	6312-300	**£2,454.96**
12.5	6312-12D5	**£182.95**	26.5	6312-26D5	**£199.02**	55	6312-55	**£96.54**			
13	6312-13	**£50.32**	27	6312-27	**£64.16**	60	6312-60	**£101.48**			
13.5	6312-13D5	**£186.66**	27.5	6312-27D5	**£190.37**	62	6312-62	**£105.70**			
14	6312-14	**£50.32**	28	6312-28	**£61.06**	65	6312-65	**£105.44**			
14.5	6312-14D5	**£180.48**	28.5	6312-28D5	**£194.08**	70	6312-70	**£109.65**			
15	6312-15	**£51.30**	29	6312-29	**£61.06**	75	6312-75	**£114.71**			

INDIVIDUAL STEEL GAUGE BLOCKS

4101 Series

- Grade 0, 1 and 2 gauge blocks are available
- Made of alloy steel
- Meet ISO3650
- Supplied with manufacturer's inspection certificate



Other sizes not listed here can also be supplied, please get in touch

INSIZE

Grade 1

Size mm	Order Code	Price	Size mm	Order Code	Price	Size mm	Order Code	Price	Size mm	Order Code	Price
0.5	4101-BD5	**£21.88**	1.18	4101-B1D18	**£16.81**	1.47	4101-B1D47	**£16.81**	11	4101-B11	**£19.41**
1	4101-B1	**£16.81**	1.19	4101-B1D19	**£16.81**	1.48	4101-B1D48	**£16.81**	12	4101-B12	**£19.41**
1.001	4101-B1D001	**£16.81**	1.2	4101-B1D2	**£16.81**	1.49	4101-B1D49	**£16.81**	13	4101-B13	**£19.41**
1.002	4101-B1D002	**£16.81**	1.21	4101-B1D21	**£16.81**	1.5	4101-B1D5	**£16.81**	14	4101-B14	**£19.41**
1.003	4101-B1D003	**£16.81**	1.22	4101-B1D22	**£16.81**	1.6	4101-B1D6	**£17.92**	15	4101-B15	**£19.41**
1.004	4101-B1D004	**£16.81**	1.24	4101-B1D24	**£16.81**	1.7	4101-B1D7	**£16.81**	18	4101-B18	**£19.41**
1.005	4101-B1D005	**£16.81**	1.25	4101-B1D25	**£16.81**	1.8	4101-B1D8	**£16.81**	20	4101-B20	**£19.41**
1.006	4101-B1D006	**£16.81**	1.26	4101-B1D26	**£16.81**	1.9	4101-B1D9	**£16.81**	21	4101-B21	**£19.41**
1.009	4101-B1D009	**£16.81**	1.27	4101-B1D27	**£16.81**	2	4101-B2	**£16.81**	22	4101-B22	**£19.41**
1.01	4101-B1D01	**£16.81**	1.3	4101-B1D3	**£16.81**	2.5	4101-B2D5	**£16.81**	25	4106-B25	**£78.37**
1.02	4101-B1D02	**£16.81**	1.32	4101-B1D32	**£16.81**	3	4101-B3	**£16.81**	30	4106-B30	**£85.82**
1.03	4101-B1D03	**£16.81**	1.33	4101-B1D33	**£16.81**	5	4101-B5	**£16.81**	40	4106-B40	**£98.89**
1.04	4101-B1D04	**£16.81**	1.34	4101-B1D34	**£16.81**	5.5	4101-B5D5	**£16.81**	50	4106-B50	**£113.54**
1.05	4101-B1D05	**£16.81**	1.35	4101-B1D35	**£16.81**	6	4101-B6	**£18.05**	70	4106-B70	**£159.61**
1.06	4101-B1D06	**£16.81**	1.36	4101-B1D36	**£16.81**	7	4101-B7	**£18.05**	75	4106-B75	**£183.62**
1.07	4101-B1D07	**£16.81**	1.37	4101-B1D37	**£16.81**	7.5	4101-B7D5	**£18.05**	80	4106-B80	**£184.82**
1.08	4101-B1D08	**£16.81**	1.4	4101-B1D4	**£16.81**	8	4101-B8	**£18.05**			
1.09	4101-B1D09	**£16.81**	1.42	4101-B1D42	**£16.81**	8.5	4101-B8D5	**£18.05**			
1.1	4101-B1D1	**£16.81**	1.43	4101-B1D43	**£16.81**	9	4101-B9	**£18.05**			
1.15	4101-B1D15	**£16.81**	1.45	4101-B1D45	**£16.81**	9.5	4101-B9D5	**£18.05**			
1.16	4101-B1D16	**£16.81**	1.46	4101-B1D46	**£16.81**	10	4101-B10	**£19.41**			

Grade 0

Size mm	Order Code	Price
1	4101-A1	**£22.13**
10	4101-A10	**£26.08**
100	4101-A100	**£58.34**

Grade 2

Size mm	Order Code	Price
1	4101-C1	**£11.67**
10	4101-C10	**£14.71**
100	4101-C100	**£36.46**
200	4101-C200	**£126.09**
250	4101-C250	**£139.68**
300	4101-C300	**£170.60**

INDIVIDUAL CERAMIC GAUGE BLOCKS

- Made of ceramic, extremely wear and corrosion resistant
- Meet ISO3650
- Supplied with manufacturer's inspection certificate
- Sets also available, please contact or view online



INSIZE

Size mm	Order Code	Price	Size mm	Order Code	Price	Size mm	Order Code	Price	Size mm	Order Code	Price	Size mm	Order Code	Price	Size mm	Order Code	Price
0.5	4106-AD5	**£48.21**	1.14	4106-A1D14	**£39.93**	1.39	4106-A1D39	**£39.93**	6	4106-A6	**£56.00**	17	4106-A17	**£102.11**	70	4106-A70	**£275.66**
1	4106-A1	**£39.93**	1.15	4106-A1D15	**£39.93**	1.4	4106-A1D4	**£38.76**	6.5	4106-A6D5	**£56.00**	17.5	4106-A17D5	**£102.11**	75	4106-A75	**£294.20**
1.0005	4106-A1D0005	**£39.93**	1.16	4106-A1D16	**£39.93**	1.41	4106-A1D41	**£39.93**	7	4106-A7	**£58.47**	17.6	4106-A17D6	**£106.93**	80	4106-A80	**£315.21**
1.001	4106-A1D001	**£39.93**	1.17	4106-A1D17	**£39.93**	1.42	4106-A1D42	**£39.93**	7.5	4106-A7D5	**£58.47**	18	4106-A18	**£106.93**	90	4106-A90	**£344.88**
1.002	4106-A1D002	**£39.93**	1.18	4106-A1D18	**£39.93**	1.43	4106-A1D43	**£39.93**	7.7	4106-A7D7	**£60.82**	18.5	4106-A18D5	**£106.93**	100	4106-A100	**£360.95**
1.003	4106-A1D003	**£39.93**	1.19	4106-A1D19	**£39.93**	1.44	4106-A1D44	**£39.93**	8	4106-A8	**£60.82**	19	4106-A19	**£112.00**	125	4106-A125	**£443.77**
1.004	4106-A1D004	**£39.93**	1.2	4106-A1D2	**£39.93**	1.45	4106-A1D45	**£39.93**	8.5	4106-A8D5	**£60.82**	19.5	4106-A19D5	**£112.00**			
1.005	4106-A1D005	**£39.93**	1.21	4106-A1D21	**£39.93**	1.46	4106-A1D46	**£39.93**	9	4106-A9	**£62.79**	20	4106-A20	**£114.35**			
1.006	4106-A1D006	**£39.93**	1.22	4106-A1D22	**£39.93**	1.47	4106-A1D47	**£39.93**	9.5	4106-A9D5	**£62.79**	20.2	4106-A20D2	**£114.35**			
1.007	4106-A1D007	**£39.93**	1.23	4106-A1D23	**£39.93**	1.48	4106-A1D48	**£39.93**	10	4106-A10	**£65.39**	20.5	4106-A20D5	**£114.35**			
1.008	4106-A1D008	**£38.76**	1.24	4106-A1D24	**£39.93**	1.49	4106-A1D49	**£39.93**	10.3	4106-A10D3	**£65.39**	21	4106-A21	**£124.85**			
1.009	4106-A1D009	**£39.93**	1.25	4106-A1D25	**£39.93**	1.5	4106-A1D5	**£39.93**	10.5	4106-A10D5	**£65.39**	21.5	4106-A21D5	**£124.85**			
1.01	4106-A1D01	**£39.93**	1.26	4106-A1D26	**£39.93**	1.6	4106-A1D6	**£39.93**	11	4106-A11	**£77.00**	22	4106-A22	**£124.85**			
1.02	4106-A1D02	**£38.76**	1.27	4106-A1D27	**£39.93**	1.7	4106-A1D7	**£39.93**	11.5	4106-A11D5	**£77.00**	22.5	4106-A22D5	**£124.85**			
1.03	4106-A1D03	**£39.93**	1.28	4106-A1D28	**£39.93**	1.8	4106-A1D8	**£39.93**	12	4106-A12	**£82.57**	22.8	4106-A22D8	**£127.33**			
1.04	4106-A1D04	**£39.93**	1.29	4106-A1D29	**£39.93**	1.9	4106-A1D9	**£39.93**	12.5	4106-A12D5	**£82.57**	23	4106-A23	**£127.33**			
1.05	4106-A1D05	**£39.93**	1.3	4106-A1D3	**£38.76**	2	4106-A2	**£44.01**	12.9	4106-A12D9	**£87.40**	23.5	4106-A23D5	**£127.33**			
1.06	4106-A1D06	**£39.93**	1.31	4106-A1D31	**£39.93**	2.5	4106-A2D5	**£44.01**	13	4106-A13	**£87.27**	24	4106-A24	**£129.80**			
1.07	4106-A1D07	**£39.93**	1.32	4106-A1D32	**£39.93**	3	4106-A3	**£47.59**	13.5	4106-A13D5	**£87.27**	24.5	4106-A24D5	**£129.80**			
1.08	4106-A1D08	**£39.93**	1.33	4106-A1D33	**£39.93**	3.5	4106-A3D5	**£47.59**	14	4106-A14	**£92.46**	25	4106-A25	**£134.74**			
1.09	4106-A1D09	**£39.93**	1.34	4106-A1D34	**£39.93**	4	4106-A4	**£48.70**	14.5	4106-A14D5	**£92.46**	30	4106-A30	**£144.64**			
1.1	4106-A1D1	**£39.93**	1.35	4106-A1D35	**£39.93**	4.5	4106-A4D5	**£48.70**	15	4106-A15	**£95.80**	40	4106-A40	**£166.89**			
1.11	4106-A1D11	**£39.93**	1.36	4106-A1D36	**£39.93**	5	4106-A5	**£52.29**	15.5	4106-A15D5	**£95.80**	41.3	4106-A41D3	**£195.31**			
1.12	4106-A1D12	**£39.93**	1.37	4106-A1D37	**£39.93**	5.1	4106-A5D1	**£52.29**	16	4106-A16	**£97.04**	50	4106-A50	**£194.08**			
1.13	4106-A1D13	**£39.93**	1.38	4106-A1D38	**£39.93**	5.5	4106-A5D5	**£52.29**	16.5	4106-A16D5	**£97.04**	60	4106-A60	**£232.39**			

STEEL GAUGE BLOCK SETS

4100 Series

- Made of alloy steel
- Meet ISO3560



INSIZE

Size mm	Qty	Step mm	Grade 0 Order Code	Grade1 Order Code	Grade 2 Order Code	Price From
1.005 1.001-1.009 1.01-1.49 1.6-1.9 0.5-24.5 30-100 25-75	1 9 49 4 49 8 2	0.001 0.01 0.1 0.5 10 50	4100-122	4100-1122	4100-2112	**£536.48**
1.0005 1.001-1.009 1.01.149 0.5-9.5 10-100	1 9 49 19 10	0.001 0.01 0.5 10	4100-88	4100-1103	4100-288	**£390.62**
1.001-1.009 1.01.149 0.5-9.5 10-100	9 49 19 10	0.001 0.01 0.5 10	4100-87	4100-188	4100-287	**£383.20**
0.5 1 1.005 1.01-1.49 1.5-1.9 2-9.5 10-100	1 1 1 49 5 16 10	0.01 0.1 0.5 10	4100-83	4100-187	4100-283	**£326.34**
1.005 1.01-1.49 0.5-9.5 10-40 50-100	1 49 19 4 3	0.01 0.5 10 25	4100-76	4100-183	4100-276	**£264.53**

Size mm	Qty	Step mm	Grade 0 Order Code	Grade 1 Order Code	Grade 2 Order Code	Price From
0.5 1.001-1.009 1.01-1.09 1.1-1.9 1-24 25-100	1 9 9 9 24 4	0.001 0.01 0.1 1 25	4100-56	4100-176	4100-256	**£259.58**
1.005 1.01-1.19 1.2-1.9 1-9 10-100	1 19 8 9 10	0.01 0.1 1 10	4100-47	4100-147	4100-247	**£238.57**
1.005 1.01-1.09 1.1-1.9 1-24 25-100	1 9 9 24 4	0.01 0.1 1 25	4100-47A	4100-147A	4100-247A	**£279.37**
1.005 1.01-1.09 1.1-1.9 1-9 10-30 50	1 9 9 9 3 1	0.01 0.1 1 10	4100-32	4100-132	4100-232	**£152.05**
0.991- 0.999	9	0.001	4100-9A	4100-19A	4100-29A	**£115.33**

GAUGE BLOCK HOLDER

6883 Series

- Made of aluminium
- To be used with individual steel gauge block (code **4101**) as Go and No-Go gauge





INSIZE

Applicable Gauge Block Size mm	Order Code	Price
1.5-5	6883-1	**£13.72**
5-10	6883-2	**£13.72**
10-15	6883-3	**£13.84**
15-20	6883-4	**£15.08**
20-25	6883-5	**£14.35**

STEEL GAUGE BLOCK SETS

700 Series

- Made from high quality stress relived alloy steel
- Grade 1 for Inspection
- Grade 2 for Workshop



Size mm	Step mm	Qty	Grade 1 Order Code	Price	Grade 2 Order Code	Price
1.005 1.01-1.49 0.5-24.50 25-100	0.01 0.5 25	1 49 49 4	MW700-02	**£626.50**	MW700-03	**£445.00**
1.001-1.009 1.01-1.49 0.5-9.5 10-100	0.001 0.01 0.5 10	9 49 19 10	MW700-05	**£429.00**	MW700-06	**£340.00**
1.005 1.01-1.09 1.10-1-1.9 1-24 25-100	0.01 0.1 1 25	1 9 9 24 4	MW700-08	**£281.00**	MW700-09	**£221.50**
1.005 1.01-1.09 1.10-1.9 1-9 10-30 60	0.01 0.1 1 10	1 9 9 9 3 1	MW700-11	**£193.50**	MW700-12	**£137.00**

MICROMETER INSPECTION GAUGE BLOCK SET

4107 Series



- One piece of optical flat is included in 4107-10, 4107-101
- Meet ISO3650, grade 0
- Supplied with manufacturer inspection certificate

INSIZE

Material	Applicable Micrometer	Blocks Included mm	Order Code	Price
Ceramic	0-25	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25, optical flat	4107-10	**£684.82**
Alloy Steel	0-25	2.5, 5.1, 7.7, 10.3, 12.9, 15, 17.6, 20.2, 22.8, 25, optical flat	4107-101	**£368.36**
Alloy Steel	25-50	25, 27.5, 30.1, 32.7, 35.3, 37.9, 40, 42.6, 45.2, 47.8,50	4107-112	**£430.85**
Alloy Steel	50-75	50, 52.5, 55.1, 57.7, 60.3, 62.9, 65, 67.6, 70.2, 72.8, 75	4107-113	**£501.87**
Alloy Steel	75-100	75, 77.5, 80.1, 82.7,85.3, 87.9, 90, 92.6, 95.2, 97.8, 100	4107-114	**£547.61**
Alloy Steel	0-100	5.12, 10.24, 15.36, 21.5, 25, 30.12, 35.24, 40.36, 46.5, 50,55.12, 60.24, 65.36, 71.5, 75, 80.12, 85.24, 90.36, 96.5, 100	4107-115	**£696.08**

ANGLE GAUGE BLOCK SETS

4002 Series

- Accuracy: +2”
- To inspect protractor, taper gauge, index plate, index head and goniometer, can also be used to set angle
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Can be combined to any angle with interval 6 seconds after combination (6”, 12”, 18”, ..., 360°)



INSIZE

Included Angles	Order Code	Price
1°, 3°, 9°, 27°, 41°, 1’, 3’, 9’, 27’, 6”, 18”, 30”, 90°/90°/90°/90°	4002-13	**£2,124.76**
1°, 3°, 5°, 15°, 30°, 45°, 1’, 3’, 5’, 20’, 30, 6”, 12”, 30”, 90°/90°/90°/90°	4002-15	**£2,343.29**

CALIPER INSPECTION GAUGE BLOCK SET

4108 Series

- Meet ISO3650, grade 2
- Supplied with manufacturer inspection certificate



INSIZE

Material	Blocks per Set	Blocks Included mm	Applicable Caliper mm	Order Code	Price
Alloy steel	5	30,41.3, 131.4, 243.5, 281.2	0-150, 0-200, 0-300	4108-3005	**£382.84**

INDIVIDUAL GAUGE BLOCKS

4002 Series

- Accuracy: +2”
- To inspect protractor, taper gauge, index plate, index head and goniometer, can also be used to set angle
- Made of special alloy steel, hardness HRC64, high stability, wear resistance and easy combination
- Can be combined to any angle with interval 6 seconds after combination (6”, 12”, 18”, ..., 360°)



INSIZE

Angle	H mm	Order Code	Price
1°	11.5	4002-A1	**£230.30**
3°	14	4002-A15	**£226.63**
5°	16.5	4002-A27	**£231.53**
9°	22	4002-A3	**£230.30**
15°	30.5	4002-A30	**£231.53**
30°	53.5	4002-A45	**£226.63**
41°	75	4002-A5	**£230.30**
45°	84	4002-A9	**£230.30**
1°	10	4002-B1	**£230.30**

Angle	H mm	Order Code	Price
27°	10	4002-B27	**£230.30**
3°	10	4002-B3	**£230.30**
30°	10	4002-B30	**£230.30**
5°	10	4002-B5	**£230.30**
9°	10	4002-B9	**£230.30**
12°	10	4002-C12	**£230.30**
18°	10	4002-C18	**£230.30**
30°	10	4002-C30	**£230.30**
6°	10	4002-C6	**£230.30**
90/90/90/90°	75	4002-D	**£226.63**

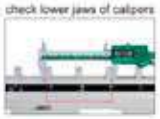
CALIPER/HEIGHT GAUGE CHECKERS

6884 Series

- To check calipers and height gauges
- Constructed with steel gauge blocks
- Supplied with manufacturers inspection certificate









INSIZE

Range of Inside Measurement	Range of Outside Measurement	Range of Height Measurement	Accuracy	Order Code	Price
20, 50, 100, 150, 200, 250, 300, 330	20, 50, 100, 150, 200, 250, 300, 330, 360	20, 50, 100, 150, 200, 250, 300, 330, 360	±5µm	6884-300	**£1,320.15**
20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 630, 660	±7µm	6884-600	**£2,227.60**
20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900,950, 1000, 1030	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900,950, 1000, 1030, 1060	20, 50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900,950, 1000, 1030, 1060	±7µm	6884-1000	**£4,613.37**

PIN GAUGE SET

4166 Series

- Made of alloy steel
- Hardness HRC62-65
- Diameter accuracy: +/- 1µm



INSIZE

Diameter Range mm	Steps mm	Pieces Per Set	Order Code	Price	Diameter Range mm	Steps mm	Pieces Per Set	Order Code	Price
0.2-0.5	0.01	31	4166-0D	£174.30	8.5-9	0.01	51	4166-9	£269.47
0.5-1.0		51	4166-1	£269.47	9-9.5		51	4166-9D	£289.25
1.0-1.5		51	4166-1D	£269.47	9.5-10		51	4166-10	£290.49
1.0-2.0		101	4166-2S	£534.02	9.0-10.0		101	4166-10S	£534.02
1.0-5.0		41	4166-411	£179.25	10-10.5		51	4166-10D	£348.59
1.5-2		51	4166-2	£269.47	10.0-15.0		51	4166-512	£334.99
2.0-3.0		101	4166-3S	£534.02	10.5-11		51	4166-11	£359.71
2.5-3		51	4166-3	£269.47	11-11.5		51	4166-11D	£348.59
3-3.5		51	4166-3D	£269.47	11.5-12		51	4166-12	£351.06
3.0-4.0		101	4166-4S	£534.02	12-12.5		51	4166-12D	£351.06
3.5-4		51	4166-4	£269.47	12.5-13		51	4166-13	£352.30
4-4.5		51	4166-4D	£269.47	13-13.5		51	4166-13D	£457.37
4.0-5.0		101	4166-5S	£534.02	13.5-14		51	4166-14	£459.85
4.5-5		51	4166-5	£269.47	14-14.5		51	4166-14D	£440.06
5-5.5		51	4166-5D	£269.47	14.5-15		51	4166-15	£452.43
5.0-6.0		101	4166-6S	£534.02	15-15.5		51	4166-15D	£441.30
5.5-6		51	4166-6	£269.47	15.0-20.0		51	4166-513	£663.80
5.0-10.0		51	4166-511	£241.04	15.5-16		51	4166-16	£458.60
6-6.5		51	4166-6D	£269.47	16-16.5		51	4166-16D	£445.01
6.0-7.0		101	4166-7S	£534.02	16.5-17		51	4166-17	£461.08
6.5-7		51	4166-7	£269.47	17-17.5		51	4166-17D	£552.56
7-7.5		51	4166-7D	£269.47	17.5-18		51	4166-18	£574.80
7.0-8.0		101	4166-8S	£534.02	18-18.5		51	4166-18D	£555.03
7.5-8		51	4166-8	£269.47	18.5-19		51	4166-19	£577.28
8-8.5		51	4166-8D	£269.47	19-19.5		51	4166-19D	£558.74
8.0-9.0		101	4166-9S	£534.02	19.5-20		51	4166-20	£551.32

PIN GAUGE HANDLES (WRENCH TYPE)

7341 Series

- Wrench is needed to install pins
- Clamping bushes (0.2~7.14mm) are made of brass, clamping bushes 7.14~25.65mm) are made of aluminium



INSIZE

Applicable Diameter mm	Order Code	Price
0.2-1.02	7341-0S	£21.25
1.02-1.91	7341-1S	£34.61
1.91-3.33	7341-2S	£34.61
3.33-4.57	7341-3S	£40.31
4.57-5.79	7341-4S	£40.31
5.79-7.14	7341-5S	£49.59
7.14-8.66	7341-6S	£82.08
8.66-10.31	7341-7S	£22.74
10.31-11.81	7341-8S	£24.96
11.81-12.95	7341-9S	£23.00
12.95-14.71	7341-10S	£24.36
14.71-16.13	7341-11S	£24.96
16.13-17-88	7341-12S	£28.93
17.88-19.30	7341-13S	£28.93
19.30-20.62	7341-14S	£27.69
19.30-26.65	7341-15S	£24.12

PIN GAUGE HANDLES (NO WRENCH TYPE)

7342 Series

- Operated without wrench
- Made of aluminium
- Pin gauges can be installed



INSIZE

Applicable Pin Gauge Dia	Order Code	Price
0.30-1.50	7342-M0	£39.72
1.51-6.35	7342-M1	£39.72
6.36-12.70	7342-M2	£46.57
12.71-15.88	7342-M3	£53.53
15.89-19.00	7342-M4	£63.73
19.01-21.13	7342-M5	£72.01
21.14-23.27	7342-M6	£78.97
23.28-25.40	7342-M7	£84.01

RIGID RULE
7113 Series

- Rigid Rule
- Accuracy: ±0.15mm
- With groove on the back
- Satin Chrome plated







INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
300 / 12”	±0.15	7113-300A	**£14.59**

STEEL RULE
7110 Series

- Graduation: 0.5mm, 1mm, 1/64”, 1/32”, 1/16”
- Rigid rules
- Made of stainless steel
- Non-glare surface



INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
150 / 6”	±0.18	7110-150	**£1.31**
200 / 8”	±0.18	7110-200	**£1.59**
300 / 12”	±0.27	7110-300	**£2.45**
500 / 20”	±0.27	7110-500	**£5.46**
600 / 24”	±0.45	7110-600	**£6.29**
1000 / 40”	±0.45	7110-1000	**£13.08**
1500 / 60”	±0.63	7110-1500	**£32.29**
2000 / 80”	±0.80	7110-2000	**£47.65**

ENGINEERS RULE

- Made from fine quality steel
- Hardened & tempered - a balance between flexibility & durability



Range mm/inch	Width mm	Order Code	Price
150 / 6”	12.5	ER206	**£11.30**
150 / 6”	19	ER106	**£10.80**
150 (metric)	19	ER306	**£11.30**
300 / 12”	12.5	ER212	**£17.70**
300 / 12”	25	ER112	**£17.70**
300 (metric)	25	ER312	**£17.70**
600 / 24”	25	ER424	**£47.50**

ALUMINIUM RULE
7123 Series

- Made of aluminium, oxidized surface



INSIZE

Range	Graduation mm	Width mm	Order Code	Price
300	1	50	7123-300	**£7.43**
600			7123-600	**£12.73**
1000			7123-1000	**£24.36**

RIGID STEEL RULE
182 Series

- Clear graduations on satin-chrome finish
- Stainless tempered
- Thickness 1.2mm



Mitutoyo

Range mm/inch	Graduations	Order Code	Price
6”	1/8, 1/16, 1/32, 1/64”	182-101	**£12.72**
150mm / 6”	1/32, 1/64, 1mm, 0.5mm	182-105	**£13.25**
150mm	1mm, 0.5mm, 1mm, 0.5mm	182-111	**£12.72**
12”	1/8, 1/16, 1/32, 1/64”	182-121	**£18.97**
300mm / 12”	1/32, 1/64, 1mm, 0.5mm	182-125	**£27.67**
300mm	1mm, 0.5mm, 1mm, 0.5mm	182-131	**£18.97**
450mm / 18”	1/32, 1/64, 1mm, 0.5mm	182-145	**£46.75**
450mm	1mm, 0.5mm, 1mm, 0.5mm	182-151	**£46.75**
24”	1/8, 1/16, 1/32, 1/64	182-161	**£66.25**
24”	1/32, 1/64, 1/10, 1/100”	182-163	**£66.25**
600mm / 24”	1/32, 1/64, 1mm, 0.5mm	182-165	**£66.25**
600mm	1mm, 0.5mm, 1mm, 0.5mm	182-171	**£66.25**

FULLY-FLEXIBLE STEEL RULE
182 Series

- Clear graduations on satin-chrome finish
- Stainless tempered
- Thickness 0.4mm



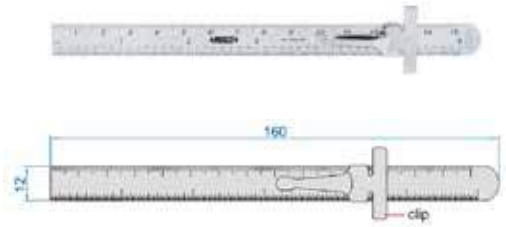
Mitutoyo

Range mm/inch	Graduations	Order Code	Price
6”	1/8, 1/16, 1/32, 1/64"	182-201	**£12.61**
6”	1/32, 1/64, 1/50, 1/100"	182-202	**£12.61**
6”	1/32, 1/64, 1/10, 1/100"	182-203	**£12.61**
150mm / 6”	1/32, 1/64, 1mm, 0.5mm	182-205	**£12.61**
150mm / 6”	1/50, 1/100, 1mm, 0.5mm	182-206	**£12.61**
150mm	1mm, 0.5mm, 1mm, 0.5mm	182-211	**£16.75**
12”	1/8, 1/16, 1/32, 1/64"	182-221	**£17.38**
12”	1/32, 1/64, 1/10, 1/100"	182-223	**£26.18**
300mm / 12”	1/32, 1/64, 1mm, 0.5mm	182-225	**£17.38**
300mm	1mm, 0.5mm, 1mm, 0.5mm	182-231	**£17.38**
18”	1/8, 1/16, 1/32, 1/64	182-141	**£46.75**
450mm / 18”	1/32, 1/64, 1mm, 0.5mm	182-245	**£43.88**
600mm / 24”	1/32, 1/64, 1mm, 0.5mm	182-265	**£55.65**

POCKET RULE WITH SLIDING CLIP

7119 Series

- With sliding clip, clip can be inserted in the pocket
- Also can be used as a depth gauge base
- Inch/metric conversion table on the back
- Made of stainless steel



INSIZE

Range mm / inch	Graduation mm	Accuracy mm	Order Code	Price
150 / 6”	1mm, 1 / 64”	±0.15	7119-150	**£1.12**

MEASURING TAPE

7140 Series

- Non-glare nylon surface for wear resistance



graduation



INSIZE

Range m	Graduation mm	Width of Tape A mm	Order Code	Price
0-3	1	16	7140-3	**£2.87**
0-5		19	7140-5	**£4.36**
0-8		25	7140-8	**£10.04**

EXACT MEASURING TAPE

DV8024 Series

- Tape measure with high visibility ABS plastic
- Easy to locate and difficult to damage.
- Incorporates industry standard standout and positive blade lock
- Includes a steel belt clip



Starrett

Range m	Graduation mm	Width of Tape A mm	Order Code	Price
0-5	1	19	KTX34-16ME-N	**£8.96**

MEASURING TAPE - BASIC TYPE

7142 Series

- Non-glare nylon coating tape, wear resistant

graduation



INSIZE

Range m	Graduation mm	Width of Tape A mm	Order Code	Price
0-5	1	19	7142-5	**£6.97**

LONG MEASURING TAPE

7143 Series

- High tensile strength, fibreglass type
- Nylon coating tape, wear resistant



INSIZE

Range m	Graduation mm	Width of Tape A mm	Order Code	Price
0-5	13	220	7143-50	**£56.63**

MEASURING WHEEL

7144 Series

- ABS plastic frame wear resistant PU tire
- Three section adjustable handle



INSIZE

Range m	Resolution m	Order Code	Price
0.1-9999.9	0.1	7144-1	**£57.11**

MACHINIST SQUARE WITH WIDE BASE

4707 Series

- Made of carbon steel
- DIN875 grade 2



INSIZE

Size LxW mm	Squareness mm Inside / Outside	Order Code	Price
75x50	0.026 / 0.028	4707-75	**£12.36**
100x70	0.028 / 0.030	4707-100	**£14.83**
150x100	0.033 / 0.035	4707-150	**£20.89**
200x130	0.037 / 0.040	4707-200	**£24.73**
250x165	0.042 / 0.045	4707-250	**£30.78**
300x200	0.047 / 0.050	4707-300	**£53.15**
400x250	0.056 / 0.060	4707-400	**£82.70**
500x300	0.065 / 0.070	4707-500	**£131.03**

ENGINEERS SQUARE

4000 Series

- Standard: BS939 / Grade B
- Precision ground blade and stock
- Supplied boxed



Length mm/inch	Stock Length mm	Order Code	Price
75mm / 3"	49	4003	**£33.00**
100mm / 4"	56	4004	**£33.00**
150mm / 6"	82	4006	**£41.50**

90° FLAT EDGE SQUARE

4791 Series

- Made of hardened stainless steel
- DIN875 grade 0



INSIZE

Size LxW mm	Squareness mm Inside / Outside	Order Code	Price
50x40	0.006 / 0.006	4791-50	**£29.67**
75x50	0.006 / 0.007	4791-75	**£35.49**
100x70	0.007 / 0.007	4791-100	**£37.95**
150x100	0.007 / 0.008	4791-150	**£58.34**
200x130	0.008 / 0.009	4791-200	**£77.38**
250x165	0.009 / 0.010	4791-250	**£101.11**
300x200	0.010 / 0.011	4791-300	**£126.09**

COMBINATION SQUARE SET

2278 Series

- Blade (inc in all sets)
- Square head (inc in all sets)
- Center head (inc in 3 & 4pcs set)
- Protractor head (inc in 4pc set)



INSIZE

Pcs	Order Code	Price
2	2278-2	**£45.37**
3	2278-3	**£66.62**
4	2278-180	**£109.77**

90° FLAT EDGE SQUARE WITH WIDE BASE

4792 Series

- Made of hardened stainless steel
- DIN875 grade 0



INSIZE

Size LxW mm	Squareness mm Inside / Outside	Order Code	Price
50x40	0.006 / 0.006	4792-50	**£33.26**
75x50	0.006 / 0.007	4792-75	**£42.77**
100x70	0.007 / 0.007	4792-100	**£53.40**
150x100	0.008 / 0.008	4792-150	**£77.14**
200x130	0.009 / 0.009	4792-200	**£104.82**

135° SQUARE WITH WIDE BASE

4754 Series

- Made of hardened stainless steel
- 135 degree



INSIZE

Size LxW mm	Squareness mm Inside / Outside	Order Code	Price
120x80	0.031 / 0.133	4754-3120	**£23.73**
150x100	0.034 / 0.036	4754-3150	**£29.42**
200x130	0.039 / 0.041	4754-3200	**£45.61**

45° SQUARE WITH WIDE BASE

4747 Series

- Made of hardened stainless steel



INSIZE

Size LxW mm	Squareness mm Inside / Outside	Order Code	Price
150x100	0.032 / 0.036	4747-150	**£42.27**
200x130	0.036 / 0.041	4747-200	**£59.22**

COMBINATION SQUARE SET

521 Series

- Square head, protractor head and centre head
- For various measuring and marking applications
- Hardened and ground slideways
- Stainless steel rule with engraved graduations; one side metric, one side imperial



Order Code	Price
MW521-01	**£133.50**

60° SQUARE
4760 Series

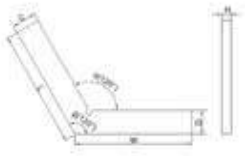
- Made of hardened stainless steel




Size LxW mm	Accuracy µm		C	D	H	Order Code	Price
	Inside	Outside					
120x80	30	32	20	20		4760-1120	£23.77
150x100	32	35	20	20	5	4760-1150	£32.76
200x130	37	40	25	25		4760-1200	£44.40

120° SQUARE
4706 Series

- Made of hardened stainless steel

Size LxW mm	Accuracy µm		C	D	H	Order Code	Price
	Inside	Outside					
50x50	25	25	15	15	5	4706-150	£15.70
75x75	26	28	20	20	5	4706-175	£18.79
100x100	29	30	20	20	5	4706-1100	£23.62
150x150	34	35	25	25	5	4706-1150	£30.41
200x200	38	40	30	30	7	4706-1200	£42.53

STRAIGHT EDGE
4700 Series

- DIN 874
- Made of hardened stainless steel
- Satin chrome plating
- Beveled edge



Length mm	Straightness mm	Order Code	Price
100	0.0024	4700-100	£20.89
150	0.0026	4700-150	£31.78
200	0.0028	4700-200	£36.60
300	0.0032	4700-300	£69.22

STRAIGHT EDGE
7111 Series

- Check flatness and straightness, as well as for marking
- Made of hardened tool steel
- Graduation on the beveled edge
- Chrome plated.



Length mm	Straightness mm	Order Code	Price
300	0.02	7111-300A	£55.75
500	0.03	7111-500A	£83.69
1000	0.04	7111-1000A	£187.90

PRECISION STRAIGHT EDGE
7117 Series

- Check flatness, straightness and for marking
- Made of tool steel
- Hardness HRC58



Range L	Straightness & Parallelism of A a& B	Straightness & Parallelism of C & D	W	H	Order Code	Price
305	0.005	0.05	41	6.3	7117-300	£128.56
610	0.006	0.06	51	7.9	7117-600	£452.43
914	0.007	0.06	64	9.5	7117-900	£899.91

GRANITE STRAIGHT EDGE
4147 Series



Length mm	Flatness of A and B	Parallelism between A and B	Order Code	Price
500	2.1µm	3.2µm	4147-500A	£427.70
1000	3µm	4.5µm	4147-1000A	£927.11

90° BEVELED EDGE SQUARE
4790 Series

- Made of hardened stainless steel
- Satin chrome plating
- Beveled edges for inside and outside measurement



Size LxW mm	Squareness mm Inside / Outisde	Order Code	Price
50x40	0.0024 / 0.0025	4790-050	£39.06
75x50	0.0026 / 0.0028	4790-075	£43.64
100x70	0.0028 / 0.0030	4790-0100	£47.10
150x100	0.0032 / 0.0035	4790-0150	£78.49
200x130	0.0037 / 0.0040	4790-0200	£102.72
300x200	0.0046 / 0.0050	4790-0300	£174.30

MAGNALIUM STRAIGHT EDGES
4180 Series

- Made of magnalium, lightweight, non-deform, no rust



Length mm	Order Code	Price
500	4180-500	£289.25
1000	4180-1000	£559.97
1500	4180-1500	£766.41
2000	4180-2000	£1,002.11
3000	4180-3000	£1,933.41

0-360° DIGITAL PROTRACTOR

2176 Series

- Buttons: ON/OFF, ZERO
- With clamping screw to lock the blades
- Graduation of blade: 1mm and 1/32”
- Battery CR2032
- Automatic power off.



INSIZE

Length mm	Range °	Order Code	Price
200	0-360°	2176-200	**£27.81**
300		2176-300	**£30.67**

UNIVERSAL PROTRACTOR

2372 Series

- Parallax-free reading
- Made of stainless steel
- Optional accessory:
  Clamp (code **2372-CLAMP**),
  Suitable for height gauges **1156** and **1351**



INSIZE

Range °	Accuracy mm	Order Code	Price
0-360	+5'	2372-360	**£99.39**

0-180° PROTRACTOR

4799 Series

- Made of stainless steel
(4799-1300 is made of carbon steel)
- Satin chrome plated scale
- With clamping screw.



INSIZE

Size mm	Length mm	Order Code	Price
80x120	168	4799-180	**£22.25**
120x150	220	4799-1120	**£24.73**
150x200	285	4799-1150	**£32.89**
200x300	413	4799-1200	**£42.39**
300x500	675	4799-1300	**£71.33**

PROTRACTOR

4797 Series

- Made of carbon steel
- Satin chrome plated
- With clamping screw
- The blade is movable



INSIZE

Size mm	Range °	Accuracy	Order Code	Price
100x150	10-170	+0.3	4797-100	**£35.85**
150x300			4797-150	**£42.03**
200x400			4797-200	**£51.43**
200x500			4797-250	**£77.14**
300x600			4797-300	**£94.94**

DIGITAL PROTRACTOR

2171 Series

- Buttons: ON/OFF, HOLD (keep the reading), ZERO,
- ABS (absolute and incremental measurement)
- Fix the locking screw at 4 positions for different measuring ranges: 0° ~225°, -225° ~0°, -45° ~180°, 180° ~45
- Remove the locking screw for 360° range
- With level vial
- Battery CR2032
- Automatic power off



INSIZE

Range °	Accuracy	Order Code	Price
0-360	+0.15	2171-250	**£70.21**

UNIVERSAL BEVEL PROTRACTOR

- Lengths: 300mm/12” and 150mm/6”
- Made of very robust steel
- Highly accurate measuring tool with 5 minute minimum reading



Range °	Blade Length	Order Code	Price
0-360	300mm/12”-150mm/6”	MW500-01	**£83.50**

CYLINDER SQUARE
4710 Series

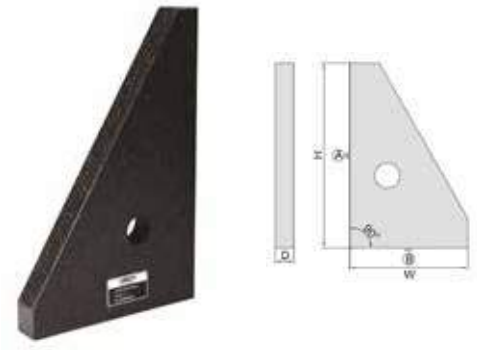
- Made of special alloy steel, hardness HRC58-60
- The handle can be removed
- Ø60mm



INSIZE

Length mm	Squareness µm	Order Code	Price
200	1	4710-200	**£1,521.68**
300	2	4710-300	**£1,872.74**

GRANITE SQUARE
4141 Series

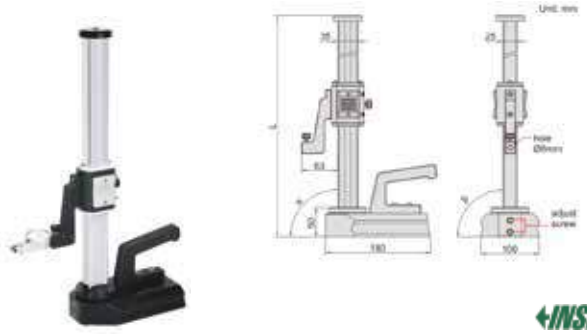


INSIZE

Size HxW	Flatness of A	Flatness of B	Squareness of a to B	Order Code	Price
250x160	1	1	2	4141-250	**£405.45**
400x250	1.5	1	3	4141-400	**£571.09**
630x400	2	1.5	4	4141-630	**£1,208.94**

PERPENDICULARITY TESTER
4770 Series

- Optional accessory:
  Dial test indicators (graduation: 1 or 2µm)
  Cylinder square (code **4710**, for calibration)
  Granite square (code **4141**, for calibration)

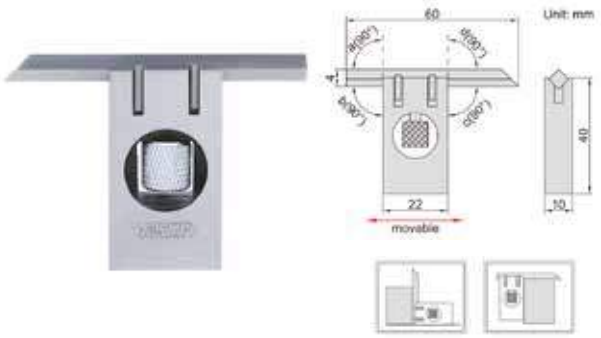


INSIZE

Range H mm	Perpendicularity	Side Perpendicularity	L	Order Code	Price
0-300	3	10	460mm	4770-300	**£2,723.54**
0-600	5	20	760mm	4770-600	**£5,409.03**

ADJUSTABLE SQUARE
4701 Series

- The straight edge can move and be locked by clamping screw
- Made of hardened stainless steel

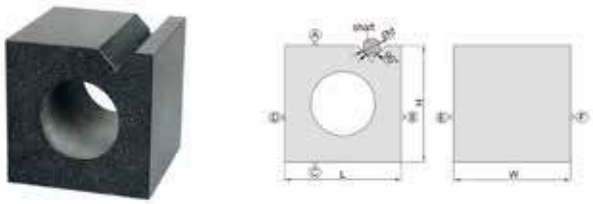


INSIZE

Squareness a, b, c, d	Order Code	Price
7	4701-1	**£105.07**

GRANITE SQUARE WITH V-GROOVE
4142 Series

- Parallelism and squareness of A, B, C, D, E and F: 6



INSIZE

Size LxWxH mm	Range of Shaft Ød	Order Code	Price
200x200x200	9-70mm	4142-200	**£1,806.00**

STRAIGHTNESS/FLATNESS GAUGE
2144 Series

- Optional accessory: data output cable
  (code **7315-50M, 7302-40M)**



INSIZE

Range mm	Digital Indicator Resolution	Order Code	Price
200	0.001mm / 0.00005"	2144-200	**£676.87**

INTERNAL DIAL CALIPER GAUGE

2222 Series

- Graduation: 0.01mm



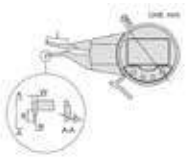
Range mm	Accuracy mm	Order Code	Price
5-15	±0.02	2222-15	**£189.13**
5-25	±0.03	2222-25	**£203.95**
10-30	±0.03	2222-301	**£226.20**
20-40	±0.03	2222-401	**£226.20**

DIGITAL INTERNAL CALIPER GAUGE

2121 Series

- Resolution: 0.005mm/0.0002”
- Repeatability: 0.01mm
- Display can be rotated by 170°
- CR2032 battery, automatic power off





DATA OUTPUT

Range mm/inch	Accuracy mm	L	Order Code	Price
5-15 / 0.2-0.6"	±0.03	20	2121-15	**£189.13**
5-25 / 0.2-1"		35	2121-25	**£206.44**
10-30 / 0.4-1.2"		55	2121-31	**£227.45**
20-40 / 0.8-1.6"		80	2121-41	**£231.16**

EXTERNAL DIAL CALIPER GAUGE

2333 Series

- Graduation: 0.01mm



Range mm	L mm	H mm	W mm	R mm	Accuracy mm	Order Code	Price
0-20	80	25	6.5	R0.5	±0.03	2333-201	**£203.95**
10-30						2333-301	**£226.20**
20-40						2333-401	**£226.20**
30-50						2333-501	**£226.20**
40-60						2333-601	**£234.86**

INTERNAL DIAL CALIPER GAUGE

2131 Series

- Resolution: 0.005mm/0.0002”
- Reading in digital and analogue
- Display can be rotated by 170°
- Battery CR2032, auto power off
- 80mm arm length
- Repeatability 0.01mm
- Optional accessory: data output cable **7302-SPC3B.**



DATA OUTPUT

Range mm/inch	Accuracy mm	Order Code	Price
0-20 / 0-0.8"	±0.03	2131-21	**£208.90**

INTERNAL DIAL CALIPER GAUGE

2321 Series

- Carbide measuring tips

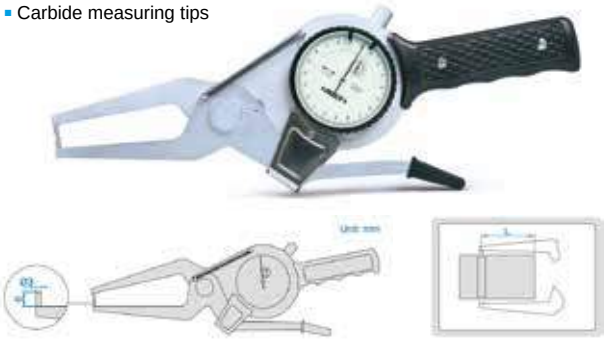


Range mm/inch	Accuracy mm	Graduation mm	L	A	D	Order Code	Price
15-35	+0.04	0.01	50	3	Ø3	2321-35	**£159.47**
35-55			80	6	Ø3	2321-55	**£159.47**
55-75			250	8	Ø3	2321-75	**£161.94**
75-95			90	8	Ø3	2321-95	**£164.41**
95-115			120	10	Ø3.2	2321-115	**£191.60**
115-135			120	10	Ø3.2	2321-135	**£206.44**

EXTERNAL DIAL CALIPER GAUGE

2332 Series

- Carbide measuring tips

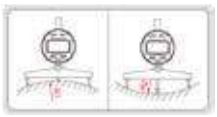


Range mm	Accuracy mm	Graduation mm	L mm	Order Code	Price
0-20	+0.04	0.01	60	2332-20	**£159.47**
20-40				2332-40	

DIGITAL RADIUS GAUGE
2183 Series

- Resolution: 0.01mm/0.001”
- Buttons: on/off, hold, mm/inch, s (select jaws), zero
- Measure radius of internal or external arcs
- Display can be rotated by 320°
- Supplied with 5 jaws for different sizes of arc
- Battery CR2032, automatic power off (time is adjustable)





INSIZE

Range of External Radius	Range of Internal Radius	Accuracy	Order Code	Price
5-910mm / 0.2-35.83”	7-910mm / 0.3-35.83”	±0.01R	2183	**£363.28**

DIGITAL RADIUS GAUGE
2188 Series

- Measure radius of external arc, arc angle of measured surface should be no larger than 60°
- Display radius valve, no need to calculate
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, data preset, mm/inch
- Keep preset in memory after restart
- Battery CR2032, automatic power off (time is adjustable)
- Data output
- Stainless steel base
- Supplied with pin gauge for zero setting
- Optional accessory: data output cable (**7315-50M, 7302-40M**)





INSIZE

Range Radius	Accuracy mm	Order Code	Price
4-53mm / 0.16-2.09”	±0.02	2188-55	**£303.64**

DIGITAL RADIUS CALIPERS
1501 Series

- Measure radius of external arc, arc angle of measured surface should be no larger than 90°
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, set, mm/inch, preset (+, -)
- Automatic power off, (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with pin gauge for zero setting





INSIZE

Range Radius	Accuracy	Order Code	Price
2-25mm / 0.079-1”	±0.05mm	1501-25	**£192.02**
2-10mm / 0.079-0.394”		1501-10	**£192.02**

CIRCUMFERENCE TAPE
7114 Series

- Measure diameter and circumference of pipes, trees, tires etc
- Graduation: 0.1mm
- Laser engraved scale
- Made of stainless steel



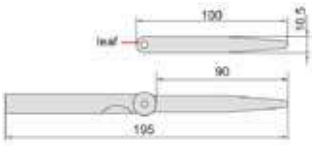


INSIZE

Circumference Range mm	Diameter Range mm	Accuracy mm		Order Code	Price
		Circumference	Diameter		
150-950	50-300	±3	±1	7114-950	**£13.56**
940-2200	300-700			7114-2200	**£17.04**
2190-3460	700-1100			7114-3460	**£22.92**

FEELER GAUGE
4602 Series

- Accuracy: ±(3+T/80) µm, 'T' is the thickness of leaves in µm





INSIZE

Range mm	Qty of Leaves	Order Code	Price
0.03-0.5	13	4602-13A	**£5.49**
0.05-1	13	4602-13	**£3.65**
0.02-1	17	4602-17	**£5.73**
0.05-1	20	4602-20	**£5.62**
0.03-1	32	4602-32	**£8.93**

FEELER GAUGE
4601 Series

- Made of hardened alloy steel
- Accuracy +/- (3+T/80) µm, 'T' is the thickness of the leaves in µm



INSIZE

Range mm	Qty of Leaves	Order Code	Price
0.04-1	25	4601-25	**£6.18**

METRIC & IMPERIAL FEELER GAUGE
4608 Series

- 0.010" is made of brass, others are made of hardened alloy steel
- Each blade is marked with inch/metric size



INSIZE

Range inch / mm	Qty of Leaves	Order Code	Price
0.0015"-0.035" / 0.038mm-0.89mm	32	4608-31	**£7.85**

LONG FEELER GAUGE
4605 Series

- Made of hardened alloy steel
- Long length leaves (150mm overall)
- Accuracy +/- (3+T/80) µm, 'T' is the thickness of the leaves in µm



INSIZE

Range mm	Qty of Leaves	Order Code	Price
0.05-1	20	4605-20	**£11.20**

FEELER GAUGE TAPE
4621 Series

- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 5m, Width 13mm



INSIZE

Thickness of Leaves mm	Order Code	Price
0.02	4621-02	**£13.84**
0.03	4621-03	**£10.91**
0.04	4621-04	**£11.05**
0.05	4621-05	**£8.19**
0.06	4621-06	**£8.27**
0.07	4621-07	**£8.29**
0.08	4621-08	**£8.30**
0.09	4621-09	**£8.31**
0.10	4621-10	**£8.27**
0.100	4621-100	**£18.05**
0.12	4621-12	**£9.71**
0.15	4621-15	**£8.35**
0.18	4621-18	**£9.79**
0.20	4621-20	**£8.43**
0.25	4621-25	**£9.14**
0.30	4621-30	**£13.23**
0.35	4621-35	**£14.35**
0.40	4621-40	**£14.96**
0.45	4621-45	**£15.20**
0.50	4621-50	**£14.96**
0.55	4621-55	**£16.70**
0.60	4621-60	**£17.07**
0.65	4621-65	**£16.94**
0.70	4621-70	**£17.18**
0.75	4621-75	**£17.68**
0.80	4621-80	**£17.54**
0.85	4621-85	**£17.80**
0.90	4621-90	**£18.18**
0.95	4621-95	**£17.92**

FEELER GAUGE STOCK
4622 Series

- Used as shims to accurately set spacing
- Made of hardened alloy steel
- Length 300mm, Width 13mm
- 10 pcs per package

INSIZE

Thickness of Leaves mm	Order Code	Price
0.02	4622-02	**£21.51**
0.03	4622-03	**£19.91**
0.04	4622-04	**£17.68**
0.05	4622-05	**£13.10**
0.06	4622-06	**£13.10**
0.07	4622-07	**£13.10**
0.08	4622-08	**£13.10**
0.09	4622-09	**£13.10**
0.10	4622-10	**£13.10**
0.100	4622-100	**£21.39**
0.12	4622-12	**£25.96**
0.15	4622-15	**£15.70**
0.18	4622-18	**£25.96**
0.20	4622-20	**£15.70**
0.25	4622-25	**£15.70**
0.30	4622-30	**£15.70**
0.35	4622-35	**£17.68**
0.40	4622-40	**£17.68**
0.45	4622-45	**£17.68**
0.50	4622-50	**£17.68**
0.55	4622-55	**£19.41**
0.60	4622-60	**£19.41**
0.65	4622-65	**£19.54**
0.70	4622-70	**£19.54**
0.75	4622-75	**£21.14**
0.80	4622-80	**£21.14**
0.85	4622-85	**£21.25**
0.90	4622-90	**£21.25**
0.95	4622-95	**£21.25**

PITCH GAUGE
4820 Series

- Made of stainless steel
- Used to identify the pitch of a screw thread





INSIZE

Type	Range	Qty of Leaves	Order Code	Price
Metric 60°	0.25-7mm	24	4820-124	**£9.44**
Unified 60°	4-42TPI	30	4820-230	**£11.24**
Whitworth 55°	4-62TPI	28	4820-328	**£11.12**
Metric 60° / Whitworth 55°	0.25-6mm / 4-62TPI	52	4820-452	**£9.76**
Metric 60° / Unified 60°	0.4-7mm / 4-42TPI	52	4820-552	**£10.23**

PITCH GAUGE
4824 Series

- Check the pitch of screw thread
- Accuracy: ±0.07mm
- Made of medium carbon steel



INSIZE

Range	Type	Qty of Leaves	Order Code	Price
2-20mm	Tr30°	12	4824-12	**£33.26**
1-12TPI	ACME29°	16	4824-16	**£37.95**

S.I. METRIC & WHITWORTH PITCH GAUGE
804 Series

- Accurately milled steel blades
- Designed to check both internal and external thread forms
- Marked with nominal size on each blade
- All blades fixed in a steel sleeve
- Screw cutting gauge included



Note: SI (System International) metric blades shoul not be used to check ISO (International Standards Organisation) metric threads due to interference of the thread forms; but ISO metric blades can be used to check SI metric threads.

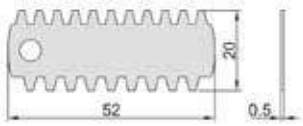
MOORE & WRIGHT

Type	Qty of Blades	Order Code	Price
Metric & Imperial	49	804	**£62.00**

GEAR TOOTH PITCH GAUGE
4860 Series

- Accuracy: ±0.05mm
- Check the module pitch of gear tooth
- Made of hardened stainless steel







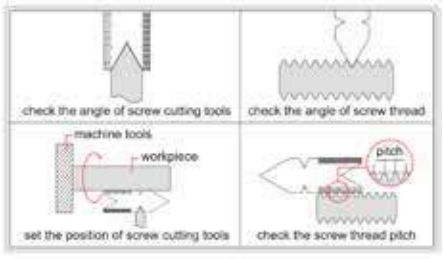
INSIZE

Range mm	Pressure Angle	Qty of Leaves	Order Code	Price
0.35-4.5	14.5°	15	4860-145	**£103.95**
0.35-4.5	20°	15	4860-245	**£103.95**
5-12	14.5°	8	4860-112	**£83.31**
5-12	20°	8	4860-212	**£83.31**

CENTER GAUGE
4810 Series

- To check and set screw cutting tools and check the angle and pitch of screw thread
- Angle accuracy: ±30min
- Made of stainless steel





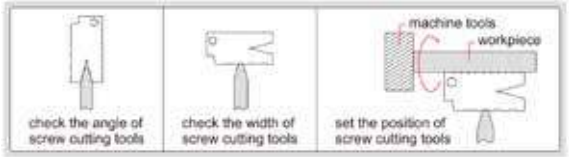
INSIZE

Type	Angle a	Graduation	Order Code	Price
Metric 60°	60°	0.5mm & 1mm	4810-601	**£4.81**
Whitworth 55°	55°	14ths & 20ths front side 24ths & 32ths back side	4810-55	

THREAD GAUGE
4812 Series

- To check and set screw cutting tools
- Made of medium carbon steel





INSIZE

Type	Range	Graduation	Order Code	Price
Tr30°	2-12mm	2, 3, 4, 5, 6, 7, 8, 9, 10, 12mm	4812-12	**£20.14**
ACME 29°	1-10TPI	1, 1-1/3, 1-1/2, 1-3/4, 2, 2-1/2, 3, 4, 5, 6, 7, 8, 9, 10TPI	4812-E	**£19.16**

RADIUS GAUGE
4801 Series

- Made of stainless steel.



Range mm	Accuracy mm	Qty of Leaves	Order Code	Price
1-7	±0.03	17	4801-17	**£13.60**
7.5-15	±0.035	16	4801-16	**£13.72**
15.5-25	±0.042	15	4801-15	**£13.72**

RADIUS GAUGE
4802 Series

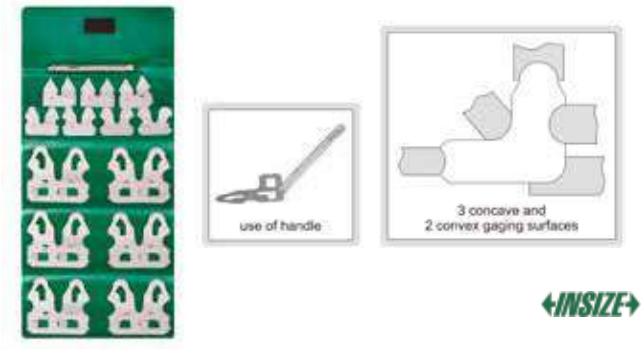
- Made of stainless steel.



Range mm	Qty of Leaves	Order Code	Price
25-40	31pcs	4802-31	**£28.93**

RADIUS GAUGE SET
4804 Series

- Each piece has 3 concave and 2 convex gauging surfaces
- Supplied with handle



Range	Accuracy mm	Angle of Leaves Included	Quality of leaves	Order Code	Price
0.5-13	+0.05	0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13	26	4804-26	**£43.50**

CHAMFER GAUGE
4844 Series

- To measure internal and external chamfers
- Made of stainless steel



Accuracy mm	Graduation mm	Order Code	Price
+0.25	0.5	4844-1	**£7.10**

DIGITAL CHAMFER GAUGE
1180 Series

- Measure 30°/45°/60° chamfers
- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Battery CR2032
- Made of stainless steel.



DATA OUTPUT

Range mm/inch	Accuracy mm	Chamfer Angle	Order Code	Price
0-10 / 0-0.39"	±0.06	45°	1180-6	**£123.13**
		30°	1180-63	**£165.64**
		60°	1180-66	**£165.64**

CHAMFER GAUGE
1267 Series

- Measure 30°/45°/60° chamfer dimension
- Accuracy: ±0.06mm
- Graduation: 0.02mm
- Made of stainless steel
- Satin chrome plated reading surface



Range mm	Chamfer Angle	Order Code	Price
0-10	45°	1267-6	**£103.71**
	30°	1267-63	**£120.01**
	60°	1267-66	**£121.21**

TAPER GAUGE SET

4837 Series

- Include 4pcs (1-8mm, 8-15mm, 15-22mm, 22-29mm)
- Measure opening, slot width, hole diameter, etc
- Diameter correction table on the back
- Made of stainless steel.



front back

INSIZE

Range mm	Graduation mm	Accuracy mm	Order Code	Price
1-29	0.05	±0.05	4837-1	**£44.14**

TAPER GAUGE

4833 Series

- Measure opening, slot width, hole size, etc.
- Made of stainless steel



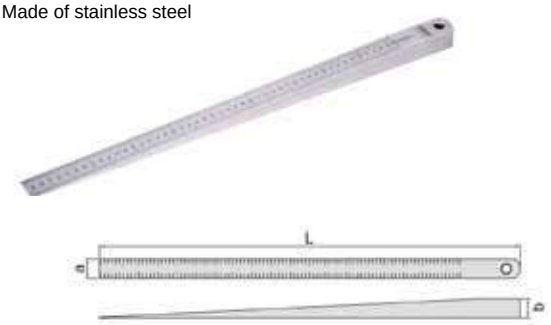
INSIZE

Range mm	Graduation mm	Accuracy mm	L	Order Code	Price
0.8-15	0.1	±0.1	146	4833-1	**£7.57**
15-30			159	4833-2	**£13.60**
30-45			166	4833-3	**£17.80**
45-60			170	4833-4	**£21.51**

TAPER SLOT GAUGE

4630 Series

- For quick measurement of gap width
- Stain chrome plated reading surface
- Made of stainless steel



INSIZE

Range mm	Accuracy mm	Graduation mm	L	a	b	Order Code	Price
0.4-6	+0.04	0.05	164	12.5	6.5	4630-3	**£49.44**
0.5-10	+0.07	0.05	220	10	10.5	4630-1	**£34.61**
0.5-15	+0.08	0.1	184	12.5	16.5	4630-2	**£57.36**

DIGITAL TAPER SLOT GAUGE

1160 Series

- Measuring opening, slot width
- Resolution: 0.01mm/0.0005”
- Accuracy: ±0.03
- Buttons: on/off, zero, mm/inch
- Automatic power off, (move the digital unit) to turn on power
- Battery CR2032, data output
- Made of stainless steel



INSIZE

Range	Order Code	Price
0.2-10mm / 0.01-0.39”	1160-10	**£374.55**

TAPER BORE GAUGE

4852 Series

- Quick measurement of bore diameter
- Hardened steel HRC50-58
- Satin chrome plated surface





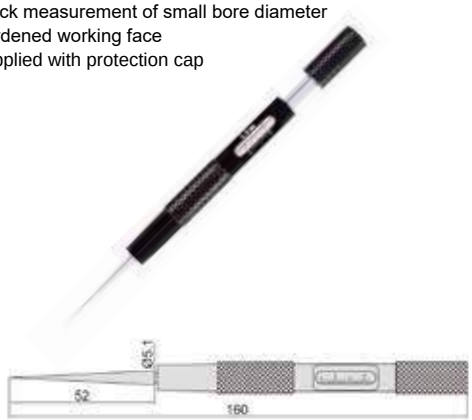
INSIZE

Range mm	Graduation mm	Accuracy mm	L	Order Code	Price
1-6.5	0.1	±0.05	62.5	4852-1	**£45.61**
3-16			143	4852-3	**£51.92**
15-30			165	4852-15	**£84.05**
45-60			165	4852-30	**£110.38**

SMALL TAPER BORE GAUGE

4855 Series

- Quick measurement of small bore diameter
- Hardened working face
- Supplied with protection cap



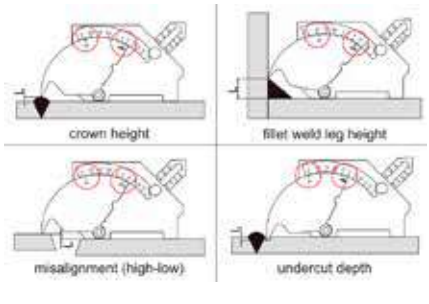
INSIZE

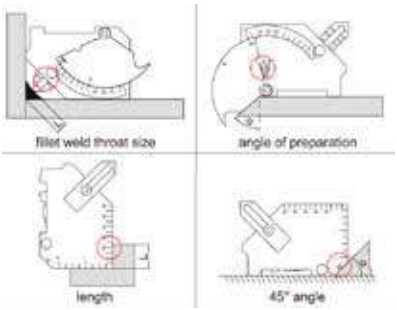
Range mm	Graduation mm	Accuracy mm	Order Code	Price
0.1-5	0.01	±0.03	4855-5	**£183.62**

WELDING GAUGE
4835 Series

- Adjustable scale to compensate pointer wear
- Made of stainless steel







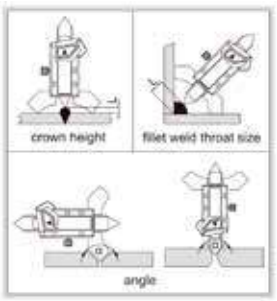
INSIZE

Range	Measurement	Graduation	Accuracy	Order Code	Price
0-25mm (0-1”)	Crown height	1mm (1/16”)	±0.5	4835-1	**£38.20**
0-25mm (0-1”)	Fillet weld leg height	1mm (1/16”)	±0.5		
0-25mm (0-1”)	Misalignment (high-low)	1mm (1/16”)	±0.5		
0-2mm (0-1/8”)	Undercut depth	1mm (1/16”)	±0.5		
0-20mm (0-3/4”)	Fillet weld throat size	1mm (1/16”)	±0.5		
0-60°	Angle of preparation	5°	±1°		
0-60mm (0-2”)	Length	1mm (1/16”)	±0.5		
-	45° angle	-	±1°		

DIGITAL WELDING GAUGE
4831 Series

- Buttons: on/off, zero, mm/inch
- Battery LR44
- Made of stainless steel





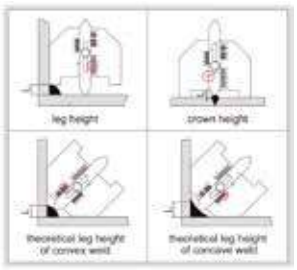
INSIZE

Range	Measurement	Resolution	Accuracy	Order Code	Price
0-7mm	Crown height	0.01mm/0.0005”	±0.03mm	4831-20A	**£100.62**
0-20mm	Fillet weld throat size	0.01mm/0.0005”	±0.1mm		
60°, 70°, 80°, 90°	Angle	-	±1°		

WELDING GAUGE
4851 Series

- Made of stainless steel
- Accuracy: ±0.5mm





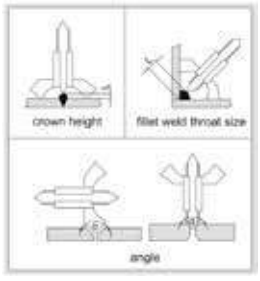
INSIZE

Range mm	Graduation mm	Measurement	Order Code	Price
0-20	1	Leg height	4851-1	**£26.33**
0-3	-	Crown height		
0-20	1	Theoretical leg height of convex weld		
0-20	1	Theoretical leg height of concave weld		

WELDING GAUGE
4830 Series

- Made of stainless steel
- Stain chrome plated reading surface





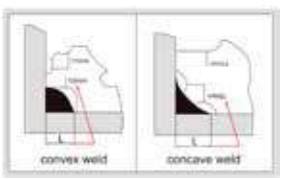
INSIZE

Range mm	Graduation mm	Measurement	Accuracy	Order Code	Price
0-8	0.1	Crown Height	±0.1mm	4830	**£26.79**
0-20	0.1	Fillet weld throat size	±0.3mm		
60°, 70°, 80°, 80°, 90°	-	Angle	±1°		

FILLET WELDING GAUGE
4836 Series

- Measure concave and convex weld sizes
- 7 blades are included
- Made of stainless steel





INSIZE

Size mm	Accuracy mm	Order Code	Price
3, 4, 5, 6, 8, 9, 10,11, 12, 14, 16, 19, 22, 25	±0.5	4836-1	**£28.30**
3.2, 4.8, 6.4, 7.9, 9.5, 11.1, 12.7, 15.9, 19.1, 22.2, 25.4		4836-2	**£28.45**

7-PIECE WELDING GAUGE SET
5071 Series

- Includes:

1) Welding gauge (code 4834-1)
2) Welding gauge (code 4851-1)
3) Pipe welding gauge (code 4839-1)
4) Outside micrometer, range 0-25mm, graduation 0.01mm (code 3203-25A)
5) Telescoping inspection mirror, size of mirror 32mm, length 178~505mm (code 7160-1)
6) Magnifier with illumination, magnification 4X (code 7513-4)
7) Steel rule, range 150mm/6", graduation 0.5mm, 1mm, 1/64", 1/32",1/16" (code 7110-150)



INSIZE

Order Code	Price
5071	**£132.13**

7-PIECE WELDING GAUGE SET
5072 Series

- Includes:

1) Welding gauge (code 4834-1)
2) Welding gauge (code 4851-1)
3) Fillet welding gauge, size 3~25mm, 7 blades (code 4836-1)
4) Outside micrometer, range 0-25mm, graduation 0.01mm (code 3203-25A)
5) Digital caliper, range 0-150mm/0-6", resolution 0.01mm/0.005" (code 1108-150)
6) Pocket rule with sliding clip, range 150mm/6", graduation 1mm, 1/64" (code 7119-150)
7) Magnifier with illumination, magnification 4X (code 7513-4)

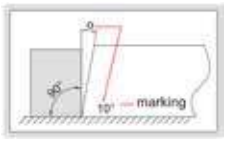


INSIZE

Order Code	Price
5072	**£147.34**

ANGLE GAUGE
4806 Series





INSIZE

Range °	Accuracy mm	Angle of Leaves Included	Quality of Leaves	Order Code	Price
1-45	+30'	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 20, 25, 30, 35, 40, 45	20	4806-20	**£38.82**

ANGLE GAUGE SET
4807 Series

- Each blade checks primary, 1/2 primary and complementary angles



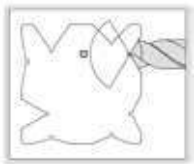
INSIZE

Quantity of Leaves	Accuracy mm	Order Code	Price
18	±10'	4807	**£35.20**

DRILL ANGLE GAUGE
4842 Series

- Check drills with angle 60°, 70°, 90°, 118°, 125°, 135°, 150° or 160°
- Made of stainless steel





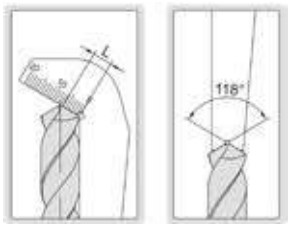
INSIZE

Accuracy mm	Order Code	Price
+0.5°	4842-1	**£9.36**

DRILL POINT GAUGE
4843 Series

- For twist drills with 118° angle
- To check if the center of tip is concentric with the drill body
- Made of stainless steel





INSIZE

Accuracy mm		Order Code	Price
Angle	Length		
+0.5°	+0.05	4843-1	**£7.18**

INSIDE SPRING CALIPER

7261 Series

- Made of carbon steel



INSIZE

Range W	Size L mm	Order Code	Price
20-170	150	7261-150	**£11.46**
22-220	200	7261-200	**£12.99**
30-270	245	7261-250	**£17.18**
30-320	300	7261-300	**£19.03**

OUTSIDE SPRING CALIPER

7262 Series

- Made of carbon steel



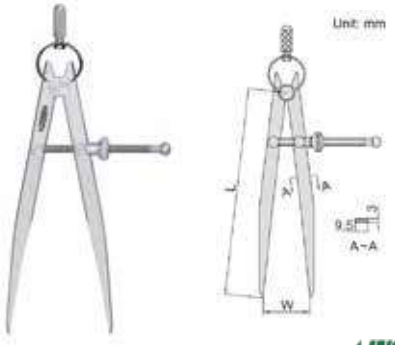
INSIZE

Range W	Size L mm	Order Code	Price
0-140	155	7262-150	**£11.49**
0-210	210	7262-200	**£12.99**
0-270	265	7262-250	**£18.30**
0-320	310	7262-300	**£20.65**

SPRING DIVIDER

7260 Series

- Made of carbon steel
- Hardened points



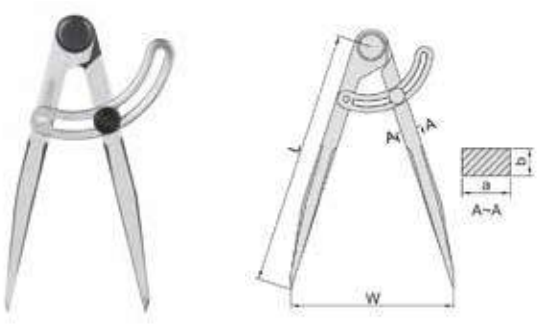
INSIZE

Range W	Size L mm	Order Code	Price
0-150	150	7260-150	**£11.14**
0-210	200	7260-200	**£12.60**
0-260	245	7260-250	**£16.68**
0-320	300	7260-300	**£18.48**

DIVIDER

7247 Series

- Made of carbon steel
- Hardened points



INSIZE

Range W	Size L mm	a	b	Order Code	Price
0-140	150	8.5		7247-150	**£7.71**
0-190	200	10	7	7247-200	**£9.59**
0-290	245	12		7247-300	**£14.28**

Need UKAS Calibration?

At Cutwel we offer UKAS calibration on a huge range of measuring tools, if you require your new measuring tools or equipment calibrating, please contact our sales team for more information.

What is Calibration?

Calibration is the process of comparing a measuring instrument (the Unit Under Test or UUT) to a standard of known accuracy. The purpose is to determine the relationship between the readings indicated by the UUT and those indicated by the standard. A calibration certificate would therefore ideally show the measured results for the UUT versus the measured results from the standard.

Quality Assurance

Cutwel work closely with a UKAS accredited laboratory, the laboratories staff, technical capabilities, and management systems have been independently audited and accredited to ISO/IEC17025 meaning they consistently deliver properly traceable and valid calibration results time after time.

Call on 01924 869610

We're open from 8am to 6pm Monday to Thursday (5pm Friday)

13 PIECE MEASURING TOOL SET

5013 Series

- Digital caliper, 0-150mm / 0-6”
- Outside micrometer, 0-25mm
- Dial Indicator, 10mm range
- Magnetic stand
- Protractor range 0-180°, graduation 1°
- Pitch gauge, 0.25-7mm range, metric 60°, 24pcs
- Radius gauge, 1-7mm
- Feeler gauge, range 0.05-1mm, 20pcs
- 90° beveled edge square, 100x70mm, (grade 0)
- Scriber
- Steel rule, 150mm / 6”
- Depth base attachment



INSIZE

Order Code	Price
5013	**£236.20**

4 PIECE MEASURING TOOL SET

5041 Series

- Vernier caliper, 0-150mm / 0-6”
- Outside micrometer, 0-25mm
- 90° beveled edge square, 100x70mm, grade 0
- Steel rule, 150mm / 6”



INSIZE

Order Code	Price
5041	**£88.75**

2 PIECE MEASURING TOOL SET

5023 Series

- Dial test indicator range 0.8mm
- Magnetic stand



INSIZE

Order Code	Price
5023	**£103.49**

2 PIECE MEASURING TOOL SET

5024 Series

- Dial indicator range 10mm
- Magnetic stand



INSIZE

Order Code	Price
5024	**£61.63**

9 PIECE MEASURING TOOL SET

5091 Series

- Digital caliper, 0-150mm / 0-6”
- Outside micrometer, 0-25mm
- Protractor, range 0-180°, graduation 1°
- Pitch gauge, 0.25-7mm range, metric 60°, 24pcs
- Radius gauge, 1-7mm
- Feeler gauge, range 0.05-1mm, 20pcs
- 90° beveled edge square, 100x70mm, grade 0
- Scriber
- Steel rule, 150mm / 6”



INSIZE

Order Code	Price
5091-W	**£168.12**

4 PIECE MEASURING TOOL SET

5042 Series

- Digital caliper, 0-150mm / 0-6”
- Outside micrometer, 0-25mm
- 90° beveled edge square, 100x70mm, grade 0
- Steel rule, 150mm / 6”



INSIZE

Order Code	Price
5042	**£108.05**

2 PIECE MEASURING TOOL SET

5022 Series

- Digital caliper 0-150mm / 0-6” (code **1108-150W**)
- Digital outside micrometer 0-25mm/0-1”



INSIZE

Order Code	Price
5022-W	**£121.14**

6 PIECE MEASURING TOOL SET

5063 Series

- Vernier caliper 0-150mm / 0-6”
- Outside micrometer 0-25mm / 0-1”
- 90° Beveled edge square, 100x70, grade 00
- Straight edge, 100mm
- Spring divider, 150mm
- Steel rule, 200mm / 8”



INSIZE

Order Code	Price
5063	**£125.11**

GRANITE SURFACE PLATES

6900 Series

- Made from granite
- Free from deterioration or dimensional change
- Grade 0 (workshop) or 00 (inspection or lab).





INSIZE

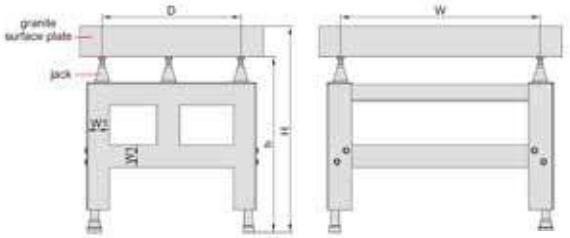
Size LxWxH mm	Order Code			
	Grade 00	Price	Grade 0	Price
300x200x60	6900-132	**£194.14**	6900-032	**£176.49**
400x250x60	6900-142	**£207.08**	6900-042	**£183.55**
400x400x60	6900-144	**£269.44**	6900-044	**£252.97**
500x315x70	6900-153	**£280.03**	6900-053	**£257.68**
630x400x80	6900-164	**£411.81**	6900-064	**£392.98**
630x630x100	6900-166	**£616.54**	6900-066	**£591.83**
800x500x100	6900-185	**£715.37**	6900-085	**£693.02**
1000x630x140	6900-1106	**£1,269.55**	6900-0106	**£1,237.78**
1000x1000x150	6900-1101	**£2,091.99**	6900-0101	**£1,969.63**
1200x800x160	6900-1128	**£2,327.31**	6900-0128	**£2,194.36**
1600x1000x180	6900-1161	**£4,194.58**	6900-0161	**£4,115.75**
2000x1000x220	6900-1201	**£6,639.55**	6900-0201	**£6,483.07**
2000x1500x250	6900-1202	**£11,934.25**	6900-0202	**£9,240.59**

GRANITE SURFACE PLATE STANDS

6902 Series

- For medium size granite surface plates
- 5 jacks included
- Adjustment range of jacks: 25mm
- One floor foot is adjustable





INSIZE

For Granite Surface Plate	Height with Plate mm (H)	Height without Plate mm (h)	Order Code	Price
6900-064, 6900-164	775-800	695-720	6902-64A	**£541.44**
6900-066, 6900-166	775-800	695-720	6902-66A	**£566.15**
6900-085, 6900-185	775-800	695-720	6902-85A	**£567.39**
6900-0106, 6900-1106	755-780	615-640	6902-106A	**£585.93**
6900-0101, 6900-1101	755-780	605-630	6902-101A	**£681.11**
6900-0128, 6900-1128	755-780	595-620	6902-128A	**£692.24**
6900-0161, 6900-1161	755-780	575-600	6902-161A	**£1,016.11**
6900-064, 6900-164	1000-1025	920-945	6902-64H	**£629.19**
6900-066, 6900-166	1000-1025	900-250	6902-66H	**£652.67**
6900-085, 6900-185	1000-1025	900-925	6902-85H	**£644.02**
6900-0106, 6900-1106	1000-1025	860-885	6902-106H	**£668.75**
6900-0101, 6900-1101	1000-1025	850-875	6902-101H	**£770.12**
6900-0128, 6900-1128	1000-1025	840-865	6902-128H	**£771.35**
6900-0161, 6900-1161	1000-1025	820-845	6902-161H	**£1,147.13**

DIGITAL LEVEL AND PROTRACTOR
2170 Series

- Magnetic bottom
- Used as level and slope meter
- The backlight is on automatically when in use, and automatically off in 15 minutes after use
- Magnetic bottom with V-groove for shafts
- Buttons: ON/OFF, absolute and incremental measurement.



INSIZE

Range	Accuracy mm	Order Code	Price
90°x4	at 0° and 90°: ±0.1°, at others ±0.2°	2170-1	**£46.72**

DIGITAL MINI-MAG LEVEL
6549 Series

- Digital Mini-Mag Level
- Embedded magnets on two sides
- Dimensions: L60mm x H60mm x W35mm
- Resolution: 0.05°
- Accuracy: ±0.2mm



Range	Accuracy mm	Order Code	Price
0-360° (90°x4)	±0.2°	MW570-01	**£83.00**

DIGITAL LEVEL AND PROTRACTOR
2179 Series

- IP54 dust/waterproof
- Used as level and slope meter
- Aluminium frame
- Magnetic bottom with V-groove for shafts
- Buttons: ON/OFF
- Two AAA batteries, automatic power off.



INSIZE

Range	Accuracy mm	Order Code	Price
0-360° (90°x4)	at 0° and 90°: ±0.1°, at others ±0.2°	2179-360	**£111.26**

DIGITAL LEVEL
4910 Series

- With transverse and longitudinal vials
- Used as level and protractor
- Angle: 0.1°; slope: 1mm/m
- Aluminium frame
- Magnetic bottom
- Buttons ON/OFF
- Accuracy:+/-0.2°



INSIZE

Range	Accuracy mm	Length mm	Order Code	Price
0-360° (90°x4)	±0.2°	416	4910-400	**£43.88**
	at 0° and 90°: ±0.1°, at others ±0.2°	600	4910-600	**£98.15**

IP65 DIGITAL PROTRACTOR LEVEL
575 Series

- Range: 360° (4 x 90°)
- Resolution: 0.05°
- Accuracy: ± 0.2°
- Unit: Degrees °
- Length: 150mm (6″)
- LCD display
- Tilt feature
- Zero setting at any point
- With wireless connectivity



IP65

Range	Accuracy	Order Code	Price
0-360° (90°x4)	± 0.2°	MW575-01WIP	**£143.00**

IP67 DIGITAL LEVEL & SLOPE METER
2175 Series

- IP67 dust/waterproof
- Aluminium frame, shock absorbing rubber end caps
- Magnetic bottom with v-groove for shafts
- The sea level is permanently set inside the chip
- Buttons: ON/OFF, backlight/buzzer alarm,absolute and incremental measurement, unit (mm/m, %, °), HOLD (keep the reading)
- 3x AAA batteries, automatic power off



IP67

INSIZE

Range	Accuracy mm	Order Code	Price
0-360° (90°x4)	±0.05° at 0° / ±0.1° all others	2175-360	**£126.09**

TRADITIONAL ENGINEERS LEVEL
ELS Series

- Main vial sensitivity of 1 minute
- Each level is fitted with a main, cross and plumb vial
- Main vial protected by rotating shroud
- Precision ground cast base with vee groove for location



Length mm	Resolution	Order Code	Price
165	0.3mm per metre / 0.0035" per foot	ELS	**£187.00**

TRADITIONAL MINI LEVEL
ELT-001XR Series

- Ultra compact dimensions and a single vial



Length mm	Accuracy	Order Code	Price
51	± 1° / 0.0035" per foot	ELT-001XR	**£18.70**

PARALLEL SET
6533 Series

- Height difference of a matched pair: 5µm
- Hardened to HRC55-60
- Made of alloy tool steel
- Parallelism between top and bottom: 5µm



INSIZE

Parallels Per Set	Length mm	Thickness mm	Order Code	Price
10	150	3	6533-10	**£304.98**
14	150	10	6533-144	**£321.40**

PARALLEL SET
6534 Series

- Height difference of a matched pair: 5µm
- Hardened to HRC55-60
- Made of alloy tool steel
- Good for drilling through holes close to vice jaws



INSIZE

Parallels Per Set	Height mm	Order Code	Price
6	25, 30, 35, 40, 45, 48	6534-6	**£514.50**

GRANITE PARALLEL SET
4143 Series

- Made of granite
- No dimensional change over time or temperature change
- 2 parallels per set



INSIZE

Size LxWxH mm	Order Code	Price
250x25x40	4143-250	**£307.79**

MAGNETIC INDUCTION PARALLEL SETS
6894 Series

- To be used on magnetic chucks
- Two parallels per set
- Hardness HRB70



INSIZE

Size LxWxH mm	Pole Pitch mm	Parallelism Between A and B	Parallelism Between C and D	Height Difference of a Matched pair	Order Code	Price
100x50x25	2.5+3	10µm	10µm	10µm	6894-1	**£90.61**
50x100x25					6894-2	**£84.68**

PARALLEL SET
6511 Series

- Parallelism between top and bottom: 5µm
- Height difference of matched pair: 5µm
- Made of alloy tool steel
- Hardened to HRC55-60

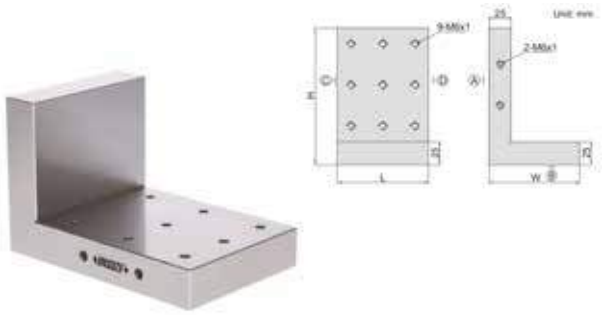


INSIZE

Length mm	Parallels Per Set	Order Code	Price
100	20 pairs	6511-20	**£289.23**
125	24 pairs	6511-24	**£410.44**
150	24 pairs	6511-241	**£470.45**

RIGHT ANGLE PLATE
6548 Series

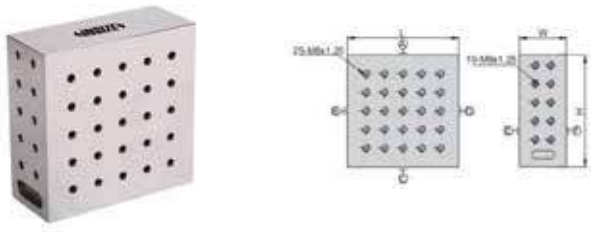
- Made of tool steel
- Hardened to HRC60+2
- Squareness or parallelism between A,B, C and D: 5 µm



Size	Order Code	Price
100x100x150	6548-1	**£698.41**

RIGHT ANGLE PLATE

- Made of tool steel
- Hardened to HRC56-58
- Parallelism between A,B, C, D, E and F: 3µm
- Squareness between A,B, C, D, E and F: 5µm



Size	Order Code	Price
100x100x150	6549-1	**£1,551.77**

TRADITIONAL ANGLE PLATES

- Manufactured from close grained cast iron
- Heat stabilised to prevent distortion
- Machined to tolerance on all four edges and two faces (four faces on open end version)
- 3µm parallelism



Size LxWxH mm	Type	Order Code	Price
100x60x80	Webbed	E200	**£144.00**
131x86x106		E201	**£200.00**
160x100x125		E202	**£314.50**
200x125x160		E204	**£548.00**
125x80x100	Open End	E301	**£275.50**
160x100x125		E302	**£376.50**
200x125x160		E304	**£556.50**

RIGHT ANGLE PLATE
6547 Series

- Hardness HRC60
- Made of alloy steel
- V groove for cylinders



Size LxWxH mm	Order Code	Price
100x100x115	6547-1	**£409.24**

ADJUSTABLE ANGLE BLOCK
6535 Series

- Graduation of angle: 10 minutes
- Made of hardened tool steel
- With locking screw
- Adjustable angle between 30°~0°~60°



Size LxWxH mm	Order Code	Price
75x25x36	6535-25	**£259.58**
102x30x49	6535-30	**£289.25**

ANGLE PLATE SET
4003 Series

- For angle set-up in tooling, production and inspection
- Hardness HRC55
- Made of tool steel
- Accuracy +/-9”

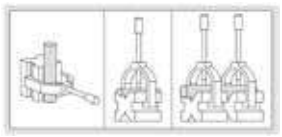


Angle Plates Included	Order Code	Price
10	4003-10	**£171.05**
12	4003-12	**£201.56**

V-BLOCK SETS
6896 Series

- Hold cylindrical workpieces for inspection & machining
- Two v-blocks per set
- Made of alloy steel
- Hardened to HRC60+2
- V-groove on top for large shafts
- V-groove on the bottom for small shafts (except 6896-10)





INSIZE

Size LxWxH mm	Range of Shafts (Ød)	Parallelism of Both V Grooves to Top & Bottom Sides	Order Code	Price
25x20x20	3-20	3µm	6896-10	**£112.57**
50x40x40	5-30	5µm	6896-11	**£149.58**
80x63x63	7-63	5µm	6896-12	**£223.74**
100x80x80	7-80	5µm	6896-13	**£330.05**
140x70x140	9-140	5µm	6896-14	**£860.50**

MAGNETIC V-BLOCK SET
6891 Series

- Hold cylindrical workpieces for inspection only
- Two v-blocks per set
- Hardness HRB70



INSIZE

Size LxWxH mm	Range of Shafts (Ød)	Mag-netic Force	Parallelism of Both V Groove to Bottom and Back Sides	Height Difference of a Matched Pair	Order Code	Price
70x40x50	6-46	8kgf	10µm	10µm	6891-1	**£195.31**
150x50x100	6-125	14kgf			6891-3	**£318.92**

ROLLER BEARING V-BLOCK SET
6888 Series

- Bearings prevent workpieces from damage
- Suitable for heavy workpieces
- Bearings allow workpiece to be rotated
- 6888-1 = 500kg max
- 6888-2 = 1000kg max
- 6888-3 = 1000kg max



INSIZE

Size LxWxH mm	Diameter of Bearings ØD mm	Range of Shafts Ød	Order Code	Price
150x60x100	42	25-70	6888-1	**£567.39**
150x80x100	47	5-55	6888-2	**£579.75**
230x100x150	72	70-200	6888-3	**£953.06**

MAGNETIC V-BLOCK
6890 Series

- Hold cylindrical workpieces for inspection & machining
- Supplied in single piece
- Not hardened
- Not suitable for steel or iron surfaces



INSIZE

Size LxWxH mm	Range of Shafts Ød mm	Magnetic Force kgf	Order Code	Price
70x60x73	6-44	56	6890-702	**£80.35**

MAGNETIC INDUCTION V-BLOCK
6892 Series

- Hold cylindrical workpieces for inspection & machining
- To be used on magnetic chucks
- V-groove on top for large shafts
- V-groove on bottom for small shafts
- Hardness HRB70



INSIZE

Size LxWxH mm	Range of Shafts Ød	Pole Pitch mm	Parallelism of both V grooves to top & bottom sides	Order Code	Price
110x60x48	6-50	2.5+3	10µm	6892-1	**£81.82**

MAGNETIC V-BLOCK (ECONOMY)
6801 Series

- Hold cylindrical workpieces for inspection & machining
- Not hardened
- V-groove on the top for large shafts
- V-groove on the bottom for small shafts
- Not suitable for steel or iron surfaces



INSIZE

Size LxWxH mm	Range of Shafts Ød mm	Magnetic Force kgf	Order Code	Price
80x70x95	6-67	64	6801-1201	**£148.81**
100x70x95		80	6801-1202	**£156.99**
120x70x95		96	6801-1203	**£176.42**

MAGNETIC V-BLOCKS (PRECISION TYPE)

6889 Series

- Hardened, high accuracy, strong magnetic force
- For grinding, light milling, drilling and inspection of round and square workpieces
- All working surfaces are hardened to HRC60+2
- Magnetic force on top, bottom and two V-grooves
- V-groove on the top for large shafts
- V-groove on the bottom for small shafts
- Suitable for cast iron surface plates and granite surface plates



INSIZE

Size LxWxH mm	Range of Shafts (Ød)	Parallelism of V Groove to Top, Bottom, Left Right Sides	Squareness of Both V Grooves to Back Side	Order Code	Price
75x56x75	5-40	5µm	5µm	6889-11	**£221.26**
100x70x95	5-65	5µm	5µm	6889-22	**£326.34**
150x75x100	5-70	5µm	5µm	6889-33	**£574.86**
160x125x130	5-140	10µm	10µm	6889-55	**£1,072.92**
200x124x150	10-140	10µm	10µm	6889-44	**£1,094.52**

MAGNETIC V-BLOCK SETS (PRECISION TYPE)

6889 Series

- Hardened, high accuracy, strong magnetic force
- For grinding, light milling, drilling and inspection of round and square workpieces
- All working surfaces are hardened to HRC60+2
- Magnetic force on top, bottom and two V-grooves
- V-groove on the top for large shafts
- V-groove on the bottom for small shafts
- Suitable for cast iron surface plates and granite surface plates



INSIZE

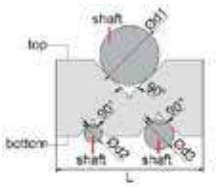
Size LxWxH mm	Range of Shafts (Ød)	Parallelism of V Groove to Top, Bottom, Left Right Sides	Squareness of Both V Grooves to Back Side	Order Code	Price
75x56x75	5-40	5µm	5µm	6889-1	**£409.16**
100x70x95	5-65	5µm	5µm	6889-2	**£652.67**
150x75x100	5-70	5µm	5µm	6889-3	**£1,112.52**
160x125x130	5-140	10µm	10µm	6889-5	**£2,072.63**
200x124x150	10-140	10µm	10µm	6889-4	**£2,120.64**

V-BLOCK SET

6887 Series

- 2 V-blocks per set
- 5µm parallelism





INSIZE

Size LxWxH mm	Range of Shafts Ød1	Range of Shafts Ød2	Range of Shafts Ød3	Order Code	Price
50x19x24	3-32	3-16	3-22	6887-1	**£145.22**
75x24x35	3-50	3-20	3-32	6887-2	**£183.62**
100x33x52	3-68	3-26	3-40	6887-3	**£244.83**
125x44x69	3-87	3-34	3-50	6887-4	**£396.05**

GRANITE V-BLOCK SET

6897 Series

- Granite V-Block Set
- Two V-blocks per set.



INSIZE

Size LxWxH mm	Range of Shafts Ød mm	Order Code	Price
70x50x70	6-75	6897-1	**£500.64**
100x100x70	6-99	6897-2	**£604.47**

TRADITIONAL V BLOCKS STANDARD PAIRS

- Supplied in matched and numbered pairs only
- Manufactured from close grained cast iron
- Ground faces



Size LxWxH mm	Order Code	Price
39x84x64	211	**£168.00**
44x104x74	212	**£197.50**
49x134x94	213	**£258.00**
54x154x104	214	**£347.00**
64x184x134	215	**£524.50**
74x224x164	216	**£771.00**

TRADITIONAL V BLOCKS & CLAMPS

- Manufactured to BS3731 grade B
- Manufactured from case hardened and ground mild steel
- Supplied in matched pairs only
- Two malleable iron clamps with steel screws supplied with each pair of blocks



Size LxWxH mm	Order Code	Price
50x40x40	230	**£170.50**

TOOLMAKERS & INSPECTION VICE

6526 Series

- Parallelism: 3µm/100mm
- Squareness: 5µm/100mm
- Made of alloy steel
- Hardness HRC55-60
- Made of SK2 tool steel



INSIZE

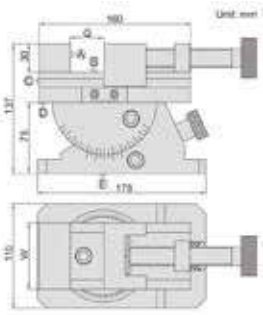
Jaw Opening mm	Jaw Width mm	Overall Length mm	Order Code	Price
0-80	50	150	6526-80	**£164.42**
0-100	73	190	6526-100	**£224.42**

PRECISION UNIVERSAL VICE

6521 Series

- Parallelism and squareness between A, B, C & D: 5µm/100mm, parallelism between D & E at 0°: 10µm/100mm
- Made of SK2 tool steel
- Hardness HRC56-68





INSIZE

Jaw Opening mm	Jaw Width mm	Order Code	Price
0-80	70	6521-80	**£2,183.02**

PRECISION SINE VICE

6522 Series

- Parallelism: 3µm/100mm
- Squareness: 5µm/100mm
- Accuracy of angle: ±15”
- Made of SKS tool steel, subzero treatment
- Hardness HRC58-60.



INSIZE

Jaw Opening mm	Jaw Width mm	Adjustable Angle	Order Code	Price
0-80	73	0-46°	6522-80	**£2,192.64**

PRECISION COMPOUND SINE VICE

6524 Series

- Parallelism: 3µm/100mm
- Squareness: 5µm/100mm
- Accuracy of angle: ±15”
- Made of SKS tool steel, subzero treatment
- Hardness HRC58-60.



INSIZE

Jaw Opening mm	Jaw Width mm	Adjustable Angle	Order Code	Price
0-80	73	0-46°	6524-80	**£4,315.67**

PRECISION UNIVERSAL VICE WITH CHUCK

6528 Series

- Horizontal rotary: range 360°, graduation 0.05°
- Vertical incline: range 45°, graduation 0.05°
- With vertical incline adjustable knob
- Runout of chuck is less than 0.05mm (test position is at less than 50mm from clamping jaws)
- The clamping jaws of chuck are reversible
- Made of tool steel
- Hardness HRC56-58



INSIZE

Range of External Clamping mm	Range of Internal Clamping mm	Order Code	Price
0.8-63	23-58	6528-85	**£3,369.97**

PRECISION VICE

6525 Series

- Parallelism: 4µm/100mm
- Squareness: 6µm/100mm
- Made of SK2 tool steel
- Hardness HRC52-58.



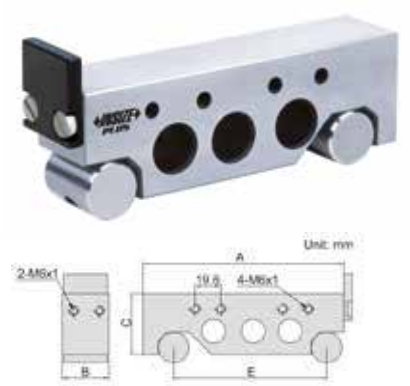
INSIZE

Jaw Opening mm	Jaw Width mm	Overall Length mm	Order Code	Price
0-73	63	176	6525-73	**£550.86**
0-76	73	190	6525-76	**£571.27**
0-120	98	255	6525-120	**£939.70**

SINE BAR

4155 Series

- High precision



INSIZE

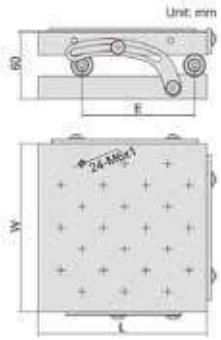
Roller Distance E	Table Size AxB	C	Accuracy of a at 30°	Order Code	Price
100	130x30	40	+5 seconds	4155-100	**£205.23**
200	230x30	40	+5 seconds	4155-200	**£288.02**
300	345x40	50	+8 seconds	4155-300	**£437.59**

SINE TABLE

6527 Series

- Accuracy of angle: +15”
- Hardness HRC58-60





INSIZE

Roller Distance E	Table Size LxW mm	Adjustable Angle	Order Code	Price
100	150x150	0-60	6527-100	**£865.30**

TAPER INSPECTION INSTRUMENT / SINE CENTER

4157 Series

- Check the taper angle of taper bar/taper plug gauges/morse taper/ISO taper etc
- The run out can be checked as well



INSIZE

Center Height	Center Distance	Sine Bar Accuracy (when a=30°)	Order Code	Price
65	200	±5 seconds	4157-200	**£1,058.49**
	300	±8 seconds	4157-300	**£1,712.62**

MAGNETIC SINE BAR

- For very small to large workpieces
- Precision-ground steel base plate, 60 HRC hardened
- Angle setting through gauge blocks
- Repeatability: 10 arc seconds
- Clamping through mounting shears and upper guide shells
- Parallelism tolerance 0.010/100 mm
- Sealed against dirt and coolant
  Pivot range: 0° to 45°



ATORN®

Support Plate LxW mm	Surface Area LxW mm	Order Code	Price
140 x 70	170 x 100	24351210	**£1,934.83**
175 x 100	215 x 115	24351215	**£1,938.04**
250 x 150	290 x 165	24351235	**£2,158.45**
350 x 150	390 x 165	24351245	**£2,738.56**
450 x 150	490 x 165	24351250	**£3,762.47**

ZERO SETTER
2397 Series

- Magnetic base



Height mm	Accuracy	Test Force	Order Code	Price
50	±10µm	9N (at 50mm)	2397-502A	**£213.29**

100MM ZERO SETTER
2394 Series

- Magnetic base with on/off switch
- 100mm height
- Graduation: 0.01mm.



Accuracy mm/inch	Order Code	Price
±0.010	2394-100A	**£296.67**

50MM ELECTRONIC ZERO SETTER
6553 Series

- The base is electrically conducted to the cutting tools through the table and chuck, the LED lights up when the cutting tool touches the anvil
- Magnetic base
- 2 batteries LR44 or SR44
- Base Ø39mm



Height mm	Accuracy mm	Order Code	Price
50	0.01	6553-50	**£242.60**

ZERO SETTER
6556 Series

- Includes setting rod
- Base Ø63mm
- Dial face Ø40



Height mm	Accuracy	Test Force	Order Code	Price
50	0.01	10N	6556-50	**£367.13**

ZERO SETTER
6554 Series

- Base Ø65mm
- Dial face Ø40mm



Height mm	Accuracy	Test Force	Order Code	Price
50	±10µm	9N (at 50mm)	6554-50	**£246.12**

IP65 DIGITAL ZERO SETTER
6557 Series

- Resolution: 0.001mm/0.00005”
- Magnetic base
- Automatic backlight at zero



IP65

Height mm	Accuracy	Test Force	Order Code	Price
50	±10µm	9N (at 50mm)	6557-50	**£97.45**

2D EDGE FINDER
6567 Series

- Hardened shank and contact point
- Suitable for machine speed 400-600rpm



INSIZE

Shank mm	Contact point mm	Accuracy	Order Code	Price
10	6	8um	6567-1	**£24.48**

2D ELECTRONIC EDGE FINDER
6566 Series

- Not suitable for rotary use
- Hardened shank and contact ball
- More accurate than Wigglers / Wobbler
- Edge finder automatically resets when you back away from the setting edge
- Contact ball 10mm



INSIZE

Shank mm	Beeper	Order Code	Price
20	Without	6566-2	**£76.60**
	With	6566-3	**£99.18**

2D EDGE FINDER
6562 Series

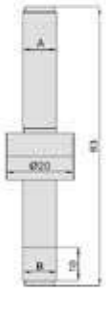
- Hardened shank and contact point
- Suitable for machine speed 400-600rpm

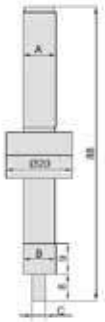


6562-3



6562-4





INSIZE

Shank (A) mm	Contact Point (B) mm	Contact Point (C) mm	Accuracy	Order Code	Price
Ø10	Ø10	-	5µm	6562-3	**£37.21**
		Ø4		6562-4	**£39.20**

3D ELECTRONIC EDGE FINDER
6571 Series

- Shank is electrically conducted to the metal workpiece through the chuck and table, the LED lights up, when the ball touches the workpiece
- Not suitable for rotary use
- Hardened contact ball



INSIZE

Shank mm	Contact Ball mm	Accuracy	Battery	Order Code	Price
Ø16	SØ10	10µm	A23S, 12Vx1pc	6571-1	**£178.46**
Ø20			A23S, 12Vx1pc	6571-2	**£181.29**

DIGITAL HEIGHT PRESETTER
620 Series

- Accuracy: 0.005mm / 0.0002″
- Repeatability: 0.003mm / 0.0001″
- Resolution: 0.001mm / 0.00005”



Accuracy mm/inch	Resolution mm/inch	Order Code	Price
0.005 / 0.0002″	0.001 / 0.00005”	MW620-03DIP	**£127.00**

CERAMIC EDGE FINDER
6568 Series

- Ceramic contact point, non-magnetic
- Suitable for machine speed 400-600rpm



INSIZE

Shank mm	Contact Point mm	Accuracy	Order Code	Price
Ø10	Ø10	8µm	6568-1	**£83.73**

ORIGINAL IP67 UNIVERSAL DIAL 3D SENSOR

80.360.FHN Series

- IP67 protection
- For milling and EDM machines
- Smallest unit of measure: 0.01mm
- Supplied with 4mm insulated probe
- Clamped into a tool holder & inserted into milling spindle
- Find exact positioning of the spindle axis on the edges of the workpiece
- Approach in any direction (X, Y, Z axis)
- No calculating on the probe's ball diameter is necessary - just zero it out!
- Replaceable probes give maximum flexibility



IP67

HAIMER

Reading mm	Shank Diameter mm	Clock Diameter mm	Order Code	Price
0.01	20	55	80.360.00.FHN	**£345.43**

IP67 NEW GENERATION DIAL 3D SENSOR

80.360.NG Series

- Improved mechanics and more compact design compared with Universal 3D sensor
- IP67 protection
- Compact and easy to grip casing, no restriction to working area
- Utmost precision of 0.01 mm
- Marked overrun distance (safety distance)
- Aligning machine spindles to work piece edges and reference edges (X-, Y-, Z-axis)
- Set zeros
- Centre borings and shafts
- Measuring lengths and depths
- Checking straightness and levelness of surfaces
- Aligning work pieces and vices



IP67

HAIMER

Reading mm	Shank Diameter Ø	Accuracy mm	Order Code	Price
0.01	12	±0.01	80.360.00NG	**£345.43**

MAHR TEST 3D SENSOR

802NW Series

- For milling and EDM machines
- Insulated probe
- Align machine spindles to workpieces edges and reference edges (X-, Y-, Z-axis)
- Smallest unit of measure of 0.01mm
- Supplied with 4mm probe
- Ø16mm shank



Mahr

Reading mm	Accuracy mm	Clock Diameter mm	Order Code	Price
0.01	±0.01	50	4304311	**£475.00**

IP64 DIGITAL 3D SENSOR

80.460.FHN Series

- IP64 protection
- Digital display (metric & imperial measurements)
- Zero point can be set without any calculations because the spindle axis is positioned exactly on the approached edge
- For approaching workpiece edges on milling and EDM machines
- Digital display with large numbers
- Measure in 0.001mm increments
- Easy-to-read from long distances
- Replaceable probes for maximum flexibility.



IP64

HAIMER

Reading mm	Shank Diameter mm	Order Code	Price
0.005	20	80.460.00.FHN	**£691.34**

3D SENSOR - ZERO MASTER

80.96 Series

- The smallest 3D sensor on the market
- Housing doesn't protrude far out of the spindle, meaning large workpieces can be measured
- Small size means ISO30 or small HSK spindles are supported
- Align machine spindles to workpieces edges and reference edges (X-, Y-, Z-axis)
- Supplied with 4mm probe



HAIMER

Reading mm	Shank Diameter Ø	Accuracy mm	Order Code	Price
0.001	10	±0.005	80.960.00	**£395.41**

IP67 UNIVERSAL DIAL 3D SENSOR

- IP67 protection
- For milling and EDM machines
- Smallest unit of measure: 0.01mm
- Supplied with 4mm insulated probe
- Clamped into a tool holder & inserted into milling spindle
- Find exact positioning of the spindle axis on the edges of the workpiece
- Approach in any direction (X, Y, Z axis)
- No calculating on the probe's ball diameter is necessary - just zero it out!
- Replaceable probes give maximum flexibility



IP67

ATORN®

Reading mm	Shank Diameter mm	Clock Diameter mm	Order Code	Price
0.01	20	55	23924010	**£297.28**

COAXIAL INDICATOR CENTRO

80.300.FHN Series

- For quick & exact centering of bores & shafts
- Centering accuracy of 0.003mm
- Compensation for run-out errors of the spindle and tool holder - no adjustment necessary
- Dial gauge always in field of vision
- Supplied with 5mm probe



HAIMER

Reading mm	Shank Diameter mm	Clock Diameter mm	Order Code	Price
0.005	16	64	80.300.00.FHN	**£395.41**

REPLACEMENT 3D SENSOR PROBE TIP

80.36.PROBE Series

- Compatible with all Haimer 3D sensors/ touch probes
- Can be changed without the use of any other tools
- 4mm (short length) or 8mm (long length) diameter tips available
- No recalibration of the unit is needed



HAIMER

Diameter mm	Length mm	Order Code	Price
4	27	80.362.00	**£35.20**
8	69	80.363.00	**£44.51**

CENTERING INDICATOR

2385 Series

- Provides quick and accurate centering in boring and milling set-ups
- Contains external feelers (x3), internal feelers (x3), small hole feeler (x1) and main unit
- Maximum speed not to exceed 800rpm



INSIZE

Range mm	Order Code	Price
0-280	2385-3	**£147.08**

UNIVERSAL CENTERING INDICATOR

612 Series

- Universal equipment for finding the centre of a bore or to measure the concentricity of work pieces
- Concentricity: 0.005mm
- Internal Range: 3.5-300mm
- External Range: 0-300mm
- Accuracy: 0.01mm
- Indicator always faces operator, also when spindle runs
- For vertical and horizontal use
- Includes 6 touch points for internal and external measurement



Range mm	Order Code	Price
0-300	MW612-01	**£185.50**

PORTABLE LEEB HARDNESS TESTER
ISH-SPHA Series

- Based on Leeb (HL), converted to Vickers, Brinell, Rockwell etc
- Memory of up to 800 results can be saved
- Touch screen operation
- Large display with back light
- Auto power off
- Connect to computer via USB
- Connect to printer via bluetooth
- Includes software CD, test block and support ring
- Accuracy 6HL





DATA OUTPUT | BLUETOOTH®

INSIZE

Hardness Scale	Order Code	Price
HL > HV, HB, HRC, HRB, HS, MPa	ISH-SPHA	**£1,555.27**

PORTABLE LEEB HARDNESS TESTER
ISH-PHB Series

- Based on Leeb (HL), converted to Vickers, Brinell, Rockwell etc
- Memory of up to 99 results can be saved
- Set measurement times (1-9) to have average value
- Connected with printer via bluetooth
- Auto power off
- According to ASTM A956
- Includes test block and support ring
- Accuracy 6HL





DATA OUTPUT | BLUETOOTH®

INSIZE

Hardness Scale	Order Code	Price
HLD > HV, HB, HRC, HRB, HS, MPa	ISH-PHB	**£528.20**

AUTOMATIC DIGITAL ROCKWELL HARDNESS TESTER
ISH-MRD200 Series

- Low and high limits with judgement
- Convert to other Rockwell scales, HV or HB automatically
- Memory of 500 results for browsing and output
- Test force up to 1471N
- Calibration function
- Not suitable for soft materials (plastics)
- Display unit is auto power off
- Wireless and USB output





DATA OUTPUT

INSIZE

Hardness Scale	Order Code	Price
HRA, HRB, HRC, HRD, HRF, HRG (standard) HRE, HRH, HRK (optional indenter)	ISH-MRD200	**£3,056.38**

MANUAL ROCKWELL HARDNESS TESTER
ISH-R150 Series

- Manual load control
- Analogue display
- Test force upto 1471N.



INSIZE

Hardness Scale	Order Code	Price
HRA, HRB, HRC, HRD, HRF, HRG	ISH-R150	**£2,132.94**

ROUGHNESS TESTER
ISR-C003 Series

- Measuring range up to 50µm
- Automatic power off
- Main unit
- Calibration block
- AC/DC adapter
- Calibration block included
- Resolution (Ra) 0.01µm
- Moving speed 0.75mm/s



INSIZE

Roughness Parameters	Order Code	Price
Ra, Rz, Rq, Rt	ISR-C003	**£1,025.63**

ROUGHNESS TESTER (SEPARABLE TYPE)
ISR-C300 Series

- Roughness tester can be operated by mobile phone (android only) or computer
- Data output to excel via bluetooth or USB
- Memory of maximum 100 results
- Touch screen
- Auto power off
- Built in rechargeable battery
- Resolution (Ra) 0.001 µm



DATA OUTPUT | BLUETOOTH®

INSIZE

Roughness Parameters	Order Code	Price
Ra, Rz, Rq, Rv, Rp, Rs, R3z, R3y, Rt, Rc, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry (JIS), Rmax	ISR-C300	**£1,466.83**

ROUGHNESS TESTER
ISR-C002 Series

Supplied with:
- Memory of maximum 100 results
- Main unit
- Standard probe
- Calibration block and support
- Adjustable stand
- AC/DC adapter
- Probe cover
- Software



DATA OUTPUT

INSIZE

Roughness Parameters	Order Code	Price
Ra, Rz, Rq, Rv, Rp, Rs, R3z, R3y, Rt, Rc, Rz (JIS), Rk, Rku, Rsm, Rpc, Rpk, Rvk, Rsk, Mr1, Mr2, Ry (JIS), Rmax	ISR-C002	**£1,268.24**

SURFACE ROUGHNESS SPECIMEN SET
ISR-CS2 Series

- For checking, identifying and specifying the roughness by symbol
- Rust-proof, made of pure nickel



INSIZE

Machining Method	Qty pcs	Order Code	Price
Flat Lapping	2	ISR-CS2	**£225.58**
Reaming	3		
Plain Grinding	6		
Horizontal Milling	6		
Vertical Milling	6		
Turning	6		

DIGITAL SHORE DUROMETER
ISH-DS Series

- According to ISO868, ISO7619, ASTM D 2240
- Average and peak (max) mode
- Dwell time is adjustable
- Tolerance testing
- 500 memories
- Wireless connection to printer
- Handhold use or work with test stand
- Automatic power off



INSIZE

Scale	Measuring Range	Resolution	Order Code	Price
Shore A	0~100HA	0.1HA	ISH-DSA	**£536.48**
Shore D	0~100HD	0.1HD	ISH-DSD	**£639.08**

SHORE DUROMETER
ISH-S Series

- According to ISO868, ISO7619, ASTM D 2240
- With peak value indicator



INSIZE

Scale	Measuring Range	Graduation	Order Code	Price
Shore A	10~90HA	1HA	ISH-SAM	**£119.79**
Shore D	20~90HD	1HD	ISH-SDM	**£207.66**

DIGITAL FORCE GAUGE
ISF-DF Series

- Supplied with AC/DC adapter, USB cable and software, flat push tip, V push tip, knife-edge push tip, point push tip, pull clamp and extension rod
- Measuring mode: tracking, peak (max.), low and high limits with judgement
- Measures in mN, N, gf, kgf, ozf, lbf
- Automatic power off
- Tough metal casing with touch buttons
- LCD display with backlight, can turn 180°



INSIZE

Load Capacity N	Resolution N	Type	Order Code	Price
5	0.0005	Internal	ISF-DF5A	**£520.42**
10	0.001		ISF-DF10A	**£520.42**
20	0.005		ISF-DF20A	**£520.42**
50	0.005		ISF-DF50A	**£464.79**
100	0.01		ISF-DF100A	**£464.79**
200	0.05		ISF-DF200A	**£464.79**
500	0.05		ISF-DF500A	**£498.17**
1000	0.1		ISF-DF1KA	**£498.17**
2000	0.5	External	ISF-DF2KA	**£1,211.41**
5000	0.5		ISF-DF5KA	**£1,419.09**
10000	1		ISF-DF10KA	**£1,536.51**
20000	5		ISF-DF20KA	**£1,783.75**

FORCE GAUGE
ISF-F Series

- Push and pull test
- Peak (max.) or tracking mode



INSIZE

Load Capacity N	Graduation N	Accuracy	Order Code	Price
10	0.05	±1% (of load capacity)	ISF-F10	**£199.02**
20	0.1		ISF-F20	**£199.02**
30	0.2		ISF-F30	**£199.02**
50	0.25		ISF-F50	**£166.89**
100	0.5		ISF-F100	**£166.89**
200	1		ISF-F200	**£166.89**
300	2		ISF-F300	**£166.89**
500	2.5		ISF-F500	**£166.89**

REFRACTOMETER
ISQ-RM30 Series

- Quickly measure the concentration of coolant
- Refer to the refraction factor of coolant
- Suitable for water based coolant



INSIZE

Measuring Range %	Graduation %	Dimensions mm	Order Code	Price
0-32	0.2	27x40x160	ISQ-RM30	**£59.08**

DIGITAL REFRACTOMETER
ISQ-DRM31 Series

- Quickly measure the concentration of coolant
- Two measurement modes: single measurement and automatic average mutliple measurement
- Two units: brix and refractive index
- Refer to the refraction factor of coolant, for example: the refraction factor of grinding emulsion 2.1, the reading value is 6%, so the actual concentration is (2.1x6%)=12.6%
- Automatic power off



INSIZE

Measuring Range %	Resolution %	Accuracy %	Order Code	Price
0-50	0.1	±0.2	ISQ-DRM31	**£284.25**

ULTRASONIC THICKNESS GAUGE

ISU-250C Series

- Meaures the thickness from one side of objects, suitable for pipes, tanks etc
- Applicable materials: metal, plastic, glass, nylon, resin, ceramic, ice
- Tolerance measurement
- Average calculation of maximum 9 readings
- Date can be input to excel and word as keyboard signal



H is the thickness to be measured in mm

INSIZE

Measuring Range	Resolution	Repeatability	Accuracy	Velocity	Power Supply	Dimensions	Order Code	Price
0.8-300mm	0.001mm (range <100mm)	0.03mm (range<100mm)	±0.04mm (range<10mm) ±(0.04+H/1000)mm (range 10~100mm)	1000-9999m/s	2x1.5V AAA batteries	64x116x27mm	ISU-250C	**£1,122.72**
	0.1 (range>100mm)	0.1mm (range>100mm)	±H/333mm (range>100mm)					

ULTRASONIC THICKNESS GAUGE - BASIC TYPE

ISU-100D Series

- Meaures the thickness from one side of objects, suitable for pipes, tanks etc
- Applicable materials: steel, stainless steel, glass, copper, brass, polystyrene, titanium etc



H is the thickness to be measured in mm

INSIZE

Measuring Range	Resolution	Accuracy	Velocity	Power Supply	Dimensions	Order Code	Price
0.8-300mm	0.01mm (range <100mm)	±0.04mm (range<10mm) ±(0.04+H/1000)mm (range 10~100mm)	1000-9999m/s	2x AAA batteries	114x64x28mm	ISU-100D	**£458.45**
	0.1 (range>100mm)	±H/333mm (range>100mm)					

FOLDING MAGNIFIER

7511 Series



INSIZE

Magnification	Lens Diameter mm	Order Code	Price
10x	21	7511-8	**£3.30**

FOLDING MAGNIFIER WITH ILLUMINATION

7515 Series



INSIZE

Magnification	Lens Diameter mm	Order Code	Price
10x	21	7515-10	**£8.24**

DIGITAL MEASURING MICROSCOPES

ISM-PMS Series

- Take pictures and videos
- Edge detection
- Supplied with software.



DATA OUTPUT

INSIZE

Magnification	Focus Distance	Stand	Focus Support	Calibration Rule mm	Pixel / Resolution	Order Code	Price
10x-200x	Short	Standard	Included	Graduation 0.1 & 1	1.3M / 1280x1024	ISM-PM200SA	**£249.70**
10x-200x		Universal	Included	Graduation 0.1 & 1	2M / 1600x1200	ISM-PM200SB	**£254.43**

PORTABLE MEASURING MICROSCOPE

ISM-PM Series

- Easy manoeuvrability and transportation through portable design
- Attached LED pen light illuminates workpiece for better visualisation under microscope
- Focus adjustment by rotation of wheel on side of microscope
- 30mm focus range
- Supplied with: 1x Main Unit, 1x Pen Light, 2x AAA Batteries.



INSIZE

Total Magnification	Eyepiece	Objective Achromatic	Working Distance mm	Graduation mm	Viewing Field mm Ø	Order Code	Price
20x	10x with Graduation	2x	17.2	0.05	9	ISM-PM20	**£207.66**
40x		4x	18	0.025	4.5	ISM-PM40	**£192.84**
50x		5x	17.6	0.02	3.6	ISM-PM50	**£228.68**
100x		10x	7	0.01	1.8	ISM-PM100	**£190.37**

SMART MICROSCOPE SYSTEM

ISM-DL Series

- Up to 400x magnification
- Linux 3.10 operating system
- 1920x1080 pixel resolution camera with 60fps frame rate
- Various camera functions including surface defect detection, dimension measurement, burr detection, contour matching, character recognition, color detection, thread measurement, object counting
- Automatically identify different workpieces
- Automatically locate workpieces regardless of position and direction
- Includes multiple detection tools
- Supplied with main unit, 0.5x camera adapter, 1x auxiliary objective, 1x calibration plate, 1x 16GB USB flash disc, 1x white/black plate, 1x HDMI cable, 2x power adapters.



INSIZE

Magnification	Frame Rate	Single Pixel Size	Sensor	Chip Structure	Pixel / Resolution	Order Code	Price
15x-100x	60fps	3.75x3.75µm	1/2" CMOS	FPGA+ARM	2M / 1920x1080	ISM-DL400	**£5,750.50**

PROFILE PROJECTOR

ISP-Z Series

- Magnification: 10x (standard), 20x (optional), 50x (optional) or 100x (optional)
- 300mm diameter projector screen
- X-Y stage travel with screen rotation
- Dimensions of unit: 550mm (L) x 770mm (W) x 1100mm (H)
- Functions performed: Measure co-ordinate of point, measure co-ordinate of line, measure center co-ordinate or radius of circle with 3 points, measure distance between two objects, measure angle with four points or two lines, set origin of co-ordinate, co-ordinate transform and set midpoint of co-ordinate
- Weight: 135kg
- Standard delivery: 1x Main Unit. 1x 10x Magnification Lens (with half-reflection mirror and oblique illuminator mirror), 4x Overlay Chart Clip, 1x Foot Switch, 1x Anti-Dust Cover
- Magnification accuracy: 0.08%
- Max load capacity: 4kg



DATA OUTPUT

INSIZE

Magnification	View Field mm Ø	Working Distance mm	Max Workpiece Height mm	Magnification Accuracy	Screen Diameter mm	Order Code	Price
10x (20x Optional)	30 (15 Optional)	77.7 (44.3 Optional)	90	±0.08%	300	ISP-Z3015	**£5,140.30**

PROFILE PROJECTOR

172 Series

- Bench-top model that uses a horizontal optical system
- Suitable for thread pitch measurements – blurred or distorted images will not be produced when workpiece is angled
- Inverted image on the day-bright screen.
- 356 mm diameter inclined protractor screen with cross hairs and staggered lines for easy alignment
- Heavy-duty XY stage incorporates linear scales for fast, accurate measurement



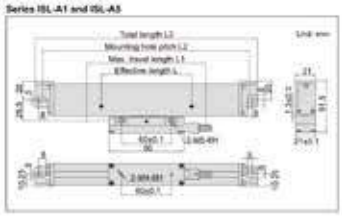
DATA OUTPUT

Mitutoyo

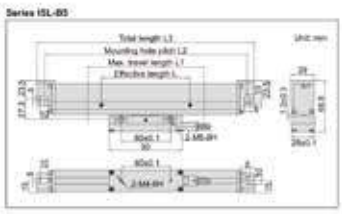
Magnification	View Field mm Ø	Working Distance mm	Magnification Accuracy	Screen Diameter mm/inch	Order Code	Price
10x (20x, 50x 100x Optional)	35.6 (17.3, 7.12, 3.56 Optional)	93 (40, 14.6, 9.5 Optional)	Contour ±0.1% or more Surface ±0.15% or more	356 / 14"	172-810-20E	**£8,130.20**

LINEAR SCALE
ISL Series

- Resolution .00005”
- Comes with a ‘L’ shape support, anti-dust cover, plain base and mounting accessories
- Max response speed: 90m/min
- ISL-A5 Series max response speed 90m/min
- ISL-B5 Series max response speed 60m/min







INSIZE

Effective Length mm	Order Code			
	ISL-A5 Series	Price	ISL-B5 Series	Price
50	ISL-A5-50	£184.19	ISL-B5-50	£184.19
100	ISL-A5-100	£169.35	ISL-B5-100	£184.19
150	ISL-A5-150	£180.48	ISL-B5-150	£184.19
200	ISL-A5-200	£190.37	ISL-B5-200	£184.19
250	ISL-A5-250	£190.37	ISL-B5-250	£184.19
300	ISL-A5-300	£190.37	ISL-B5-300	£180.48
350	ISL-A5-350	£190.37	ISL-B5-350	£190.37
400	ISL-A5-400	£190.37	ISL-B5-400	£190.37
450	ISL-A5-450	£190.37	ISL-B5-450	£190.37
500	ISL-A5-500	£192.84	ISL-B5-500	£192.84
550	ISL-A5-550	£192.84	ISL-B5-550	£196.55
600	ISL-A5-600	£192.84	ISL-B5-600	£192.84
650	ISL-A5-650	£227.45	ISL-B5-650	£227.45
700	ISL-A5-700	£231.16	ISL-B5-700	£227.45
750	ISL-A5-750	£231.16	ISL-B5-750	£227.45
800	ISL-A5-800	£227.45	ISL-B5-800	£227.45
850	ISL-A5-850	£243.51	ISL-B5-850	£248.46
900	ISL-A5-900	£262.06	ISL-B5-900	£262.06
950	ISL-A5-950	£276.89	ISL-B5-950	£270.71
1000	ISL-A5-1000	£283.08	ISL-B5-1000	£288.02
1100	ISL-A5-1100	£433.43	ISL-B5-1100	£432.65
1200	-	-	ISL-B5-1200	£482.10
1300	-	-	ISL-B5-1300	£530.31
1400	-	-	ISL-B5-1400	£579.75
1500	-	-	ISL-B5-1500	£630.42
1600	-	-	ISL-B5-1600	£679.88
1700	-	-	ISL-B5-1700	£730.55
1800	-	-	ISL-B5-1800	£777.53
1900	-	-	ISL-B5-1900	£825.73
2000	-	-	ISL-B5-2000	£1,008.69

DRO COUNTER
ISL-DR Series



INSIZE

Application	Scale	Power Supply	Dimension mm	Weight kg	Order Code	Price
Two Axis	2	110/220V, 50/60Hz	295x185x45	1.45	ISL-DR2	£276.89
Three Axis	3	110/220V, 50/60Hz	295x185x45	1.45	ISL-DR3	£339.94

DIGITAL HORIZONTAL SCALE
7101 Series

- Resolution: 0.01mm/0.0005”
- Buttons: on/off, zero, mm/inch
- Automatic power off, (move the digital unit) to turn on power
- Battery CR2032
- Data output
- Made of stainless steel
- Supplied with bracket to be mounted on the back
- Optional accessory: data output cable (code **7306-20, 7302-SPC1A/SPC1B, 7305-SPC2**)



DATA OUTPUT

INSIZE

Range mm	Type	Accuracy	L	Order Code	Price
100	A	+0.02	215	7101-100A	£64.69
150		+0.03	265	7101-150A	£76.57
200		+0.03	315	7101-200A	£99.97
300		+0.04	445	7101-300A	£147.62
400	B	+0.05	590	7101-400A	£187.22
500		+0.05	690	7101-500A	£237.63
600		+0.08	790	7101-600A	£292.84
800		+0.10	990	7101-800A	£441.65
1000		+0.10	1190	7101-1000A	£618.06

DIGITAL VERTICAL SCALE
7102 Series

- Resolution: .00005”
- Buttons: on/off, zero set, mm/in, data set
- Made of stainless steel
- Optional accessory: data output cable
- Supplied with bracket to be mounted on the back



DATA OUTPUT

INSIZE

Range mm/inch	Accuracy mm	Order Code	Price
100 / 4”	±0.02	7102-100	£91.23
150 / 6”	±0.03	7102-150	£110.89
200 / 8”	±0.03	7102-200	£120.65
300 / 12”	±0.04	7102-300	£171.83
400 / 16”	±0.05	7102-400	£226.20
500 / 20”	±0.05	7102-500	£284.31
600 / 24”	±0.08	7102-600	£349.82
800 / 32”	±0.1	7102-800	£503.11
1000 / 40”	±0.1	7102-1000	£694.70

DATA OUTPUT CABLES

7302 Series

- Recognised as HID keyboard device by computer, no need to install drivers and softwares
- Data can be transmitted to excel, word, txt and other files (press transmit button, which is recognised by the computer as keyboard input data & press enter)
- Suitable for any softwares which can receive keyboard signal
- Optional accessory: foot switch (code: **7304-2**), hub (code: **7324-HUB4, 7324-HUB7**), extension cables (code: **7325-ADD5, 7325-ADD10**)



INSIZE

Applicable Products		Plug to Product	Order Code	Price
For digital calipers and depth gauges (length 3)			7302-21	**£88.33**
For large digital calipers <1000mm and digital height gauges (length 2.5m)			7302-22	**£80.05**
For large digital micrometers (length 2.5m)			7302-30	**£83.17**
For digital inidcators (length 2.5m)			7302-40M	**£86.29**
For digital thickness gauges and digital internal/external caliper gauges (length 2.5m)			7302-50M	**£82.46**
For 2140-6 and 2133 series high precision digital indicators (length 2.5m)			7302-60	**£80.05**

TOOL PRESETTER - P368M

P368M Series



m. conti

Ideal for accurate presetting right next to the machine. The P368M is the first step towards tool presetting in the production line. It is also the perfect versatile measuring instrument for those who already have a presetter in their tool room.

- Thermically stabilized steel structure
- Heavy duty, high work load capacity side supports
- Tempered steel, high precision tool sleeve with reference planes
- Mechanical axis lock
- Fine micrometric adjustment
- Linear guides with preloaded re-circulating bearings slides on X axis
- High rigidity, abrasion resistance, double column in extruded Argal
- High precision double linear rails
- Measurement through high precision magnetic strip
- Resolution 0.01
- Precision : 0.03 mm
- Repeatability : 0.01 mm
- Z axis display: monocromatic high visibility LCD display
- X axis display: monocromatic high visibility LCD display
- 4 mutlifunction buttons on both display
- 4 machine origins can be memorized
- Battery operated

TOOL PRESETTER - PRIME

Prime Series



m. conti

Fully equipped, sturdy and easy to use. The world of camera presetting is within reach with this user friendly presetter. Checking tool geometry is easy and intuitive.

- Thermally stabilized steel structure
- Interchangeable tool sleeve with reference notch ISO-BT / HSK / CAPTO (no reference shafts required)
- Class P high precision steel linear guides with preloaded recirculating ball bearing slides
- 0,001 mm resolution glass optical scales
- Software CVS SMART
- Vertical 19” Wide Screen monitor
- HD camera with telecentric lenses
- 40x magnifications and 5 x 5 field of view
- LED lighting system for tool inspection
- Mechanical axis lock
- Fine micrometric adjustment
- Tool sleeve rotation brake
- USB hub and LAN connectivity
- Windows® operating system with data back-up system
- Power supply 110 / 230V
- Storage of 50 machine origins and 5.000 tools

Support on Tool Presetters

Please contact our expert technical team for advice on:

- Selecting the right presetter for your requirements
- Comprehensive range of accessories to increase your capabilities
- After sales support for troubleshooting and getting the best out of your presetter

Call on **01924 869 615**

We’re open from 8am to 6pm Monday to Thursday (5pm Friday)



TOOL PRESETTER - LEADER PLUS

Leader Plus Series



m. conti

High performance presetter, powerful and very easy to use. Also a sophisticated instrument for tool analysis thanks to dedicated modules such as GHOST and DXF. Precise measures by locking tools with INTERLOCK SYSTEM.

- Thermically stabilized steel structure tempered steel, high precision tool sleeve with reference sphere
- Glass optical scales, SP class precision linear guides
- CVS user friendly, multilanguage software
- Vertical full HD 22” monitor
- HD camera
- 40x magnifications and 7 x 7 field of view
- Pneumatic axis lock
- Fine micrometric adjustment
- Tool sleeve rotation brake
- USB hub and LAN connectivity
- Windows® operating system with data back-up system
- Storage of 200 machine origins and 40.000 tools

TOOL PRESETTER - PERFORMANCE

Performance Series



m. conti

Fully equipped, sturdy and easy to use. The world of camera presetting is within reach with this user friendly presetter. Checking tool geometry is easy and intuitive.

- Thermically stabilized steel structure
- Tempered steel, high precision tool sleeve with reference spheres
- Glass optical scales, SP class precision linear guides
- CVS user friendly multilinguage software SOFTWARE DXF import/export file DXF
- Vertical HD 24” Wide Screen Monitor
- HD camera
- 40x magnifications and 7 x 7 field of view
- Pneumatic axis lock
- Fine micrometric adjustment
- Mechanical locking mechanism INTERLock System with 2 pull rods (ISO 40 e 50)
- Wireless mouse and keyboard. DYMO 450 label printer
- Tool sleeve rotation brake
- Integrated support bench with heavy duty steel frame
- USB hub and LAN connectivity
- Windows® operating system with data back-up system
- Storage of 200 machine origins and 40.000 tools

View All Presetters Online

Fluids & Lubricants



ROMOLD LTD® JETON CUTWEL PRO ROCOL MILLERS OILS Freddy FILTERMIST pig New Pig FUCHS Ambersil

Comprehensive Range of Fluids & Lubricants

We have a comprehensive range of coolant, cutting fluids, hydraulic oils, slideway oils, greases, cutting paste, sprays & much more.



Cutting Fluids 1384
Water soluble cutting fluids, neat cutting oils, hand applied lubricants & EDM fluid



Maintenance & Machine Oils 1392
Slideway, hydraulic, gear, spindle & compressor oils



Cutting Fluid Management 1396
Tramp oil skimmers & aerators, refractometers, fluid care & test equipment



Maintenance Products 1398
Corrosion protection, anti-seize & greases, general oils, cleaning & degreasing



Fluid Mixing & Dispensing 1402
Accurately mixes & dispenses water mix cutting & grinding fluids from the barrel



Oil Mist Filters 1403
Filtermist protects employees from hazardous airbourne substances



Coolant Recycling Vacuums & Accessories 1404
Market leading industrial coolant recycling vacuums from Freddy



Cutting Fluid Application 1406
High pressure coolant nozzles, coolant hose flow units, shield boards & magnetic systems



Oil & Liquid Dispensing 1410
Wide range of hand dispensers, sprayers & funnels



Grease Dispensing 1412
Grease guns & grease gun kits with assorted accessories



Drum Funnels, Pumps & Accessories 1413
Wide range of drum pumps, funnels & repair products for damaged drums



Fluid Storage & Handling 1414
Trolleys, carts, cabinets, drip trays & pallets



Spill Management 1416
Spill kits, floor safety & leak diverters, absorbent mats, rolls, pads & socks, granules & pillows



Cleaning & Degreasing 1420
All purpose wipes & wiping cloths



Markers, Labelling & Layout 1421
Use for general component identification & quality control checks

CUTSOL ULTRA V7 SEMI SYNTHETIC CUTTING FLUID

All Round High Performance Cutting Fluid

Cutsol Ultra V7 is a high performance, heavy duty semi synthetic cutting fluid suited to arduous machining and grinding operations. Designed for the best surface finish, tool life and machine cleanliness.

Ideal for milling, turning, deep hole drilling, threading, reaming, tapping and grinding on difficult materials such as aluminium (including Aerospace 7000 Series), steel alloys, titanium alloys, Inconel, stainless steel and copper alloys.

Benefits

- Number 1 choice for all round high performance applications
- Suitable for soft & hard water
- Formaldehyde & chlorine free
- Outstanding lubricity performance
- Low foaming properties
- Extended sump life / fewer fluid changes
- Improved tool life / surface finish

No.1 High Performance

★★★★★

View Safety Data Sheet



CUTWEL PRO

Size	Order Code	Price
20L	CL120-020	£115.00
205L	CL120-205	£799.00

CUTSOL ULTRA LF SEMI SYNTHETIC CUTTING FLUID

Ultra Low Foaming For High Performance Applications

Cutsol Ultra LF is a high performance semi synthetic water soluble cutting fluid which is ideal for high speed, high feed machining or applications with large depths of cut.

It's unique combination of chlorine free extreme pressure additives provides outstanding performance whilst offering exceptional low foaming properties in very soft water and high pressure coolant systems.

Benefits

- Exceptional low foaming properties
- Excellent for stainless steel and exotic materials
- Great for heavy duty turning, milling, drilling, reaming & deep hole drilling
- Ideal for high speed, high feed machining or applications with large depths of cut
- Extended sump life / fewer fluid changes
- Formaldehyde, boron and chlorine free
- Reduced sticky residues & deposits

Ultra Low Foaming

★★★★★

View Safety Data Sheet



CUTWEL PRO

Size	Order Code	Price
20L	CL140-020	£115.00
205L	CL140-205	£799.00

CRYSTAL COOL FULLY SYNTHETIC CUTTING FLUID

Crystal Clear Soluble Cutting Fluid for High Speed/Heavy Duty Applications

Crystal Cool is a full synthetic, low foaming water soluble coolant designed for use in moderate to heavy-duty applications.

With excellent cutting performance on tough materials such as stainless steel and exotics, Crystal Cool also improves tool life and extends sump life due to the exclusion of mineral oil.

Benefits

- Crystal clear cutting fluid for maximum visibility during machining
- Exceptional cooling properties in high speed/heavy duty applications
- Perfect for heavy milling/turning, high metal removal & deep hole drilling
- Special additives to reduce friction at the cutting edge
- Boron free to protect machine from sticky deposits and improve cleanliness
- Very low foaming due to exclusion of emulsifiers & mineral oil
- Excellent alternative for Blaser Synergy and Castrol Syntilo 9923/9974 BF & 9954

Heavy Duty - Clear

★★★★★

View Safety Data Sheet



CUTWEL PRO

Size	Order Code	Price
20L	CL172-020	£149.00
205L	CL172-205	£1,199.00

CUTSOL M MILKY WHITE CUTTING FLUID

Suitable For Soft to Hard Water

Cutsol M is a low cost economy water-soluble coolant for general machining of brass. copper, steel and stainless steel applications.

Suitable for conventional machining, this milky white cutting fluid is free from nitrite, phenol and chlorine.

Conventional

★★

View Safety Data Sheet



Benefits

- Ideal for conventional machining
- Good corrosion protection and reduced tool wear
- Reduces sticky residues
- Suitable for turning, milling, drilling, sawing & grinding
- Free from nitrite, phenol, boron & chlorine

CUTWEL PRO

Size	Order Code	Price
20L	CL110-020	£99.00
205L	CL110-205	£699.00

CUTSOL ULTRA K2 SEMI SYNTHETIC CUTTING FLUID

Semi Synthetic Cutting Fluid for General Machining

Cutsol Ultra K2 is widely used across the sub contract CNC industry due to its general purpose properties and ability to cut a wide range of materials.

Suitable for both soft and hard water, it has good low foaming qualities and is also formaldehyde & chlorine free.

General Purpose

★★★

View Safety Data Sheet



Benefits

- Semi-synthetic water-soluble cutting fluid
- Ideal for machine shops cutting a wide range of materials
- Suitable for soft and hard water
- Good low foaming qualities
- Formaldehyde & chlorine free
- Clean running emulsion

CUTWEL PRO

Size	Order Code	Price
20L	CL100-020	£75.00
205L	CL100-205	£599.00

CUTSOL CLEANCUT UNI SEMI SYNTHETIC CUTTING FLUID

High Performance Cutting Fluid with Medium Oil Content

Cutsol Cleancut Uni offers the next step up in general purpose coolant with great all round performance on a wide range of materials. Ideal for the sub contract CNC industry in both soft and hard water applications.

Suitable for use on steel, stainless steel, inconel, titanium, aluminium, yellow metals & plastic.

Great All-Rounder

★★★★

View Safety Data Sheet



Benefits

- 1st choice for the sub contract CNC industry
- Excellent multi material performance
- Suitable for heavy duty turning, milling, drilling and deep hole drilling
- Dual antifoam technology reduces foaming to maximise cooling potential
- Extreme levels of lubricity ensures excellent tool life and outstanding surface finish
- Boron, chlorine & formaldehyde biocide free
- Reduced sticky residues to keep machine tool surfaces & tooling fixtures ultra clean

CUTWEL PRO

Size	Order Code	Price
20L	CL162-020	£115.00
205L	CL162-205	£750.00

CUTSOL ULTRA HW

Medium-Hard Water Cutting Fluid

Cutsol Ultra HW is a semi-synthetic, formaldehyde free water-soluble cutting fluid ideal for machine shops cutting at high speeds, feeds or large depths of cut. Excellent for stainless steel & exotic materials with exceptional low foaming qualities.

Ideal for choice medium-hard water, improves tool life and extends sump life due to the exclusion of mineral oil.

Med-Hard Water

★★★★

View Safety Data Sheet



Benefits

- Semi-synthetic water-soluble cutting fluid
- Ideal for machine shops cutting at high speeds & feeds or large cuts
- Excellent for stainless/exotics
- Exceptional low foaming qualities, ideal for high pressure coolant or med-hard water
- Formaldehyde & chlorine free

CUTWEL PRO

Volume	Order Code	Price
20L	CL130-020	**£115.00**
205L	CL130-205	**£799.00**

CUTSOL CLEANCUT ULTRA

Medium-Hard Water Cutting Fluid

Cutsol Cleancut Ultra offers the next step up in high performance coolant for machine shops that cut at high speeds & feeds or large depths of cut. Excellent for stainless steel & exotic materials with exceptional low foaming qualities.

1st choice for medium-hard water, improves tool life and extends sump life due to the exclusion of mineral oil.

Med-Hard Water

★★★★★

View Safety Data Sheet



Benefits

- 1st choice for medium-hard water, improves tool life & extends sump life
- Ideal for high speeds & feeds or large depths of cut
- Excellent on stainless steel and exotics
- Dual antifoam technology reduces foaming to maximise cooling potential
- Boron, chlorine & formaldehyde biocide free
- Reduced sticky residues to keep machine tool surfaces & tooling fixtures ultra clean

CUTWEL PRO

Volume	Order Code	Price
20L	CL163-020	**£125.00**
205L	CL163-205	**£799.00**

CUTSOL CLEANCUT IRON

Low Oil Semi-Synthetic Cutting Fluid

Cutsol Cleancut Ultra has been designed for the best results in cast iron maching. Offering excellent levels of cleanliness, stability and corrosion protection it is ideal for light to moderate duty turning, milling, drilling & grinding.

1st choice for cast iron but also suitable for mild steel, tool steel, stainless steel and plastics.

No.1 for Cast Iron

★★★★★

View Safety Data Sheet



Benefits

- 1st choice for cast iron applications
- Ideal for the most demanding applications created by high pressure coolant systems
- Dual antifoam technology reduces foaming to maximise cooling potential
- Boron, chlorine & formaldehyde biocide free
- Reduced sticky residues to keep machine tool surfaces & tooling fixtures ultra clean

CUTWEL PRO

Volume	Order Code	Price
20L	CL161-020	**£125.00**
205L	CL161-205	**£799.00**

ECOCOOL MM BF

Multi-Functional Cutting Fluid

- Low foaming & misting
- Semi-synthetic water-miscible cutting fluid
- Free of boron, formaldehyde & biocide
- Optimum wetting, cooling and flushing
- Good washing effect
- Good filterability
- 1st choice for general machining

View Safety Data Sheet

Premium Range

★★★★★



FUCHS

Volume	Order Code	Price
20L	601388293	£98.21
205L	601384639	£1,056.24

ROCOL V-CUT SS

Dual Purpose Cutting & Grinding Fluid

- Semi-synthetic water mix fluid for all general cutting and grinding operations
- Used on most metals, especially low to medium carbon steel
- Translucent green emulsion colour
- Specially selected lubricity additives help to extend tool life and improve surface finish

View Safety Data Sheet

All-Rounder

★★★★



ROCOL

Volume	Order Code	Price
20L	ROCOL-51523	£184.35

MILLCOOL 20

Water Soluble Semi-Synthetic Cutting Fluid

- Bio-stability generated from boron based composition
- Full multi metal capability
- Nitrite, chlorine and phenol free formulation
- Undyed to offer good workpiece visibility
- Simple strength control with a refractometer

View Safety Data Sheet

Best Seller

★★★★



MILLERS OILS

Volume	Order Code	Price
20L	7781FB	£99.00
205L	7781CK	£875.60

MILLERSOL TS

Milky White Cutting Fluid

- Milky white water-soluble coolant
- For general machining of aluminium, brass, copper, steel & stainless steel – ideal for conventional machining
- Free from chlorine, zinc and heavy metals
- Formaldehyde free

View Safety Data Sheet

Traditional Soluble

★★★



MILLERS OILS

Volume	Order Code	Price
20L	8093FB	£95.00
205L	8093CK	£775.00

MILLERSOL EP

EP Coolant For Difficult Materials

- Water soluble semi-synthetic cutting fluid
- EP additives ensure excellent cutting performance and surface finish even in very arduous applications
- Recommended for use on a variety of steel and aluminium alloys as well as yellow metals

View Safety Data Sheet

High Performance

★★★★



MILLERS OILS

Volume	Order Code	Price
20L	8103FB	£99.00
205L	8103CK	£799.00

MILLERSOL MP

Low Oil Multipurpose Soluble Cutting Fluid

- Water soluble semi-synthetic cutting fluid
- Designed to perform a wide range of cutting and grinding operations
- Recommended for use on cast iron, ferrous alloys, aluminium alloys & yellow metals

View Safety Data Sheet

Multi-Purpose

★★★★



MILLERS OILS

Volume	Order Code	Price
20L	8059FB	£99.00
205L	8059CK	£775.00

MEGACUT ULTRA

Neat Cutting Oil

Sliding Head Lathes

★★★★★

- Designed for use on sliding head lathes
- Excellent performance on steel, stainless steel, exotics and non-ferrous
- **Grade C12:** for high pressure coolant / **Grade C22:** for standard pressure coolant
- Pale coloured and low odour offering excellent operator acceptability
- Low viscosity ensures outstanding penetration and reduced drag out, reducing consumption
- Chlorine free extreme pressure (EP) performance and low viscosity suitable for high pressure coolant systems
- Non-staining chlorine free extreme pressure additives, lubricity agents, anti-oxidant and anti-mist additives
- Suitable for the rigorous demands of modern machining techniques
- Exceptional oxidation resistance eliminates residues and lacquers forming



CUTWEL PRO

Volume	Grade	Order Code	Price
20L	C12	CL612-020	**£87.98**
205L		CL612-205	**£695.00**
20L	C22	CL622-020	**£97.62**
205L		CL622-205	**£772.97**

MILLICUT J40

Ester Based Neat Cutting Oil

Non-Ferrous Materials

★★★★★

- Designed for spray mist machining, total loss applications or sawing operations
- Medium viscosity, operator friendly, biodegradable neat cutting oil
- Low application rates ensure economical use
- Ideal for aluminium and yellow metals such as brass



MILLERS OILS

Volume	Order Code	Price
20L	5981FA	**£103.84**
205L	5981CA	**£810.48**

MILLICUT CHF10/22

Chlorine Free Neat Cutting Oil

Chlorine Free

★★★★★

- Designed for use on sliding head lathes & multi spindle machines
- Excellent on steel, stainless steel, yellow metals and hard to machine alloys
- Antimist additives to enhance operator acceptability.
- Totally chlorine free (environmentally friendly)
- Low drag out losses due to low viscosity
- Good work piece visibility



MILLERS OILS

Volume	Grade	Order Code	Price
20L	CHF10	5721FB	**£96.54**
205L	CHF10	5721CK	**£778.98**
20L	CHF22	5769FA	**£99.60**
205L	CHF22	5769CA	**£705.16**

ECOCUT SD

Neat Cutting Oil

- Environmentally improved
- Does NOT contain chlorinated additives
- Generates little oil mist and displays low evaporation loss
- Suitable for both ferrous and non-ferrous stock

Premium Range

★★★★★



FUCHS

Viscosity	Volume	Order Code	Price
12	205L	600253592	**£939.40**
	1000L (IBC)	600906108	**£4,429.22**
22	205L	600253295	**£703.77**
	1000L (IBC)	600253950	**£4,291.29**
32	205L	600253424	**£820.02**
	1000L (IBC)	600253431	**£3,846.83**

CUTGRIND

Grinding Fluid

- Fully synthetic grinding fluid
- Water soluble cutting fluid
- Good low foaming qualities
- Formaldehyde & chlorine free

Best Seller

★★★★★



CUTWEL PRO

Volume	Order Code	Price
20L	CL150-020	**£92.98**
205L	CL150-205	**£903.20**

MILLGRIND G SYNTH 3XD

Grinding Fluid

- Good corrosion protection of machine and workpiece
- Excellent wheel flushing capabilities
- Remains clear in the presence of tramp oil
- Good workpiece visibility
- High heat dissipation
- Chlorine-free and formaldehyde-free, ensuring minimised hazard labelling for operator safety and audit compliance

All Rounder

★★★★



MILLERS OILS

Volume	Order Code	Price
20L	5286FA	**£113.46**

MILLCOOL SYNTH

Cutting & Grinding Fluid

- High lubricity promotes excellent tool life
- Rejects tramp oil
- Low foam product
- Free from secondary amines, phenols, nitrites, chlorine, sulphur and formaldehyde-release biocides
- Does not produce sticky residues, clean in use
- Good fine handling properties
- Excellent bio-stability
- Good anti-corrosion properties
- Good work piece visibility

Cutting & Grinding

★★★★



MILLERS OILS

Volume	Order Code	Price
20L	7728FB	**£127.79**

MICROTAP SUPERCUT PRO

Cutting Fluid

- Designed to be applied direct to the cutting edge
- Ideal for drilling, tapping, reaming and other metal cutting operations
- Promotes increased tool life and improved surface finish
- Ensures maximum performance and reduces friction
- Non staining on most types of aluminium and copper alloys
- Low odour
- Mineral oil & chlorine free
- Squeezy bottle for easy application. Easily flows to the cutting edge



CUTWEL PRO

Volume	Order Code	Price
350ml	MTPZ	**£9.99**

MEGATAP HD

Cutting Fluid & Compound

- Hand applied lubricants for tapping, drilling and reaming
- Manufactured from concentrated extreme pressure additives as well as lubricity improvers and other special additives to aid cutting performance



CUTWEL PRO

Volume	Order Code	Price
1L	CL810-1	**£16.54**
5L	CL810-5	**£46.31**
500g	CL820-500G	**£15.72**

TAPCUT

Cutting Fluid & Compound

- For drilling, tapping and reaming where a fluid lubricant is required
- Compatible with high alloy steels and all non-ferrous metals



MILLERS OILS

Volume	Order Code	Price
1L	5639JH	**£11.27**
5L	5639GH	**£51.16**
500g	5647TC	**£17.00**

RTD TRI-LOGIC

High Performance Cutting Fluid

- High performance lubricant designed for arduous operations such as reaming, tapping & drilling
- The blend of lubricity & extreme pressure additives significantly reduce friction, extend tool life & improve surface finish
- Suitable for use on a wide range of ferrous and non-ferrous materials such as stainless steel, titanium and nimonics



ROCOL

Volume	Order Code	Price
350ml	ROCOL-53003	**£26.35**
5L	ROCOL-53006	**£248.01**

RTD CLEANCUT

Economical Cutting Fluid

- Can be used on wide range of non-ferrous and ferrous metals
- Non-staining on the likes of copper, brass and aluminium
- Economical option - can be cut back with water



ROCOL

Volume	Order Code	Price
350g	ROCOL-53062	**£26.97**
5L	ROCOL-53066	**£252.93**

RTD LIQUID

- RTD provides up to double the tool life and improved surface finish
- Apply directly to cutting edge
- Oil and solvent free
- Available in a plastic squeeze bottle for easy application
- Perfect for use in tool rooms, fabrication workshops, maintenance departments and production machine shops



ROCOL

Volume	Order Code	Price
400g	ROCOL-53072	**£26.21**
5L	ROCOL-53076	**£248.01**
20L	ROCOL-53078	**£851.97**

RTD CHLORINE FREE LIQUID

- RTD provides up to double the tool life and improved surface finish
- Apply directly to cutting edge
- Oil and solvent free
- Available in a plastic squeeze bottle for easy application
- Perfect for use in tool rooms, fabrication workshops, maintenance departments and production machine shops



ROCOL

Volume	Order Code	Price
350ml	ROCOL-53521	**£33.37**
5L	ROCOL-53526	**£189.65**

RTD COMPOUND

- RTD provides up to double the tool life and improved surface finish
- Soft low melting-point paste
- Formulated to cling to the tool - stays where it needs to be for longer
- Rolls Royce approved - Spec CSS 137



ROCOL

Volume	Order Code	Price
50g	ROCOL-53020	**£6.96**
500g	ROCOL-53023	**£17.59**
5kg	ROCOL-53026	**£177.75**
18kg	ROCOL-53028	**£612.57**

RTD CHLORINE FREE COMPOUND

- RTD provides up to double the tool life and improved surface finish
- Soft low melting-point paste
- Formulated to cling to the tool - stays where it needs to be for longer



ROCOL

Volume	Order Code	Price
450g	ROCOL-53513	**£24.16**

RTD SPRAY

- RTD provides up to double the tool life and improved surface finish
- Soft low melting-point paste
- Formulated to cling to the tool - stays where it needs to be for longer
- Rolls Royce approved - Spec CSS 137



ROCOL

Volume	Order Code	Price
400ml	ROCOL-53011	**£27.39**

RTD CHLORINE FREE SPRAY

- RTD provides up to double the tool life and improved surface finish
- Soft low melting-point paste
- Formulated to cling to the tool - stays where it needs to be for longer



ROCOL

Volume	Order Code	Price
400ml	ROCOL-53081	**£34.57**

CUTWAY 68/220

Slideway Oil

- Anti-wear, anti-corrosion slideway oil with high lubricity and non-drip formulation to prevent stick-slip and protect slideways
- Offers rapid separation from water based coolants and inherent oxidation stability when used in circulatory system



CUTWEL PRO

Viscosity	Volume	Order Code	Price
68	20L	CL368-020	**£53.00**
	205L	CL368-205	**£599.00**
220	20L	CL322-020	**£68.00**
	205L	CL322-205	**£749.28**

MILLWAY 68/220

Slideway Oil

- High lubricity prevents stick-slip of slideways
- Outstanding anti wear and anti corrosion properties
- Non drip formula highly suitable for the lubrication of vertical surfaces
- Careful selection of viscosity means hydraulic performance can be achieved



MILLERS OILS

Viscosity	Volume	Order Code	Price
68	20L	5183FA	**£55.00**
	205L	5183CA	**£612.00**
220	20L	5301FA	**£69.19**
	205L	5301CA	**£384.59**

RENEP CGLP 68

Slideway Oil

- Excellent lubricity under high pressure working conditions
- Anti-wear additives to maximise machine tool life
- Lubricates and flows freely even at very low temperatures
- Wide range of viscosities available to suit most applications
- Cubes are recyclable



FUCHS

Volume	Order Code	Price
20L Cube	600810405	**£69.00**
20L Plastic Drum	600517663	**£69.00**
205L Barrel	600359539	**£683.32**
1000L IBC	600359447	**£2,909.42**

ULTRAGLIDE X5

Slideway Oil

- High tenacious film is water resistant & protects slides from corrosion
- Rapid demulsification - separates rapidly from cutting fluid and easily removed by oil skimmers/separators



ROCOL

Volume	Order Code	Price
400ml (Spray)	ROCOL-52041	**£19.88**
5L	ROCOL-52086	**£59.29**
20L	ROCOL-52083	**£165.19**
200L	ROCOL-52089	**£660.69**

HYDRO 22/32/46/68

Hydraulic Oil

- High quality hydraulic oil for maximum power transfer and protection against corrosion



CUTWEL PRO

Viscosity	Volume	Order Code	Price
22	20L	CL222-020	£70.91
	205L	CL222-205	£562.21
32	20L	CL232-020	£48.00
	205L	CL232-205	£490.46
46	20L	CL246-020	£48.32
	205L	CL246-205	£493.44
68	20L	CL268-020	£51.52
	205L	CL268-205	£520.19

MILLMAX 10/32/46/68

Hydraulic Oil

- Hydraulic oil with anti wear properties
- Good thermal and oxidation stability
- Low foaming minimises aeration and cavitation for consistent power transfer
- Good compatibility with elastomers and long seal life with less maintenance



MILLERS OILS

Viscosity	Volume	Order Code	Price
10	20L	5021FB	£70.91
	205L	5021CK	£562.21
32	20L	5037FA	£48.00
	205L	5037CA	£490.46
46	20L	5155FA	£48.32
	205L	5155CA	£493.44
68	20L	5047FA	£51.52
	205L	5047CA	£520.19

RENOLIN PLUS 32/46

Hydraulic Oil

- The Renolin range are mineral based hydraulic fluids and lubricating oils
- High quality additives that guarantee excellent corrosion protection
- Cubes are recyclable



FUCHS

Type	Volume	Order Code	Price
Renolin C 32	20L Cube	602019134	£65.00
	20L Plastic Drum	602019332	£66.00
	205L Barrel	602019967	£506.16
	1000L IBC	602020093	£3,178.73
Renolin B 46	20L Cube	602021229	£66.00
	20L Plastic Drum	601855795	£67.70
	205L Barrel	602028822	£530.94
	1000L IBC	601855054	£2,539.84

SAPPHIRE 32/46/68/100

High Power Hydraulic Oil

- Reduces material wear to significantly extend component life
- High thermal stability increases oil change intervals & prevents sludge formation
- Low carry-over system eases air & oil separation
- Ensures clean air and maximum power transfer
- Available in a range of viscosities for all pneumatic & hydraulic applications



ROCOL

Type	Volume	Order Code	Price
32	20L	ROCOL-52545	£183.01
	205L	ROCOL-52549	£1,199.86
46	20L	ROCOL-52555	£183.01
	205L	ROCOL-52559	£1,199.86
68	20L	ROCOL-52565	£183.01
	205L	ROCOL-52569	£1,199.86
100	20L	ROCOL-52575	£183.01
	205L	ROCOL-52579	£1,199.86

CUTGEAR EP

Extreme Pressure Gear Oil

- Suitable for the lubrication of high performance industrial gears, bearings, machinery and other applications requiring an extreme pressure lubricant
- Extreme pressure additives offer reduced wear & extended component life
- Suitable for variable & shock loaded gearboxes
- Manufactured from high quality solvent refined 100% virgin base oils



CUTWEL PRO

Viscosity	Volume	Order Code	Price
220	5L	CL325-005	**£26.44**
	20L	CL325-020	**£94.20**
	205L	CL325-205	**£820.98**

MILLGEAR EP

Extreme Pressure Gear Oil

- For the lubrication of industrial gear oils containing extreme pressure additives



MILLERS OILS

Type	Volume	Order Code	Price
100 EP	20L	5061FA	**£68.15**
	205L	5061CA	**£560.03**
150 EP	20L	5057FA	**£69.28**
	205L	5057CA	**£605.45**
220 EP	20L	5012FA	**£72.70**
	205L	5012CA	**£600.70**
320 EP	20L	5148FA	**£79.36**
	205L	5148CA	**£653.37**
460 EP	20L	5340FA	**£82.39**
	205L	5340CA	**£681.11**

CUTGEAR SYN

Synthetic Pao Based Gear Oil

- Based on full synthetic poly alpha olefin technology
- Exceptional oxidation resistance at continuously elevated temperatures
- Miscible with mineral oils for ease of changeover
- Very high load and anti friction capacity extends component life



CUTWEL PRO

Viscosity	Volume	Order Code	Price
220	5L	CL555-005	**£109.90**

MILLGEAR SHC

Synthetic Pao Based Gear Oil

- Fully synthetic gear oils based on synthesized hydrocarbons (SHC), reinforced with extreme pressure (EP) performance additives
- Fully synthetic formulation extends wear protection and lubricant life, reducing operational downtime



MILLERS OILS

Viscosity	Volume	Order Code	Price
220	20L	5543FA	**£175.08**
68	20L	6145FA	**£149.94**
	205L	6145CA	**£1,241.15**

EROSOL 3D

Dielectric Fluid

- Ideal for spark erosion applications
- Excellent cooling properties
- A relatively high flash point to minimise health & safety risk
- Long service life especially if correctly filtered



MILLERS OILS

Volume	Order Code	Price
20L	5122FB	**£69.42**
205L	5122CK	**£515.38**

CUTSPARK

EDM Fluid

- Spark erosion fluid has a flash point of 110°C
- Used to hone cast iron and in high speed precision machining of non ferrous metal



CUTWEL PRO

Volume	Order Code	Price
20L	CL496-020	**£102.27**
205L	CL496-205	**£991.15**

COMPRESSOR OIL C46

High Viscosity Oil

- Recommended for the lubrication of a wide range of compressors including rotary / screw, reciprocating, and many rotary vane type compressors



CUTWEL PRO

Volume	Order Code	Price
20L	CL500-020	**£75.15**
205L	CL500-205	**£611.14**

MILLAIR 46

Compressor Oil

- For the lubrication of reciprocating compressors, rotary compressors and vacuum pumps
- Suitable for ferrous and non-ferrous materials
- Resists emulsification and filter blocking
- Good air release and low foaming properties
- 3,000 hrs service intervals dependent on OEM recommendation
- Effective corrosion protection in ferrous and non-ferrous materials



MILLERS OILS

Volume	Order Code	Price
20L	5369FA	**£59.36**

SPINDLE OIL

C3/C5/C10

- High quality, low viscosity oils
- Protection against wear, rust, and corrosion and resistance to oxidation



CUTWEL PRO

Grade	Volume	Order Code	Price
C3	20L	CL403-020	**£106.68**
	205L	CL403-205	**£624.36**
C5	20L	CL405-020	**£80.96**
	205L	CL405-205	**£624.36**
C10	20L	CL410-020	**£70.40**
	205L	CL410-205	**£660.40**

MILLMAX 5

Spindle Oil

- High-speed spindles and airline lubrication
- Reliable protection against corrosion and wear
- Maximises power transfer for efficiency in industrial applications



MILLERS OILS

Volume	Order Code	Price
20L	5141FB	**£67.81**

MILLUBE 22/32/68

General Purpose Lubricant

- Cost effective product where basic level of lubrication is required in general purpose applications
- Thermally stable product
- Long life in circulatory systems



MILLERS OILS

Grade	Volume	Order Code	Price
22	20L	5068FA	**£56.64**
	205L	5008GA	**£68.06**
32	20L	5885FA	**£47.42**
	205L	5885CA	**£279.11**
68	20L	5090FA	**£49.28**
	205L	5090CA	**£663.29**

MIGHTY MINI

Oil Skimmer

- Fan-cooled motor
- Gear motor (240v)
- 1" wide stainless steel or specially-engineered plastic belts
- Both sides of belt are wipes for better efficiency
- 304 stainless steel base and housing
- Spring-loaded stabilizer bar
- 3-foot clear discharge hose and clamp
- 8-foot grounded power cord with plug
- Integrated 7 day digital timer
- Pull-out trough makes for easy cleaning and dual wipers give extra efficiency
- For use with overhead access



Scan to watch

ABANAKI Clean our World!

Belt Width	Belt Length	Order Code	Price
1"	12"	SMMS1D-12	**£425.00**
	18"	SMMS1D-18	**£425.00**
	24"	SMMS1D-24	**£599.00**

LIL BLUE

Oil Skimmer

- Fan-cooled motor
- Removable trough for easy cleaning
- Spring-loaded stabilizer bar
- Both sides of belt are wipes for better efficiency
- 3-foot clear discharge hose and clamp
- 8-foot grounded power cord with plug
- For use with overhead access
- 1" oleophilic belts or specially engineered plastic belts
- Supplied 240v (110v available on request)



ABANAKI Clean our World!

Belt Width	Belt Length	Order Code	Price
25.4mm	203mm	SLB-08D	**£249.00**
	305mm	SLB-12D	**£269.00**
	457mm	SLB-18D	**£269.00**
	610mm	SLB-24D	**£269.00**

ECONOMY

CNC Tramp Oil Skimmer

- Designed to remove tramp oil from machine coolant tanks
- Compatible with every CNC machine
- 2-3 L/Ph oil removal rate
- 12V DC powerful high torque gear box motor
- Wear-resistant metal gear
- Long service life & low noise



CUTWEL PRO

Belt Width	Belt Length	Order Code	Price
49mm	800mm	CL001-SKIM	**£404.25**

TUBETASTIC

Oil Skimmer

- Fan-cooled continuous duty motor
- Oil pickup rate of up to 7 l.p.h
- Works in places where other skimmers can't e.g. with little or no overhead space
- Easy to mount on virtually any machining centre



ABANAKI Clean our World!

Tube Width	Tube Length	Order Code	Price
9mm	305mm	STUBE1D-12	**£249.00**

AERATOR

- Prevents anaerobic bacteria from building up and spreading
- Injects 1200cc/min air for small sumps
- Extends coolant life
- Eliminates coolant odours
- Quality airstone diffuser disperses air evenly
- Voltage: 240v



ABANAKI Clean our World!

Order Code	Price
AA1200-D	**£56.74**

REFRACTOMETER
Digital

- Quickly measure the concentration of coolant
- Two measurement modes: single measurement and automatic average multiple measurement
- Two units: brix and refractive index
- Measuring range: 0-50%



Order Code	Price
ISQ-DRM31	£284.25

REFRACTOMETER
Handheld

- Helps to maintain coolants in good condition and prolong fluid life
- Quick and easy to use
- Prevents product wastage (too strong) or poor tool life/sump life (too weak)



Order Code	Price
X28Z	£109.15

REFRACTOMETER
Handheld

- Quickly measure the concentration of coolant.
- Suitable for water based coolant.
- Measuring range: 0-32%



Order Code	Price
ISQ-RM30	£59.08

PH TEST RODS
For PH Values 7.5–14.0

- Quick and easy to read
- Testing the coolant quality saves money
- Enables timely intervention



Order Code	Price
18300166	£18.67

DIP SLIDES

- One side is coated with a T.T.C medium for analysis of total bacterial counts
- The other side is coated for the semi quantitative analysis of yeasts and moulds
- Supplied in a box of 10



Order Code	Price
X29Z	£33.50

COOLANT MINTS

- Eliminates coolant odours immediately by neutralizing hydrogen sulfide gases
- No disposal problems
- Safer and less expensive than biocides
- 1 tablet per week maintains 95 litres of coolant
- 15 tablets per tube
- Formaldehyde free



Order Code	Price
CMINTS	£40.85

ANTIFOAM ULTRA
ADDITIVE TO TREAT FOAMING

- High concentration additive to treat foaming problems on water soluble cutting fluids



Volume	Order Code	Price
1L	CL740-1	£56.28

CLEANCUT
System Cleaner

- For disinfection and cleaning of machine tools
- Dyed blue to aid in use identification
- Does not affect painted surfaces on machines



Volume	Order Code	Price
5L	CL710-5	£54.02
20L	CL710-020	£148.52

BACTERIACIDE & FUNGICIDE

- High concentration additive to treat bacteria and fungal contamination of water soluble cutting fluids



Volume	Type	Order Code	Price
1L	Bacteriacide	CL720-1	£41.84
	Fungicide	CL730-1	£56.28

LONG TERM CORROSION INHIBITOR

- Use on ferrous metal as a long-term protective coating for stored equipment
- Film will not harden or crack
- Can be used as an anti-seize/anti-rust treatment for fasteners
- Forms a 'self repairing' waxy film



Ambersil

Volume	Order Code	Price
400ml	AMB31628	**£11.78**
25L	AMB31709	**£339.13**

MOISTURE GUARD

- Five year indoor corrosion protection
- De-watering film protects against corrosion caused by moisture or damp atmospheres
- Does not chip or crack
- Protects against condensation attack
- Does not attract dirt or dust
- Silicone free



ROCOL

Volume	Type	Order Code	Price
400ml	Clear Spray	ROCOL-69025	**£28.38**
400ml	Green Spray	ROCOL-69045	**£22.85**
5L	Green Fluid	ROCOL-69006	**£223.20**

MILLERTECT WBCI

Corrosion Protection

- Fully miscible with water
- Colourless appearance provides excellentvisibility of the test material
- Extremely cost effective with high dilution rates
- Excellent corrosion protection of ferrous, non-ferrous, yellow metals and aluminium



MILLERS OILS

Volume	Order Code	Price
20L	7857FA	**£246.05**

RUST PREVENTIVE 2473

- Offers 2 years indoor protection
- Low viscosity ensures low level of drag out
- Excellent coverage and penetration
- Short drain time limits the likelihood of dripping
- Excellent water displacing properties
- For use on iron, steel, copper, brass, aluminium, nickel and more



MILLERS OILS

Volume	Order Code	Price
20L	5723FB	**£118.10**

BRIGHT, COLD GALVANISE

- Barrier coating protects metalwork and steel from corrosion
- For use on bare, non-rusted steel and seams
- Weathers at same rate as surrounding hot-dip zinc layer for 'invisible' repairs
- Long lasting corrosion protection



Ambersil

Volume	Order Code	Price
400ml	AMB30292	**£8.96**

MOULD PROTECTIVE

- Repels and displaces moisture, leaving a durable & clear protective film
- Will not stain the moulding, recommended for use with clear or white polymers
- Protective film allows handling, and will resist acid finger marks
- Easily 'moulded-off'



Ambersil

Volume	Order Code	Price
400ml	AMB31547	**£16.53**

DELTAPLEX 2EP

Grease

- A lithium complex based grease with extreme pressure (EP)
- A high quality grease which offers outstanding performance on all types of anti-friction bearings,
- Operates over a wide temperature range from -30°C to +150°C



MILLERS OILS

Volume	Order Code	Price
3kg	5305SD	£29.67
12.8kg	5305QA	£102.74
50kg	5305PB	£279.81

EXL BEARING

Grease

- Use on critical, high load bearings and sliding surfaces
- Operational temperature range: -30°C to +150°C



See page 1412 for compatible grease guns

ambersil

Volume	Order Code	Price
400g	AMB30304	£7.87

RENOLIT EP 2

Grease

- Suitable for use in high pressure greasing equipment
- May be used as a general industrial and automotive lubricant



See page 1412 for compatible grease guns

FUCHS

Volume	Order Code	Price
400g	600046880	£6.80
12.5kg	600046873	£94.28
50kg	600046903	£319.25
180kg	600046897	£1,037.09

ANTI-SEIZE

For Stainless Steel

- Excellent anti-seize properties over extended periods at high temperatures
- Provides even torque and prevents galling and pick-up on assembly
- Protects against wet conditions and chemical attack
- Contains extremely low levels of chlorine and sulphur



ROCOL

Volume	Order Code	Price
500g	ROCOL-14143	£146.55

ANTI-SEIZE

Spray

- Copper based anti-seize spray
- Non soap thickener producing non-melting anti-seize compound
- Prevents pick-up and seizure of static threaded fasteners
- Lubricates, protects and eases dismantling
- Effective even in the most aggressive environments and is completely insoluble in water



ROCOL

Volume	Order Code	Price
400ml	ROCOL-14015	£30.82

ANTI-SEIZE 797

Paste

- Excellent anti-seize properties over extended periods at high temperatures
- Provides even torque loads and prevents galling and pick-up on assembly
- Protects against wet conditions and chemical attack even in the most aggressive environments
- Contains extremely low levels of chlorine and sulphur
- Lubricates, protects and eases dismantling



ROCOL

Volume	Order Code	Price
500g	ROCOL-16403	£142.78

ANTI-SEIZE

Compound

- Non soap thickener producing non-melting anti-seize compound
- Prevents pick-up and seizure of static threaded fasteners
- Lubricates, protects and eases dismantling
- Effective in aggressive environments and is completely insoluble in water



ROCOL

Volume	Order Code	Price
85g	ROCOL-14030	£8.37
500g	ROCOL-14033	£22.57
6kg	ROCOL-14035	£274.51
18kg	ROCOL-14038	£701.81

40+ MAINTENANCE OIL

- An engineer's essential 'cure-all' product
- Quickly frees seized nuts, bolts and fasteners
- High corrosion protection and water displacement properties
- Safe on most paints, plastics and rubbers
- General purpose lubricant, equivalent of WD-40



Volume	Order Code	Price
400ml	AMB31563	**£6.50**
5L	AMB31635	**£33.47**
25L	AMB31711	**£139.92**
200L	AMB31712	**£1,021.70**

MACHINE OIL FG

- NSF H1 registered for use on metal-to-metal moving parts such as hinges
- Can be used as an anti-corrosion coating for metal in high humidity conditions
- Creates a highly effective lubricating and anti-friction film



Volume	Order Code	Price
400ml	AMB30247	**£12.94**
5L	AMB30255	**£82.13**

AMBERGLIDE

- Use where temperatures regularly reach a sustained +120C to +160C
- Provides long lasting durable film
- Significantly increases re-lubrication intervals
- PTFE fortified lubricant
- Displaces moisture
- Operational temperature range: -10°C to +180°C
- Highly water resistant and repels water from treated areas



Volume	Order Code	Price
400ml	AMB31571	**£18.87**

DRY MOLY SPRAY

- Use in higher load applications where PTFE lubricants would fail, but a dry film is still required
- Tough and long lasting
- Operational temp range: -150C to +400°C
- Use as a running-in treatment on rolling and sliding bearings



Volume	Order Code	Price
400ml	AMB31576	**£13.69**

SILICONE LUBRICANT

- Odourless, colourless and non-staining
- Exhibits excellent slip properties on blades, tables, chutes and conveyors
- Safe on wood, glass, fabrics, metals, rubbers and most hard surfaces
- WRAS approved



Volume	Order Code	Price
400ml	AMB31631	**£5.79**

PENETRATING OIL

- Frees seized components rapidly
- Lubricates fine and close tolerance threads
- Contains MoS2
- Softens rust and carbon deposits



Volume	Order Code	Price
400ml	AMB30240	**£8.31**

RTU WATER BASED DEGREASER

Heavy Duty Degreaser

- Removes tough, stubborn soiling such as heavy oil, grease, grime, silicones, wax and old lubricants
- Safe for use on most plastics, rubber and painted surface
- Contains a highly effective corrosion inhibitor to help prevent flash rusting
- Non-flammable, water based degreaser
- Super industrial strength, can be diluted 1:40 with water



Volume	Order Code	Price
400ml	AMB31464	**£11.75**

SOLVENT DEGREASER

- Use for engine and equipment degreasing which can be washed down, or for use in enclosed environments where vapours need to be minimised
- Contains a highly effective emulsifier that enables dissolved oil/grease residues to mix with water for easy wash-off.
- Higher flash point of 39°C for application safety
- Contains rust inhibitor to prevent flash rusting



Volume	Order Code	Price
500ml	AMB31558	**£5.42**

AMBERKLENE FE10

Fast Drying Solvent

- Fast and effective solvent degreaser for use on chains, gears, cogs, motors and more
- Fast evaporation that does not leave a residue
- Powerful flushing action, rapidly removes contaminants
- Safe for use on ferrous and non-ferrous metals and most plastics



Volume	Order Code	Price
400ml	AMB31553	**£10.94**

AMBERKLENE ME20

Heavy Duty Solvent

- Heavy-duty cleaner for extra stubborn soiling which requires a longer contact time
- Removes heavy deposits of oil and grease, waxes and silicones
- Higher flash point of +41°C
- Leaves a clean, dry surface



Volume	Order Code	Price
400ml	AMB31554	**£11.14**

FAST CLEAN 200

Super Fast Degreaser

- Powerful degreaser for removing oil, grease, tar, bitumen and other tough soiling
- Safe on all metals, test on plastics before use
- For use where a chlorinated solvent cannot be used but a high solvency power and very fast evaporation are still required
- Dries to a residue free finish



Volume	Order Code	Price
400ml	AMB31890	**£18.92**

STAINLESS STEEL CLEANER

- Effective metal surface cleaner and is particularly suitable for stainless steel.
- Leaves a clean, smear free, polished surface
- Ideal for cleaning and polishing stainless steel panels commonly found throughout the food, pharmaceutical, and other clean industries



Volume	Order Code	Price
400ml	ROCOL-34161	**£12.59**

NIMATIC EMULSION MIXER

- Accurately mixes & dispenses water mix, cutting & grinding fluids from the barrel
- Saves up to 30% on cutting fluids and reduces labour costs compared to manual blending
- Simple montage and easy to operate
- Continuous adjustment of additive mix
- Unique nozzle/jet system that prevents blocking
- Flow up to 900/2 litre/hour
- Supplied with two ball check valves to prevent faulty operation



CUTWEL PRO

Order Code	Price
NIMATICMX	**£249.00**

MIXTRON HYDRAULIC DOSING & MIXING SYSTEM

- Precise dosage of oil and water
- Thermometers on the motor's body to control the operating temperature
- Dosing ratio can be easily adjusted
- Simple maintenance
- All components are made of highest quality materials available (stainless components, high performing plastics and Viton seals)



What is it?

Mixtron pump is a dosing and mixing hydraulic system installed directly in the water supply line that allows users to create a homogenised solution that is always proportional to the volume of water regardless of changes in flow or pressure.

What can it be used on?

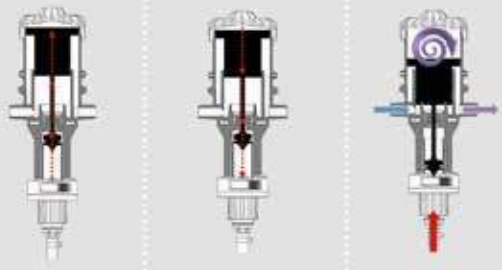
- Water soluble metalworking fluids
- Mineral oil containing emulsions
- Semi synthetic emulsions
- Mineral oil free synthetic solutions

HOW DOES IT WORK?

1 The water flow activates Mixtron pump

2 The additive at the desired percentage is mixed to water creating an homogenised solution

3 The solution is pushed downstream by the water pressure



miXtron

Flow Range		Order Code	Price
0.05-1.50 m³/h	5-1500 l/h	MXO.150	**£599.00**
0.1-2.50 m³/h	10-2500 l/h	MXO.250	

ROCOL FLUID MIXER

- Accurately mixes and dispenses water mix cutting & grinding fluids from the barrel
- Developed to meet the strongest demands from waterworks all over the world for category 3 fluids and ISO EN1717
- Built-In double check valve and vacuum breaker
- Check valve to prevent water to go to additive



ROCOL

Order Code	Price
ROCOL-52233	**£397.74**

VENTURI EMULSION MIXER

- Accurately mixes and dispenses water mix cutting & grinding fluids from the barrel
- Automatic emulsion mixer to ensure a correct and uniform blending of metalworking fluids with water
- Extremely easy to install and operate
- Powered by water-pressure
- Flow rate of up to 2,000 L/hr
- Mixing ratio from 0 to approx. 16%



MILLERS OILS

Order Code	Price
75707	**£301.60**

FILTERMIST

OIL MIST FILTERS

View Benefits

Why use Filtermist?

- Protects employees from hazardous airbourne substances
- Oil mist causes slippery floors & damages surrounding electrical systems
- Reduces fire risks by protecting ventilation pipes from flammable coating
- Official regulations are becoming increasingly stringent
- Reduce energy & heating costs by recycling clean air



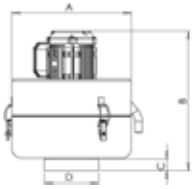
Contact our expert technical team for a quote on 01924 869 615

S SERIES

Oil Mist Filters

- Airflows from 180m³/hr to 950m³/hr
- Compact, lightweight and designed to be directly mounted onto machine tool
- They can also be fitted using floor stands and machine mounting brackets
- Fitted with either 0.18kW or 0.55kW motors, S Series oil mist collector units are low energy users
- Supplied with after filter





FILTERMIST

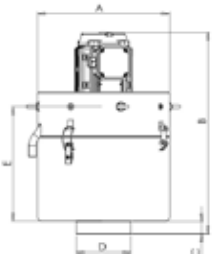
Model	Airflow m^3/hr	Motor		A mm	B mm	C mm	D mm	Weight kg	Noise dBA	Order Code	Price
S200	180 @ 50Hz 215 @ 50Hz	0.18W 50hZ 200v, 220v, 380v, 400v	0.18kW 60 Hz 200v, 220v, 230v, 440v, 460v 480v	260	302	30	73	9	62	20-201-30-000	£1,370.41
S400	425 @ 5-Hz 500 @ 50 Hz	0.55kW 50Hz 200v, 220v, 380v, 400v	0.55kW 60 Hz 200v, 220v, 230v, 440v, 460v, 480v	325	381	35	148	14	65	20-201-30-001	£1,564.45
S800	800 @ 50Hz 950 @ 60Hz	0.55kW 50Hz 200v, 220v, 380v, 400v	0.55kW 60Hz 200v, 220v, 230v, 440v, 460v, 480	325	435	35	148	15	67	20-201-30-003	£1,921.66

FX SERIES

Oil Mist Filters

- Airflows from 1250m³/hr to 2750m³/hr
- Available with a number of mounting options including floor stands, machine mounts & the mobile CSX unit
- Designed to operate efficiently on a wide range of industrial power supplies
- Supplied with after filter





FILTERMIST

Model	Airflow m^3/hr	Motor		A mm	B mm	C mm	D mm	E mm	F mm	Weight kg	Noise dBA	Order Code	Price
FX4002	1250 @ 50Hz 1500 @ 60Hz	1.1kW 50Hz 200v, 220v, 230v, 440v, 460v, 480v	1.1kW 60Hz 220v, 220v, 230v, 440v, 460v, 480v	357	544	35	148	309	398	25.8	70	20-201-30-005	£2,174.13
FX5002	1675 @ 50Hz 2000 @ 60 Hz	1.5kW 50Hz 200v, 220v, 380v, 400v	1.5kW 60Hz 200v, 220v, 230v, 440v, 460v, 480v	357	635.5	35	198	378	398	31.8	71	20-201-30-007	£2,310.84
FX6002	2000 @ 50Hz 2400 @ 60Hz	2.2kW 50Hz 200v, 220v, 380v, 400v	2.2kW 60Hz 220v, 230v, 440v, 460v, 480v	438	635.5	35	198	432	485	36.8	73	20-201-30-009	£2,676.87
FX7002	2750 @ 50Hz	2.2KW 50Hz 200v, 220v, 230v, 400v	-	438	638.5	35	198	432	485	36.8	73	20-201-30-011	£3,083.85



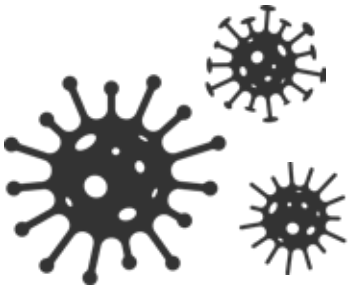
LEADING THE WAY IN COOLANT RECYCLING

Remove & recycle 50L of coolant in under 60 seconds! (up to 300L models available)

No need to pay for expensive coolant disposal or removal - extend the life & health of your coolant

Range of filter bags available from 1-1,000 micron for different filtration levels

THE PROBLEM...



COOLANT CONTAMINATION

After multiple uses, coolant would become contaminated with bacteria, causing an unpleasant smell and potential health hazards in a workshop.



EXCESS STORAGE REQUIRED

This coolant would have to be disposed of properly, meaning they would need to be stored in large containers on the premises until collection is arranged.



UNNECESSARY EXPENSES

Ultimately, this storage and disposal cycle would, over time, amount to a sizeable expense for a firm. Not only this, but new coolant would need to be procured each time.

THE SOLUTION...

Market Leading Industrial Coolant Recycling Vacuums

Freddy manufactures a range of industrial coolant recycling vacuums. Specifically designed to reduce coolant disposal through recycling:

- Reduce unnecessary wastage
- Prevent potential health hazards
- Provides cost-saving benefits across multiple processes
- Can also remove tramp oil and remove swarf
- Accomodate coolant capacities up to 300L (on request)

Full range available at www.cutwel.co.uk



NEED HELP DECIDING WHICH COOLANT VACUUM YOU NEED?

Get in touch with our expert technical team on **01924 869615** today!

FREDDY MICRO PLUS

- 50L or 100L capacity
- Take on heavily contaminated liquids without fear of damaging parts
- Prioritises versatility, mobility and affordability
- Weighs less than any previous Freddy model
- Capable of removing tramp oil
- Recycles coolant and extends coolant life
- Extensively cuts waste disposal costs
- Removes contaminants that cause bacterial growth
- 24 month warranty

Optional accessories include:
- Floor Hose - For floor cleaning and spillages
- Additional Filter - Double the filtration area to save time and money
- Filtration Bags - 1-1,000 micron bags for various cleaning applications



Scan To Watch

Capacity	Power kW	Power W	Order Code	Price
50	2	110	FRP-FM05	**£2,088.90**
50	2	240	FRP-FM06	**£2,088.90**
100	2	110/240	FRP-FM07	**£2,250.00**

FREDDY SUPERMINOR

- 100L capacity
- Made of mild steel for extra robustness; suitable for the most arduous environments.
- Some units have been in action for over 25 years
- Tilt and lift design to effortlessly empty coolant
- Capable of removing tramp oil



Power kW	Power V	Airflow	Water Flow		Order Code	Price
			In	Out		
2	110	2800	240	100	FRP-FS01	**£3,219.60**
2	240	2800	240	100	FRP-FS02	**£3,144.87**
3	110	2900	300	140	FRP-FS03	**£4,116.33**
3	240	2900	300	140	FRP-FS04	**£4,041.60**
3	415	2900	300	140	FRP-FS05	**£4,141.59**

FREDDY ECOVAC

- 200L or 300L capacity
- Vacuum both in and out to recycle coolant continuously
- Uses an independent pump for return
- Massively reduce downtime by pumping coolant directly into the machine
- Capable of removing tramp oil



Capacity	Power kW	Power V	Airflow	Water Flow		Order Code	Price
				In	Out		
200	2	110	2100	260	75	FRP-FE01	**£6,188.70**
	2	240	2200	270	80	FRP-FE02	**£6,072.93**
	3	240	3000	290	80	FRP-FE03	**£6,447.62**
	4	415	4000	300	80	FRP-FE04	**£8,668.39**
300	2	110	2100	260	75	FRP-FE05	**£6,324.47**
	2	240	2200	270	80	FRP-FE06	**£6,207.65**
	3	240	3000	290	80	FRP-FE07	**£6,687.59**
	4	415	4000	300	80	FRP-FE08	**£8,735.75**

FREDDY FILTRATION BAGS

- 10 Micron to 1000 Micron fineness
- Filter particulates like swarf, dirt and other impurities
- Removable and interchangeable between fineness levels
- Compatible with all Freddy units



Micron	Order Code	Price
10	FILTERBAG/10M/SHORT	**£25.00**
25	FILTERBAG/25M/SHORT	**£25.00**
50	FILTERBAG/50M/SHORT	**£25.00**
75	FILTERBAG/75M/SHORT	**£25.00**
100	FILTERBAG/100M/SHORT	**£37.50**
200	FILTERBAG/200M/SHORT	**£37.50**
400	FILTERBAG/400M/SHORT	**£37.50**
600	FILTERBAG/600M/SHORT	**£37.50**
1000	FILTERBAG/1000M/SHOR	**£37.50**

Q VAC 100

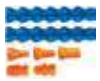
- Vacuums oil, coolant, and other floor spills
- Removes surface decontaminates from process baths
- Empties tanks and drain pits
- Vacuums containers and vats absolutely dry
- Minimizes use of absorption materials
- Fits on a standard 55 gallon, open top drum
- Requires no filters
- Contains no parts to break or replace
- No electrical parts, air driven
- Drum is not included



Scan To Watch

Order Code	Price
Q-VAC100	**£599.00**

	Description	Pack Size	Order Code	Price
1/4" COOLANT HOSE				
	1/4" 36cm Hose Kit	1	62721	**£17.96**
	1/4" Hose Kit (2 x 10 pcs of 1/4" Segment, 1 x 1/16",1/8", 1/4" Nozzles 1/4" & 1/8" Male NPT Connectors)	1	82020A	**£16.55**
	1/4" Segment Pack (15cm)	2	82021	**£8.70**
	1/4" Segment Pack (1524cm)	1	82051	**£241.50**
	1/4" Circle Flow Nozzle Kit (Assembled with 15pcs of 1/4" Side Flow Nozzles & 1 pc of 1/4" End Cap)	1	62423	**£34.17**
	1/4" Extended Element	4	82221	**£13.95**
	1/4" Element Clamp	4	82222	**£10.45**
	1/4" 90° Nozzle Kit (1/16" 90° Nozzle,1/8" 90° Nozzle,1/4" 90° Nozzle,1/4" 90° Spray Bar Nozzle)	1	82326	**£10.78**
	1/16" Round Nozzle	4	82022	**£6.28**
	1/8" Round Nozzle	4	82023	**£6.28**
	1/4" Round Nozzle	4	82024	**£6.28**
	1/16" 90° Nozzle	4	82223	**£8.37**
	1/8" 90° Nozzle	4	82224	**£8.37**
	1/4" 90° Nozzle	4	82225	**£8.37**
	1/4" 90° Spray Bar Nozzle	2	82226	**£9.06**
	3/8" Flat Nozzle	2	82017	**£9.06**
	1" Flare Nozzle	2	82027	**£9.06**
	1" Straight Flow Nozzle	2	82053	**£12.20**
	1/8" NPT Connector	4	82025A	**£6.28**
	1/4" NPT Connector	4	82026A	**£6.28**
	1/4" Y Fitting	2	82028	**£9.06**
	1/4" Double Socket	4	82011	**£6.97**
		20	82031	**£20.13**
	1/4" Elbow Fitting	2	62420	**£8.29**
	1/4" T Fitting	2	62426	**£10.45**

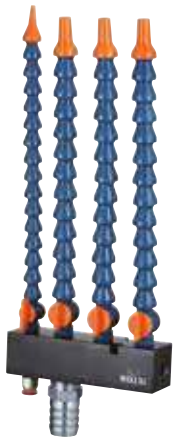
	Description	Pack Size	Order Code	Price
	1/4" Side Flow Nozzle	4	62422	**£10.45**
	1/4" End Cap	4	62424	**£6.28**
	1/4" NPT Male Hose Nipple Valve	2	82721A	**£15.35**
	1/4" Male NPT Valve	2	82723A	**£15.35**
	1/4" Connection Valve	2	82722	**£15.35**
	1/4" Female NPT Valve	2	82724A	**£15.35**
	1/4" In-Line Check Valve	2	82725	**£15.35**
	1/4" Hose Assembly Pliers	1	26171	**£48.78**
1/2" COOLANT HOSE				
	1/2" 35cm Hose Kit	1	64721	**£21.95**
	1/2" Hose Kit (2 x 6 pcs of 1/2" Segment, 1 x 1/4", 3/8", 1/2" Nozzles 3/8", 1/2" Male NPT Connectors)	1	84040A	**£21.77**
	1/2" Segment Pack (13.5cm)	2	84041	**£10.45**
	1/2" Segment Pack (1524cm)	1	84081	**£320.63**
	1/2" Circle Flow Nozzle Kit Assemble with 15 pcs of 1/2" Side Flow Nozzles & 1 pc of 1/2" End Cap	1	64643	**£37.97**
	1/2" Extended Element	4	84441	**£15.35**
	1/4" 90° Nozzle Kit (1/4" 90° Nozzle,3/8" 90° Nozzle,1/2" 90° Nozzle,1/2" 90° Spray Bar Nozzle)	1	84346	**£12.55**
	1/4" Round Nozzle	4	84044	**£9.06**
	3/8" Round Nozzle	4	84042	**£9.06**
	1/2" Round Nozzle	4	84043	**£9.06**
	1/4" 90° Nozzle	4	84443	**£9.76**
	3/8" 90° Nozzle	4	84444	**£9.76**
	1/2" 90° Nozzle	4	84445	**£9.76**

Description		Pack Size	Order Code	Price
	1 3/4" Flare Nozzle	2	84050	**£11.14**
	1 5/8" Straight Flow Nozzle	2	84059	**£15.66**
	3/8" NPT Connector	4	84046A	**£9.06**
	1/2" NPT Connector	4	84045A	**£9.06**
	1/2" Y Fitting	2	84048	**£10.45**
	1/2" to 1/4" Y Reducer	4	84049	**£10.45**
	1/2" Elbow Fitting	2	64620	**£9.76**
	1/2" to 1/4" Adapter	4	84651	**£7.70**
	1/2" End Cap	4	64624	**£7.70**
	1/2" Male NPT Valve	2	84723A	**£18.48**
	1/2" Female NPT Valve	2	84724A	**£18.48**
	1/2" In-Line Check Valve	2	84725	**£18.48**
	1/2" Hose Assembly Pliers	1	26172	**£48.78**
	1/2" Modular Manifold System	1	54400	**£26.48**
3/8" COOLANT HOSE				
	3/8" 36cm Hose Kit	1	63721	**£20.88**
	3/8" Hose Kit (2 x 8 pcs of 3/8" Segment, 1x1/4", 3/8", 1/2" Nozzles 3/8" & 1/2" Male NPT Connectors)	1	83430A	**£20.18**
	3/8" Segment Pack (14.5cm)	2	83031	**£10.60**
	1/4" Round Nozzle	4	83032	**£7.70**
	3/8" Round Nozzle	4	83033	**£7.70**
	1 1/4" Flare Nozzle	2	83037	**£9.76**
	3/8" NPT Connector	4	83035A	**£7.70**

Description		Pack Size	Order Code	Price
	3/8" Y Fitting	2	83038	**£9.76**
	3/8" Double Socket	4	86011	**£17.07**
		20	86031	
	3/8" to 1/4" Adapter	4	86051	**£6.97**
		20	86071	
	3/8" Connection Valve	2	83722	**£17.07**
	3/8" Male NPT Valve	2	83723A	**£17.07**
	3/8" Female NPT Valve	2	83724A	**£17.07**
	1/4" Hose Assembly Pliers	1	26176	**£48.78**
3/4" COOLANT HOSE				
	3/4" 40cm Hose Kit	1	66721	**£26.66**
	3/4" Hose Kit (2 x 6 pcs of 3/4" Segment 1 x 5/8" & 3/4" Nozzles 3/4" Male NPT Connector	1	86060A	**£20.38**
	3/4" Segment Pack (15cm)	2	86061	**£12.55**
	5/8" Round Nozzle	4	86063	**£10.45**
	3/4" Round Nozzle	4	86062	**£10.45**
	3" Flare Nozzle	2	86067	**£13.73**
	3/4" NPT Connector	4	86064A	**£10.45**
	3/4" Y Fitting	2	86068	**£13.73**
	3/4" to 1/2" Y Reducer	2	86069	**£13.73**
	1/4" Hose Assembly Pliers	1	26177	**£48.78**

TOTAL FLOW CONTROL UNIT

- Can be installed on all types of mechanical equipment to control flow
- JTM-01 includes 1 x 1/4" hoses & 3 x 3/8" hose
- 1" inlet connector
- 8mm snap-on air inlet connector



JETON

Micron	Order Code	Price
Coolant Hose	JTM-01	**£97.06**

MAGNETIC SETS

- Magnetic base system
- Magnetic force can be switched on and off easily.
- Magnetic base dimensions: 5cm wide x 6.5cm long x 5cm high
- Made using superior POM plastic steel and is strongly resistant to oils and chemicals.
- Adjustable coolant hose is designed for the transport of low-pressure fluids.

Supplied with the following:

- Magnetic Base (1 set)
- 20 x 1/4" Segment (3 pieces)
- 1" Flare Nozzle (2 or 3 pieces)
- 1/4" PT Connector (3 pieces)
- 1/4" Copper Valve (3 pieces)



JETON

Micron	Order Code	Price
3 Nozzles	87011	**£125.49**
2 Nozzles	87002	**£116.01**

SHIELD BOARD SYSTEM

- Provides excellent protection from fluids in open machine tools
- Magnetic base
- Acrylic board
- 20 segment length per hose



JETON

Width	Height	Hose Size	Order Code	Price
6"	8"	3/4"	34101	**£32.58**
7 1/2"	10"	3/4"	34102	**£34.42**
8 1/2"	12"	3/4"	34103	**£37.14**

MAGNETIC SET 1/4"

- Magnetic base system
- Made using superior POM plastic steel and is strongly resistant to oils and chemicals
- Adjustable coolant hose is designed for the transport of low-pressure fluids

Supplied with the following:

- Magnetic Base (1 set)
- 10 or 20 x 1/4" Segment (1 piece)
- 1" Flare Nozzle (1 piece)
- 1/4" connector or valve (1 piece)



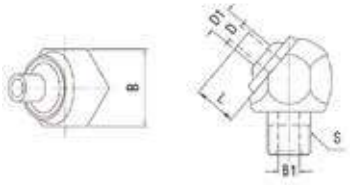
JETON

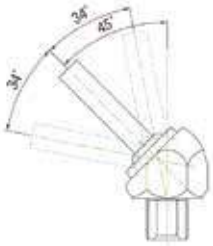
Connector	Pack Size	Type	Order Code	Price
Male PT	10	Connector	88003	**£22.34**
Male	10	Valve	88005	**£21.09**
Male PT	20	Connector	88103	**£18.35**
Male	20	Valve	88105	**£23.68**

INCLINED INJECTION NOZZLES

- Easy adjustable angle +/-34°
- Accurate and steady positioning
- Angle of the nozzle can be freely rotated 360°







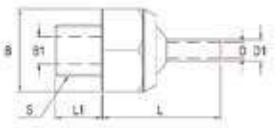
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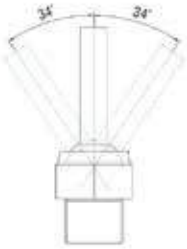
Specification	L	D1	B1	Order Code	Price
PT					
1/8"	10	6	6	JTAP-1/8-10	**£13.00**
1/8"	30	6	6	JTAP-1/8-30	**£13.70**
1/8"	50	6	6	JTAP-1/8-50	**£14.36**
1/4"	10	6	6	JTAP-1/4-10	**£13.00**
1/4"	30	6	6	JTAP-1/4-30	**£13.70**
1/4"	50	6	6	JTAP-1/4-50	**£14.36**
3/8"	20	8	10	JTAP-3/8-20	**£16.41**
3/8"	40	8	10	JTAP-3/8-40	**£17.10**
1/2"	70	10	12	JTAP-1/2-70	**£22.34**
NPT					
1/8"	10	6	6	JTAN-1/8-10	**£13.00**
1/8"	30	6	6	JTAN-1/8-30	**£13.70**
1/8"	50	6	6	JTAN-1/8-50	**£14.36**
1/4"	10	6	6	JTAN-1/4-10	**£13.00**
1/4"	30	6	6	JTAN-1/4-30	**£13.70**
1/4"	50	6	6	JTAN-1/4-50	**£14.36**
3/8"	40	8	10	JTAN-3/8-40	**£17.10**
1/8"	20	5	5	JTAN2-1/8-20	**£13.70**
3/8"	10	6	6	JTAN2-3/8-10	**£16.41**
3/8"	30	6	6	JTAN2-3/8-30	**£17.10**
3/8"	50	6	6	JTAN2-3/8-50	**£17.79**
M10					
M10*1.25P	10	6	6	JTAM-10-10	**£13.00**
M10*1.25P	30	6	6	JTAM-10-30	**£13.70**
M10*1.25P	50	6	6	JTAM-10-50	**£14.36**
PT					
1/8"	20	5	5	JTAP2-1/8-20	**£13.70**
3/8"	30	6	6	JTAP2-3/8-30	**£17.10**
M8					
M8 x 1.25mm	10	5	4.5	JTAM2-8-10	**£13.00**
M8 x 1.25mm	20	5	4.5	JTAM2-8-20	**£13.70**

DIRECT INJECTION NOZZLES

- Easy adjustable angle +/-34°
- Accurate and steady positioning
- Angle of the nozzle can be freely rotated 360°







JETON

Specification	L	D1	B1	Order Code	Price
PT					
1/8"	20	6	6	JTSP-1/8-20	**£10.04**
1/8"	40	6	6	JTSP-1/8-40	**£10.72**
1/8"	60	6	6	JTSP-1/8-60	**£11.41**
1/4"	20	6	6	JTSP-1/4-20	**£10.04**
1/4"	40	6	6	JTSP-1/4-40	**£10.72**
1/4"	60	6	6	JTSP-1/4-60	**£11.41**
3/8"	50	8	10	JTSP-3/8-50	**£14.36**
NPT					
1/8"	20	6	6	JTSN-1/8-20	**£10.04**
1/8"	40	6	6	JTSN-1/8-40	**£10.72**
1/8"	60	6	6	JTSN-1/8-60	**£11.41**
1/4"	40	6	6	JTSN-1/4-40	**£10.72**
3/8"	30	8	10	JTSN-3/8-30	**£13.70**
3/8"	50	8	10	JTSN-3/8-50	**£14.36**
M10					
M10 x 1.25mm	15	6	6	JTSM-10-15	**£8.67**
M10 x 1.25mm	20	6	6	JTSM-10-20	**£9.35**
M10 x 1.25mm	40	6	6	JTSM-10-40	**£10.04**
M10 x 1.25mm	60	6	6	JTSM-10-60	**£10.72**

OIL DISPENSER

- Transparent
- With sealing cap



Volume Capacity	Length	Pipe Length	Order Code	Price
60ml	120mm	60mm	56010050	**£1.40**
100ml	130mm	70mm	56010075	**£1.72**

OIL DISPENSER & SPRAY CANS

- 56026: Polyethylene transparent, length-adjustable brass spray tube
- 56032: Polyethylene container, brass pump, aluminium spray pipe
- 56034: High-pressure die cast zinc container, brass pump, aluminium spray tube



Volume	Order Code	Price
0.25L	56026025	**£4.54**
0.5L	56026050	**£5.08**
0.2L	56032020	**£14.85**
0.3L	56032030	**£15.67**
0.4L	56032050	**£19.43**
0.2L	56034020	**£27.18**
0.3L	56034030	**£27.38**
0.5L	56034050	**£29.89**

ATOMISER

PISTOL TYPE

- Plastic container, white, slightly transparent
- With Viton seal
- Adjustable nozzle — spray mist or jet



Volume	Order Code	Price
0.6L	56056500	**£2.81**
0.5L	56058500	**£3.46**
1L	56058510	**£3.56**

ATOMISER

Industrial

- High spraying volume
- Variable spray nozzle
- 750ml capacity



Colour	Order Code	Price
Black	56055010	**£20.28**
Red	56055020	**£20.28**
Yellow	56055030	**£20.28**

MANUAL SPRAYER

- Spraying in all areas, including above head height, thanks to special 360° suction/spray system
- 500ml capacity



Type	Order Code	Price
Basic	56059030	**£10.04**
Classic	56059020	**£15.05**
Super Resistant	56059010	**£21.13**

PLASTIC BOTTLES

- Acid-resistant NE-PE plastic
- With drop closure for precise dispensing



Type A Type B

Type	Volume	Order Code	Price
Type A	0.125L	56068005	**£3.30**
	0.25L	56068025	**£3.50**
	0.5L	56068050	**£4.65**
Type B	0.125L	56068125	**£5.01**
	0.25L	56068250	**£5.24**
	0.5L	56068500	**£7.10**

INDUSTRIAL ATOMISER

- Wide opening of the neck enables bottle to be filled using canisters without a funnel



Volume	Order Code	Price
0.5L	56060540	**£62.71**
1L	56060550	**£70.03**

MEASURING CUPS

Set of 3

- Set includes: 500ml, 1L & 2L cups
- Made from polypropylene
- Transparent with scale



Volume	Order Code	Price
0.5L, 1L, 2L	56076015	**£19.23**

SUCTION & PRESSURE SPRAYS

- PVC double-seal reduces friction and creates an excellent suction/expulsion effect



Volume	Order Code	Price
0.5L	56070110	£47.46
1L	56070120	£59.59

VACUUM & PRESSURE INJECTOR

- Aluminium casing
- With maintenance-free piston pump
- For heating oils, mineral, synthetic and biological oils, washing solvent, coolant, anti-freeze, alcohol, petrol, brake fluid and others
- Includes 2 PVC hoses



Volume	Order Code	Price
0.5L	56075050	£43.08

SET OF FUNNELS

- Funnel diameters: 50, 75, 100, 120, 150mm
- Resistant to oil, petrol and acid



Order Code	Price
56077110	£6.48

0.25L LUBRICANT CONTAINERS

- With permanent magnet in the base
- Made from ultra-strong plastic



Order Code	Price
56080010	£21.33

STEEL FUNNEL

- High lip for spray protection
- Resistant to oil, petrol and acid
- With replaceable brass fine screen
- Flexible, removable metal outlet
- Capacity 3.2L



Order Code	Price
56077010	£24.04

PLASTIC FUNNEL

- High lip for spray protection
- Resistant to oil, petrol and acid
- Flexible outlet
- Capacity 1.2L



Order Code	Price
56077025	£7.95

OIL TANK CONTAINER

- Impact-resistant
- Transparent
- With retaining handle
- With mounting bracket for machine or wall mounting
- Capacity 0.5L



Order Code	Price
56090010	£45.17

LUBRICATING BRUSH

- Resistant to oil and coolant
- With sheet metal handle



Brush Thickness mm	Order Code	Price
9	56092010	£2.05
12	56092020	£2.45
15	56092030	£2.92
18	56092040	£3.65

MULTI-PURPOSE TUB

- With raised section to position dirty parts
- Lip all the way around tub for safe pouring
- Made of break-proof polyethylene
- For changing oil or for cleaning parts
- Capacity 6L



Order Code	Price
56095010	£6.70

PUSH TYPE GREASE PRESSES

- Made of steel, zinc-plated
- With universal adapter for spherical and conical lubricating nipple DIN 71412



ORION

Size cm	Order Code	Price
60	56192500	**£8.09**
150	56192510	**£12.95**

SINGLE HANDED GREASE GUN

- Connection thread: M10 x 1
- With pump lever



PRESSOL

Size cm	Order Code	Price
125	56220020	**£31.14**

HIGH PRESSURE GREASE GUN

- For lubricating with grease
- Connection thread: M10 x 1
- Max pressure: 400 bar



ORION

Size cm	Order Code	Price
40	56235005	**£25.29**

HIGH PRESSURE HAND LEVER GREASE PRESS SET

- Max. working pressure: 400 bar
- Connection thread: M10 x 1

Set includes:
- Lever-type grease gun
- Nozzle tube with hydraulic nosepiece
- Quick-change nozzle tube with sliding coupling
- Quick-change nozzle tube with articulated nosepiece
- Quick-change hose, pointed nosepiece and hollow nosepiece



Volume	Order Code	Price
400ml	56235400	**£181.86**

GREASE GUN ACCESSORY KIT

Contains:
- 2 x hydraulic nosepieces for H
- 1 x hollow nosepiece for K
- 1 x pointed nosepiece for D
- 1 x 16mm slide coupling for M1
- 1 x 300mm reinforced hose
- 3 x 150mm curved nozzle pipes
- 1 150mm straight nozzle pipe
- 90° bracket for hydraulic nosepiece
- Extension
- Quick-action coupling suitable for all hydraulic nosepieces
- 3 x H 1 lubricating nipples: M6 x 1, M8 x 1, M10 x 1, G 1/8
- H 2: M6 x 1, M8 x 1
- 1 x thread adapter from G 1/8 to M10 x 1 female thread, in metal case



PRESSOL

Order Code	Price
56240005	**£125.44**

LEVER OPERATED DRUM PUMP

- Maintains a constant flow rate over years
- Completely disassemble for easy cleaning
- Drum adapter ensures simple assembly, freely positionable in a 30° grid
- Adjustable telescopic suction tube from 355-955mm long
- Drum adapter G 2'' and drum adapter M64 x4
- Delivery hose 1500mm with steel outlet manifold



Order Code	Price
56318510	**£142.16**

TIGHT-HEAD POLY DRUM FUNNEL

- Non-threaded funnels stay securely in place after installation and are easily removed
- Molded-in nozzles easily fit 2" bungs
- Clamshell design directs the flow of liquid toward the drum opening, reducing splashing and spilled liquid
- Smooth surface allows for easy clean-up; black colour hides grime
- Secured in place after installation. Easy to remove



Order Code	Price
DRM1406	**£91.49**

UNIVERSAL POLY DRUM FUNNEL

- Large-diameter funnel covers your entire drum top for clean, easy draining and pouring
- 6.7cm-high sidewalls for pouring of up to 23L
- Funnel fits 210L closed-head and 115L closed-head or open-head steel drums



Order Code	Price
DRM452	**£49.39**

HAND LEVER PLASTIC DRUM PUMP

- Adjustable suction pipe
- Suitable for containers 60-200 litres



Type	Order Code	Price
PP body	56317010	**£62.71**
PP/PE body with viton seal	56317020	**£103.49**

HALLBAUER CRANK PUMP

- Suitable for 60 and 200L metal barrels
- 3-part metal suction tube with foot valve
- Adjustable G2-inch tap adapter
- 1m transparent NW 25 plastic hose with elbow outlet
- For pumping diesel, heating oil, hydraulic and engine oils



Order Code	Price
56305010	**£71.07**

DRUM LID KEY

- Fits all conventional bung hole lids
- Safe and simple opening of drums



Order Code	Price
18300180	**£45.47**

MULTI-PURPOSE EPOXY PUTTY

- Customer-favourite Epoxy Putty sticks to almost anything
- Made with the highest-quality epoxy resins to bond better and stay
- 3-5 minute working time
- Sets in 20 minutes and cures concrete-hard in 1 hour for drilling, tapping, sanding or painting





Size cm	Pcs	Order Code	Price
18	12	PTY291	**£82.80**

PLUG-N-SEAL® PATCHING PASTE

- Instantly stops leaks for up to 2 hours until the system can be drained
- Excellent chemical resistance makes it ideal for flammable or hazardous leaks
- Ready to use without mixing
- No surface preparation needed; even works on dirt and rust
- For fuel tanks, steel drums & containers





Volume g	Order Code	Price
454	PTY220	**£19.97**

DRIP TRAY

- A robust drip tray with removable grid which is ideal for the good "housekeeping" of small containers, ensuring drips and spills are contained.
- Sump capacity of 63L



Size mm	Order Code	Price
1000 x 605 x 200	ST60	**£82.94**

DRUM TRAY

- 50L capacity
- A tough and durable drum drip tray
- Ideal for standing a 205L drum in to catch drips and spills caused during filling or dispensing
- Also suitable for storing lead acid batteries



Order Code	Price
BT50	**£62.07**

DRUM SPILL PALLET

- Manufactured from medium density polyethylene
- Sump capacity of 225L
- 1 x removable plastic grid included
- Broad range of chemical compatibility



Size mm	Order Code	Price
900 x 700 x 525	BP1	**£205.80**

DRIP TRAY

- Manufactured from medium density polyethylene
- 1 x removable plastic grid included
- Broad range of chemical compatibility
- Sump capacity of 66L



Size mm	Order Code	Price
804 x 608 x 220	ST66	**£182.64**

SUMP FLOOR

- 2-drum sump floor only 150mm high
- Units can be joined together with plastic connectors
- Sump capacity of 130L



Size mm	Order Code	Price
1260 x 860 x 150	BF2	**£176.40**

DRUM SPILL PALLET

- Sump capacity of 240L
- 1 x removable plastic grid included
- Broad range of chemical compatibility
- Fully complies with all the UK Oil Storage Regulation



Size mm	Order Code	Price
1220 x 820 x 330	BP2	**£168.23**

IBC SPILL PALLET

- Manufactured from medium density polyethylene
- Sump capacity of 1140L
- 2 x removable plastic grids included
- Broad range of chemical compatibility
- Fully complies with all the UK Oil Storage Regulation



Size mm	Order Code	Price
2550 x 1350 x 565mm	BB2	**£738.27**

IBC SPILL PALLET

- Built-in 260mm deep decanting area which allows any leaks/drips to be contained within the sump
- Sump capacity of 1125L
- Broad range of chemical compatibility
- Fully complies with all the UK Oil Storage Regulation



Size mm	Order Code	Price
1765 x 1445 x 710	BB3	**£558.60**

IBC SPILL PALLET

- Manufactured from medium density polyethylene
- Sump capacity of 1150L
- Grid not included
- Broad range of chemical compatibility
- Fully complies with all the UK Oil Storage Regulation



Size mm	Order Code	Price
2310 x 1360 x 510	BB4	**£641.90**

205L DRUM TROLLEY

- Easily operated by one person
- Secondary containment system when transporting drums
- Can also be used as a mobile dispensing unit



Order Code	Price
BT230	**£361.04**

POLY TROLLEY

- Excellent chemical resistance
- Designed to carry 4 x 25L cans
- 1000mm x 700mm storage area



Order Code	Price
BT100	**£274.77**

POLY CART

- Transport and dispense loose spill clean-up granules, or salt for de-icing paths
- Comes complete with a disposal bag area with lid, plus brush and shovel storage points



Order Code	Price
PC	**£380.68**

POLY DRUM DOLLY

- Easily transport 205L drums, small containers or boxes around your site
- Two-handed steel handle
- Four castors (two lockable) provide stability and a 30L sump will contain any leaks and spills



Order Code	Price
PDDH	**£260.56**

MOBILE DRIP TRAY

- Mobile drip tray fitted with 4 x 50mm swivel castors
- Ideal for transporting small containers
- Contains drips and spills



Order Code	Price
ST66WH	**£169.55**

MOBILE & LOCKABLE STORAGE CABINET

- Lockable storage cabinet
- Can be wheeled quickly
- Comes complete with a height adjustable shelf and a recessed top
- Sump capacity of 66L



Order Code	Price
PWC4	**£319.53**

STORAGE CABINET

- 3 year guarantee
- Hinged lockable door
- 1 x 205L drum in a vertical position and still have room to fit a small pump
- Sump capacity of 225L



Size mm	Order Code	Price
920 x 720 x 1835	PSC3	**£461.54**

STORAGE CABINET

- 3 year guarantee
- A robust cabinet fitted with a hinged lockable door and two shelves



Size mm	Order Code	Price
524 x 540 x 990	PSC1	**£229.32**

STORAGE CABINET

- Fitted with a lockable door and comes complete with a height adjustable shelf
- Recessed top can act as temporary spill tray (up to 18L)



Size mm	Order Code	Price
640 x 580 x 980	PWSD	**£252.56**

LIGHTWEIGHT UNIVERSAL MAT

- Designed for small leaks, drips and spills
- Thermally bonded - the strongest mat on the market
- No rips, tears or frays, even when saturated



Pcs	Order Code	Price
200 pads	MAT135	**£108.65**
1 roll	MAT225	**£171.99**

MEDIUMWEIGHT UNIVERSAL MAT

- For everyday tasks and cleaning up
- Layers of 100% polypropylene are thermally bonded to make PIG Mat the strongest mat on the market; it won't rip, tear or fray even when saturated
- Absorbs common industrial liquids; oils, water, solvents, coolants and more



Pcs	Order Code	Price
125 pads	MAT139	**£108.65**

HEAVYWEIGHT UNIVERSAL MAT

- For demanding jobs and large volume spills
- Layers of 100% polypropylene are thermally bonded to make PIG Mat the strongest mat on the market; it won't rip, tear or fray even when saturated
- Absorbs common industrial liquids; oils, water, solvents, coolants and more



Pcs	Order Code	Price
100 pads	MAT240	**£108.65**
50 pads	MAT170	**£56.24**
1 roll	MAT230	**£171.99**

RIP-&-FIT® UNIVERSAL MAT ROLL

- Create the right size with easy rip & fit design
- The strongest mat on the market
- Perforated every 10cm across width and every 25cm along length
- Highly absorbent, fine-fibre construction won't leave behind liquids or fibre residue



Order Code	Price
MAT242	**£53.55**

BARREL TOP ABSORBENT MAT

- Layers of 100% polypropylene make PIG Mat the strongest mat on the market; won't rip, tear or fray even when saturated
- Keep drum tops clean with a mat that's shaped to fit
- Precut holes for pump and fill gauge



Pcs	Order Code	Price
25 pads	MAT208	**£75.89**

BLUE® ABSORBENT MAT

- Extra-absorbent mat for absorbing large quantities of liquids
- Made of 90% natural and recycled fibres
- Stays together even when picking up or shifting a fully saturated mat



Pcs	Order Code	Price
100 pads	BLU101	**£100.46**

ESSENTIALS PLUS UNIVERSAL MAT PAD

- Top layer of low-lint spunbond fabric provides extra strength and tear resistance
- Mat absorbs high volumes of liquid fast; great for catching overspray or soaking up spills
- Pads are ideal for catching drips and soaking up spills



Pcs	Order Code	Price
200 pads	MATE737	**£95.47**

ESSENTIALS UNIVERSAL MAT PAD

- High loft meltblown design increases surface area on spill; mat starts wicking on contact to save time in critical situations
- Absorbs high volumes of liquid quickly
- Pads are ideal for catching drips and soaking up spills



Pcs	Order Code	Price
100 pads	MATE703	**£72.36**

ABSORBENT SOCKS

- Formable socks hug corners and surround machine bases to absorb leaks, contain puddles and keep workers safe
- Original: For everyday leaks, 76L, 1m long
- Blue: Heavyweight sock to stop spills spreading, 112L 1.2m
- Super Absorbent: Ideal for high volume leaks, 91.2L, 1m long





Socks	Type	Order Code	Price
40	Original	0000404	**£86.81**
40	Blue	0004048	**£112.48**
24	Super Absorbent	PIG210	**£86.00**

CRYSTA-LITE ABSORBENT GRANULES

- Non-combustible, suitable for enclosed containers
- Remains granular, even when saturated
- Particle size of 3mm to 6mm
- Non-toxic mineral product is safe to handle and use without any risk
- Absorbency up to 18L per bag
- Safe non-toxic mineral product



Volume	Order Code	Price
3.5kg	P45-1	**£13.76**

FIRE-DRI ABSORB GRANULES

- Organic, renewable and fireproof
- Absorbs liquid spills, leaving clean, dry and safe surfaces, free from oily sheen
- Fire-retardant material capable of absorbing over 3kg of oil per 1kg of product
- Absorbency up to 15L per bag



Volume	Order Code	Price
6kg	PLPE270	**£10.65**

MULTI ABSORB GRANULES

- Soaks up spills on any solid surface
- Fast acting, inert substance
- Easy to sweep up when the absorption is complete
- Granules remain hard even at full saturation
- Absorbent for: Acids, basic (alkaline) substances, fire-hazardous liquids, oil absorbs type III/R, aqueous and polar liquids



MILLERS OILS

Volume	Order Code	Price
30kg	7636WI	**£16.23**

ABSORBENT DRIP PAN

98% RECYCLED CONTENT

- Traps leaks from drum taps, spigots and flanges
- Low profile design fits underneath drum taps and other tight spaces
- Low profile design fits underneath drum taps and other tight spaces
- Splash free





Pcs	Order Code	Price
24 pans	2410PP	**£151.79**

ABSORBENT PILLOW

85% RECYCLED CONTENT

- W x 25cm, L x 25cm, H x 5cm
- Cellulose filler is highly absorbent for long-term use or big spill cleanup
- Compact design is great for catching persistent drips and leaks in small spaces or adding absorbency for spill response
- Contains a mixture of 85% pre- and post-consumer recycled cellulose filler





Pcs	Order Code	Price
40 pillows	PIL204	**£95.28**

STAT-MAT® ROLL

- Ideal mat for flammable fuels and solvents
- Proven to dissipate static
- Reduces the risk of electrostatic discharge; a critical precaution around flammable liquids and vapours
- Absorbs and retains oils and fuels - including acetone, benzene, petrol and more



Order Code	Price
MAT402	**£176.09**

LIGHT & HEAVYWEIGHT OIL-ONLY MAT

- Absorbs and retains oils and oil-based liquids - including lubricants and fuels - without taking in a drop of water
- Bright white colour makes absorbed oil easier to see; clearly shows saturation level during spill response
- Can be wrung out and incinerated after use to reduce waste or for fuels blending
- White colour shows absorbed oil and saturation levels





Pcs	Type	Order Code	Price
100 pads	Heavy	MAT440	**£81.07**
1 roll		MAT401	**£140.32**
200 pads	Light	MAT485	**£81.08**

LIGHT & HEAVYWEIGHT HAZMAT MAT

- Absorbs the widest range of acids, caustics and unknown liquids - even those with high concentrations like 98% sulfuric acid and 30% sodium hydroxide
- Chemical-resistant mat won't degrade or cause a dangerous reaction upon contact with corrosive spills
- Easily distinguishable colour to ensure correct mat is used in an emergency



Pcs	Type	Order Code	Price
200 pads	Light	MAT302	**£118.21**
100 pads	Heavy	MAT354	**£125.31**

SPILL KIT IN HIGH-VISIBILITY ECONOMY CONTAINER

- Bright yellow container saves money when a UN Rated container is not necessary
- Non threaded lid lifts off for fast access; steel bail handle for easy carrying
- Lightweight polyethylene containers resist chemicals and protects contents from the weather
- Bold Spill Kit lettering for quick identification

Kit Includes:
- 8 Mat Pads
- 3 Socks
- 2 Temporary disposal bags and ties
- 6 Tamper proof labels



Order Code	Price
KIT2200	**£68.31**

CLEAR COMPACT SPILL KIT

- Durable see-through wallet makes it easy to check supplies at a glance
- Hook-and-loop closure is easy to open for fast access to absorbents
- Convenient carry handle for easy transport is ideal for hanging
- Effectively deals with minor spillages and takes up minimum storage space



Includes	Type	Order Code	Price
8 Mat Pads, 1 Pillow , 2 Temporary disposal bags and ties	Universal	KITL250	**£36.57**
6 Mat Pads, 1 Pillow, 2 Temporary disposal bags and ties	Oil only	KITL450	**£40.50**
6 Mat Pads, 2 Pillows, 2 Temporary disposal bags and ties	Hazmat	KITL350	**£49.58**

SPILL KIT IN A CLIP-CLOSE BAG

- Heavy gauge polythene bag helps protect absorbents from moisture and damage during storage to ensure maximum product performance in use
- Convenient clip close handle makes kit easy to carry to spill site for rapid response during emergencies
- Universal Kit includes PIG Mat Pads containing 25% or more recycled content
- For oils, coolants, solvents & water



Includes	Type	Order Code	Price
1 Sock, 12 Mat Pads, 1 disposal bag and tie	Universal	KITE291	**£25.69**
2 Socks , 25 Mat Pads, 2 disposal bags and ties	Universal	KITE292	**£47.15**

FORK TRUCK SPILL KIT

- Ideal for fast response to punctured drums or leaking containers - complete with patching paste!
- Hanging loops attach kit to any fork truck
- Universal Kit (NPK205) includes PIG Mat Pads containing 25% or more recycled content
- For oils, coolants, solvents & water

Kit Includes:
- 1 Sock
- 20 Mat Pads
- 2 Temporary disposal bags and ties
- 1 Patching Paste



Order Code	Price
NPK205	**£68.61**

UNIVERSAL HI VIS SPILL KIT IN BAG

- High visibility, compact spill bag for spill response on the go
- Brightly coloured neon bag features a reflective stripe for greater visibility and easy identification
- Drawstring closure is ideal for carrying or hanging on a wall
- Universal Kit includes PIG Mat Pads containing 25% or more recycled content
- For oils, coolants, solvents & water

Kit Includes:
- 1 Sock
- 20 Mat Pads
- 2 Temporary disposal bags and ties



Order Code	Price
KITE251	**£42.92**

SMALL MOBILE CONTAINER SPILL KIT

- Durable, wheeled container packed with high-quality PIG Absorbents
- Hinged lid makes it easy to get the absorbents you need - just flip it open
- Kit includes PIG Mat Pads containing 25% or more recycled content and PIG Absorbent Pillows that contain a mixture of 85% pre- and post-consumer recycled cellulose filler
- For oils, coolants, solvents & water

Kit Includes:
- 10 Socks
- 100 Mat Pads
- 12 Pillows
- 5 Temporary disposal bags and ties
- 1 Durable Wheeled Container (with full fit only)



Type	Order Code	Price
Full Kit - With Container	KITE201	**£218.84**
Absorbents only - No Container	RFLE201	**£141.83**

GRIPPY® ADHESIVE- BACKED FLOOR MAT

Starter Pack

- Highly absorbent, extremely-durable and low profile floor safety solution
- Traps dirt, grease, salt, mud and moisture
- Stays right where you put it for up to 6 months depending on conditions and traffic patterns
- Convenient pre-scored template helps make precise cuts and angles for clean & accurate fitting

Pack includes:
- 1 x 7.6m roll
- 1 x Safety cutting knife
- 1 x Installation board





Length m	Width cm	Order Code	Price
7.6	91	GRPE36206	**£181.12**

GRIPPY® ADHESIVE-BACKED FLOOR MAT

- Offers a highly absorbent, extremely durable and low-profile floor safety solution
- Traps dirt, grease, salt, mud and moisture to prevent it being tracked through your premises
- Stays exactly where you put it with no shifting, bunching or flipping over



Colour	Size m	Order Code	Price
Grey	91cm x 15.3	GRP36201-GY	**£244.30**
Black	91cm x 15.3	GRP36201-BK	

GRIPPY® ADHESIVE-BACKED ABSORBENT MAT

- Prevents slips, trips and falls around the workplace
- Withstands heavy foot traffic as well as forklift, pallet truck and equipment driveovers
- Tough spunbond layer and heavy duty zigzag stitching
- Also great for lining workbenches, countertops and toolboxes



Length m	Width cm	Order Code	Price
15	81	MAT3250	**£112.48**

GRIPPY® MAT INSTALLATION BOARD

- Helps create perfect corners and 45° angles for fitting around obstacles or cutting awkward shapes.
- Connect two boards to create an extra-long cutting guide for making long diagonal cuts or installing wide mats
- Produce clean, accurate cuts with a convenient, pre-scored template



Order Code	Price
GRP001	**£33.15**

SAFETY CUTTING KNIFE & BLADES

- Make clean, professional and precise cuts when fitting Grippy Mats
- Recessed blade with protective edges makes quick, clean cuts, helping to eliminate injuries
- It's the perfect tool to use with prescored guidelines on installation board



Type	Order Code	Price
Knife + 2 Blades	GRP012	**£14.92**
10 x Blades	GRP011	**£13.92**

READY FOR A FAST RESPONSE

Leak diverter kits contain everything you need to protect your people, equipment and inventory from overhead leaks



Contact us on **01924 869 610** for more information!

POLISHING & WIPING CLOTHS

PR100 ULTRA DUTY

- Perfect for no-scratch removal of wax, polishing compound, fingerprints
- Rayon/poly blend stands up to harsh sanitisers, degreasers, cleaners and solvents
- Highly absorbent and textured cloth pulls contaminants away from parts and surfaces whilst soaking up liquids
- Can be rinsed and reused for long life and less frequent replacement
- Supplied as 12 packs of 25 wipes



Pcs	Order Code	Price
300 Wipes	WIP455	**£63.32**

ALL PURPOSE WIPES

PR40 MEDIUM DUTY

- Constructed of soft, absorbent cellulose fibres with a high-quality binder to increase strength
- Suitable for wet or dry wiping
- Made thick and absorbent to quickly soak up oils, degreasers and other liquids
- Low-lint material won't leave residue or create a mess



Pcs	Order Code	Price
2 x Rolls (830 Wipes)	WIP235	**£57.68**

View Our Full New & Improved Fluids Range Online

www.cutwel.co.uk/fluids-and-lubricants



ACRYLIC PAINT MARKER PENS

- Use for metal working/fabrication, electrical installations, machine construction, civil engineering, or general component identification and quality control checks
- Tenacious resin binds paint to the writing surface, almost eliminating the problems associated with accidental rub-off
- Will not wash off with water/rain
- Acrylic paint is highly tenacious, able to write on almost any surface, and on any substrate colour



ambersil

Colour	Order Code	Price (Each)
Black	AMB20364	
Red	AMB20387	
Blue	AMB20368	
White	AMB20394	£4.99
Green	AMB20379	
Yellow	AMB20399	
Orange	AMB20383	

METAL MARKING & LAYOUT SPRAY

- Scribes without flaking or chipping
- Excellent contrast and definition
- Fast drying
- Easy to apply and be removed with an IPA solvent cleaner
- Forms an even thin film
- Blue for bright surfaces, white for dark surfaces



ROCOL

Volume	Colour	Order Code	Price
400ml	Blue	ROCOL-57015	£36.54
	White	ROCOL-57025	

METAL MARKING INK FLUID

- Scribes without flaking or chipping
- Excellent contrast and definition
- Fast drying
- Easily removable
- Forms an even thin film
- Blue for bright surfaces, white for dark surfaces
- Resistant to washing off by metal cutting fluids



ROCOL

Volume	Colour	Order Code	Price
1L	Blue	ROCOL-57034	£48.35
	White	ROCOL-57044	£61.86

Industrial PPE



ORION ATORN uvex 3M

High Quality PPE Equipment

Including head protection, face protection, eye protection, ear protection, breathing protection, filters & hand protection.

	**Head Protection** Safeguards the head from potential impact, falling objects, or electrical hazards	1424
	**Face Protection** Face shields can be used for protection when undertaking various tasks	1426
	**Eye Protection** Safety glasses offer maximum protection in your workplace & prevent injury where debris or liquid could come into contact with the eye	1427
	**Ear Protection** Reduces exposure to excessive noise levels, preserving hearing	1430
	**Breathing Protection** Use of masks or respirators designed to filter & purify the air, providing respiratory safety by preventing inhalation of harmful particles	1433
	**Filters** Removes or blocks specific substances, particles, or impurities from air, liquids, or other substances	1434
	**Hand Protection** Shields the hands from injuries, abrasions, chemicals, or other workplace hazards	1434

SAFETY HELMET INAP-MASTER EN STANDARD: 397

- Lightweight PE helmet shell
- With rain groove, sweatband and ventilation openings
- Adapter system for visor or helmet shells
- Short brim for extended upwards field of vision
- 6-point webbed harness inside
- Universal shape, helmet shell longer at the back to cover the neck
- With pinlock fastening for width adjustment
- For temperatures down to -30°C





VOSS HELME

Colour	Order Code	Price
Signal White	55813020	£13.84
Sulfur Yellow	55813021	
Roadworks Orange	55813022	
Carmine Red	55813023	
Signal Blue	55813024	
Mint Green	55813025	

SAFETY HELMET INAP-PROFILER EN STANDARD: 397

- Lightweight PE helmet shell
- Innovative shape, helmet shell slightly longer at the back to cover the neck
- With adjustable ventilation openings and sweatband
- Adapter system for visor or helmet shells
- Short brim for extended upwards field of vision
- 6-point webbed harness inside
- With pinlock fastening for width adjustment
- For temperatures down to -20°C





VOSS HELME

Colour	Order Code	Price
Signal White	55813030	£14.50
Sulfur Yellow	55813031	
Roadworls Orange	55813032	
Carmine Red	55813033	
Signal Blue	55813034	
Mint Green	55813035	

SAFETY HELMET PHEOS B-S-WR EN STANDARD: 397

- Lightweight HDPE helmet shell
- With three variable ventilation openings
- Adapter system for visor or helmet shells
- 6-point textile strap interior
- Synthetic leather sweatband
- With dial system for infinite width adjustment
- For temperatures down to -30°C
- Protection against weld spatter





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Colour	Order Code	Price
White	55811011	£16.57
Yellow	55811021	
Orange	55811031	
Red	55811041	
Blue	55811061	

WORK AND MOUNTAINEERING SAFETY HELMET PHEOS ALPINE - EN STANDARD: 397

- Lightweight, ABS hat shell
- Adapter system for visors, ear defenders or head lamps
- Fixed riveted four-point chin strap for use in compliance with EN 12492
- Includes chin strap for use in compliance with EN 397
- 6-point textile strap interior
- PU sweatband
- With dial system for infinite width adjustment
- For temperatures down to -30°C





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Colour	Order Code	Price
White	55811100	£109.78
Black	55811101	
Red	55811102	

ELECTRICIAN'S HELMET PHEOS E-WR EN STANDARD: 50365

- Fully closed helmet shell
- Adapter system for visors, ear defenders or head lamps
- Long peak
- 6-point textile strap interior
- PU sweatband
- With dial system for infinite width adjustment
- For temperatures down to -30°C
- Protection against weld spatter





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Colour	Order Code	Price
White	55811110	£13.58
Yellow	55811111	£15.30
Blue	55811112	£15.30

HEAT PROTECTION HELMET THERMO BOSS EN STANDARD: 397

- Helmet shell made of heat-resistant polycarbonate
- Adapter system for ear defenders
- Long peak
- 6-point textile strap interior
- Sweatband
- Conventional width adjustment
- For temperatures up to +150°C
- Meets the additional requirements for 440 VAC





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Colour	Order Code	Price
White	55811120	£18.17
Yellow	55811121	
Red	55811122	

BELT CLIP FOR HARD HATS MADE FROM FIBRE GLASS REINFORCED PLASTIC

- Suitable for any hard hat with an adjustable strap
- For attaching to a belt or belt loop





ORION

Order Code	Price
55815000	£3.00

BUMP CAP EN STANDARD: 812

- Bump cap with innovative hard shell element
- Short brim for a wider field of upward vision
- Flexible: Adapts to different head shapes and sizes





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Variant Type	Order Code	Price
Short Peak Cap	55811300	£24.03
Long Peak Cap	55811301	

BUMP CAP EN STANDARD: 812

- Category: I
- Min./max. size: 52-63cm
- Material: Microfibre
- Optimum comfort: Hard shell can be adapted to the head shape
- Generous network of ventilation openings
- Impact protection across the top of the head





VOSS HELME

Colour	Order Code	Price
Carmine Red	55813010	£18.55
Cornflower Blue	55813011	
Cobalt Blue	55813012	
Bottle Green	55813013	
Silver Grey	55813014	
Black	55813015	

BUMP CAP PRO EN STANDARD: 812

- Optimum shock absorption from the shock-absorbing hard shell with foam
- Optimum comfort: Hard shell can be adapted to the lead shape
- Generous network of ventilation openings
- Min./max. size: 52-63cm
- Material: 65% cotton, 35% polyester





VOSS HELME

Colour	Order Code	Price
Black	55813000	£27.57
Cobalt Blue & Cornflower Blue	55813001	
Cobalt Blue & Black	55813002	
Anthracite & Black	55813003	
Yellow Fluorescent & Silver Grey	55813004	

FACE SHIELD PHEOS FACEGUARD PC VISOR

- Ready to use: Fully pre-assembled
- Head mount with adjustable height and width
- Cervical spine relief: Rest position centrally above head
- Slim design: Maximum freedom of movement
- Wide neck support
- Frame designation: W 166 39 B
- Min./max. size 52-64cm
- Chemical resistant



55811601



55811600

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Hearing Protection	Order Code	Price
No	55811600	£56.81
Yes	55811601	£89.27

FACE SHIELD FOR SAFETY HELMETS / EN STANDARD: 166, 170

- Robust and extremely lightweight polycarbonate visor
- Ergonomic joint system to distribute the weight of all attachments over the body's centre of gravity
- Adapter for mounting in lateral helmet slots
- Scratch-resistant and mist-free



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Order Code	Price
55811311	£39.50

FACE SHIELD EN STANDARD: 166

- Category: II
- Material of safety lens: Polycarbonate
- Can be worn without a hard hat
- Padded headband
- Folding
- Easy adjustment to head circumference owing to ratchet latch system



Order Code	Price
55811510	**£20.13**

SPARE FACE SHIELD VISOR LENS EN STANDARD: 166

- Category: II
- Material of safety lens: Polycarbonate
- Colourless disc



Order Code	Price
55811550	**£6.80**

SPEEDGLAS™ AUTOMATIC WELDING HELMET 9002NC

- Suitable for MIG, TIG and stick welding
- 3M™ Speedglas™ Natural Colour Technology
- Light state: Protection level 3
- Category: II
- Light-to-dark reaction time: 0.1ms
- UV protection (permanent): Protection level 12
- Excellent fit thanks to headband system



Battery Life (hrs)	Order Code	Price
2000	55730410	**£228.62**

SPEEDGLAS™ AUTOMATIC WELDING HELMET 100V

- Suitable for MIG, TIG and stock welding
- Light state: Protection level 3
- Category: II
- Light-to-dark reaction time: 0.1ms
- UV protection (permanent): Protection level 12
- Towelling sweatband



Battery Life (hrs)	Order Code	Price
1500	55730400	**£429.27**

SPEEDGLAS™ AUTOMATIC WELDING HELMET 9100V

- Suitable for MIG, TIG and stick welding
- Light state: Protection level 3
- Category: II
- Light-to-dark reaction time: 0.1ms
- UV protection (permanent): Protection level 13
- Excellent fit thanks to headband system



Battery Life (hrs)	Glass Height mm	Order Code	Price
2800	45	55733310	**£550.11**
2500	54	55733320	**£635.38**
2000	73	55733330	**£721.69**

FOLDABLE WELDER'S GOGGLES EN STANDARD: 166

- Category: II
- With flip-up protective welding lenses
- Transparent fixed polycarbonate lenses
- Green, fold up polycarbonate lenses (DIN 5 Aulektro protective welding lenses)
- Very comfortable to wear thanks to adjustable headband
- Can also be worn over prescription glasses



Order Code	Price
55640100	**£6.16**

WELDER'S GOGGLES EN STANDARD: 166

- The green tint filters out all types of radiations
- Round shatterproof glasses (DIN 5 Aulektro protective welding lenses)
- Integrated side protection with indirect ventilation
- Frame designation: 166 F



Order Code	Price
55620100	**£4.84**

PHEOS S SAFETY GOGGLES WITH FRAME EN STANDARD: 166, 170

- Anti-mist inside, scratch-resistant and chemical-resistant on the outside
- Soft non-slip arm ends (uvex duo component technology) prevent discomfort at pressure points
- Very large field of vision
- Protects the eyebrows with Eye Plus Protection



Order Code	Price
55670213	**£11.29**

PHEOS CX2 SAFETY GOGGLES WITH FRAME EN STANDARD: 166, 170

- Comfortable protection through forehead and nose support moulded directly onto lens
- X-Twist arm technology for secure, non-slip fit
- Soft non-slip arm ends (uvex duo component technology) prevent discomfort at pressure points
- Large field of vision
- Narrow design for use with ear defender, helmet and bump cap
- Anti-mist inside, scratch-resistant and chemical-resistant on the outside
- 55670255: With CBR 65 tone: Enhances contrast, reduces blue light and ensures relaxed vision at 65% transmission

55670250



55670255



Model	Order Code	Price
Colourless Lenses	55670250	**£13.62**
CBR Brown Lenses	55670255	**£16.18**

SKYGUARD NT SAFETY GOGGLES WITH FRAME

- Safety goggles with frame for all-round protection
- Multi-level arm angle adjustment for individual adjustment to any face shape
- Anti-mist inside, scratch-resistant and chemical-resistant on the outside



Order Code	Price
55670211	**£12.21**

SECUREFIT™ 400 SAFETY GOGGLES WITH FRAME

- Automatically adapts to different head shapes
- Temple pressure distribution technology distributes pressure above the ears, increasing wearing comfort
- Arm ends with soft padding
- Soft, easy to adjust nose bridge ensures secure fit



Order Code	Price
55672030	**£13.23**

SECUREFIT™ 400X SAFETY GOGGLES WITH FRAME - EN STANDARD: 166, 170

- Integrated eyebrow protection: Sits comfortably on the forehead and provides protection against airborne particles
- Temple pressure distribution technology distributes pressure above the ears, increasing wearing comfort
- Soft nose bridge
- When water droplets condense on the lens, the Scotchguard™ anti-fog coating turns them into a thin, transparent film so they do not fog



55672050 55672051 55672052

Lens Colour	Order Code	Price
Transparent	55672050	**£14.00**
Grey	55672051	**£15.50**
Yellow	55672052	**£15.34**

SECUREFIT™ 3700 SAFETY GOGGLES WITH FRAME - EN STANDARD: 166, 170

- Can be worn over prescription glasses
- Integrated eyebrow protection: Sits comfortably on the forehead and provides protection against airborne particles
- Temple pressure distribution technology distributes pressure above the ears, increasing wearing comfort
- Multi-level arm angle adjustment for individual adjustment to any face indent
- When water droplets condense on the lens, the Scotchguard™ anti-fog coating turns them into a thin, transparent film so they do not fog



55672060 55672061

Lens Colour	Order Code	Price
Transparent	55672060	**£24.76**
Grey	55672061	**£24.99**

SAFETY GOGGLES WITH FRAME VISOR EN STANDARD: 166

- Lightweight goggles with good side and eyebrow protection
- Can either be worn alone or over prescription glasses
- Transparent frame



Order Code	Price
55672010	**£3.70**

SAFETY GOGGLES WITH FRAME SECUREFIT 200 - EN STANDARD: 166

- Automatically adapts to different head shapes
- Temple pressure distribution technology distributes pressure above the ears, increasing wearing comfort
- Scratch resistant



Order Code	Price
55672020	**£7.00**

MEGASONIC FULL-VISION GOGGLES EN STANDARD: 166, 170

- Revolutionary full-vision goggles with maximally optimised field of vision
- Unique frameless lens design
- Suitable for wearing over glasses: Recess for spectacle earpieces
- Maximum comfort: Flexible frame and extra-wide textile headband
- Very large field of vision for an optimum view



Order Code	Price
55670122	**£15.62**

FULL-VISION SAFETY GOGGLES ULTRASONIC EN STANDARD: 166, 170

- Suitable for wearing over glasses
- With textile headband
- Two different materials (hard component/soft component) ensure there are no pressure points, even when worn for long periods of time
- Large field of vision



Order Code	Price
55670130	**£16.09**

FULL-VISION SAFETY GOGGLES CARBON VISION - EN STANDARD: 166, 170

- Good all-round visibility
- With textile headband
- Non-fogging & scratch resistance
- Safety lens made from polycarbonate



uvex

Order Code	Price
55670200	**£15.43**

FAHRENHEIT FULL VISION SAFETY GOGGLES EN STANDARD: 166

- Full-vision goggles with cylindrical lens for 180°C distortion-free view
- Easily adjustable thanks to buckle system and moving belt fastener
- Prevents the entry of moisture and dust
- Soft, large, crystal-clear PVC frame



3M

Order Code	Price
55672040	**£9.57**

LENS CLEANING WIPES - PAPER

- Suitable for all uvex safety goggles
- Cleaning wipes are individually packed
- Cleaning tissues suitable for uvex cleaning station





uvex

Quantity	Order Code	Price
100 Wipes	55670501	**£9.10**
Approx 700 Tissues	55670512	**£9.10**

SAFETY BOX FOR GLASSES

- For wall mounting (includes mounting materials)
- Made of impact-resistant ABS plastic





GEBRA

Box Colour	Size	Box Dimensions (mm)	Order Code	Price
Blue	Mini	236 x 120 x 120	55680030	**£13.04**
Transparent		236 x 120 x 120	55680050	**£16.85**
Blue	Midi	236 x 225 x 125	55680040	**£34.48**
Transparent		236 x 225 x 125	55680060	**£41.12**

GLASSES CLEANING STATION

- Spectacles cleaning station set including cleaning fluid (0.5L), cleaning paper (2x approx. 700 sheets) and plastic pump
- Suitable for all uvex safety goggles
- Replacement paper: Anti-static and silicone-free



uvex

Order Code	Price
55670513	**£62.73**

REPLACEMENT PLASTIC PUMP FOR CLEANING SOLUTION

- Suitable for uvex cleaning solution: 55670513



uvex

Order Code	Price
55670515	**£4.73**

DISPOSABLE EAR PLUGS

- High-performance T-shaped ear plugs for easy insertion
- Excellent noise insulation and a high level of comfort
- A closed surface prevents ingress of foreign objects
- In accordance with EN 352-2
- SNR value: SNR = 37 dB, H = 38 dB, M = 34 dB, L = 32 dB



ATORN®

Pairs	Order Code	Price
200	55785000	**£26.36**
400	55785001	**£53.64**

EAR PLUGS EAR CLASSIC II

- Soft, energy-absorbing single-use ear plugs with minimal pressure development in the ear
- Pre-shaped ear plugs
- Optimal adaptation to any ear canal
- Roughened surface
- Especially skin-friendly
- Moisture-resistant
- Includes refill attachment for dispenser



3M

Pairs	Order Code	Price
500	55782530	**£113.35**

ONE TOUCH PRO EAR PLUG DISPENSER, FOR EAR CLASSIC II

- One Touch Pro 3M ear plug dispenser, empty, for EAR Classic II
- Dispenser only, no ear plugs supplied
- Suitable for wall mounting
- Hygienic and safe storage and removal of ear plugs



3M

Order Code	Price
55782600	**£118.74**

EARPLUG 37 DB X-FIT

- Sound insulation value: 37dB
- Excellent insulation
- Quick and easy to insert thanks to embossed X
- Ergonomically shaped
- Excellent carrying comfort
- Closed surface prevents penetration by foreign bodies
- Meets the additional requirements:
  S (hearing a signal in railway track superstructure construction),
  V (hearing a signal in road traffic),
  W (hearing a general warning signal),
  E1 (hearing a signal relevant to locomotive drivers in railway operations)



uvex

Pairs	Order Code	Price
200	55781037	**£31.70**
400	55781137	**£27.00**

EARPLUG 33 DB COM4-FIT

- Sound insulation value: 33dB
- Excellent insulation
- Quick and easy to insert thanks to embossed X
- Ergonomically shaped
- Excellent carrying comfort
- Closed surface prevents penetration by foreign bodies
- Meets the additional requirements:
  S (hearing a signal in railway track superstructure construction),
  V (hearing a signal in road traffic),
  W (hearing a general warning signal),
  E1 (hearing a signal relevant to locomotive drivers in railway operations)



uvex

Pairs	Order Code	Price
200	55781033	**£31.00**
400	55781133	**£29.46**

EAR PLUGS 24 DB HI-COM / EN STANDARD: 352-2

- Sound insulation value: 24dB
- Reduces the sensation of ringing in the ears which can occur when wearing ear protection
- Built-in cavities provide a greater surface area in the direction of the eardrum
- Absorption of disruptive noises
- Excellent speech perception
- Good insulation values
- Closed surface prevents penetration by foreign bodies
- Meets the additional requirements:
  W (hearing a general warning signal)



uvex

Pairs	Order Code	Price
200	55781024	**£53.72**

EAR PLUG DISPENSER

- Suitable for 600 pairs of uvex disposable ear plugs
- Easy-to-use and robust ear plug dispenser
- Suitable for wall-mounting
- Dispenser only, no ear plugs supplied



uvex

Order Code	Price
55781100	**£33.27**

EAR PLUGS, WHISPER+ SNR 27 DB IN HYGIENIC PLASTIC BOX

- Sound insulation value: 27dB
- Hygienic and safe storage and removal ear plugs
- Smooth and dirt-repellent surface
- Always close at hand due to corded design
- Washable
- Meets the additional requirements:
  S (hearing a signal in railway track superstructure construction),
  V (hearing a signal in road traffic),
  W (hearing a general warning signal),
  E1 (hearing a signal relevant to locomotive drivers in railway operations)



uvex

Order Code	Price
55784115	**£1.54**

EAR PLUGS WITH CORD, WHISPER 23 DB

- Sound insulation value: 23dB
- Smooth and dirt-repellent surface
- Always close at hand due to corded design
- Washable
- Meets the additional requirements:
  S (hearing a signal in railway track superstructure construction),
  V (hearing a signal in road traffic),
  W (hearing a general warning signal),
  E1 (hearing a signal relevant to locomotive drivers in railway operations)



uvex

Pairs	Order Code	Price
50	55784105	**£77.06**

EAR PLUGS EXACT-FIT WITH CORD, 26 DB

- Sound insulation value: 26dB
- With thumb recesses for easy and fast insertion
- Always close at hand due to corded design
- Adapts perfectly to the ear canal and minimises sound leaking through
- Very comfortable to wear thanks to the shape based on the anatomy of the human ear
- With interchangeable plugs (article number: 55784165)
- Meets the additional requirement W (hearing a general warning signal)



uvex

Order Code	Price
55784155	**£1.59**

X-CAP BANDED EAR PLUGS 24 DB

- Sound insulation value: 24dB
- Ideal for frequent wearing and removal
- Ergonomically shaped banded ear plugs for high wearing comfort
- With rigid headband
- With interchangeable polyurethane foam plugs (article number: 55783155)
- Oval shape
- Meets the additional requirements:
  S (hearing a signal in railway track superstructure construction),
  V (hearing a signal in road traffic),
  W (hearing a general warning signal),
  E1 (hearing a signal relevant to locomotive drivers in railway operations)



uvex

Pairs	Order Code	Price
15	55783115	**£68.12**

EAR DEFENDERS X-FOLD, FOLDABLE, 23 DB

- Sound insulation value: 23dB
- Ideal for frequent wearing and removal
- Ergonomically shaped banded ear plugs for high wearing comfort
- With folding headband
- With interchangeable polyurethane foam plugs (article number: 55783155)
- Oval shape



uvex

Order Code	Price
55783125	**£4.66**

REPLACEMENT PLUGS FOR X-CAP AND X-FOLD

- High user comfort
- Made of polyurethane foam
- Oval shape



uvex

Pairs	Order Code	Price
60	55783155	**£53.19**

HEARING PROTECTION BAND, UVEX, XACT-BAND 26 DB

- Sound insulation value: 26dB
- Reduce the transmission of noise thanks to the sound blockers incorporated into the head band
- Ideal for frequent wearing and removal
- Thumb recesses allow quick and easy handling
- Ergonomically shaped banded ear plugs for high wearing comfort
- With interchangeable polyurethane foam ear plugs



uvex

Pairs	Order Code	Price
5	55783135	**£23.75**

EAR DEFENDERS PELTOR OPTIME 27-35DB

- Simple and infinitely variable height adjustment of the band
- Sturdy steel band
- Two-point spring-steel suspension for low contact pressure
- Padded headband
- Comfortable, soft sealing pads filled with a unique combination of fluid and foam for maximum wearing comfort





3M

Colour	Sound Insulation (dB)	Order Code	Price
Yellow	27	55791010	**£21.91**
Anthracite	31	55791020	**£26.92**
Black/Red	35	55791030	**£31.55**

K200 EAR DEFENDERS SNR VALUE 28 DB

- Dielectric earmuffs with length adjustment
- Easy vertical adjustment of the band
- 360° rotating ear cups
- With 360° headband adjustment
- Suitable for use in workplace environments with exposure to electrical voltage



uvex

Sound Insulation (dB)	Order Code	Price
28	55788121	**£14.43**

EAR DEFENDERS SNR 28-35DB

- Easy vertical adjustment of the band
- Padded headband
- **55788133:** Padded cups made from extra-soft memory foam for a comfortable fit, even during long-term use
- **55788135:** High insulation in the high-frequency range





uvex

Colour	Sound Insulation (dB)	Order Code	Price
Black/Green	28	55788128	**£21.68**
Black/Yellow	32	55788132	**£26.69**
Black/Red	33	55788133	**£27.86**
Neon Green	35	55788135	**£32.97**

PELTOR EAR DEFENDERS 27-37DB

- Simple and infinitely variable height adjustment of the band
- Electrically insulated wire-reinforced bracket
- Comfortable, soft sealing pads





3M

Colour	Sound Insulation (dB)	Order Code	Price
Black/Green	27	55791110	**£24.45**
Black/Yellow	31	55791120	**£34.51**
Black/Red	33	55791130	**£38.60**
Black/Green	35	55791140	**£45.63**
Black	37	55791150	**£51.70**

HALF FACE MASK SECURE-CLICK™ HF-801 EN STANDARD: 140

- Unique and fast Secure-Click™ filter connection: Align the filter and push to hear a click
- Push-button seal check provides increased confidence that the respirator is being worn properly
- Face seal with flexible nose piece: Soft and comfortable to wear
- Two dual-flow filters combine four airflow paths for easier breathing
- Exhalation valve helps direct heat from breath and moisture downwards
- Slim filter design for a good field of vision



Size	Order Code	Price
S	55848050	
M	55848060	**£48.95**
L	55848070	

HALF FACE BREATHING MASK EN STANDARD: 405

- Ready-to-use, maintenance-free half face mask with built-in filter elements
- Lightweight and well-balanced mask
- Slim design for an optimal field of view
- Adjustable strap for secure and comfortable fit
- Soft and skin-friendly face seal
- Resealable pouch for practical and clean storage after use



Filter Class	Order Code	Price
FFA2P3RD (organic gases and vapours)	55848010	**£35.92**
FFABE1P3RD (+ inorganic and acidic gases)	55848020	**£39.50**
FFAEKP3RD (+ ammonia)	55848030	**£45.66**

BREATHING MASKS EN STANDARD: 352-2

- With adjustable buckle strap
- Soft, inner sealing lip ring improves the face seal and provides greater comfort
- Can be hygienically cleaned when used across several shifts
- With exhalation valve & nose bridge



55836160



55836190

Pack Size	Filter Class	Colour	Order Code	Price Each
5	FFP2RD	Blue	55836160	**£48.36**
		Red	55836190	**£55.77**

PARTICLE FILTERING HALF FACE MASK EN STANDARD: 149

- With exhalation valve (except 55834025)
- With nose bridge



Pack Size	Filter Class	Order Code	Price Each
20	FFP2NRD	55834025	**£17.69**
10	FFP2NRD	55834115	**£10.30**
5	FFP3NRD	55834120	**£17.31**

PARTICLE FILTERING HALF FACE MASK EN STANDARD: 149

- Ergonomic fit
- Continuous headband
- With exhalation valve (except 55838015)
- With nose bridge
- Labelled for use with high levels of dust exposure (D)



55838037



55838015



55838047



55838057

Pack Size	Filter Class	Order Code	Price
20	FFP1NRD	55838015	**£1.31**
15	FFP2NRD	55838037	**£34.91**
15	FFP2NRD	55838047	**£34.91**
15	FFP3NRD	55838057	**£82.73**

PARTICLE FILTERING HALF FACE MASKS EN STANDARD: 149

- With nose bridge
- 55836130 with exhalation valve



55836100



55836130

Pack Size	Filter Class	Order Code	Price Each
20	FFP1NRD	55836100	**£31.39**
10	FFP2NRD	55836130	**£38.73**

GAS AND COMBINATION FILTER

- Trapezoidal gas and vapour filters combine outstanding protection with excellent wearing comfort
- Low breathing resistance
- Even weight distribution when attached to the mask
- 55848365 and 55848375: Insert filter to be used in combination with the gas filters



3M

Pack Size	Filter Class	Order Code	Price
8	A1	55848305	**£7.07**
8	K1	55848315	**£69.53**
8	A2	55848325	**£68.66**
8	ABE1	55848335	**£62.53**
8	ABEK1	55848345	**£72.53**
20	P3R	55848355	**£131.70**
20	P2R	55848365	**£86.03**
20	P3R	55848375	**£109.23**

HF-800 COMBINATION FILTERS

- Suitable for 3M™ HF-800 series breathing protection half face masks
- Slim filter design for a good field of vision
- Two dual-flow filters combine four airflow paths for easier breathing
- Even weight distribution when attached to the mask
- Pack of 2



3M

Filter Class	Order Code	Price
ABEK1P3R	55848200	**£41.57**
A2P3R	55848205	**£40.99**

PROFAS RUBIFLEX 35 LONG LENGTH CHEMICAL PROTECTION GLOVE

- Good resistance against many chemicals, acids, bases, mineral oils and solvents
- Ergonomic fit, very high flexibility
- Cotton lining has very high vapour absorbency
- Reinforced cuff
- OEKO-TEX Standard 100
- 350mm Long



uvex

Pairs Size	Pairs	Order Code	Price (Per Pair)
M	10	55563108	**£12.93**
L		55563109	
XL		55563110	

PROFAS RUBIFLEX 27 STANDARD LENGTH CHEMICAL PROTECTION GLOVE

- Good resistance against many chemicals, acids, bases, mineral oils and solvents
- Ergonomic fit, very high flexibility
- Cotton lining has very high vapour absorbency
- Reinforced cuff
- OEKO-TEX Standard 100
- 270mm Long



uvex

Size	Pairs	Order Code	Price (Per Pair)
M	10	55563008	**£11.47**
L		55563009	
XL		55563010	

RUBIFLEX 35 LONG LENGTH CHEMICAL PROTECTION GLOVE

- Good resistance against many chemicals, greases and mineral oils cotton lining has very high vapour absorbency
- OEKO-TEX Standard 100
- Light glove with innovative Xtra Grip Technology
- Combines protection and grip with excellent comfort and flexibility
- 350mm Long



uvex

Pairs Size	Pairs	Order Code	Price (Per Pair)
S	10	55563307	**£10.46**
M		55563308	
L		55563309	
XL		55563310	

RUBIFLEX 27 STANDARD LENGTH CHEMICAL PROTECTION GLOVE

- Good resistance against many chemicals, greases and mineral oils cotton lining has very high vapour absorbency
- OEKO-TEX Standard 100
- Light glove with innovative Xtra Grip Technology
- Combines protection and grip with excellent comfort and flexibility
- 270mm Long



uvex

Size	Pairs	Order Code	Price (Per Pair)
S	10	55563207	**£11.44**
M		55563208	
L		55563209	
XL		55563210	

CHEMICAL PROTECTION GLOVES

- Ideal for laboratory work
- Category: III
- Design: Mehrweg
- Re-usable
- EN standard: 388, 374
- ISO: 21420
- 300mm length



Pairs Size	Pairs	Order Code	Price (Per Pair)
S	12	55575007	£1.70
M		55575008	
L		55575009	
XL		55575010	

RUBIFLEX XG CHEMICAL PROTECTION GLOVES

- Good resistance against many chemicals, greases and mineral oils cotton lining has very high vapour absorbency
- OEKO-TEX Standard 100
- Light glove with innovative Xtra Grip Technology
- Combines protection and grip with excellent comfort and flexibility
- Especially good grip when working in oily conditions



Pairs Size	Pairs	Order Code	Price (Per Pair)
S	10	55563407	£13.00
M		55563408	
L		55563409	
XL		55563410	

BOX OF DISPOSABLE GLOVES

- For assembly and cleaning work, for laboratory work, for painting and polishing work as well as for work in the food sector
- Approved for contact with food
- powder-free
- Can be worn on both sides



Size	Pairs	Order Code	Price
S	100	55551147	£7.00
M		55551148	
L		55551149	
XL		55551150	

U-FIT DISPOSABLE GLOVE

- Good mechanical strength and reliable protection against oil and contamination
- For light assembly and cleaning work, as well as laboratory work
- Good grip and excellent fit
- Textured surface
- Powder-free



Size	Pairs	Order Code	Price
S	100	55563001	£13.50
M		55563002	
L		55563003	
XL		55563004	

DISPOSABLE PROTECTIVE GLOVES - MICROFLEX

- Special material mix clinically proven to reduce the risks of contact dermatitis
- Highest grip safety when handling objects
- Excellent touch sensitivity and finger movement
- Extremely soft material for high comfort even when wearing for longer periods of time



Size	Quantity	Order Code	Price
XS	100	55562136	£21.55
S		55562137	
M		55562138	
L		55562139	
XL		55562140	

DISPOSABLE GLOVES

- Chemical and liquid protection
- Resistance against a wide spectrum of industrial chemicals
- Suitable for handling food
- Ansell Grip Technology ensures the best grip on dry and wet objects
- Robust and soft material for high comfort even when wearing for longer periods of time



Size	Quantity	Order Code	Price
S	100	55526007	£23.51
M		55526008	
L		55526009	
XL		55526010	

ASSEMBLY PROTECTION GLOVES EN STANDARD: 388, 407

- ISO: 21420
- For work in dry and slightly damp areas
- With knitted cuff



PRO FIT.

Size	Pairs	Order Code	Price (Per Pair)
S	12	55572107	£4.27
M		55572108	
L		55572109	
XL		55572110	

ALL-ROUND PROTECTIVE GLOVE EN STANDARD: 388

- ISO: 21420
- Good grip in dry and slightly damp areas
- Excellent skin tolerance and free from pollutants
- Very high level of breathability through the aqua-polymer foam coating



uvex

Size	Pairs	Order Code	Price (Per Pair)
S	10	55584107	£5.64
M		55584108	
L		55584109	
XL		55584110	

A-MECH 3 ASSEMBLY PROTECTION GLOVES EN STANDARD: 388

- ISO: 21420
- Ideal for all work with high requirements around touch sensitivity e.g. in the automotive industry, fine assembly, for precision work or transport and sorting work
- Extremely thin and with good sensitivity for excellent tactile feel



ATORN®

Size	Pairs	Order Code	Price (Per Pair)
S	12	55551537	£2.87
M		55551538	
L		55551539	
XL		55551540	
XXL		55551541	

ASSEMBLY PROTECTION GLOVES EN STANDARD: 388

- ISO: 21420
- Ideal for all work with high requirements around touch sensitivity
- High tactile feel with good grip



ORION®

Size	Pairs	Order Code	Price (Per Pair)
S	12	55551117	£0.99
M		55551118	
L		55551119	
XL		55551120	

DOUBLE TEX ASSEMBLY PROTECTION GLOVES EN STANDARD: 388

- ISO: 21420
- For assembly work in dry and damp environments
- Breathable and comfortable to wear



PRO FIT.

Size	Pairs	Order Code	Price (Per Pair)
M	12	55573108	£4.92

ASSEMBLY PROTECTION GLOVES EN STANDARD: 388

- ISO: 21420
- Ideal for all work with high requirements around touch sensitivity e.g. in the automotive industry, fine assembly, for precision work or transport and sorting work
- High tactile feel with good grip



ORION®

Size	Pairs	Order Code	Price (Per Pair)
S	12	55551127	£0.97
M		55551128	
L		55551129	
XL		55551130	

CUT PROTECTION GLOVES EN STANDARD: 388

- ISO: 21420
- Ideal for working with extremely high cut protection requirements e.g. in sheet steel and metal processing, maintenance and assembly
- Additional nitrile reinforcement in the crook of the thumb



ATORN®

Size	Pairs	Order Code	Price (Per Pair)
S	6	55551737	£10.55
M		55551738	
L		55551739	
XL		55551740	
XXL		55551741	

CUT PROTECTION GLOVES EN STANDARD: 388

- Secure grip with excellent sense of touch
- High abrasion resistance thanks to polyester and fibreglass construction
- ISO: 21420
- For work involving cut protection hazards



PRO FIT.

Size	Pairs	Order Code	Price (Per Pair)
S	12	55578737	£6.60
M		55578738	
L		55578739	
XL		55578740	

2 CUT PROTECTION GLOVE EN STANDARD: 388

- ISO: 21420
- Ideal for precision work with high cut protection requirements e.g. in metal and plastic processing, the paper and glass industry and the automotive industry
- Filamented fibres for cooling effect
- Extremely thin and with good sensitivity for excellent tactile feel



ATORN®

Size	Pairs	Order Code	Price (Per Pair)
S	6	55551717	£7.17
M		55551718	
L		55551719	
XL		55551720	
XXL		55551721	

CUT PROTECTION GLOVES EN STANDARD: 388

- ISO: 21420
- Ideal for precision work with medium cut protection requirements
- High abrasion resistance
- Secure grip with excellent sense of touch



ATORN®

Size	Pairs	Order Code	Price (Per Pair)
S	10	55551707	£7.66
M		55551708	
L		55551709	
XL		55551710	
XXL		55551711	

3 CUT PROTECTION GLOVES EN STANDARD: 388

- ISO: 21420
- Ideal for precision work with high cut protection requirements e.g. in metal and plastic processing, the paper and glass industry and the automotive industry
- Extremely thin and with good sensitivity for excellent tactile feel
- Additional nitrile reinforcement in the crook of the thumb



ATORN®

Size	Pairs	Order Code	Price (Per Pair)
S	6	55551727	£9.06
M		55551728	
L		55551729	
XL		55551730	
XXL		55551731	

TEMP-ICE 700 COLD PROTECTIVE GLOVES / EN STANDARD: 388, 511

- ISO: 21420
- Insulated fabric inside ensures comfort down to -10°C
- Liquid-tight coating and water resistant tricot fabric
- Extremely abrasion-resistant coating roughened for optimum grip



MAPA PROFESSIONAL

Size	Pairs	Order Code	Price (Per Pair)
S	12	55521907	£10.92
M		55521908	
L		55521909	
XL		55521910	

PROTECTIVE GLOVE - COWHIDE FULL LEATHER / EN STANDARD: 388

- For working with high mechanical loads
- ISO: 21420
- Good grip on dry and slightly damp workpieces
- Rubberised cuffs, double seams



uvex

Size	Pairs	Order Code	Price (Per Pair)
L	10	55532009	£7.76
XL		55532010	

PROTECTIVE GLOVES - PIG LEATHER / EN STANDARD: 388

- ISO: 21420
- Backing material: Pigskin
- For working with high mechanical loads
- With cotton on the back of the hand for optimum breathability



ORION

Size	Pairs	Order Code	Price (Per Pair)
M	12	55551108	£4.35
L		55551109	
XL		55551110	

PROTECTIVE GLOVE - COWHIDE SPLIT LEATHER / EN STANDARD: 388

- For working with high mechanical loads
- ISO: 21420
- Rubberised cuffs, double seams
- Good grip on dry and slightly damp workpieces



uvex

Size	Pairs	Order Code	Price (Per Pair)
L	10	55533009	£4.78
XL		55533010	

PROTECTIVE GLOVES - LEATHER / EN STANDARD: 388

- For working with high mechanical loads
- ISO: 21420
- Backing material: Full-grain cowhide leather
- High-quality workmanship, robust and very durable
- Thumbs fully lined



Size	Pairs	Order Code	Price (Per Pair)
M	10	55531118	£3.86
L		55531119	£4.04
XL		55531120	£4.04
XXL		55531121	£4.24
XXXL		55531122	£4.44

WELDER'S PROTECTIVE GLOVES - LEATHER / EN STANDARD: 388, 407, 12477A, 12477B

- Welding process: MIG/MAG, TIG
- ISO: 21420
- Palms and backs of hands made from Sebatan leather
- Cuff made from split leather
- Wrist protection
- Heat-resistant leather with special heat-insulating lining
- Double-kevlar seam for a longer service life
- Excellent sense of touch



Size	Pairs	Order Code	Price (Per Pair)
XL	10	55550125	£10.60

WELDER'S PROTECTIVE GLOVES - ARGON / EN STANDARD: 388, 407, 12477B

- Welding process: TIG
- Palms and backs of hands made from nappa leather
- Cuff made from split leather wrist protection
- ISO: 21420
- Wrist protection



Size	Pairs	Order Code	Price (Per Pair)
L	12	55550159	£4.50
XL		55550160	
XXL		55550161	

WELDER'S PROTECTIVE GLOVES - SPLIT LEATHER / EN STANDARD: 388, 407, 12477A, 12477B

- Welding process: MIG/MAG, TIG
- Cuff made from split leather
- Excellent sense of touch
- ISO: 21420



Size	Pairs	Order Code	Price (Per Pair)
XL	12	55550115	£4.24

ELECTRICIAN'S PROTECTIVE GLOVE / EN STANDARD: 60903

- Ideal for applications with a risk of contact voltage
- ISO: 21420
- Reduced hand fatigue thanks to the anatomical fit, which has been designed to mimic the natural resting position of the hand
- Electrical glove class 0
- Certified resistance to acids (category A), ozone (category Z) and low temperatures (category C)
- Applications with a risk of contact voltage of AC ≥ 1000 V (DC ≥ 1500)
- Supplied as a pair



Size	Order Code	Price (Per Pair)
L	55522009	£58.08
XL	55522010	
XXL	55522011	

PROTECTIVE GLOVE - KEVLAR, MEDIUM KNIT / EN STANDARD: 388

- Heat-insulated at low temperatures
- ISO: 21420
- Backing material: Knitted jersey
- Abrasion resistance: 1



Size	Pairs	Order Code	Price (Per Pair)
S	10	55579001	£10.64
M		55579002	
L		55579003	
XL		55579004	

DOUBLE KNITTED GLOVES WITH M FLAT EMBOSSING

- M flat embossing applied on both sides
- Seamless processing
- Knitted cuff



Size	Pairs	Order Code	Price (Per Pair)
L	6	55576119	£4.99
XL		55576120	

PREOX-ARAMID FABRIC HEAT-PROTECTION GLOVES / EN STANDARD: 388, 407

- Suitable for brief handling of hot objects up to 250°C
- ISO: 21420
- Soft and flexible
- Double-insulated
- Supplied as a pair
- Backing material: Preox-aramid fabric



Size	Order Code	Price (Per Pair)
XL	55590001	**£64.80**

SPLIT LEATHER HEAT-PROTECTION GLOVES

- Soft with single-layer insulation
- Flexible aluminisation
- Abrasion-resistant
- Suitable for brief handling of hot objects up to 100°C and for radiated heat
- Supplied as a pair



Size	Order Code	Price (Per Pair)
XL	55590003	**£65.00**

FABRIC HEAT-PROTECTION GLOVES / EN STANDARD: 388, 407

- Category: III
- ISO: 21420
- Backing material: PBI®-fabric
- Suitable for handling hot objects up to 500°C
- Abrasion-resistant
- Double insulated
- Supplied as a pair



Size	Order Code	Price (Per Pair)
XL	55590002	**£136.54**

TEMP-DEX 710 HIGH TEMPERATURE PROTECTIVE GLOVE / EN STANDARD: 388, 407

- ISO: 21420
- Suitable for brief handling of hot objects up to 100°C
- Fine, anatomically shaped glove with high dexterity and heat protection
- Excellent abrasion resistance for long durability



MAPA PROFESSIONAL

Size	Pairs	Order Code	Price (Per Pair)
S	10	55521807	£5.71
M		55521809	

CUT PROTECTION KRYTECH ARM GUARD EN STANDARD: 388

- For working with cut protection hazards
- The extra-fine polyamide thumbhole allows hands maximum freedom of movement
- Hook and loop fastener on the upper arm for adjusting the size; this provides optimum protection as the cuff cannot move out of place



MAPA PROFESSIONAL

Length cm	Pairs	Order Code	Price
45	6	55521930	£16.50
60		55521935	£24.51

HEAT AND CUT PROTECTION KEVLAR ARM GUARD / EN STANDARD: 388, 407

- ISO: 21420
- Backing material: Kevlar®
- Size: Universal
- With thumb hole
- Can be worn on both sides
- Supplied as a pair
- For work involving cut protection hazards and high thermal loads



Order Code	Price (Per Pair)
55579020	£10.04

General Tools



ATORN® ORION® Starrett® wiha®

cutwel

Variety of Products For Your Needs

Wide range of general tools including spanners, hammers, screwdrivers, pliers & much more.



Vices 1444
For general workholding applications including bench vices, filing vices, pipe vices * technicians vices



Clamps 1445
For holding, securing, or fastening objects together, using adjustable jaws or grips



Extractors 1447
Huge range of internal & external extraction tools for extracting bearings, screws & studs



Spanners 1449
Including open end, combination, double ring, adjustable & ratchet type spanners



Allen Keys 1451
Available in standard, long reach, ball end & T-handle for use on socket head fasteners



Sockets 1453
Telescopic & ratchet type handles including sockets & socket sets with 1/4”, 3/8” & 1/2” drives



Screwdrivers 1458
Huge range of Philips, posi, flat head, torx & precision drivers for use on a variety of fasteners



Gripping, Cutting & Stripping Tools 1466
Range of hand tools designed for holding, severing, & removing insulation from wires, cables, or other materials



Hammers 1476
Includes machinists, welders, copper, rubber & dead blow hammers with replaceable ends



Chisels & Punches 1477
Punches for marking materials prior to drilling, chisel for cutting & shaping, available in singles or sets



Scraping Tools & Pick-Up Tools 1478
Scrapers for removing unwanted materials from surfaces & pick up tools for retrieval & cleaning



Magnetics 1480
A comprehensive range of magnetic products for a multitude of applications including clamping aids, lifting equipment, workholding & retrieval



Brushes 1482
Wire hand brushes including steel & stainless steel wire for surface preparation & cleaning



Inspection Mirrors & Lights 1484
For examining & inspecting hard-to-reach or obscured areas, providing enhanced visibility in automotive, industrial, or maintenance applications



Torches & Lamps 1486
For illuminating & inspecting various workspaces



Tweezers 1487
Various types of tweezers for a range of applications including inspection & maintenance tasks



Tool Storage 1488
Encompasses a variety of organisational solutions, promoting easy access & maintaining order in workshops



Tool Kits 1489
Include a variety of hand tools & accessories organised in a single package



Sawing Tools 1504
Wide range of sawing tools including band saws, hack saws, slitting saws & more



Scribing Tools 1509
For marking or scoring lines on surfaces, aiding in precision measurements & layout

PARALLEL WORKBENCH VICES

- High-quality grey cast iron with pearlitic texture
- Changeable and reversible jaws with smooth and ribbed clamping surface
- Smooth-running spindle with trapezoidal thread
- Cast-on pipe clamping jaws





ATORN®

Jaw Width mm	Min./Max. Clamping Width mm	Order Code			Price
		Blue	Green	Grey	
100	0-140	51028001	51028011	-	**£212.63**
125	0-175	51028002	51028012	51028015	**£256.99**
150	0-250	51028003	51028013	-	**£414.16**

PARALLEL WORKBENCH VICE

Basic Model

- Made of steel, forged
- Hardened, ribbed and fixed steel jaws
- Adjustable guide



ORION®

Jaw Width mm	Min./Max. Clamping Width mm	Order Code	Price
100	0-125	51063011	**£111.93**
125	0-150	51063026	**£134.66**
150	0-200	51063051	**£199.39**

FILING VICES

- Made of steel, forged
- With trapezoidal spindle and wing nut
- For clamping and holding smaller workpieces
- With captive bracing spring



ORION®

Jaw Width mm	Order Code	Price
36	51016510	**£21.43**
40	51016520	**£23.87**
42	51016530	**£26.86**
48	51016540	**£32.83**
52	51016550	**£37.43**
55	51016560	**£59.67**

FOLDING PIPE VICE

- Drop-forged
- Hardened and milled steel jaws
- Spindle with rolled trapezoidal thread
- For clamping and machining pipes
- For screwing onto a table



ORION®

Max. Pipe External Dia mm	Order Code	Price
50	51096120	**£118.33**
75	51096130	**£162.70**

COMPACT PARALLEL BENCH VICE

- 10 kN clamping force
- Opening width gauge with centimetre scale
- Integrated pipe jaws
- Changeable and reversible jaws with smooth and ribbed clamping surface
- Steel body



HEUER® Das Original

Jaw Width mm	Opening Range mm	Clamping Depth mm	Order Code	Price
120	0-130	40	51041220	**£185.79**

PIN VICE

- With perforated, nickel-plated brass grip
- Brass chuck and grip



ORION®

Shank Diameter mm	Clamping Range mm	Order Code	Price
6	0-1	51000010	**£5.99**
	1-2	51000020	**£6.12**

TECHNICIAN'S BENCH VICE WITH BALL JOINT

- Quick, flexible mounting of the vice on the workbench with no damage sustained
- Vice can be rotated by 360° to all sides and swivelled by 90° thanks to firmly integrated ball joint



BERNSTEIN® TOOLS FOR ELECTRONICS

Jaw Width mm	Opening Range mm	Clamping Depth mm	Order Code	Price
50	0-70	38	51056045	**£184.60**

MALLEABLE IRON SCREW CLAMP 2 COMPONENT HANDLE

- Robust design with corrugated, reinforced malleable cast iron arms
- Profile rail with corrugation, galvanised surface
- Smooth running, burnished steel spindle with trapezoidal thread
- Clamping jaws with plastic protective caps
- Clamping force up to 6000N
- Ergonomic two-component handle for optimum force transmission



ATORN®

Max Clamping Width mm	Order Code	Price
120	51102012	**£10.55**
160	51102016	**£12.70**
200	51102020	**£17.52**
250	51102025	**£21.47**
300	51102030	**£25.95**
400	51102040	**£32.22**
500	51102050	**£32.58**
600	51102060	**£33.48**

ALL-STEEL SCREW CLAMP 2 COMPONENT HANDLE

- Fixed clamp made of cold-drawn profile steel, hardened and galvanised
- Sliding clamp drop-forged, hardened and galvanised
- Movable pressure plate with integrated spindle safety device
- Ergonomic two-component handle for optimum force transmission



ATORN®

Max Clamping Width mm	Order Code	Price
120	51105012	**£12.56**
160	51105016	**£15.75**
200	51105020	**£20.06**
250	51105025	**£23.80**
300	51105030	**£29.89**
400	51105040	**£35.25**
500	51105050	**£37.94**
600	51105060	**£40.27**

PARALLEL SCREW CLAMP

- With fine-threaded spindle
- Swivel-mounted clamping jaws
- Galvanised bar
- Precise and powerful clamping



ORION®

Clamping Range mm	Order Code	Price
0-25	51115001	**£18.22**
0-50	51115002	**£19.68**
0-75	51115003	**£27.31**
0-100	51115004	**£38.69**
0-150	51115005	**£69.12**

ALL-STEEL SCREW G CLAMP WITH LOCKING HANDLE

- Very high clamping forces
- Extremely robust and durable
- Spindle with T-handle
- Clamping force up to 22,000N



BESSEY®

Max Clamping Width mm	Order Code	Price
40	51107040	**£30.64**
60	51107060	**£35.11**
100	51107100	**£46.54**
120	51107120	**£55.59**
150	51107150	**£62.57**

DEEP-THROAT SCREW CLAMP

- Large, sturdy bracket made of annealed cast iron
- Sturdy, twist-resistant solid rail with 6-ply corrugation
- Clamping force up to 7000N



BESSEY®

Max Clamping Width mm	Max Clamping Depth mm	Order Code	Price
400	200	51105100	**£50.52**
400	250	51105110	**£64.17**
600	250	51105150	**£72.32**
600	500	51105160	**£138.64**
800	300	51105170	**£91.54**

LEVER CLAMP STEEL, BRIGHT ZINC-PLATED

- More energy saved thanks to optimised rail section
- Even pressure build up, particularly when the clamping width is fully utilised
- Serrated sliding bracket made from drop-forged, tempered steel
- Clamping force up to 8500N



BESSEY®

Max Clamping Width mm	Order Code	Price
120	51113012	**£40.95**
160	51113016	**£45.02**
200	51113020	**£51.46**
250	51113025	**£59.63**
300	51113030	**£70.08**

ONE-HANDED CLAMP

- Ergonomically shaped 2C handle behind the rail
- One-handed clamping and bracing of workpieces with clamping forces of up to 2000N
- Upper section can be converted from clamping to bracing without tools
- With removable protective caps on clamping surfaces



BESSEY®

Max Clamping Width mm	Order Code	Price
150	51110001	**£24.05**
300	51110002	**£26.79**
450	51110003	**£28.68**
600	51110004	**£32.33**

ONE-HANDED CLAMP WITH 2-COMPONENT HANDLE - STEEL

- Pump lever can be actuated from both sides
- Removable, super-elastic protective caps
- Spring-mounted and elastic clamping
- Clamping force up to 3,500N



BESSEY®

Max Clamping Width mm	Order Code	Price
300	51114010	**£42.87**
600	51114020	**£52.09**

MOUNTING CLAMPS

- Pressed sheet steel, galvanised
- Consistent and constant pressure thanks to in-built spiral spring



Max Clamping Width mm	Order Code	Price
30	51127010	**£4.00**
50	51127020	**£7.19**

ASSEMBLY CLAMP VARIOCLIPPIX

- Ergonomically shaped two-component handle
- Constant clamping force
- Superpolyamide clamping arms
- Variable clamping width can be continuously adjusted on one side
- Softpads for particularly gentle clamping with delicate surfaces



Max Clamping Width mm	Order Code	Price
55	51126060	**£6.06**
100	51126100	**£7.48**

ASSEMBLY CLAMP VARIOCLIPPIX

- Ergonomically shaped two-component handle
- Constant clamping force
- Superpolyamide clamping arms
- Variable clamping width can be continuously adjusted on both sides
- Softpads for particularly gentle clamping with delicate surfaces



Max Clamping Width mm	Order Code	Price
170	51126110	**£8.39**

ASSEMBLY CLAMP CLIPPIX XCL

- Ergonomically shaped two-component handle
- Constant clamping force
- Superpolyamide clamping arms
- Long, pointed clamping arms for working in narrow gaps and areas close to edges



Max Clamping Width mm	Max Clamping Depth mm	Order Code	Price
55	60	51126120	**£2.91**
70	110	51126130	**£4.66**

MITRE WELDING CLAMP GALVANISED STEEL

- Copper-plated spindle
- Versatile clamping device for holding, setting and aligning parts at angles in relation to one another
- Angle range can be adjusted from 5° to 180°



Max Clamping Width mm	Diameter mm	Jaw Height mm	Order Code	Price
100	100	35	51116120	**£316.97**

MITRE CLAMP GALVANISED STEEL

- Copper-plated spindle
- Versatile clamping device for holding, setting and aligning parts at angles in relation to one another



Max Clamping Width mm	Diameter mm	Order Code	Price
90	60	51116100	**£164.29**
120	100	51116110	**£186.19**

MITRE CLAMP PLASTIC

- Plastic-coated metal jaws
- Nut and guide joint made from fibre glass-reinforced polyamide
- Versatile clamping device for holding, setting and aligning parts at angles in relation to one another.



Max Clamping Width mm	Diameter mm	Jaw Height mm	Order Code	Price
100	60	36	51116020	**£64.21**

PULLER SET - 11 PIECES

- Forged traverses and pull-out hooks
- 1x 2-arm traverse
- 1x 3-arm traverse
- 2 spindles
- 3 narrow pull-out hooks in each of 3 lengths 100/200/250mm
- Clamping depths up to 250mm
- Maximum external clamping width 130mm, internal 170mm
- Delivery in case with foam insert
- For internal and external extraction with a range of clamping depths



GEDORE WERKZEUGE FÜRS LEBEN

Min/Max Clamping Width mm	Order Code	Price
80-170	55026090	**£518.89**

PULLER ASSORTMENT INTERNAL & EXTERNAL

- Forged traverses and pull-out hooks
- 2x 2-arm traverses
- 4x Maintenance-free spindles (3 x ball/tip)
- 2 pull hooks in each of the 2 lengths 100/250mm
- Hook extensions in 2 lengths 100/150mm
- Clamping depth up to 300 mm
- Maximum clamping width external: 200mm, internal: 70–260mm
- Delivery in L-Boxx with foam insert



GEDORE WERKZEUGE FÜRS LEBEN

Min/Max Clamping Width mm	Min/Max Clamping Depth mm	Order Code	Price
100-260	50-300	55026091	**£688.96**

INTERNAL BEARING EXTRACTOR

- Set of 4 internal extractors and slide hammer with 1.7 kg impact weight
- M10 connection thread
- Multiple wrench width 11 & 13mm
- Design with expanded clamping range
- Titanium-nitrided surface
- For extracting ball bearings, rings and bushings



GEDORE WERKZEUGE FÜRS LEBEN

Min/Max Internal Diameter mm	Order Code	Price
5-36	55095200	**£333.20**

INTERNAL BEARING EXTRACTOR

- Titanium-nitrated coating for greater hardness
- M10 connection thread
- Multiple wrench width 11 & 13mm
- Wear-free ball construction ensures permanently invariable spreading range
- For extracting ball bearings, rings and bushings



GEDORE WERKZEUGE FÜRS LEBEN

Min/Max Internal Diameter mm	Order Code	Price
5-8.5	55095110	**£71.87**
8-15	55095120	**£71.87**
15-24	55095130	**£77.01**
25-36	55095140	**£87.28**

2 LEGGED EXTRACTOR

- Strong and practical
- Self-centring puller hooks, screwed
- Toggle or key actuation
- Less working area required
- For safe extraction of washers, wheels, ball bearings
- Self-clamping hooks



GEDORE WERKZEUGE FÜRS LEBEN

Max Clamping Width mm	Max Clamping Depth mm	Order Code	Price
60	40	55024100	**£22.60**
60	60	55024110	**£22.60**
70	80	55024115	**£41.06**
90	120	55024120	**£63.67**

INTERNAL BEARING EXTRACTOR

- Can be used with slide hammer or counterpart
- Not suitable for shaft-mounted bearings
- Bearings seated close to the back wall of the casing are securely gripped by the sharp projections on the shells



GEDORE WERKZEUGE FÜRS LEBEN

Min/Max Internal Diameter mm	Connection Thread	Order Code	Price
5-8	M10	55095002	**£51.32**
8-12		55095004	**£51.32**
12-15		55095010	**£46.19**
14-19		55095020	**£51.32**
19-24		55095030	**£51.32**
24-30		55095040	**£51.32**
30-36		55095050	**£61.62**

3 LEGGED EXTRACTOR

- Strong and practical
- For key actuation
- Self-clamping hooks
- Even load distribution and particularly secure hold on the part being removed thanks to three puller hooks



GEDORE WERKZEUGE FÜRS LEBEN

Max Clamping Width mm	Max Clamping Depth mm	Order Code	Price
70	80	55045010	**£51.32**
90	120	55045020	**£82.14**
130	160	55045030	**£122.19**
180	200	55045040	**£179.34**

3 LEGGED EXTRACTOR WITH HOOK STOP

- Strong, drop-forged design
- For key actuation
- Can be used as external and internal extractor
- Secure hold and centred pulling thanks to the even load distribution
- With hook stop to secure against unwanted slippage; pressing the button moves the hook



GEDORE WERKZEUGE FÜRS LEBEN

Max Internal Clamping Width mm	Max Internal Clamping Width mm	Max Clamping Depth mm	Order Code	Price
90	140	100	55046010	**£97.55**
130	180	100	55046020	**£111.93**
160	220	150	55046030	**£180.40**
200	260	150	55046040	**£195.25**

SCREW EXTRACTOR, M4-M45 INDIVIDUAL

- 54-56 HRC
- Rolled thread
- Ground shaft
- Only screws with a right-hand thread can be unscrewed



PEDDINGHAUS

Thread Size	Order Code	Price
M4-M6	55010010	**£1.59**
M5-M7	55010020	**£1.59**
M8-M10	55010030	**£1.79**
M11-M14	55010040	**£2.39**
M15-M18	55010050	**£2.82**
M18-M24	55010060	**£4.28**
M24-M33	55010070	**£6.70**
M33-M45	55010080	**£9.74**

SCREW EXTRACTOR SET, M4-M24 6 PIECES

- 54-56 HRC
- For removing broken screws, threaded pins and pipe ends
- Only screws with a right-hand thread can be unscrewed
- The HI-TRAC profile reduces the extraction torque by 30%



PEDDINGHAUS

Thread Size	Order Code	Price
M4-M24	55006100	**£21.08**

STUD EXTRACTOR SET

- For pulling and extracting threaded parts, e.g. tapered and cylindrical pins
- Including M4, 5, 6, 8, 10, 12 screws and washers



Thread Size	Impact Length mm	Order Code	Price
M4-M15	85	55015010	**£95.06**
M4-M12	300	55015020	**£108.07**

SCREW EXTRACTOR SET, M4-M24 6 PIECES

- 54-56 HRC
- Rolled thread
- Ground shaft
- Only screws with a right-hand thread can be unscrewed



PEDDINGHAUS

Thread Size	Order Code	Price
M4-M24	55011020	**£14.86**

4-PIECE STUD BOLT EXTRACTOR SET

- 4-piece set for extraction of stud bolts or broken off component
- High performance and long service life
- Operation via hexagon insert bit
- For use in confined spaces
- For extraction of stud bolts or broken off components



KUKKO

Min/Max Clamping Diameter mm	Order Code	Price
6-12	55009200	**£100.66**

SCREW EXTRACTOR SET, 5-16mm 25 PIECES

- For removing broken screws, threaded pins and pipe ends.
- Set of drill bits and drill bushings
- Supplied in robust case with foam inlay
- Easy to remove the damaged bolt precisely, without damaging the thread



KUKKO

Thread Size	Pilot Hole Diameter mm	Order Code	Price
M5-M16	2.3-11	55012010	**£131.70**

17PC HEXAGON SCREW EXTRACTOR SET

With Spiral Drill Bit

- Thread-conserving removal of the screw without damage
- For thread-conserving removal of damaged or broken-off screws with left-hand or right-handthread, particularly stripped hex screws
- For applications in mechanics

Contents

- 1x Screw extractor drill (1 of each size): 2.3, 2.8, 3.4, 4.5, 5.7, 6.8, 9, 11mm
- 1x Screw extractor (1 of each size): 2, 2.5, 3, 4, 5, 6, 8, 10mm
- 1x box



wiha

Pieces	Weight g	Order Code	Price
17	634	WIHA-03988	**£69.19**

8PC RING RATCHET OPEN-ENDED SPANNER SET WITH HOLDER

Versatile & Efficient Toolset Designed to Simplify Your Mechanical & Automotive Tasks

- For quick and easy fastening and loosening of bolts and nuts
- Open-ended design ensures a secure grip on fasteners, minimising the risk of slipping and rounding off edges
- Crafted with precision and durability, utilising high-quality materials

Contents

- 1x Ring ratchet open-end spanner (1 of each size):
  9x9mm, 10x10mm, 11x11mm, 12x12mm, 13x13mm, 14x14mm, 15x15mm
- 1x holder



wiha

Pieces	Weight g	Order Code	Price
8	810g	WIHA-44664	**£51.57**

13PC DOUBLE OPEN-END SPANNER SET WITH HOLDER

With a Convenient Holder for Clearly Arranged Storage & Easy Withdrawal

- For installation and mounting work
- Improved accessibility in confined spaces thanks to 15° jaw positioning
- Made from high quality chrome vanadium steel

Contents

- Double open-end spanner set (1 of each size)
  6x7mm, 8x9mm, 10x11mm, 12x13mm, 14x15mm, 16x17mm, 18x19mm,
  20x22mm, 21x23mm, 24x27mm, 25x28mm, 30x32mm
- 1x holder



wiha

Pieces	Weight g	Order Code	Price
12	2537g	WIHA-44753	**£67.96**

DOUBLE OPEN END SPANNER SETS

- Jaw position: 15°
- Surface: Chrome plated
- Material: Chrome-vanadium steel
- DIN: 3110



ORION

Size Range Width Across Flats	Pieces	Order Code	Price
6-22	8	52017850	**£18.48**
6-32	12	52017870	**£38.34**

COMBINATION SPANNER SET

- Jaw position: 15°
- Tip profile type: ENERGY profile
- Surface: Chrome plated
- Material: Chrome-vanadium steel
- DIN: 3113



ORION

Size Range Width Across Flats	Pieces	Order Code	Price
8-19	8	52037670	**£19.05**
10-32	12	52037684	**£55.67**

ARTICULATED COMBINATION RATCHET SPANNER SET

- Finely toothed ratchet on socket end with 72 teeth
- 5° return angle
- Supplied in roll-up pouch
- Flexible applications and access to confined installation spaces thanks to the swivel head



ATORN

Size Range Width Across Flats	Pieces	Order Code	Price
8-19	5	52044400	**£65.30**

DOUBLE END BOX SPANNER SET

- Surface: Chrome plated
- Material: Chrome-vanadium steel
- DIN: 838



ORION

Size Range Width Across Flats	Pieces	Order Code	Price
6-22	8	52059790	**£27.23**
6-32	10	52059800	**£47.54**
6-32	12	52059810	**£54.38**

DOUBLE OPEN END SPANNER

- Shaft profile creates excellent bending rigidity
- Good force transfer
- Non-slip feel



ORION®

Width Across Flats	Order Code	Price
6x7	52008010	**£1.43**
7x8	52008020	**£1.22**
8x9	52008040	**£1.33**
8x10	52008050	**£1.33**
9x11	52008080	**£1.45**
10x11	52008090	**£1.33**
10x13	52008110	**£1.33**
11x13	52008130	**£1.58**
12x13	52008150	**£1.48**
12x14	52008160	**£1.69**
13x14	52008170	**£1.80**
13x17	52008190	**£1.69**
14x15	52008195	**£2.61**
16x17	52008205	**£2.18**
16x18	52008208	**£2.18**
17x19	52008210	**£2.08**
18x19	52008225	**£3.08**
18x21	52008228	**£3.64**
19x22	52008230	**£2.82**
19x24	52008240	**£3.32**
20x22	52008245	**£3.94**
21x23	52008247	**£4.58**
22x24	52008250	**£3.74**
24x27	52008270	**£4.30**
25x28	52008285	**£7.53**
27x30	52008290	**£6.24**
30x32	52008310	**£6.31**
32x36	52008330	**£8.64**
36x41	52008340	**£10.82**
41x46	52008350	**£14.24**
46x50	52008360	**£17.37**
50x55	52008370	**£23.87**
55x60	52008380	**£30.26**

CHROME PLATED ADJUSTABLE SPANNER

- Chrome-vanadium steel
- Drop-forged
- Type B
- Polished head
- Scale
- With hanging eyelet



ATORN®

Max Width Across Flats	Order Code	Price
13	52150010	**£12.63**
19	52150015	**£12.44**
24	52150020	**£15.21**
29	52150025	**£20.15**
34	52150030	**£26.25**

6PC COMFORT GRIP T-HANDLE SET WITH ALLEN KEY STYLE

Versatile & Ergonomic Tool Designed for a Wide Range of Applications

- Highly durable thanks to high-quality, chrome-plated L-key surface to prevent corrosion
- Integrated side drive for effortless fastening and unfastening of rusted or stubborn screws
- Ensures a comfortable and secure grip, reducing hand fatigue and providing maximum torque transfer



Contents

- L-key with T-handle comfort grip hex with side drive, matt chrome-plated (1 of each size) 2.5, 3, 4, 5, 6, 8mm

Pieces	Weight g	Order Code	Price
6	655g	WIHA-45620	**£22.74**

10PC HEXAGONAL BALL END ALLEN KEY SET IN PROSTAR HOLDER

With chrome-plated L-key surface to prevent corrosion

- Especially useful on screws that are difficult to access
- Sliding function for one-handed opening of the holder and simple, quick removal
- The ball end facilitates access to screws and allows you to work at an angle of up to 25°



Contents

- L-keys hexagonal ball end, matt chrome-plated (1 of each size): 1.5, 2, 2.5, 3, 4, 5, 6 ,8, 10mm
- 1x ProStar holder

Pieces	Weight g	Order Code	Price
10	483g	WIHA-07192	**£19.04**

8PC ALLEN KEY WITH T-HANDLE SET WITH WORK BENCH STAND

With T handle style for increased comfort and reduced fatigue

- For high torque transfer with minimal effort
- Chrome-vanadium steel, through hardened, nickel-plated



Contents

- L-key with T-handle hexagon, brilliant nickel-plated (1 of each size): 2, 3, 4, 5, 6, 8mm
- 1x Workbench stand

Pieces	Weight g	Order Code	Price
8	800g	WIHA-00953	**£30.45**

6PC ALLEN KEY WITH T-HANDLE SET COMFORTGRIP TORX®

With high quality, chrome-plated L-key surface to prevent corrosion

- Provides fewer pressure surfaces and less stress on muscles
- Allows user to apply high torques without tiring and undo and fasten rusted, glued or tightly fastened screws easily
- Chrome-vanadium steel, through hardened, chrome-plated blade



Contents

- L-key with T-handle ComfortGrip TORX® with side drive, matt chrome-plated (1 of each size): T10, T15, T20, T25, T30, T40

Pieces	Weight g	Order Code	Price
6	627g	WIHA-45622	**£38.28**

ALLEN KEY - LONG REACH

- Long reach allen key with hexagon drive
- Nickel plated



Hexagon Size	Length mm	Order Code	Price
1.5	91.5 x 15.5	52116500	**£0.47**
2	102 x 18	52116510	**£0.44**
2.5	114.5 x 20.5	52116520	**£0.54**
3	129 x 23	52116530	**£0.56**
4	144 x 29	52116540	**£0.71**
5	165 x 33	52116550	**£0.79**
6	186 x 38	52116560	**£1.12**
7	197 x 41	52116570	**£1.61**
8	208 x 44	52116580	**£1.69**
9	219 x 47	52116590	**£2.74**
10	234 x 50	52116600	**£2.62**
11	247 x 53	52116610	**£3.47**
12	262 x 57	52116620	**£3.80**
14	294 x 70	52116630	**£5.93**
17	337 x 80	52116640	**£11.63**
19	379 x 89	52116650	**£16.97**
22	422 x 102	52116660	**£27.22**

ALLEN KEY - STANDARD

- Allen key with hexagon drive
- Chrome-vanadium steel



ATORN®

Hexagon Size	Length mm	Order Code	Price
1.3	41 x 13	52114490	**£0.17**
1.5	46.5 x 15.5	52114500	**£0.17**
2	52 x 18	52114510	**£0.17**
2.5	58.5 x 20.5	52114520	**£0.19**
3	66 x 23	52114530	**£0.25**
4	74 x 29	52114540	**£0.34**
5	85 x 33	52114550	**£0.47**
6	96 x 38	52114560	**£0.57**
7	102 x 41	52114570	**£0.73**
8	108 x 44	52114580	**£0.98**
9	114 x 47	52114590	**£1.39**
10	122 x 50	52114600	**£1.45**
11	129 x 53	52114610	**£1.88**
12	137 x 57	52114620	**£2.16**
14	154 x 70	52114630	**£3.60**
17	177 x 80	52114640	**£6.63**
19	199 x 89	52114650	**£9.48**
22	222 x 102	52114660	**£14.72**
24	248 x 114	52114665	**£19.19**
27	277 x 127	52114670	**£29.08**
30	315 x 142	52114675	**£38.73**
32	347 x 157	52114680	**£54.42**
36	391 x 176	52114685	**£73.30**

COLOUR CODED ALLEN KEY SET

- Hexagonal ball end on the long wrench side
- Coated with wearproof powder paint
- Chrome-vanadium steel
- Hardened



ATORN®

Hexagon Size	Pieces	Order Code	Price
1.5, 2, 2.5, 3, 4, 5, 6, 8 & 10mm	9	52139001	**£23.99**

T-HANDLE ALLEN KEY SET IN STAND

- Robust and stable plastic workshop stand
- Equipped with 7 tools with the most common hexagon sizes
- Ergonomically shaped two-component T-handles



ATORN®

Hexagon Size	Pieces	Order Code	Price
3, 4, 5, 6 , 8, 10 & 13mm	7	52139905	**£49.66**

CURVED T-HANDLE ALLEN KEY SET

- Equipped with 7 tools with the most common hexagon sizes
- Ergonomically shaped curved T-handles
- Easier to insert blade thanks to rounded front edges



ATORN®

Hexagon Size	Pieces	Order Code	Price
2, 2.5, 3, 4, 5, 6 & 8mm	7	52139800	**£19.71**

T-HANDLE ALLEN KEY

- Easy-grip soft coating for optimum power transmission
- Hard core for lasting connection even under the highest loads
- Blade made of CrV and CrMV (special alloy)



ATORN®

Hexagon Size	Blade Length mm	Order Code	Price
2	100	52139700	**£3.31**
2.5	100	52139710	**£3.23**
3	100	52139722	**£3.18**
3	200	52139726	**£3.58**
4	100	52139730	**£3.38**
4	200	52139734	**£3.58**
5	100	52139740	**£4.04**
5	200	52139744	**£4.55**
6	100	52139750	**£4.16**
6	200	52139754	**£4.97**
8	100	52139760	**£5.46**
8	200	52139764	**£6.07**
10	100	52139770	**£7.86**
10	200	52139772	**£8.20**

SOCKET EXTENSION

- Extension for hand-operated socket wrench inserts



ATORN®

Length mm	Input Drive inch	Output Drive inch	Order Code	Price
50	1/4	1/4	58227010	£1.97
105			58227020	£2.27
150			58227030	£3.14
50	3/8	3/8	58510010	£2.29
75			58510020	£3.01
125			58510030	£3.61
150			58510040	£3.61
250			58510050	£5.01
75	1/2	1/2	58842010	£3.32
125			58842020	£4.36
250			58842030	£7.12

HEXAGON SCREWDRIVER SOCKET BIT

- Burnished tips
- Chrome plated vanadium steel



ATORN®

Hexagon Size	Drive inch	Order Code	Price
3	1/4	58120030	£1.82
4		58120040	£1.82
5		58120050	£1.82
6		58120060	£1.82
8		58120080	£1.93
3	3/8	58430030	£3.17
4		58430040	£3.17
5		58430050	£3.17
6		58430060	£3.17
7		58430070	£3.85
8		58430080	£3.85
9		58430090	£4.19
10		58430100	£4.19
12		58430120	£5.22
4	1/2	58682040	£3.31
5		58682050	£3.31
6		58682060	£3.31
7		58682070	£3.31
8		58682080	£3.31
9		58682090	£3.10
10		58682100	£3.31
12		58682120	£3.31
14		58682140	£3.63
17		58682170	£4.32
19		58682190	£6.31

REDUCER ADAPTER

- For adapting a 3/8" internal square drive to a 1/4" or 1/2" square drive



ATORN®

Drive inch	Output inch	Order Code	Price
3/8	1/4	58463010	£2.35
	1/2	58463020	£4.19

POSI & PHILIPS SCREWDRIVER SOCKET BIT

- Burnished tips
- Chrome plated vanadium steel



ATORN®

Tip Size	Drive inch	Order Code	Price
PH1	1/4	58091010	£1.82
PH2		58091020	
PH3		58091030	
PZ1		58092010	
PZ2		58092020	
PZ3		58092030	
PH2	1/2	58678020	£3.61
PH3		58678030	
PH4		58678040	
PZ2		58678120	
PZ3		58678130	
PZ4		58678140	

HEXAGON ALLEN KEY SET

- Chrome-vanadium steel
- Supplied with plastic pouch



ATORN®

Hexagon Size	Pieces	Order Code	Price
2, 2.5, 3, 4, 5 & 6mm	6	52114705	£2.74
2, 2.5, 3, 4, 5, 6, 8 & 10mm	8	52114715	£5.80
2, 2.5, 3, 4, 5, 6, 8, 10, 12 & 14mm	10	52114725	£11.11

HEXAGON ALLEN KEY SET

- Chrome-vanadium steel
- Supplied with plastic case



ATORN®

Hexagon Size	Pieces	Order Code	Price
2, 2.5, 3, 4, 5, 6, 8 & 10mm	8	52114800	£7.08

HEXAGON ALLEN KEY SET - BALL END

- Hexagonal ball end on the long wrench side
- Shorter arm bent by 100°
- Chrome-vanadium steel



ATORN®

Hexagon Size	Pieces	Order Code	Price
1.5, 2, 2.5, 3, 4, 5, 6, 8 & 10mm	9	52137200	£20.37

SOCKET WRENCH INSERT 1/4" DRIVE

- Female hexagon insert
- Chrome plated vanadium steel
- DIN 3124



ATORN®

Hexagon Size	Drive inch	Length mm	Outer Dia mm	Order Code	Price
4	1/4	25	11	58030040	£1.03
4.5		25	11	58030045	£1.03
5		25	11	58030050	£1.03
5.5		25	11	58030055	£1.03
6		25	11	58030060	£1.03
7		25	11	58030070	£1.03
8		25	12	58030080	£1.03
9		25	13	58030090	£1.20
10		25	14	58030100	£1.13
11		25	16	58030110	£1.22
12		25	17	58030120	£1.24
13		25	18	58030130	£1.39
14		25	20	58030140	£1.82
6	3/8	24	17	58299060	£1.41
7		24	17	58299070	£1.41
8		24	17	58299080	£1.41
9		24	17	58299090	£1.41
10		25	17	58299100	£1.41
11		26	18	58299110	£1.41
12		27	18	58299120	£1.41
13		28	18	58299130	£1.58
14		28	20	58299140	£1.82
15		30	21	58299150	£1.97
16		30	22	58299160	£1.97
17		30	23	58299170	£2.29
18		30	26	58299180	£2.42
19		30	26	58299190	£2.42
20		32	27	58299200	£3.17
21		32	28	58299210	£3.17
22		34	30	58299220	£3.74
8	1/2	38	22	58590080	£2.20
9		38	22	58590090	£2.20
10		38	22	58590100	£2.08
11		38	22	58590110	£2.20
12		38	22	58590120	£2.20
13		38	22	58590130	£2.08
14		38	22	58590140	£2.27
15		38	23	58590150	£2.29
16		38	24	58590160	£2.29
17		38	25	58590170	£2.35
18		38	25	58590180	£2.80
19		38	27	58590190	£2.44
20		38	28	58590200	£3.53
21		38	29	58590210	£3.68
22		42	30	58590220	£3.93
23		42	30	58590230	£4.23
24		42	32	58590240	£4.09
26		42	34	58590260	£5.22
27		45	36	58590270	£5.75
28		45	38	58590280	£6.31
30		45	39	58590300	£6.82
32		47	42	58590320	£7.44

UNIVERSAL JOINT

- Cardan joint for screw connections with projecting edges and confined installation areas
- Flexible bending angle for difficult-to-reach installation areas
- Inner lock



ATORN®

Input Drive inch	Output Drive inch	Order Code	Price
1/4	1/4	58247010	£4.23
3/8	3/8	58530010	£5.62
1/2	1/2	58858010	£7.10

SOCKET WRENCH INSERT 1/4" DRIVE - LONG

- Female hexagon insert, long length
- Chrome plated vanadium steel
- DIN 3124



ATORN®

Hexagon Size	Drive inch	Length mm	Outer Dia mm	Order Code	Price
4	1/4	50	11	58042040	£2.08
4.5		50	11	58042045	£2.08
5		50	11	58042050	£2.08
5.5		50	11	58042055	£2.08
6		50	11	58042060	£2.08
7		50	11	58042070	£2.08
8		50	12	58042080	£2.08
9		50	13	58042090	£2.08
10		50	14	58042100	£2.08
11		50	16	58042110	£2.42
12		50	17	58042120	£2.42
13		50	18	58042130	£2.29
14		50	20	58042140	£2.80
10	1/2	77	22.5	58627100	£5.22
11		77	22.5	58627110	£5.52
12		77	22.5	58627120	£5.52
13		77	22.5	58627130	£5.22
14		77	22.5	58627140	£5.52
15		77	22.5	58627150	£5.52
16		77	24	58627160	£5.52
17		77	23	58627170	£5.65
18		82	24	58627180	£6.24
19		82	25	58627190	£5.75
20		82	30	58627200	£6.46
21		82	30	58627210	£6.46
22		82	31	58627220	£6.82
24		82	32	58627240	£7.63
26		82	34	58627260	£10.67
27		82	37	58627270	£10.63
30		82	41	58627300	£12.11
32		82	42	58627320	£12.72

TORX SCREWDRIVER DRIVE SOCKET BIT

- Burnished tips provide improved resistance to corrosion
- Chrome plated vanadium steel



ATORN®

Torx	Drive inch	Order Code	Price
TX8	1/4	58137008	£1.82
TX9		58137009	£1.82
TX10		58137010	£1.82
TX15		58137015	£1.82
TX20		58137020	£1.82
TX25		58137025	£1.82
TX27		58137027	£1.82
TX30		58137030	£1.82
TX40		58137040	£2.10
TX20	3/8	58450020	£2.89
TX25		58450025	£2.89
TX27		58450027	£2.89
TX30		58450030	£2.89
TX40		58450040	£2.89
TX45		58450045	£3.61
TX50		58450050	£3.61
TX20	1/2	58754020	£3.61
TX25		58754025	£3.61
TX27		58754027	£3.61
TX30		58754030	£3.61
TX40		58754040	£3.61
TX45		58754045	£3.61
TX50		58754050	£3.61
TX55		58754055	£3.93
TX60		58754060	£4.00

LEVER REVERSIBLE SOCKET RATCHET

- Ratchet for manual socket wrench inserts and connection parts
- Finely toothed
- Anti-clockwise and clockwise rotation possible using reversing lever with locking button
- With hanging eyelet



ATORN®

Overall Length mm	Socket Size inch	Order Code	Price
150	1/4	58002010	**£33.45**
190	3/8	58275010	**£38.71**
255	1/2	58576010	**£55.67**

TELESCOPIC REVERSIBLE SOCKET RATCHET

- Ratchet for manual socket wrench bits and connectors
- Ratcheting/clamping function
- Anti-clockwise and clockwise rotation possible using reversing lever with locking button



ATORN®

Overall Length mm	Socket Size inch	Extension Range	Order Code	Price
200	1/4	150-200	58002050	**£26.29**
445	1/2	305-455	58576060	**£43.07**

LEVEL BIT RATCHET

- Ratchet for direct mounting of bits with 1/4 inch hexagon head
- Finely toothed
- Anti-clockwise/clockwise rotation can be switched using reversing lever
- With thumb wheel



ATORN®

Overall Length mm	Tip Size in	No. of Teeth	Order Code	Price
100	1/4	72	58002100	**£29.62**

LEVER REVERSIBLE SOCKET RATCHET

- Ratchet for manual socket wrench bits and connectors
- Anti-clockwise and clockwise rotation possible using reversing lever with locking button



ORION®

Overall Length mm	Socket Size inch	Order Code	Price
150	1/4	58274500	**£14.09**
250	1/2	58899500	**£23.37**

SOCKET SCREWDRIVER HANDLE

- Drive handle for manual socket wrench inserts and connection parts
- Screwdriver handle with 1/4” internal and external square



ATORN®

Overall Length mm	Socket Size inch	Order Code	Price
150	1/4	58003080	**£4.14**

SCREWDRIVER HANDLE

- Drive handle for manual socket wrench inserts and connection parts
- 2-component screwdriver handle with 1/4-inch square drive



ATORN®

Overall Length mm	Socket Size inch	Order Code	Price
205	1/4	58006085	**£9.17**

SOCKET T-HANDLE

- T-handle for manual socket wrench inserts and connection parts
- Movable sliding head



ATORN®

Overall Length mm	Socket Size inch	Order Code	Price
115	1/4	58185010	**£3.61**

BIT ADAPTER

- Screwdriver adaptation from 1/4” square drive to a 1/4” external square drive
- DIN 3120



ATORN®

Drive inch	Hex inch	Order Code	Price
1/4	1/4	58003090	**£1.30**

1/4" DRIVE SOCKET SET 18 PIECES

- Chrome-vanadium steel inserts
- Hexagon with special profile
- Higher torques possible
- Oil and chemical-resistant foam inlay



ATORN®

Set Contents					Order Code	Price
Hexagon Sockets	Ratchets	Extensions mm	Cross Handle mm	Cardan Joints mm		
4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, 14mm	1/4-inch square 150mm	50 105	115	38	58006011	**£92.83**

1/4" DRIVE SOCKET WRENCH & BIT SET 28 PIECES

- Chrome-vanadium steel inserts
- Hexagon with special profile
- Includes slotted head and cross head tips
- Higher torques possible
- Oil and chemical-resistant foam inlay



ATORN®

Sockets Provided				Ratchets	Extensions mm	Cross Handles mm	Cardan Joints mm	Order Code	Price
Hexagon Head	Socket Hexagon Head Tip	Cross-Head Tip	Slotted Tip						
4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, 14mm	3, 4, 5, 6, 8mm	PH1, PH2 PZ1, PZ2	4, 5.5, 6.5mm	1/4-inch square 150 mm	50	115	38	58006021	**£98.40**

1/4" DRIVE SOCKET WRENCH & BIT SET 42 PIECES

- Chrome-vanadium steel inserts
- Hexagon with special profile
- Includes slotted head, torx and cross head tips
- Higher torques possible
- Oil and chemical-resistant foam inlay



ATORN®

Sockets Provided						Ratchets	Extensions mm	Cross Handles mm	Cardan Joints mm	Order Code mm	Price
Hexagon Head	Long Hexagon Head Tip	Socket Hexagon Head Tip	Socket Hexagon Head or External TX Tip	Cross-Head Tip	Slotted Tip						
4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13, 14mm	8, 10, 11, 13mm	3, 4, 5, 6, 8mm	TX10, TX15, TX20 TX25, TX30, TX40	PH1, PH2, PH3 PZ1, PZ2, PZ3	4mm 5.5mm 6.5mm	1/4-inch square 150 mm	50 105	115	38	58006031	**£131.66**

3/8" DRIVE SOCKET WRENCH SET 22 PIECES

- Chrome-vanadium steel inserts
- Hexagon with special profile
- Higher torques possible
- Oil and chemical-resistant foam inlay



ATORN®

Set Contents				Order Code	Price
Hexagon Sockets	Ratchets	Extensions mm	Cardan Joints mm		
6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22mm	3/8-inch square	50 75 150	55	58278011	**£122.22**

1/2" DRIVE SOCKET WRENCH SET 19 PIECES

- Chrome-vanadium steel inserts
- Hexagon with special profile
- Higher torques possible
- Oil and chemical-resistant foam inlay



ATORN®

Set Contents					Order Code	Price
Hexagon Sockets	Ratchets	Extensions mm	Cross Handles mm	Cardan Joints mm		
10, 11, 12, 13, 14, 15, 16, 17, 19, 22, 24, 27, 30, 32mm	1/2-inch square	125 250	300	75	58574011	**£153.15**

1/2" DRIVE SOCKET WRENCH SET 22 PIECES

- Chrome-vanadium steel inserts
- Hexagon with special profile
- Higher torques possible
- Oil and chemical-resistant foam inlay



ATORN®

Set Contents				Order Code	Price
Hexagon Sockets	Ratchets	Extensions mm	Cardan Joints mm		
10, 11, 12, 13, 14, 15, 16, 17, 18 19, 22, 24, 27, 30, 32mm	1/2-inch square	125 250	75	58574021	**£157.10**

1/2" DRIVE SOCKET WRENCH & BIT SET 35 PIECES

- Chrome-vanadium steel
- Hexagon with special profile
- Includes slotted head, torx and cross head tips
- Higher torques possible
- Oil and chemical-resistant foam inlay



ATORN®

Sockets Provided				Ratchets	Extensions mm	Cardan Joints mm	Order Code	Price
Hexagon Head	Socket Hexagon Head Tip	Socket Hexagon Head or External TX Tip	Cross-Head Tip					
10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 27, 30, 32mm	7, 8, 10, 12, 14mm	TX30, TX40, TX45 TX55, TX60	PH3 PH4	1/2-inch square	125 250	75	58574031	**£197.40**

1/2" DRIVE SOCKET WRENCH SET 13 PIECES

- Chrome-vanadium steel
- Matt chromium-plated
- 11 inserts, 2 operating tools



ORION®

Sockets Provided	Ratchets	Extensions mm	Order Code	Price
Socket Hexagon Head Tip				
8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 22mm	1/2-inch square	125	58575010	**£56.25**

HEXAGON SCREWDRIVER

- Hexagon ball end
- Blade made of hardened chrome-vanadium steel
- 3-component power grip, with large soft area



ATORN®

Hexagon Size	Blade Length mm	Order Code	Price
2	75	52134021	**£3.18**
2.5	100	52134026	**£3.14**
3	100	52134031	**£3.14**
4	100	52134041	**£3.33**
5	100	52134051	**£3.97**
6	125	52134061	**£4.97**
8	150	52134081	**£7.03**
10	150	52134101	**£8.35**

TORX SCREWDRIVER

- Torx head
- Chrome-vanadium/ molybdenum hardened steel
- 3-component power grip, with large soft area



ATORN®

Torx Size	Blade Length mm	Overall Length mm	Order Code	Price
TX6	60	146	52144906	**£4.78**
TX7	60	146	52144907	**£5.22**
TX8	60	146	52144908	**£5.27**
TX9	60	157	52144909	**£5.44**
TX10	80	170	52145910	**£4.94**
TX15	80	180	52145915	**£5.17**
TX20	100	207	52145920	**£5.17**
TX25	100	207	52145925	**£5.73**
TX27	115	234	52145927	**£5.71**
TX30	115	234	52145930	**£6.32**
TX40	130	249	52145940	**£6.42**

HEXAGON FOLDING POCKET SCREWDRIVER

- For hexagon socket screws (7 sizes)
- Screwdriver blades made from chrome-vanadium steel
- Two-component foldaway holder with lifting device



ATORN®

Hexagon Sizes Included	Pieces	Order Code	Price
1.5, 2, 2.5, 3, 4, 5 & 6mm	7	52130100	**£10.75**
2.5, 3, 4, 5 , 6, 8 & 10mm		52130110	**£12.75**

TORX FOLDING POCKET SCREWDRIVER

- For internal Torx screws (7 sizes)
- Screwdriver blades made from chrome-vanadium steel
- Two-component foldaway holder with lifting device



ATORN®

Torx Size Included	Order Code	Price
TX9, TX10, TX15, TX20 TX25, TX27, TX30 & TX40	52130120	**£13.59**

5PC HEXAGON SCREWDRIVER SET

- Hexagon ball head
- Blade made of hardened chrome-vanadium steel
- 3-component power grip, with large soft area



ATORN®

Hexagon Sizes Included	Order Code	Price
3, 4, 5, 6 & 8mm	52134201	**£24.39**

5PC TORX SCREWDRIVER SET

- Torx head
- Blade made of hardened chrome-vanadium steel
- 3-component power grip, with large soft area



ATORN®

Torx Sizes Included	Order Code	Price
TX10, TX15, TX20, TX25 & TX30	52145900	**£27.88**

T-HANDLE TORX SCREWDRIVER

- Easy-grip soft coating for optimum power transmission
- Hard core for lasting blade/handle connection under the highest loads
- Matt chrome-plated alloy steel blade with black tip



ATORN®

Torx Size	Blade Length mm	Order Code	Price
TX8	100	52147208	**£4.80**
TX9		52147209	**£5.09**
TX10		52147210	**£5.09**
TX15		52147215	**£5.21**
TX20		52147220	**£6.05**
TX25		52147225	**£6.14**
TX27		52147227	**£6.47**
TX30		52147230	**£7.05**
TX40		52147240	**£7.42**
TX45		52147245	**£7.62**

6PC TORX T-HANDLE SCREWDRIVER SET

- Torx head
- Hard core for lasting blade/handle connection under the highest loads
- Matt chrome-plated alloy steel blade with black tip



ATORN®

Torx Sizes Included	Order Code	Price
TX10, TX15, TX20, TX25, TX30 & TX40	52147300	**£36.55**

TORX WRENCH FLAG TYPE

- Torx head
- Flag type handle to prevent over-tightening
- Blade made from hardened molybdenum-vanadium steel



ATORN®

Torx Size	Blade Length mm	Order Code	Price
TX5	19	52142005	**£1.54**
TX6	19	52142006	**£1.54**
TX7	19	52142007	**£1.54**
TX8	19	52142008	**£1.54**
TX9	24	52142009	**£1.54**
TX10	24	52142010	**£1.64**
TX15	28	52142015	**£1.66**
TX20	28	52142020	**£1.71**

TORX PLUS WRENCH FLAG TYPE

- Torx PLUS head
- Flag type handle to prevent over-tightening
- Blade made from hardened molybdenum-vanadium steel



ATORN®

Torx Size	Blade Length mm	Order Code	Price
TXP5	19	52142105	**£1.81**
TXP6	19	52142106	**£1.81**
TXP7	19	52142107	**£1.81**
TXP8	19	52142108	**£1.81**
TXP9	24	52142109	**£1.71**
TXP10	24	52142110	**£1.71**
TXP15	28	52142115	**£1.77**
TXP20	28	52142120	**£1.81**

TORX PLUS SCREWDRIVER

- Torx PLUS head
- Chrome-vanadium/molybdenum hardened steel
- 3-component power grip, with large soft area



ATORN®

Torx PLUS Size	Blade Length mm	Overall Length mm	Order Code	Price
TX10 + P	80	170	52144910	**£5.44**
TX15 + P	100	180	52144915	**£5.80**
TX20 + P	100	207	52144920	**£5.80**
TX25 + P	100	207	52144925	**£6.05**
TX27 + P	115	234	52144927	**£6.07**
TX30 + P	115	234	52144930	**£6.69**
TX40 + P	130	249	52144940	**£6.81**

PRECISION HEXAGON SCREWDRIVER

- Precision screwdriver with rotary cap
- 2-component handle technology with comfortable, non-slip soft coating
- Blade produced from special chrome molybdenum vanadium alloy with optimal performance data up to 100% above DIN values
- Handle top with roll-off protection



ATORN®

Hexagon Size	Blade Length mm	Order Code	Price
1.5	60	52689215	**£5.46**
2	60	52689220	
2.5	75	52689225	
3	75	52689230	

PRECISION PHILLIPS SCREWDRIVER

- Precision screwdriver with rotary cap
- 2-component handle technology with comfortable, non-slip soft coating
- “Black Tip” Phillips type for precise fit
- Handle top with roll-off protection
- Blade produced from special chrome molybdenum vanadium alloy with optimal performance data up to 100% above DIN values



ATORN®

Tip Size	Blade Length mm	Order Code	Price
PH0	60	52689110	**£5.39**
PH1	75	52689120	**£5.39**

PRECISION SCREWDRIVER SET

- Precision screwdriver with rotary cap
- 2-component handle technology with comfortable, non-slip soft coating
- “Black Tip” Phillips & slotted type for precise fit
- Handle top with roll-off protection
- Blade produced from special chrome molybdenum vanadium alloy with optimal performance data up to 100% above DIN values



ATORN®

Tip Size	Order Code	Price
PH00 | PH0 | Slot 1.5mm Slot 2mm | Slot 2.5mm |Slot 3mm	52689500	**£29.41**

WATCHMAKER’S CROSS-HEAD SCREWDRIVER

- Handle made of corrosion-resistant aluminium with high strength
- Rotating hexagon head made of black plastic
- Quick screwing possible thanks to rotating cap
- Blades made of molybdenum-vanadium steel, hardened and bronzed



ORION®

Tip Size	Blade Length mm	Order Code	Price
PH 0000	84	52707010	**£4.45**
PH 000	100	52707020	**£4.49**
PH 00	100	52707030	**£4.49**
PH 0	112	52707040	**£4.92**
PH 1	112	52707050	**£4.92**

WATCHMAKERS’ SLOTTED SCREWDRIVER

- Handle made of corrosion-resistant aluminium with high strength
- Rotating hexagon head made of black plastic
- Quick screwing possible thanks to rotating cap
- Blades made of molybdenum-vanadium steel, hardened and bronzed



ORION®

Blade Width mm	Overall Length mm	Shaft Diameter	Order Code	Price
1	80	5	52705610	**£4.45**
1.2	84	5	52705612	**£4.45**
1.4	84	5	52705614	**£4.45**
1.5	84	5	52705615	**£4.45**
2	100	6	52705620	**£4.49**
2.5	100	6	52705625	**£4.49**
3	112	8	52705630	**£4.92**
3.5	112	8	52705635	**£4.92**

SLOTTED SCREWDRIVER HEXAGON BLADE

- Chrome-vanadium/molybdenum hardened steel blade
- Matt chromium-plated
- Blackened tip
- With hexagonal shoulder for wrenches



ATORN®

Blade Width mm	Blade Thickness mm	Blade Length mm	Order Code	Price
3.5	0.6	75	52751036	**£3.13**
4.5	0.8	90	52751046	**£3.62**

PHILLIPS SCREWDRIVER

- One-piece chrome-vanadium-molybdenum steel blade
- Fully hardened, impact-resistant on the handle side
- Solid striking cap to loosen seized screws
- Brushed chromium-plated blade, blackened tip
- With hexagonal shoulder for wrenches



ATORN®

Tip Size	Blade Length mm	Overall Length mm	Order Code	Price
PH1	75	177	52753010	**£6.07**
PH2	105	207	52753020	**£8.15**
PH3	150	263	52753030	**£11.33**

SLOTTED SCREWDRIVER ROUND BLADE

- Chrome-vanadium/molybdenum hardened steel blade
- Matt chromium-plated
- Blackened tip



ATORN®

Blade Width mm	Blade Thickness mm	Blade Length mm	Order Code	Price
2.5	0.4	75	52752325	**£2.74**
3	0.5	80	52752330	**£2.96**
3.5	0.5	100	52752335	**£2.96**
4	0.8	100	52752340	**£3.19**
4.5	0.8	100	52752345	**£3.47**
5	0.9	100	52752350	**£3.82**
5.5	1	125	52752355	**£4.18**
6	1.1	150	52752360	**£4.06**
8	1.2	175	52752380	**£5.46**
10	1.6	200	52752400	**£6.66**

PHILLIPS & POSI SCREWDRIVER

- Blade made of chrome-vanadium steel
- Continuously hardened
- 2-component power grip with large soft area



ATORN®

Tip Size	Blade Length mm	Overall Length mm	Order Code	Price
PH0	60	146	52752500	**£3.47**
PH1	80	187	52752501	**£3.79**
PH2	100	219	52752502	**£4.34**
PH3	150	269	52752503	**£5.12**
PZ0	60	146	52752600	**£3.97**
PZ1	80	187	52752601	**£3.96**
PZ2	100	219	52752602	**£4.50**
PZ3	150	269	52752603	**£5.22**

SLOTTED STUBBY SCREWDRIVER

- For screwdriving work in confined spaces
- Blade hardened and chrome-plated, black tip
- Ergonomically shaped two-component handle for optimum power transmission
- Suspension hole and roll-away protection integrated in the handle



ATORN®

Blade Width mm	Blade Thickness mm	Order Code	Price
4	0.8	52755040	**£4.94**
5.5	1	52755055	**£4.55**
6.5	1.2	52755065	**£4.63**

PHILLIPS & POSI SCREWDRIVER SET

- One-piece chrome-vanadium-molybdenum steel blade
- Fully hardened, impact-resistant on the handle side
- Brushed chromium-plated blade, blackened tip
- With hexagonal shoulder for wrenches



ATORN®

Tip Size	Pieces	Order Code	Price
PH1, PH2 & PH3	3	52751700	**£16.09**
PZ1, PZ2 & PZ3		52751710	**£16.52**

PHILLIPS SCREWDRIVER STUBBY

- For screwdriving work in confined spaces
- Blade hardened and chrome-plated, black tip
- Ergonomically shaped two-component handle for optimum power transmission
- Suspension hole and roll-away protection integrated in the handle



ATORN®

Tip Size	Order Code	Price
PH1	52755001	**£4.63**
PH2	52755002	**£5.04**

SCREWDRIVER SET

- Chrome-vanadium/ molybdenum hardened steel blade
- 3-component power grip, with large soft area



ATORN®

Composition of Set	Pieces	Order Code	Price
3, 4, 5.5, 6.5, 8, 10mm	6	52752410	**£26.30**
PH1, PH2, Slot 4mm, Slot 5.5mm Slot 6.5mm & Slot 8mm		52752411	**£24.70**
PZ1, PZ2, Slot 4mm, Slot 5.5mm Slot 6.5mm & Slot 8mm		52752412	**£24.88**

SLIM VDE CROSS-HEAD SCREWDRIVER

- For working on live components
- Protective insulation (to DIN EN 60900) sprayed directly onto the blade
- Slim design: Insulating layer in the front part flush with the output
- Multi-component handle provides optimum power transmission
- Screw symbols on the handle cap
- Roll-off protection integrated in the handle



ATORN®

Tip Size	Blade Length mm	Overall Length mm	Order Code	Price
PZ1	80	187	52725411	**£7.32**
PZ2	100	219	52725412	**£8.13**

SLIM VDE TX SCREWDRIVER

- For working on live components
- Protective insulation as per DIN EN 60900 sprayed directly onto the blade
- Slim design: insulating layer in the front part is flush with the output
- Multi-component handle provides optimum power transmission
- Screw symbols on the grip cap
- Roll-away protection integrated in the handle



ATORN®

Tip Size	Blade Length mm	Overall Length mm	Order Code	Price
TX15	100	207	52725515	**£9.28**
TX20	125	244	52725520	**£9.75**
TX25	125	244	52725525	**£10.77**

VDE SLOTTED SCREWDRIVER

- For working on live components
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum hardened and burnished steel blade
- Blade insulation sprayed directly onto the blade
- 3-component power grip, red/yellow



ATORN®

Blade Width mm	Blade Thickness mm	Blade Length mm	Order Code	Price
2.5	0.4	75	52726026	**£2.74**
3	0.5	100	52726031	**£2.91**
3.5	0.6	100	52726036	**£3.13**
4	0.8	100	52726041	**£3.72**
5.5	1	125	52726056	**£4.51**
6.5	1.2	150	52726066	**£4.87**
8	1.2	175	52726081	**£5.49**
10	1.6	200	52726101	**£6.59**

VDE CROSS-HEAD SCREWDRIVER

- For working on live components
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum hardened and burnished steel blade



ATORN®

Tip Size	Blade Length mm	Overall Length mm	Order Code	Price
PH0	60	146	52786300	**£3.62**
PH1	80	187	52786301	**£3.96**
PH2	100	219	52786302	**£4.63**
PH3	150	269	52786303	**£5.43**
PZ0	60	146	52786400	**£3.90**
PZ1	80	187	52786401	**£4.97**
PZ2	100	219	52786402	**£5.98**
PZ3	150	269	52786403	**£7.84**

VDE SCREWDRIVER SET

- For working on live components.
- Protective insulation according to DIN EN 60900
- Chrome-vanadium/molybdenum steel blade



ATORN®

Composition of Set	Pieces	Order Code	Price
2.5, 4, 5.5, 6.5 & 8mm	5	52726203	**£20.83**
PH1, PH2 & PH3	3	52786310	**£13.73**
PH1, PH2, Slot 2.5mm, Slot 3.5mm, Slot 4mm & Slot 5.5mm	6	52726201	**£22.33**

HEXAGONAL SOCKET SCREWDRIVER

- Comfortable non-slip soft coating provides optimal power transmission
- Matt chrome-plated blade
- Made of special CrV and CrMV alloy



ATORN®

Hexagon Size	Blade Length mm	Order Code	Price
8	125	52167420	**£8.69**
9		52167430	**£8.89**
10		52167440	**£8.79**
11		52167450	**£10.57**
12		52167460	**£10.73**
13		52167470	**£9.96**
14		52167480	**£11.65**
15		52167490	**£12.02**
16		52167500	**£12.58**

HEXAGONAL SOCKET SCREWDRIVER

- With 2-component handle
- Hardened and brushed chromium-plated blade



ATORN®

Hexagon Size	Blade Length mm	Order Code	Price
4	125	52159040	**£7.49**
5		52159050	**£7.13**
5.5		52159055	**£7.13**
6		52159060	**£7.13**
7		52159070	**£7.61**
8		52159080	**£7.61**
9		52159090	**£8.52**
10		52159100	**£8.52**
12		52159120	**£10.82**
13		52159130	**£11.00**

HEXAGONAL SOCKET SCREWDRIVER LONG

- Comfortable non-slip soft coating provides optimal power transmission
- Matt chrome-plated blade



ATORN®

Hexagon Size	Blade Length mm	Order Code	Price
8	230	52167422	**£8.89**
8	350	52167424	**£9.96**
9	230	52167432	**£9.86**
10	230	52167442	**£10.01**
10	350	52167444	**£12.32**
11	230	52167452	**£10.40**
12	230	52167462	**£10.55**
13	230	52167472	**£11.22**

7PC FINE SCREWDRIVER SET PICOFINISH® TORX®

With a practical plastic holder to hang up or stand on a surface



- Ideal for fine and delicate fastening tasks for precision mechanics
- Ergonomic handle design with a soft zone makes it comfortable to use
- The smooth-running rotating cap allows users to turn the screwdriver quickly and sensitively

Contents

- PicoFinish® fine screwdriver TORX® (1 of each size)
  T4 x 40mm, T5 x 40mm, T6 x 40mm, T7 x 40mml T8 x 40mml T9 x 50mm
- 1x holder

Pieces	Order Code	Price
8	WIHA-42997	**£32.51**

14PC TORQUE SCREWDRIVER SET TORQUEVARIO®-S

Includes a wide variety of applications with a torque range between 0.8 and 5.0Nm



- For applications where recommended torque settings are important
- Provides the right torque for process safety

Contents

- 1x Torque screwdriver TorqueVario®-S variably adjustable torque limit 0.8 - 5
- 1x Bit holder clamping with ball for torque screwdriver with long handle 1/4"
- 1x Setting tool for torque screwdriver with long handle 90mm
- 1x Bit Standard 25mm TORX® 1/4" C6,3 T7
- 1x Bit Standard 25mm TORX® 1/4" C6,3 T8
- 1x Bit Standard 25mm TORX® 1/4" C6,3 T9
- 1x Bit Standard 25mm TORX® 1/4" C6,3 T10
- 1x Bit Standard 25mm TORX® 1/4" C6,3 T15
- 1x Bit Standard 25mm TORX PLUS® 1/4" C6,3 7IP
- 1x Bit Standard 25mm TORX PLUS® 1/4" C6,3 8IP
- 1x Bit Standard 25mm TORX PLUS® 1/4" C6,3 9IP
- 1x Bit Standard 25mm TORX PLUS® 1/4" C6,3 10IP
- 1x Bit Standard 25mm TORX PLUS® 1/4" C6,3 15IP
- 1x Box

Pieces	Order Code	Price
14	WIHA-34614	**£107.93**

7PC FINE SCREWDRIVER SET PICOFINISH® SLOTTED, PHILLIPS

With a practical plastic holder to hang up or stand on a surface



- Screwdriver handle size concept for optimal balance between precision and control
- Extra-long rotating cap ensures optimum feed
- Ideal for fine and delicate fastening tasks for precision mechanics

Contents

- 1x PicoFinish® fine screwdriver, slotted (1 of each size):
  1.5x40mm, 2x40mm, 2.5x50mm, 3x50mm
- 1x PicoFinish® fine screwdriver Phillips PH00 x 40 mm
- 1x PicoFinish® fine screwdriver Phillips PH0 x 50 mm
- 1x holder

Pieces	Order Code	Price
7	WIHA-42990	**£21.08**

6PC POZIDRIV SOFT FINISH SCREWDRIVER SET

With the patented SoftFinish® handle design



- Designed for precision screwdriving tasks.
- Allows for precise control and optimal power transmission
- The SoftFinish handle ensures a reliable and comfortable grip

Contents

- 1x Screwdriver SoftFinish® Slotted with round blade for low-lying screws 3.5mm x 100mm
- 1x Screwdriver SoftFinish® Slotted with round blade for low-lying screws 4.5mm x 125mm
- 1x Screwdriver SoftFinish® Slotted with round blade for low-lying screws 5.5mm x 150mm
- 1x Screwdriver SoftFinish® Slotted with round blade 6.5mm x 150mm
- 1x Screwdriver SoftFinish® Pozidriv with round blade PZ1 x 80mm
- 1x Screwdriver SoftFinish® Pozidriv with round blade PZ2 x 100mm

Pieces	Order Code	Price
6	WIHA-07153	**£27.01**

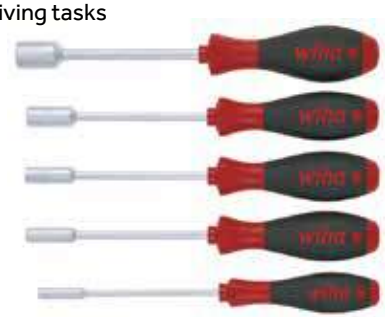
5PC HEXAGON NUT DRIVER SOFT FINISH SCREWDRIVER SET

Versatile and reliable collection of tools specifically designed for hexagon nut driving tasks

- Unique handle-length concept for optimum balance of torque and control.
- Particularly suitable for dry applications
- High quality chrome-vanadium-molybdenum steel, through hardened, chrome-plated
- With the patented SoftFinish® handle design

Contents

- 1x Screwdriver SoftFinish® Hexagon, nut driver with round blade (1 of each size)
5.5x125mm, 7.0x125mm, 8.0x125mm, 10.0x125mm, 13.0x125mm



Pieces	Order Code	Price
5	WIHA-01034	**£32.46**

7PC TORX SOFT FINISH SCREWDRIVER SET

High quality tool collection designed specifically for TORX® screwdriving applications

- For the flexible fitting of drawers
- The SoftFinish handle offers exceptional comfort, precision, and durability
- The handle's soft, non-slip surface ensures a secure hold, reducing hand fatigue and providing excellent control during TORX® screwdriving tasks

Contents

- 1x Screwdriver SoftFinish® TORX®, with round blade (1 of each size):
T8x60mm, T9x60mm, T10x80mm, T15x80mm, T20x100mm, T25x100mm, T30x115mm



Pieces	Order Code	Price
7	WIHA-01299	**£28.97**

BIT BOX - 61PC

- For mechanical screwing of slotted, Phillips-head, TX, TX-IP and hexagon-socket screws
- Equipped with 60 bits C 6.3, 1/4", 25mm in length
- Magnetic holder with 1/4" magnetic mount and precise concentricity
- High-quality wear-resistant bits with precise manufacturing dimensions
- All-round set, slotted/cross recess/hexagon socket/TX/TX with hole,



ATORN®

Tip Size	Pieces	Order Code	Price
TX10, TX15, TX20, TX25, TX30 TX40, PH1, PH2, PH3, PZ1 PZ2, PZ3, TX10 + P, TX15 + P TX20 + P, TX25 + P, TX30 + P TX40 + P, 2.5mm, 3mm, 4mm 5mm, 6mm, Slot 4.5mm Slot 5.5mm & Slot 6.5mm	61	52987700	**£48.45**

BIT BOX - 32PC

- Equipped with 30 bits C 6.3, 1/4", 25mm in length
- Magnetic holder with 1/4" magnetic mount and precise concentricity
- High-quality wear-resistant bits with precise manufacturing dimensions
- All-round set, slotted/cross recess/hexagon socket/TX & screwdriver handle
- ABS/polycarbonate bit box is rugged and impact-resistant



ATORN®

Tip Size	Pieces	Order Code	Price
TX10, TX15, TX20, TX25, TX30 TX40, PH1, PH2, PH3, PZ1 PZ2, PZ3, 3mm, 4mm 5mm, 6mm, Slot 4.5mm Slot 5.5mm & Slot 6.5mm	32	52987710	**£44.17**

BITBOX UNIVERSAL

- Box made from high-strength plastic
- Transparent cover with opening mechanism
- Quick-change holder with aluminium sleeve and magnet
- Quick-change bit holder for C and E 6.3 bits



ATORN®

Tip Size	Pieces	Order Code	Price
PH1, PH2, PH3, PZ1 PZ2, PZ3, TX10, TX15 TX20, TX25, TX30 3mm, 4mm, 5mm Slot 4.5mm Slot 6.5mm	17	52841100	**£18.24**
PH1, PH2, PH3 PZ1, PZ2, PZ3 TX10, TX15, TX20 TX25, TX30 & TX40	13	52841110	**£16.92**

BIT BOX

- Equipped with 9 bits C 6.3, 1/4", 25mm in length
- Magnetic holder with 1/4" magnetic mount and precise concentricity
- High-quality wear-resistant bits with precise manufacturing dimensions



ATORN®

Composition of Set	Pieces	Order Code	Price
PH1 | PH2 | PH3 | PZ1 | PZ2 | PZ3 Slot 4.5mm Slot 5.5mm | Slot 6.5mm	10	52987500	**£10.24**
TX10 | TX15 | TX20 | TX25 TX27 | TX30 | TX40	8	52987510	**£10.95**
PH1 | PH2 | PZ1| PZ2 TX10 | TX15 | TX20 | TX25 | TX30	10	52987520	**£10.55**

BIT SOCKET WRENCH SET

- With direct drive E 6.3, 1/4" and magnet mount
- High-strength hardened inserts for machine operation
- Magnet securely holds screw or nut
- Set of 6 including the most common widths



ATORN®

Tip Size	Pieces	Order Code	Price
7mm, 8mm, 3/8 inch 10mm, 12mm & 13mm	6	52987800	**£34.60**

CONNECTOR SET

- For socket wrench inserts 1/4", 3/8" & 1/2"
- Hex drive E 6.3, 1/4", square output
- With ball lock (spring-loaded ball on a square)



ATORN®

Tip Size	Pieces	Order Code	Price
1/4 inch 3/8 inch 1/2 inch	3	52987900	**£28.28**

TORQUE SCREWDRIVER, ADJUSTABLE

- Precise and simple adjustment
- Audible and haptic release when the set torque is reached
- Ergonomically shaped handle for optimum force transmission
- Robust aluminium sealing cap with easily readable adjustment scale





ATORN®

Min./Max. Torque Measuring Range Nm	Scale Value Nm	Order Code	Price
0.6 - 1.5	0.1	52200011	**£54.43**
1.5 - 3.0		52200021	**£54.43**
3.0 - 5.4		52200031	**£54.43**

ADJUSTABLE TORQUE WRENCH

- Adjustable torque wrench
- For holding square plug-in tools
- Haptic and acoustic adjustment aid
- Audible and perceptible release when the set value is reached
- Dual scale with Nm and lbf.ft. display
- Ergonomically shaped handle with comfortable, textured surface
- Rapid securing and opening via the locking ring



ATORN®

Min./Max. Torque Measuring Range Nm	Scale Value Torque Nm	Insert Shank Square mm	Order Code	Price
2.5 - 25	0.25	9 x 12	52241025	**£130.33**
10 - 60	0.5	9 x 12	52241060	**£135.39**
20 - 120	1	9 x 12	52241110	**£132.38**
20 - 120	1	14 x 18	52241120	**£129.87**
40 - 200	1	14 x 18	52241200	**£141.04**
60 - 320	2	14 x 18	52241320	**£159.94**

TORQUE WRENCH

- For controlled tightening in a clockwise direction with a high degree of accuracy
- The torque is set by turning the handle
- With lever ratchet, suitable only for controlled clockwise tightening.
- Haptic and acoustic adjustment aid
- Audible and perceptible release when the set value is reached
- Dual scale with Nm and lbf.ft. display
- Ergonomically shaped handle with comfortable, textured surface
- Rapid securing and opening via the locking ring



ATORN®

Min./Max. Torque Measuring Range Nm	Drive inch	Scale Value Torque Nm	Order Code	Price
1-6	1/4	0.1	52240006	**£160.03**
2.5-25	1/4	0.25	52240025	**£152.48**
10-60	3/8	0.5	52240060	**£166.14**
20-120	1/2	1	52240120	**£152.42**
40-200	1/2	1	52240200	**£159.87**
60-320	1/2	2	52240320	**£181.38**

TORQUE SCREWDRIVER SET 13PCS

- For controlled and secure screwing — cannot be overtightened
- Set of 2 torque screwdriver handles: 0.6 Nm to 1.5 Nm & 1.5 Nm to 3.0 Nm
- Complete with adjustment tool, bit holder blade and 10 1/4” bits
- Error limit: +/- 6%
- Robust aluminium sealing cap with easily readable adjustment scale



ATORN®

Tip Size	Pieces	Order Code	Price
PH1 PH2 PZ1 PZ2 TX10 TX15 TX20 TX25 Hexagon socket Outer hexagon	13	52200061	**£115.13**

TORQUE LIMITER SET 30PCS

- Includes torx, torx plus & hexagon
- For controlled screw tightening between 0.6 to 5.5 Nm
- Pre-set torque limiters with the values 0.6/0.9/1.2/1.4/2.0/3.0/5.0/5.5 Nm
- Precise deviation tolerance of +/- 10%
- Tactile indication and clicking noise when torque is reached
- Integrated safety clutch prevents the screw joint from being overtightened
- Coloured outer sleeve with printed torque value - The matching bit insert, which is also colour-coded, can therefore be selected without any problems



ATORN®

Blade Length mm	Min./Max. Torque Measuring Range Nm	Order Code	Price
50	0.6-5.5	52199100	**£209.90**

TORQUE LIMITER SET 19PCS

- Includes torx & torx plus
- For controlled screw tightening between 0.6 to 3 Nm
- Pre-set torque limiters with the values 0.6/0.9/1.2/1.4/2.0/3.0 Nm
- Precise deviation tolerance of +/- 10%
- Tactile indication and clicking noise when torque is reached
- Integrated safety clutch prevents the screw joint from being overtightened
- Coloured outer sleeve with printed torque value - The matching bit insert, which is also colour-coded, can therefore be selected without any problems



ATORN®

Blade Length mm	Min./Max. Torque Measuring Range Nm	Order Code	Price
50	0.6-3	52199110	**£155.97**

COMBINATION PLIERS

- For gripping, holding and cutting
- Serrated gripping surfaces, inductively hardened blades
- Special tool steel for hard and soft wire
- Oil-hardened



Type A (Standard)



Type B (Ergonomic)

ATORN®

Length mm	Order Code			
	Type A	Price	Type B	Price
160	53232510	**£10.55**	53232710	**£14.67**
180	53232520	**£11.21**	53232720	**£15.64**
200	53232530	**£12.83**	53232730	**£18.00**

HEAVY-DUTY COMBINATION PLIERS

- For gripping, holding and cutting
- For hard and soft wire
- Serrated gripping surfaces
- Inductively hardened blades
- Inductively hardened blades
- Type A - polyvinyl chloride handle
- Type B - component plastic handle



Type A (Standard)



Type B (Ergonomic)

ATORN®

Length mm	Order Code			
	Type A	Price	Type B	Price
200	53236520	**£16.03**	53236720	**£20.61**

VDE CERTIFIED COMBINATION PLIERS

- Safe, ergonomic and fatigue-free working thanks to easy grip handles with hand guard
- For gripping, holding and cutting
- Serrated gripping surfaces, inductively hardened blades
- Tempered tool steel for hard and soft wire

VDE CERT.



ATORN®

Length mm	Order Code	Price
160	53232910	**£18.10**
180	53232920	**£18.97**
200	53232930	**£21.16**

4 PIECE WORKSHOP PLIERS SET

Contents:

- Combination pliers 180mm, 2 component handles, chrome-plated head
- Side cutters, 160mm, 2 component handles, chrome-plated head
- Snipe nose pliers 160mm, 2 component handles, chrome-plated head
- Water pump pliers 250mm, PVC dipped handles, box joint, quick adjustment, polished surface



ATORN®

Order Code	Price
53232805	**£66.73**

HEAVY-DUTY VDE COMBINATION PLIERS

- For gripping, holding and cutting.
- For hard and soft wire
- Serrated gripping surfaces
- Inductively hardened blades
- Tempered tool steel
- VDE type according to DIN EN 60900

VDE CERT.



ATORN®

Length mm	Order Code	Price
200	53236730	**£25.15**

FLAT-NOSE PLIERS DIN 5745

- Special tool steel, oil-hardened
- Short, flat jaws
- Serrated gripping surface
- Without blade



ATORN®

Length mm	Order Code	Price
140	53038510	**£8.42**

4 PIECE VDE PLIERS SET

Contents:

- VDE combination pliers, 180mm
- VDE side-cutters, 160mm
- VDE snipe nose pliers, straight, 200mm
- VDE wire-stripping pliers, 160mm, for 0.5 to 6mm^2

VDE CERT.



ATORN®

Order Code	Price
53232965	**£78.48**

6 PIECE WORKSHOP PLIERS SET

Contents:

- Combination pliers 200mm
- Snipe nose pliers, straight, 200mm
- Snipe nose pliers, bent, 200mm
- Heavy-duty side-cutters 180mm
- Water pump pliers 250mm, quick adjustment
- Side cutters, 160mm



ATORN®

Order Code	Price
53232808	**£110.15**

4PC CIRCLIP CLASSIC PLIERS SET WITH MAGICTIPS

Versatile and reliable tool kit designed for a wide range of applications

- For attaching and removing circlips in holes as well as on shafts and axles
- Prevents damage caused by lost circlips in the work area
- Safe and secure grip on circlips

Contents

- 1x Circlip pliers Classic with MagicTips® for inner rings (holes), straight J 1, 140mm
- 1x Circlip pliers Classic with MagicTips® for inner rings (holes), straight J 2, 180mm
- 1x Circlip pliers Classic with MagicTips® for outer rings (shafts), straight A 1, 140mm
- 1x Circlip pliers Classic with MagicTips® for outer rings (shafts), straight A 2, 185mm

* with safety latching function MagicTips®



wiha

Pieces	Weight g	Order Code	Price
4	676g	WIHA-34708	**£45.57**

3PC DIAGONAL, COMBINATION & NEEDLE NOSE CLASSIC PLIERS SET

Versatile and essential toolkit for a wide range of applications

- Special DynamicJoint® design reduces effort required for cutting
- Pliers enable safe, non-slip gripping in all work situations
- Crafted with high-quality materials to ensure durability and long-lasting performance
- Combination pliers enable safe, non-slip gripping in all work situations

Contents

- 1x Combination pliers classic with DynamicJoint® and OptiGrip with extra long cutting edge 180mm, 7"
- 1x Diagonal cutters classic with DynamicJoint® 160mm, 6 1/2"
- 1x Classic needle nose pliers with cutting edge straight shape 160mm, 6 1/2"



wiha

Pieces	Weight g	Order Code	Price
3	758g	WIHA-26850	**£29.81**

ROUND PLIERS

- For bending grommets with different radii for wire-shaped materials
- Special tool steel, oil-hardened
- Short, round jaws
- For lugs with a diameter from 2.5 to 7.5mm



ATORN®

Length mm	Order Code	Price
140	53060510	**£8.42**

SNIPE NOSE PLIERS

- Special tool steel, oil-hardened
- Flat, round jaws, type A
- Serrated gripping surfaces
- Blades inductively hardened for hard and soft wire



Type A (Standard)



Type B (Ergonomic)

ATORN®

Length mm	Order Code			
	Type A	Price	Type B	Price
140	53092500	**£10.43**	-	**-**
160	53092510	**£11.21**	53092710	**£14.79**
200	53092520	**£13.39**	53092720	**£16.89**

LONG-NOSE ROUND PLIERS

- For bending grommets with different radii for wire-shaped materials
- Special tool steel, oil-hardened
- Long, slim, round jaws
- For bending lugs from 2.5 to 7.5mm in diameter



Type A (Standard)



Type B (Ergonomic)

ATORN®

Length mm	Order Code			
	Type A	Price	Type B	Price
160	53066510	**£11.21**	53066710	**£15.60**

LONG-NOSE FLAT PLIERS

- For gripping and holding in confined areas
- Special tool steel, oil-hardened
- Long, slim, flat jaws
- Serrated gripping surfaces



Type A (Standard)



Type B (Ergonomic)

ATORN®

Length mm	Order Code			
	Type A	Price	Type B	Price
160	53045510	**£10.85**	53045710	**£14.52**

PLIER WRENCH

- For gentle screwing of delicate surfaces
- Smooth jaws with stepless parallel movement for gentle gripping or powerful pressing
- Push-button fine adjustment of all widths across flats for comfortable arm positioning
- Strong clamping force thanks to >10:1 lever ratio
- Slightly open the mouth for fast, ratchet-style tightening/loosening of nuts
- Protected scale for presetting the desired width across flats



ATORN®

Length mm	Order Code	Price
250	53075400	**£60.33**

EASY GRIP PLIER WRENCH

- Easy grip handles with slip guard
- For gentle screwing of delicate surfaces
- Smooth jaws with stepless parallel movement for gentle gripping or powerful pressing
- Push-button fine adjustment of all widths across flats for comfortable arm positioning
- Strong clamping force thanks to >10:1 lever ratio
- Slightly open the mouth for fast, ratchet-style tightening/loosening of nuts
- Protected scale for presetting the desired width across flats



ATORN®

Length mm	Order Code	Price
250	53075410	**£66.11**

VICE-GRIP PLIERS

- Optimum flexibility thanks to 4x opening quick-adjustment mechanism
- One-handed adjustment wheel integrated in the handle
- For flexible clamping of round and flat material
- Ergonomic soft opening system
- Chrome-vanadium alloy
- Jaw width 18mm





ATORN®

Length mm	Min./max. Clamping Width mm	Order Code	Price
250	100	53419010	**£55.97**

SCREW PLIERS

- Pinch guard provides added safety
- Self-clamping with optimised jaw design
- Chrome-vanadium steel, drop-forged
- Non-slip and gentle to edges due to play-free frictional connection
- Inductively hardened jaw
- With box joint and 13x notches
- Up to 36mm across flats



ATORN®

Length mm	Order Code	Price
260	53417500	**£29.57**

PIPE WRENCH

- For gripping pipes and pipe collars
- Chrome-vanadium steel, forged, tempered
- Swedish type, head angled by 90°
- Teeth also inductively hardened
- Teeth offset against direction of rotation
- Pinching guard
- Adjustment nut can be locked



ATORN®

Size inch	Max clamping mm	Order Code	Price
1	49	53430600	**£29.85**
1 1/2	68	53430610	**£44.29**
2	94	53430620	**£61.92**

ELBOW PIPE WRENCH

- For gripping pipes and pipe collars
- Forged and tempered
- Swedish type, head angled by 45°
- Teeth offset against direction of rotation
- Pinching guard
- Adjustment nut can be locked
- Teeth also inductively hardened



ATORN®

Size inch	Max clamping mm	Order Code	Price
1	55	53431600	**£33.47**
1 1/2	81	53431610	**£43.68**
2	94	53431620	**£61.95**

WATER PUMP PLIERS WITH PVC GRIP COVER

- 30% larger gripping area
- Enhanced self-clamping with optimised jaw design
- Fine adjustment graduations owing to quick-snap ratchet principle
- Spring-driven sliding block ensures quicker engagement
- Opposing toothing at the back of the jaws ensures aggressive gripping
- Inductively hardened, serrated jaws



ATORN®

Length mm	Max clamping mm	Order Code	Price
180	42	53413018	**£23.04**
250	50	53413025	**£25.07**
300	70	53413030	**£34.28**

EASY GRIP WATER PUMP PLIERS WITH GRIP COVERS

- Easy grip 2-component plastic handles with slip guard
- 30% larger gripping area
- Enhanced self-clamping with optimised jaw design
- Fine adjustment graduations owing to quick-snap ratchet principle
- Spring-driven sliding block ensures quicker engagement
- Opposing toothing at the back of the jaws ensures aggressive gripping
- Inductively hardened, serrated jaws



ATORN®

Length mm	Max clamping mm	Order Code	Price
180	42	53413180	**£28.47**
250	50	53413250	**£31.17**

WATER PUMP PLIERS

- 30% larger gripping area.
- Enhanced self-clamping with optimised jaw design.
- Fine adjustment graduations owing to quick-snap ratchet principle.
- Spring-driven sliding block ensures quicker engagement.
- Opposing toothing at the back of the jaws ensures aggressive gripping.
- Inductively hardened, serrated jaws.



ATORN®

Length mm	Max clamping mm	Order Code	Price
250	50	53413025	**£23.78**

WATER PUMP PLIERS WITH GROOVED JOINT

- For gripping pipes, screws or other workpieces
- Chrome-vanadium steel
- Screwed grooved joint with pinch guard



ATORN®

Length mm	Max Clamping mm	Order Code	Price
250	36	53415020	**£14.67**
310	45	53415030	**£25.15**

PLIERS FOR RETAINING RINGS / CIRCLIPS

- For mounting and removing inner retaining rings in drill holes
- Chrome-vanadium steel with burnished tips
- Straight tips according to DIN 5256 C
- Hardened and wearproof tips securely hold the rings



Type A



Type B



Type C



Type D

ATORN®

Standard	Type	Length mm	Min/Max Diameter mm	Order Code	Price
J0	A	140	8-13	53136500	**£9.43**
J1		140	12-25	53136510	**£9.43**
J2		180	19-60	53136520	**£9.87**
J3		225	40-100	53136530	**£13.83**
J4		310	85-140	53136540	**£24.05**
J01	B	140	8-13	53137500	**£9.87**
J11		140	12-25	53137510	**£9.87**
J21		180	19-60	53137520	**£10.29**
J31		225	40-100	53137530	**£14.67**
J41		310	85-140	53137540	**£24.92**
A0	C	140	3-10	53145510	**£11.44**
A1		140	10-25	53145520	**£10.63**
A2		180	19-60	53145530	**£11.02**
A3		225	40-100	53145540	**£14.83**
A4		310	85-140	53145550	**£24.66**
A01	D	140	3-10	53148510	**£11.97**
A11		140	10-25	53148520	**£11.02**
A21		180	19-60	53148530	**£11.63**
A31		225	40-100	53148540	**£15.33**
A41		310	85-140	53148550	**£25.42**

4 PIECE RETAINING RING / CIRCLIP PLIERS SET

- For mounting and removing inner and outer retaining rings
- Chrome-vanadium steel with burnished tips
- Hardened and wearproof tips securely hold the rings
- Supplied in a roll-up pouch with 1x: J2, J21, A2, A21



ATORN®

Order Code	Price
53135020	**£47.57**

8 PIECE RETAINING RING PLIERS SET

- For mounting and removing inner and outer retaining rings
- Chrome-vanadium steel with burnished tips
- Hardened and wearproof tips securely hold the rings
- Contains 1x: J1, J2, J11, J21, A1, A11, A21



ATORN®

Supplied In	Order Code	Price
Cardboard Box	53135010	**£85.42**
Roll-up Puch	53135030	**£95.37**

SIDE-CUTTERS WITH DIPPED GRIP COVER

- Swedish design
- Special tool steel, oil-hardened
- Inductively hardened blades
- Polished head



Type A (Standard)



Type B (Ergonomic)

ATORN®

Length mm	Order Code			
	Type A	Price	Type B	Price
130	53249400	**£11.31**	53249700	**£16.03**
145	53249510	**£11.31**	53249710	**£14.81**
165	53249520	**£12.12**	53249720	**£15.94**
180	53249530	**£15.64**	53249730	**£20.72**

HEAVY-DUTY SIDE-CUTTERS

- For easy cutting of wires and cables
- Power joint with up to 20% power saving for heavy-duty long-term use
- With opening spring for optimal handling (simple to disassemble)
- Special tool steel, oil-hardened
- Safe, ergonomic and effortless work
- Excellent cutting performance with low force required



ATORN®

Length mm	Max clamping mm	Order Code	Price
160	3.5	53256016	**£23.41**
180	3.8	53256018	**£25.59**
200	4.2	53256020	**£26.95**

PINCERS DIN 9243 A

- For removing nails or for pinching wire
- Special tool steel, oil-hardened
- Polished head



ATORN®

Length mm	Order Code	Price
160	53302500	**£10.87**
180	53302510	**£10.75**
200	53302520	**£11.31**
250	53302530	**£14.98**

END CUTTING NIPPERS

- For twisting and pinching wire or for pulling out nails
- Special tool steel, oil-hardened
- Blackened pliers with polished head
- Permanently sharp, inductively hardened precision blades
- Dipped handle sleeves
- Optimum cutting performance with favourable lever ratio



ATORN®

Length mm	Order Code	Price
220	53299220	**£13.17**
250	53299250	**£15.48**
280	53299280	**£17.78**

HAMMER PINCERS

- For driving in and removing nails or for pinching wire
- Special tool steel, oil-hardened
- Polished head
- With a striking area for driving in nails



ATORN®

Length mm	Order Code	Price
180	53304500	**£12.68**
200	53304510	**£13.83**

HEAVY-DUTY END CUTTING NIPPERS

- For cutting and pinching soft wire, hard wire and piano wire
- Flat power joint for good accessibility
- Precision cutting requires less energy
- Tool steel with induction-hardened cutting edges
- Ground and polished head with PVC grip covers
- Cutting performance for piano wire: 2.2mm (with length 160mm) and 2.5mm (with length 200mm)



ATORN®

Length mm	Max Cutting Capacity mm	Order Code	Price
160	3.4	53281511	**£22.36**
200	3.8	53281521	**£26.66**

HEAVY-DUTY CUTTERS WITH OPENING SPRING

- For effortless cutting of wires
- Optimised arm position for easy gripping
- Integrated heavy-duty rivets for maximum load capacity
- Patented joint geometry ensures extremely easy and power-saving cutting of even hard wires
- With opening spring and lock



Type A (Standard)



Type B (Ergonomic)

ATORN®

Length mm	Order Code			
	Type A	Price	Type B	Price
210	53096300	**£39.35**	53096310	**£43.87**

VDE SIDE-CUTTERS

- Tempered tool steel
- Inductively hardened blades
- VDE type according to DIN EN 60900
- Safe, ergonomic and fatigue-free working thanks to 2-component handles

VDE CERT.



ATORN®

Length mm	Max Cutting Capacity mm	Order Code	Price
130	2	53250900	**£20.32**
140	2.5	53250910	**£19.17**
160	2.8	53250920	**£20.17**
180	3.2	53250930	**£22.53**

CABLE CUTTERS

- For cutting single or multi-wire copper or aluminium conductors
- INOX stainless steel blades
- Self-opening through internal spring
- Sharp cut - no crushing or deformation of conductors
- Ergonomically shaped plastic handles
- Hardened and precision-ground



ATORN®

Length mm	Max Cutting Capacity mm	Order Code	Price
134	6	53093600	**£15.43**
168	10	53093610	**£16.80**

VDE HEAVY-DUTY SIDE-CUTTERS

- For easy cutting of wires and cables
- Power joint with up to 20% power saving
- VDE type according to DIN EN 60900
- Special tool steel, oil-hardened
- Inductively hardened blades
- Excellent cutting performance with low force required
- For heavy-duty long-term use

VDE CERT.



ATORN®

Length mm	Max Cutting Capacity mm	Order Code	Price
160	3.5	53256160	**£28.10**
180	3.8	53256180	**£30.53**
200	4.2	53256200	**£33.23**

POCKET BOLT CUTTERS

- With opening spring and fastening
- Comfort grip cover with slip guard
- Lightweight and handy with enormous cutting capacity
- Max cutting capacity 5mm



ATORN®

Length mm	Order Code	Price
250	53230025	**£43.78**

BOLT CUTTERS

- For cutting steel wires up to max. 44 HRC
- Forged, robust blades with additional inductively hardened cutting edges, cutting hardness approx. 62 HRC
- Powerful elbow joint and impact-resistant, powder-coated steel tube handle
- Easy adjustment using double eccentric screws



ATORN®

Length mm	Max cutting capacity mm	Order Code	Price
460	8	53230046	**£61.80**
620	9	53230062	**£77.22**
780	11	53230078	**£101.68**
900	13	53230090	**£134.83**

EASY GRIP CABLE SHEARS

- For cutting single and multi-conductor copper and aluminium cables.
- Hardened, precision-ground blades
- Polished head with narrow, riveted joint
- Anti-slip protection
- Not suitable for steel wire and hard-drawn copper wire



ATORN®

Length mm	Max Cutting Capacity mm	Order Code	Price
160	10	53093310	**£26.25**
210	12	53093320	**£33.72**

VDE EASY GRIP CABLE SHEARS

- For cutting single and multi-conductor copper and aluminium cables.
- Chrome-plated pliers with fine blade for smooth and easy cuts
- Ground, bolted precision joint, adjustable
- Not suitable for steel wire and hard-drawn copper wire
- VDE type according to DIN EN 60900
- One-handed operation with integrated spring and lock
- Angled head relieves strain on the wrist and provides an optimum view

VDE CERT.



ATORN®

Length mm	Max cutting capacity mm	Order Code	Price
180	18	53093410	**£41.89**
220	25	53093420	**£53.60**

EASY GRIP WIRE ROPE CUTTERS

- For cutting finely stranded cords, hard wires and cables.
- Extra-strong shearing blade
- Ground, bolted precision joint, adjustable
- One-handed operation with integrated spring and lock
- Angled head for improved view of the working area
- Safe, ergonomic and fatigue-free working



ATORN®

Length mm	Max Wire Diameter mm	Order Code	Price
190	7	53300019	**£46.13**

WIRE ROPE CUTTERS

- For cutting finely stranded cords, hard wires and cables.
- Extra-strong shearing blade
- Ground, bolted precision joint, adjustable
- Steel pipe arms with ergonomic plastic handles
- One-handed operation and fatigue-free working
- Angled head for improved view of the working area



ATORN®

Length mm	Max Wire Diameter mm	Order Code	Price
500	12	53300050	**£101.98**

EASY GRIP WIRE-STRIPPING PLIERS

- Special tool steel, oil-hardened
- With coiled opening spring
- With adjusting screw and locking nut



ATORN®

Length mm	Order Code	Price
160	53572650	**£18.07**

EASY GRIP VDE WIRE-STRIPPING PLIERS

- Tool steel, tempered
- With coiled opening spring
- With adjusting screw and locking nut
- VDE type according to DIN EN 60900



VDE CERT.

ATORN®

Length mm	Order Code	Price
160	53572700	**£21.72**

AUTOMATIC WIRE-STRIPPING PLIERS

- For automatic stripping of fine-strand and solid conductors with PVC insulation
- Interchangeable high-quality, hardened steel inserts
- Fully insulated, robust design made from fibre glass-reinforced polyamide
- With ergonomic handles and additional locking option
- Length stop adjustable from 5-12mm
- Side-cutters up to maximum 3mm in diameter



ORION®

Length mm	Min./Max. Stripper Size	Order Code	Price
170	0.2-6mm²	53580500	**£23.68**

WIRE-STRIPPING TOOL

- For automatic stripping of conductors with PVC insulation
- With cable cutter and length stop
- With three-stage insulation thickness setting
- Blades automatically adjust to the conductor cross-section



ATORN®

Length mm	Min./Max. Stripper Size	Order Code	Price
200	0.08-6mm²	53585010	**£59.96**

WIRE END FERRULE PLIERS

- Polished head
- Marked semi-circular sections for reliable connection between sheath and conductor



ATORN®

Length mm	min/max diameter mm	Order Code	Price
145	0.25-2	53145001	**£20.76**

EASY GRIP WIRE END FERRULE PLIERS

- Polished head
- Marked semi-circular sections for reliable connection between sheath and conductor
- Safe, ergonomic and fatigue-free working thanks to two-component handles



ATORN®

Length mm	min/max diameter mm	Order Code	Price
145	0.25-2.5	53145003	**£23.29**
180	0.25-16	53145004	**£30.95**

CABLE KNIFE, WITHOUT PRE-CUTTING BLADE

- For stripping sheathing from all common types of round cables, including waterproof cables
- Cutting depth is adjusted using the adjusting screw on the end of the handle
- The rotating inner blade automatically adjusts to the long cut after the round cut



ORION®

For Cable Diameter mm	Order Code	Price
4-16	53631010	**£9.80**
8-28	53631020	**£9.80**

CABLE KNIFE, WITH HOOKED BLADE

- For stripping sheathing from all common types of round cables, including waterproof cables
- Cutting depth is adjusted using the adjusting screw on the end of the handle
- For ribbon cables and flat cables
- The rotating inner blade automatically adjusts to the long cut after the round cut



ORION®

For Cable Diameter mm	Order Code	Price
4-28	53631022	**£10.76**

CABLE KNIFE, WITH STRAIGHT BLADE

- For stripping sheathing from all common types of round cables, including waterproof cables
- Cutting depth is adjusted using the adjusting screw on the end of the handle
- The rotating inner blade automatically adjusts to the long cut after the round cut



ORION®

For Cable Diameter mm	Order Code	Price
4-28	53631024	**£10.76**

CABLE KNIFE, WITH SLIDING HOOKED BLADE

- For stripping sheathing from all common types of round cables, including waterproof cables
- Cutting depth is adjusted using the adjusting screw on the end of the handle
- Optimum safety through retractable hooked blade
- The rotating inner blade automatically adjusts to the long cut after the round cut



ORION®

For Cable Diameter mm	Order Code	Price
4-28	53631026	**£13.54**

CABLE KNIFE, WITH STRIPPING STATION

- For fine-strand and solid conductors with PVC insulation. Also with stripping station in housing for 0.5-6mm²



ORION®

For Cable Diameter mm	Order Code	Price
4-28	53631028	**£20.77**

WORKING KNIFE FOR PVC CABLES

- For cutting and stripping PVC cables
- Rustproof blade with two stripping notches
- Red plastic grips
- Non-slip
- Blade with lock



ATORN®

Length mm	Order Code	Price
191	53603020	**£12.81**

UNIVERSAL WORKING KNIFE

- For universal cutting of a wide range of materials
- Rustproof blade with serrated edge
- Blue plastic grips
- Non-slip
- Blade is locked via pushbutton
- Blade stopper



ATORN®

Length mm	Order Code	Price
190	53603010	**£12.09**

CABLE KNIFE, FIXED BLADE

- With stainless steel blade & wooden handle



ORION®

Length mm	Order Code	Price
190	53610010	**£3.53**

STAINLESS STEEL WORK KNIFE

- Stainless, smooth blade
- Black plastic recessed handles
- Non-slip
- Blade stopper



ATORN®

Length mm	Order Code	Price
189	53603030	**£12.09**

CABLE KNIFE, FOLDABLE

- For cutting and stripping cables.
- Blade with double scraper



ORION®

Length mm	Order Code	Price
185	53615010	**£6.67**

CABLE KNIFE, FOLDABLE

- For cutting cables
- Wooden grip



ORION®

Length mm	Order Code	Price
191	53615005	**£5.52**

FOLDING KNIFE

- For precise cutting of a wide range of materials
- For all standard trapezoidal blades
- With steel belt clip



ATORN®

Overall Length mm	Blade Width mm	Order Code	Price
160	18.7	53644200	**£22.35**

UTILITY KNIFE WITH PUSH BUTTON

- With pushbutton and auto-lock mechanism
- With 9mm snap-off blade



ATORN®

Overall Length mm	Blade Width mm	Order Code	Price
150	9	53640010	**£9.77**

UTILITY KNIFE WITH LOCKING WHEEL

- Locking wheel
- With 18mm snap-off blade



ATORN®

Overall Length mm	Blade Width mm	Order Code	Price
157	18	53640020	**£15.26**

UTILITY KNIFE WITH RETRACTABLE BLADE

- Die-cast housing
- With pushbutton and auto-lock mechanism



ORION®

Overall Length mm	Blade Width mm	Order Code	Price
160	18.7	53642600	**£5.01**

SAFETY KNIFE WITH ERGONOMIC HANDLE

- Die-cast housing
- Safe working processes thanks to automatic blade retraction
- Ergonomic handle with soft component
- Blades are changed without needing to screw them on



ORION®

Overall Length mm	Blade Width mm	Order Code	Price
162	18.7	53642700	**£8.73**

SAFETY KNIFE

- Die-cast housing
- With retractable blade
- Mechanically adjustable blade



ORION®

Overall Length mm	Blade Width mm	Order Code	Price
150	18.7	53642500	**£4.81**

HIDDEN EDGE KNIFE

- Utility knife is supplied with 3 trapezoidal blades (KS01R)
- Easy to use safety lock and lever allows the blade to be exposed instantly
- Thumb wheel accurately adjusts cutting depth



Starrett®

Overall Length mm	Blade Width mm	Order Code	Price
130	25	STAR-S011	**£13.03**

SNAP-OFF BLADES

- Snap-off blades 9mm L: 100mm x W: 17.7mm x H: 0.5mm
- Snap-off blades 18mm L: 84mm x W: 9.1mm x H: 0.4mm
- Quality blades made in Germany
- Long service life, very wear-resistant
- Precision sharp ground and hardened



ATORN®

Pieces	Blade Width mm	Order Code	Price
10	9	53640109	**£2.72**
	18	53640118	**£3.08**

PACK OF 10 TRAPEZOIDAL BLADES

- Trapezoidal blades
- L: 61mm x W: 18.7mm x H: 0.65mm
- Quality blades made in Germany
- Long service life, very wear-resistant
- Precision sharp ground and hardened



ATORN®

Pieces	Blade Width mm	Type	Order Code	Price
10	18.7	Premium	53640400	**£3.82**
		Economy	53642610	**£1.90**

SHEET METAL SNIPS

- For straight continuous and shaped cuts
- Micro-serrated blade for non-slip cutting
- Noticeably reduced force application thanks to double lever ratio
- With ergonomic two-component handles for a secure hold, even when high force is used



Erdi

Overall Length mm	Hand	Order Code	Price
260	Right	53674500	£27.18
260	Left	53674550	

SHEET METAL SNIPS

- For straight continuous and shaped cuts
- HSS blades guarantee considerably longer service life, particularly for stainless steel sheets
- Noticeably reduced force application thanks to double lever ratio
- With ergonomic two-component handles for a secure hold, even when high force is used



Erdi

Overall Length mm	Hand	Order Code	Price
260	Right	53674800	£132.85
260	Left	53674850	

SHEET METAL SNIPS

- For straight continuous and shaped cuts
- Compact cutting head for excellent manoeuvrability
- Optimised lever ratio for 25% less force application
- Optimised blade geometry prevents slippage, even without micro serration
- ERGO handles for fatigue-free work



Erdi

Overall Length mm	Hand	Order Code	Price
260	Right	53674710	£47.81
260	Left	53674760	

MULTI-PURPOSE SCISSORS

- For cutting sheet metal, soft wire, iron bands, plastic etc
- Especially robust
- Rustproof stainless steel head
- Screw joint prevented from coming loose



ORION

Overall Length mm	Order Code	Price
180	53723010	£13.15

MULTIPURPOSE SCISSORS

- Rustproof blades
- Plastic handles
- For left-handed and right-handed users



ORION

Overall Length mm	Order Code	Price
205	53720030	£11.03

HIGH STRENGTH SCISSORS

- For cutting a variety of materials including thin sheets
- Stainless steel blades - non-rusting
- Fine-toothed cutting edge prevents slipping
- Ergonomically-shaped, robust plastic handles
- Straight, self-opening with internal spring
- Overhead locking device for safe transport



ATORN

Overall Length mm	Order Code	Price
150	53721150	£11.56
190	53721190	£13.30

MULTIPURPOSE SCISSORS

- Stainless steel blade, non-rusting
- Plastic handles
- HRC 50-54
- For left-handed and right-handed users



ORION

Overall Length mm	Order Code	Price
250	53720040	£16.28

SAFETY SCISSORS

- For cutting cardboard, paper, film, strapping, material and more..
- High-quality stainless steel blades
- Maximum safety: Cuts at right angles and thus safe for the user



martor

Overall Length mm	Type	Order Code	Price
133	363	53716010	£14.79
220	564	53716020	£30.44
215	565	53716030	£37.67

MACHINIST'S HAMMER WITH ULTRA SECURE HANDLE

- For vibration-free striking that is gentle on joints
- Ergonomic and non-slip application
- Forged protective handle collar and additional protective handle sleeve
- DIN 1041 hammer head, C45 steel, electric-inductively hardened



ATORN®

Weight of Head kg	Length mm	Order Code	Price
0.3	300	51180030	**£20.79**
0.5	320	51180050	**£23.68**
1	360	51180100	**£34.38**
1.5	360	51180150	**£38.27**
2	400	51180200	**£50.14**

MACHINIST'S HAMMER WITH ASH HANDLE

- DIN 1041 hammer head, C45 steel, electric-inductively hardened
- Polished impact surfaces
- Ergonomically shaped ash handle, waterproofed, painted
- With safety ring wedge



ORION®

Weight of Head kg	Length mm	Order Code	Price
0.3	300	51180520	**£7.83**
0.5	320	51180540	**£10.44**
1	360	51180570	**£16.64**
1.5	380	51180580	**£22.41**
2	400	51180590	**£29.15**

COPPER HAMMER MALLET SHAPE

- Head made of 99.9% copper, double-strengthened, cold-formed
- Ground impact surface and edges
- Weight inserted in head, DIN hammer eye
- Copper hardness: approx. 80-100 HB



ORION®

Weight of Head kg	Length mm	Order Code	Price
0.5	320	51199050	**£38.20**
1	360	51199100	**£67.37**
2	400	51199200	**£116.90**
3	600	51199300	**£192.52**
5	900	51199500	**£294.16**

WELDER'S HAMMER

- For removing slag from welding seams
- Welded-on tubular handle
- Ground



ORION®

Length mm	Order Code	Price
300	51192010	**£6.29**

COMPOSITE RUBBER HAMMER

- Painted handle
- Hard quality, approx. 90 Shore A



ORION®

Head Diameter mm	Length mm	Order Code	Price
40	300	51204010	**£3.72**
54	320	51204020	**£4.58**
64	330	51204030	**£6.37**
74	350	51204040	**£8.56**
90	360	51204050	**£12.77**

SOFT-FACE HAMMER, NO RECOIL WITH STEEL TUBE HANDLE

- Powerful impact action on metal while being gentle on muscles and joints thanks to lack of recoil
- Impact heads made from shatterproof polyurethane, replaceable
- Powder-coated precision steel tube handle





ATORN®

Head Diameter mm	Length mm	Order Code			
		Hammer	Price	Spare Head	Price
30	351	51208300	**£27.45**	51208330	**£2.87**
40	376	51208400	**£28.81**	51208440	**£4.09**
50	386	51208500	**£41.96**	51208550	**£4.94**

SLEDGEHAMMER / LUMP HAMMER

- C45 steel, inductively hardened
- Painted black, polished work surfaces



ORION®

Weight of Head kg	Length mm	Order Code	Price
1	260	51196010	**£13.82**
1.25	280	51196020	**£15.91**
1.5	280	51196030	**£18.56**
2	300	51196040	**£22.39**

PLASTIC HAMMER CELLULOSE ACETATE

- Made from cellulose acetate
- Hardness: medium, colour: yellow





ORION®

Head Diameter mm	Length mm	Order Code			
		Hammer	Price	Spare Head	Price
22	250	51207522	**£8.96**	51207722	**£1.67**
27	260	51207527	**£11.16**	51207727	**£2.82**
32	280	51207532	**£13.45**	51207732	**£4.36**
35	280	51207535	**£16.25**	51207735	**£5.22**
40	320	51207540	**£20.29**	51207740	**£5.63**
50	340	51207550	**£35.72**	-	**-**

6 PIECE CHROME-VANADIUM CHISEL SET

- Tempered impact head
- Painted shaft
- Lengths: 120-150mm

Contents
- 1 x Flat Chisel 150 x 11 x 10mm
- 1 x Flat Chisel 125 x 11 x 10mm
- 1 x Cross-cut chisel 125 x 10 x 5mm
- 1 x Drift punch 3 x 120mm
- 1 x Drift punch 4 x 120mm
- 1 x Centre punch 120 x 10mm



ORION

Pieces	Order Code	Price
6	51262510	**£22.90**

6 PIECE DRIFT PUNCH SET

- Tempered impact head
- Drive cone or drive point, bare
- Painted shaft

Contents
- Tip diameter: 1/2/3/4/5mm
- 1x centre punch: 4mm



ORION

Overall Length mm	Shaft Diameter mm	Order Code	Price
120	10	51282500	**£16.96**

6 PIECE DRIFT PUNCH SET

- Tempered impact head
- Drive cone or drive point, bare
- Painted shaft

Contents
- Tip diameter: 1/2/3/4/5mm
- 1x centre punch: 4mm



ORION

Overall Length mm	Shaft Diameter mm	Order Code	Price
120	10	51282510	**£24.83**

5 PIECE PIN PUNCH SET

- For driving split pins and studs out of clearance holes
- Chrome-vanadium steel, tempered
- Tempered impact head
- Drive cone or drive point, bare
- Painted shaft

Contents
- Tip diameter: 3/4/5/6/7/8mm - 51284500
- Tip diameter: 3/4/5/6/8/10mm - 51284520





ORION

Overall Length mm	Supplied In	Order Code	Price
150	Plastic case	51284500	**£20.10**
	Steel box	51284520	**£26.84**

CHISELS

- Tempered impact head with painted shaft



Flat Type



Mason's



Cross Cut



Electronics

ORION

Length mm	Order Code							
	Flat Chisel	Price	Cross Cut Chisel	Price	Mason's Chisel	Price	Electronic's Chisel	Price
125	51256510	**£4.62**	51258510	**£5.43**	-	-	-	-
150	51256520	**£5.48**	51258520	**£6.22**	-	-	-	-
175	51256530	**£6.14**	51258530	**£6.35**	-	-	-	-
200	51256540	**£7.14**	51258540	**£8.02**	51264500	**£7.53**	-	**-**
250	51256550	**£8.38**	51258550	**£9.73**	-	-	51268500	**£3.94**

DRIFT PUNCH

- Tempered impact head
- Drive cone or drive point, bare
- Painted shaft



ORION

Overall Length mm	Tip Diameter mm	Shaft Diameter mm	Order Code	Price
120	1	10	51281500	**£2.40**
	2		51281510	
	3		51281520	
	4		51281530	
	5		51281540	
	6	12	51281550	**£2.40**
	7		51281560	
	8		51281570	
	10		51281580	

CENTRE PUNCH

- Tempered impact head
- Bare tip
- Painted shaft



ORION

Overall Length mm	Shank Width x Shank Thickness mm	Order Code	Price
120	10 x 10	51296500	**£2.22**
100	8 x 8	51296490	**£2.20**
120	12 x 12	51296510	**£2.52**
150	12 x 12	51296520	**£3.19**

PIN PUNCH

- For driving split pins and studs out of clearance holes



ORION

Overall Length mm	Tip Diameter mm	Shank Width x Shank Thickness mm	Order Code	Price
150	2	10 x 10	51283500	**£3.08**
150	2.5		51283510	**£2.99**
150	3		51283520	**£2.72**
150	3.5		51283530	**£2.99**
150	4		51283540	**£2.82**
150	4.5		51283550	**£2.91**
150	5		51283560	**£2.82**
150	6		51283570	**£2.82**

SCRAPER SET WITH IMPACT CAP AND INOX BLADE

- Stainless steel blades
- Can be ground
- Blade widths: 20/32mm
- Blade length: 55/105mm



ORION

Pieces	Order Code	Price
4	53704500	**£43.80**

FLAT SCRAPER

- Special enamelled tool steel or soldered cemented carbide cutting insert
- Painted blade



ATORN

Blade Length mm	Blade Width mm	Type	Order Code	Price
100	18	Tool Steel	53710500	**£6.85**
150	20		53710510	**£7.39**
200	20		53710520	**£8.23**
190	15	Cemented Carbide	53711210	**£54.43**
210	20		53711270	**£59.94**
240	25		53711320	**£64.41**

TRIANGULAR HOLLOW & SOLID SCRAPER

- Special tool steel
- Enamelled



ATORN

Blade Length mm	Blade Width mm	Type	Order Code	Price
100	14	Hollow	53705500	**£6.76**
125			53705510	**£7.25**
150			53705520	**£7.71**
200	16		53705530	**£8.50**
150	10	Solid	53706510	**£8.16**
200			53706520	**£9.94**

PROFILED FINE SCRAPER

- 3-edged hollow-section scraper
- Special tool steel blade
- Entire handle is made from extremely impact-resistant, tough plastic
- With protective cap for the cutters
- For effortless removal of old seals, adhesive residues and labels on flanges, cylinder heads, valve covers and other flat surfaces



ATORN

Blade Length mm	Blade Width mm	Order Code	Price
25	8	53695500	**£12.37**

TELESCOPIC PICK-UP MAGNET

- For lifting and picking up small magnetic objects
- Chrome-plated
- With attachment clip
- Extension length: 145-650mm



ORION

Head Diameter mm	Order Code	Price
7	51151020	**£6.67**

SEAL SCRAPER

- High-alloy chrome-vanadium steel, forged, chrome-plated
- With ergonomic multi-component hexagonal handle in impact-resistant plastic
- For effortless removal of old seals, adhesive residues and labels on flanges, cylinder heads, valve covers and other flat surfaces



ATORN

Blade Length mm	Blade Width mm	Order Code	Price
150	25	53714010	**£11.53**

TELESCOPIC PICK-UP MAGNET

- For lifting and picking up small magnetic objects
- Retention force 3kg
- Neodymium bar grip 13 x 20mm
- Extension length: 260-700mm



ORION

Head Diameter mm	Order Code	Price
13	52995320	**£18.16**

CLAW GRIPPER WITH 3 CLAWS

- For gripping hard-to-reach parts
- Chrome plated



ORION

Overall Length mm	Order Code	Price
170	52998110	**£15.10**

CLAW GRIPPER WITH 3 CLAWS

- For gripping hard-to-reach parts.



ORION

Overall Length mm	Type	Order Code	Price
500	B	52998120	**£19.20**

FLEXIBLE HAND-HELD BAR MAGNET

- For effortlessly removing screws, tools and other small parts from gearbox enclosures or other difficult-to-reach areas.
- With flexible handle
- With oil-resistant protective sleeve
- Plastic handle



ORION

Overall Length mm	Head Diameter mm	Order Code	Price
700	11	51156010	**£119.51**
	20	51156020	**£133.39**
	30	51156040	**£148.65**

FLEXIBLE PICK-UP MAGNET

- For lifting and picking up small magnetic objects
- With flexible shaft
- Chrome-plated with plastic handle
- With fixed neodymium core magnetic head



ORION

Head Diameter mm	Length	Order Code	Price
8	380	51155500	**£13.86**
12	380	51155510	**£14.18**
14	420	51155520	**£20.79**
19	420	51155530	**£33.25**

FLEXIBLE PICK-UP MAGNET

- For lifting and picking up small magnetic objects
- With flexible shaft
- Chrome-plated
- Plastic handle
- With detachable AlNiCo magnetic head



ORION

Overall Length mm	Head Diameter mm	Order Code	Price
600	11	51155600	**£74.23**
600	20	51155610	**£92.62**

PICK-UP MAGNET / SWARF WAND

- Use the magnet to attract chips or small pieces, then pull the knob to release the pieces
- Easy removal of impurities from machines and coolant
- Rustproof rod, plastic handle with protective shield
- Magnetic tensile force of 20kg
- Handle length incl. scraper = 215mm



ATORN

Overall Length mm	Head Diameter mm	Order Code	Price
390	25	51158140	**£40.08**
515		51158150	**£54.85**
815		51158160	**£63.53**

MAGNETIC CHIP BROOM

- For practical cleaning of floors in different work areas
- Pick-up capacity up to 9kg
- Easy removal of collected metal parts using simple release mechanism on the shaft
- Telescopic handle can be adjusted from 750 to 1050mm in length
- Sweeping width 400mm, smooth-running plastic wheels



ATORN

Overall Length mm	Order Code	Price
1050	51158500	**£88.88**

SWARF HOOK

- For safely removing chips from processing machines.
- Hands protected with flat steel plate



ORION

Blade Length mm	Blade Diameter mm	Order Code	Price
300	8	56780010	**£24.68**
500		56780020	**£26.12**

SWARF HOOK WITH DEEP HAND PROTECTION

- For safely removing chips from processing machines.
- With deep plastic hand guard for increased safety



ORION

Blade Length mm	Blade Diameter mm	Order Code	Price
350	8	56780450	**£41.30**
500		56780600	**£46.03**

MAGNETIC ANGLE SETTING DEVICE

- For joining flat, curved and round iron components with angular accuracy; simple to remove by tilting on side
- Permanent magnet with excellent retention force
- Dimensions 120 x 82 x 14mm, 24mm hole



CUTWEL PRO

Width of Side mm	Limb Length mm	Angle	Order Code	Price
14	120/82	90°	51129015	**£11.14**

MAGNETIC HOLDER

- For suspending blow guns, cables, clothes, etc
- High retention force thanks to 6 neodymium magnets in the pot magnet
- The rubber coated magnet avoids scratches and is oil-resistant
- Solid plastic version
- The special shape allows 2 separately usable zones and prevents the suspended parts falling



ATORN®

Outer Diameter mm	Order Code	Price
65	51150100	**£27.33**

MAGNETIC BOWL

- For storing all small parts near the workstation
- Plastic bowl with magnet for fastening to all steel surfaces



HAZET

Diameter mm	Order Code	Price
150	51159020	**£14.03**

ORGANISING MAGNET

- For fixing drawings and other paper documents to magnetic surfaces.
- Magnetic clamp with coloured plastic cap



ORION®

Outer Dia. mm	Order Code					Price
	Blue	White	Red	Yellow	Black	
20	51161010	51161050	51161030	51161020	51161040	**£0.43**
25	51161060	51161100	51161080	51161070	51161090	**£0.56**
30	51161110	51161150	51161130	51161120	51161140	**£0.58**
34	51161155	51161190	51161170	51161160	51161180	**£1.82**

MAGNETIC BRACKET

- For precise straightening of workpieces, quickly and easily using the switchable magnetic force
- With a range of brackets for the most common applications



Peddinghaus

Width of Side mm	Limb Length mm	Angle	Order Code	Price
25	110	90	51129001	**£62.42**
	140		51129002	**£91.05**

PERMANENT MAGNETIC V-BLOCK

- For securing and straightening irregularly shaped magnetic components
- Three magnetic contact surfaces that can be activated/deactivated together



CUTWEL PRO

Length x Width x Height mm	Min./Max. Workpiece Diameter mm	Pack Size	Order Code	Price
100 x 70 x 95	6-70	Individual	51130510	**£193.95**
100 x 70 x 95	6-70	Pair	51130610	**£382.81**

MAGNETIC TAPE

- For labelling with water-soluble permanent fibre tip pen, applications e.g. shelves, cabinets, organisational boards etc.



ORION®

Band Width mm	Order Code				Price
	Blue	Yellow	Red	White	
20	51162010	51162020	51162030	51162040	**£31.76**
30	51162110	51162120	51162130	51162140	**£48.31**

PERMANENT MAGNETIC BLOCK

- For securing sheet metal, round and flat materials at any desired angle.
- Individual magnetic V-block, switchable



CUTWEL PRO

Length x Width x Height mm	Pack Size	Order Code	Price
62 x 50 x 55	Individual	51132510	**£64.81**
62 x 50 x 55	Pair	51132610	**£156.61**

FLAT MAGNETIC GRIPS WITH THREADED BUSH

- With hard ferrite core
- Surface galvanised
- Magnetic shielding
- With threaded bush
- Operating temperature up to 100°C



ORION

Outer Diameter mm	Height mm	Thread	Order Code	Price
10	11.5	M3	51145500	**£1.28**
16	11.5	M3	51145520	**£1.67**
20	13	M3	51145530	**£2.18**
25	15	M4	51145540	**£2.33**
32	15	M4	51145550	**£2.35**
40	18	M5	51145560	**£3.38**
50	22	M6	51145570	**£4.15**
63	30	M8	51145580	**£7.74**
80	34	M10	51145590	**£14.03**
100	42	M12	51145600	**£38.97**

FLAT MAGNETIC GRIPS WITH PLAIN BORE

- With hard ferrite core
- Surface galvanised
- Magnetic shielding
- With bore hole and countersink
- Operating temperature up to 100°C



ORION

Outer Diameter mm	Height mm	Bore Diameter mm	Order Code	Price
16	4.5	3.5	51146720	**£2.29**
20	6	4.2	51146730	**£2.35**
25	7	5.5	51146740	**£2.57**
32	7	5.5	51146750	**£2.70**
40	8	5.5	51146760	**£3.31**
50	10.5	6.5	51146770	**£2.93**
63	14	6.5	51146780	**£7.49**
80	18	6.5	51146790	**£14.20**

MAGNETIC BAR GRIPS

- With AlNiCo core
- Magnet encased in steel
- Operating temperature up to 450°C
- Fastening option: press in, shrink or glue in place
- Smooth exterior surface with h6 fit tolerance



ORION

Outer Diameter mm	Height mm	Order Code	Price
6	10	51148500	**£2.74**
8	12	51148510	**£3.08**
10	16	51148520	**£3.40**
13	18	51148530	**£4.34**
16	20	51148540	**£5.43**
20	25	51148550	**£7.76**
25	30	51148560	**£18.76**
32	35	51148570	**£27.89**
40	45	51148580	**£62.58**
50	50	51148590	**£101.63**

MAGNETIC GRIPS

- Magnet encased in brass
- Fastening option: press in, shrink or glue in place



ORION

Outer Diameter mm	Height mm	Type	Order Code	Price
6	10	Neodymium	51149500	**£3.01**
8	12		51149510	**£3.98**
10	16		51149520	**£5.13**
16	20		51149540	**£9.13**
20	25		51149550	**£11.12**
25	30		51149560	**£25.30**
6	10	Samarium Cobalt	51149700	**£4.09**
8	12		51149710	**£5.13**
10	16		51149720	**£6.54**
16	20		51149740	**£11.98**
20	25		51149750	**£19.65**

MAGNETIC BAR GRIPS WITH THREADED BORE

- With AlNiCo core
- Magnet encased in steel
- Operating temperature up to 450°C
- With female thread
- Fastening option: screws



ORION

Outer Diameter mm	Height mm	Thread	Order Code	Price
6	20	M3	51150800	**£3.08**
8	20	M3	51150810	**£3.40**
10	20	M4	51150820	**£4.00**
13	20	M4	51150830	**£4.62**
16	20	M4	51150840	**£5.80**
20	25	M6	51150850	**£7.36**
25	35	M6	51150860	**£16.90**
32	40	M8	51150870	**£29.15**

DECORATIVE MAGNET

- For attaching a variety of objects to magnetic surfaces
- Adhesive magnet with hook
- Painted white



ORION

Outer Diameter mm	Order Code	Price
20	51161200	**£3.17**
25	51161210	**£3.31**
32	51161220	**£3.40**
40	51161230	**£4.55**

POT MAGNET WITH BORE

- For labelling with water-soluble permanent fibre tip pen
- Flat pot magnet with clearance hole
- With AlNiCo core
- Fastening option: screws



ORION

Outer Diameter mm	Height mm	Order Code	Price
19	8	51170500	**£6.05**
29	9	51170510	**£9.58**
38	11	51170520	**£15.55**
17	16	51172500	**£6.07**
21	19	51172510	**£6.84**
27	25.4	51172520	**£11.93**
35	30	51172530	**£20.51**

FILE BRUSH

- File brush band, stuck on
- Brush strip size: 115 x 40mm



LESSMANN

Overall Length mm	Order Code	Price
250	56720500	**£3.17**

SPARK PLUG PRECISION BRUSH

- For all precision brushing work
- 150mm long / bristle length 15mm / 3 rows
- Body made of certified beech wood



LESSMANN

Bristle Material	Order Code	Price
Brass	56710500	**£1.22**
Stainless Steel	56710520	**£2.59**
Nylon	56710530	**£2.20**

WIRE HAND BRUSH

- For cleaning cast iron pieces, files and for brushing a wide array of parts and surfaces
- Body made of certified beech wood



LESSMANN

Bristle Material	Bristle Length mm	Number of Rows	Order Code	Price
Brass	25	2	56727520	**£2.39**
		3	56727530	**£2.69**
		4	56727540	**£3.17**
		5	56727550	**£3.61**
Stainless Steel	25	1	56726510	**£2.27**
		2	56726520	**£2.08**
		3	56726530	**£2.42**
		4	56726540	**£2.84**
		5	56726550	**£3.32**
		6	56726560	**£3.91**
Cast Steel	25	1	56725510	**£1.31**
		2	56725520	**£1.16**
		3	56725530	**£1.28**
		4	56725540	**£1.37**
		5	56725550	**£1.60**
		6	56725560	**£1.82**

STEEL & STAINLESS STEEL WIRE UNIVERSAL HAND BRUSH

- For cleaning cast iron pieces, files and for brushing a wide array of parts and surfaces
- With ergonomic plastic handle



LESSMANN

Bristle Length mm	Number of Rows	Type	Order Code	Price
28	1	Steel	56740500	**£2.27**
		Stainless Steel	56740510	**£5.41**

BRASS WIRE HAND BRUSH

- Extremely tough brush for cleaning weld seams
- With ergonomic two-component handle
- 22mm long bristles



LESSMANN

Width mm	Number of Rows	Order Code	Price
10	2	56740620	**£8.81**

FINE BRUSH

- For cleaning uneven surfaces
- With high trim density
- Brush head width: 20mm
- Trim length: 110mm



LESSMANN

Bristle Material	Overall Length mm	Number of Rows	Order Code	Price
Horsehair	225	4	56735501	**£5.09**
Nylon	225		56735510	**£2.63**
Brass	225		56735520	**£5.13**
Stainless Steel	225		56735530	**£6.59**

STEEL & STAINLESS STEEL WIRE HAND BRUSH

- Extremely tough brush for cleaning weld seams
- With ergonomic two-component handle
- 22mm long bristles



LESSMANN

Width mm	Number of Rows	Type	Order Code	Price
10	2	Steel	56740600	**£6.20**
		Stainless Steel	56740610	**£8.45**

WIRE CYLINDER BRUSH

- For deburring and cleaning bores and pipes
- With eyelet
- For manual use


Steel


Brass


Nylon

LESSMANN®

Diameter mm	Overall Length mm	Order Code					
		Steel	Price	Brass	Price	Nylon	Price
3	300	56741005	**£14.88**	56741095	**£15.35**	56741195	**£5.09**
4		56741010	**£11.18**	56741100	**£11.55**	56741200	**£4.49**
6		56741020	**£8.10**	56741110	**£9.52**	56741210	**£3.38**
8		56741030	**£6.37**	56741120	**£7.96**	56741220	**£3.01**
10		56741040	**£5.01**	56741130	**£6.25**	56741230	**£2.70**
15		56741050	**£5.45**	56741140	**£6.25**	56741240	**£3.01**
20		56741060	**£5.60**	56741150	**£6.31**	56741250	**£3.12**
25		56741065	**£5.75**	56741160	**£6.42**	56741260	**£3.34**
30		56741070	**£5.75**	56741170	**£6.67**	56741270	**£3.47**
40		56741080	**£7.25**	56741180	**£7.63**	56741280	**£5.00**
50		56741090	**£7.36**	56741190	**£7.74**	56741290	**£5.90**

CRIMPED BRASS WIRE TUBE BRUSH

- For cleaning pipes, gratings, sleeves and cylinders and for deburring e.g. cross-drilled holes and similar features
- 115mm long
- With M6 connecting thread for handle, extensions or adapter
- Longest service life thanks to top wire quality
- Optimal flexibility and bending strength
- Uniform distribution of the filling wire ensures a high level of concentricity


Brass


Nylon


Steel


Stainless

ATORN®

Diameter mm	Order Code							
	Crimped Brass	Price	Smooth Nylon	Price	Crimped Steel	Price	Crimped Stainless	Price
8	56742208	**£6.32**	56742308	**£5.26**	56742008	**£4.94**	56742108	**£6.61**
10	56742210	**£5.98**	56742310	**£5.04**	56742010	**£4.51**	56742110	**£5.95**
12	56742212	**£5.98**	56742312	**£5.04**	56742012	**£4.51**	56742112	**£5.95**
14	56742214	**£5.98**	56742314	**£5.04**	56742014	**£4.51**	56742114	**£5.95**
16	56742216	**£6.03**	56742316	**£5.07**	56742016	**£4.58**	56742116	**£6.03**
18	56742218	**£6.03**	56742318	**£5.07**	56742018	**£4.58**	56742118	**£6.58**
20	56742220	**£6.03**	56742320	**£5.07**	56742020	**£4.85**	56742120	**£6.58**

SMOOTH WIRE TUBE BRUSH

- Edging: Steel or stainless steel wire, smooth
- With W 1/2-inch connecting thread for handle, extensions or adapter
- Longest service life thanks to top wire quality
- Optimal flexibility and bending strength


Steel


Stainless Steel

ATORN®

Diameter mm	Overall Length mm	Order Code			
		Steel	Price	Stainless Steel	Price
22	150	56742422	**£5.16**	56742522	**£7.32**
25	150	56742425	**£5.73**	56742525	**£7.42**
30	160	56742430	**£5.98**	56742530	**£8.15**
32	160	56742432	**£6.24**	56742532	**£8.30**
38	160	56742438	**£6.36**	56742538	**£8.35**
40	160	56742440	**£6.59**	56742540	**£8.40**
44	160	56742444	**£6.71**	56742544	**£8.62**

CRIMED BRASS WIRE TUBE BRUSH

- For cleaning pipes, gratings, sleeves and cylinders and for deburring e.g. cross-drilled holes and similar features
- Edging: Brass wire, crimped
- With W 1/2-inch connecting thread for handle, extensions or adapter
- Longest service life thanks to top wire quality
- Optimal flexibility and bending strength
- Uniform distribution of the filling wire ensures a high level of concentricity



ATORN®

Diameter mm	Overall Length mm	Order Code	Price
22	150	56742622	**£7.81**
25	150	56742625	**£6.86**
30	160	56742630	**£8.15**

EXTENDABLE INSPECTION MIRROR

- For inspecting partly concealed areas
- In metal, 2 pcs with handle
- Extendable handle



Mirror Diameter mm	Max. Extension Length mm	Order Code	Price
30	210	52995120	**£12.85**

EXTENDABLE TELESCOPIC INSPECTION MIRROR

- For inspecting partly concealed areas
- Telescopic inspection mirror with handle, extendable, secured against twisting



Mirror Diameter mm	Max. Extension Length mm	Order Code	Price
30	680	52995210	**£18.09**
50	680	52995220	**£23.20**

INSPECTION MIRROR WITH CLIP

- For inspecting partly concealed areas
- Round mirror
- Chrome-plated metal handle
- With attachment clip



Mirror Diameter mm	Max. Extension Length mm	Order Code	Price
30	520	52995270	**£5.13**

RECTANGULAR INSPECTION MIRROR

- For inspecting partly concealed areas
- Rectangular mirror, mirror dimensions 43 x 65mm
- Plastic-coated metal handle



Mirror Diameter mm	Max. Extension Length mm	Order Code	Price
43	720	52995290	**£8.41**

2 PIECE EXTENDABLE INSPECTION MIRROR

- For inspecting partly concealed areas
- 2 pcs, in plastic



Mirror Diameter mm	Max. Extension Length mm	Order Code	Price
24	260	52995110	**£10.65**

INSPECTION MIRROR

- For inspecting partly concealed areas
- Round mirror
- Plastic-coated metal handle



Mirror Diameter mm	Max. Extension Length mm	Order Code	Price
50	730	52995280	**£8.04**

TELESCOPIC INSPECTION MIRROR WITH ILLUMINATION

- Inspect hidden areas
- Head can bend and rotate
- Telescoping handle, made of stainless steel
- With two CR2032 batteries



INSIZE

Size of Mirror mm	Order Code	Price
65x42	7162-1	**£8.34**

FOLDING MAGNIFIER WITH ILLUMINATION

- Resin lens
- Powered by 3x LR927 batteries (included)



INSIZE

Magnification	Lens Diameter mm	Order Code	Price
10x	21	7515-10	**£8.16**

INSPECTION SET WITH TELESCOPIC GRIP, LAMP, MAGNET AND MIRRORS

- For all inspection tasks
- In case with impact-resistant foam inlay

Contents

- 2x Mirrors (round 60mm, rectangular 65 x 43mm)
- 1x Telescopic handle
- 1x LED inspection lamp
- 1x Magnetic attachment
- 3x Batteries



ORION

Mirror Diameter mm	Max. Extension Length mm	Order Code	Price
60	600	52995500	**£70.10**

IP67 MAGNETIC LIGHT STRIP

- For lighting workbenches, cabinets, shelves, inside and outside machines or simply on the wall
- High-performance brand LED, light colour temperature 5500 K (cold white), 140° beam angle
- Lamp housing made of anodised aluminium
- Resistant to liquids such as water, oils, coolants and cleaning agents
- Energy efficiency class A++
- Can be mounted using magnets or with two mounting brackets for precise alignment of the light beam



IP67

ATORN®

Power Rating w	Connection Type	Order Code	Price
14.4	With 230 V connection	56869010	**£273.46**
14.4	With 24-V direct machine connection	56869020	**£261.79**
28.8	With 230 V connection	56869100	**£378.63**
28.8	With 24-V direct machine connection	56869120	**£349.53**

MAGNETIC MACHINE LIGHT

- Voltage 230 V, 50 Hz
- Lamp head and base made from impact-resistant, non-flammable plastic
- Anodised aluminium star-shaped heat dissipator and lens holder
- Switch integrated in the lamp head
- Colour temperature 4000 K
- Enormous light output and long LED service life
- 1.6-m connection cable



ATORN®

Power Rating w	IP Protection	Connection Type	Order Code	Price
3	IP20	With 230 V connection	56870010	**£233.17**
10	IP67	With 230 V connection	56870020	**£274.13**
10	IP67	With 24-V direct machine connection	56870030	**£269.85**

LED MINI INSPECTION WORKING LAMP

- Light chip with 120 lumen light output
- Lateral holding magnet, rubberised push switch
- Rotatable push-on clip



ATORN®

Overall Length mm	Luminous Flux lm	Order Code	Price
160	120	56808205	**£12.58**

IP54 LED/UV INSPECTION TORCH

- For illuminating and finding scratches, dirt or leaks
- With two LEDs — can be switched with two separate switches
- 1. Switching: CREE LED with three stages of true-colour, warm white light at 25, 50 and 100%
- 2. Switching: UV LED (black light 395 nm)
- Bendable lamp head, strong magnet in the lamp base



IP54

ATORN®

Overall Length mm	Luminous Flux lm	Order Code	Price
150	300	56801120	**£50.61**

POCKET TORCH

- Anodised aluminium housing
- Light and strong
- Durable and powerful CREE LED
- Type of rechargeable battery/battery: AlMn
- Number of rechargeable batteries/batteries: 1
- Rechargeable battery/battery designation: Micro AAA; R03; UM4



ATORN®

Overall Length mm	Luminous Flux lm	Order Code	Price
91	55	56801002	**£9.79**

PEN LIGHT WITH BATTERIES

- Rubberised push-button switch at the lamp end
- Light beam can be focused with infinite adjustment by moving lamp head
- Sturdy aluminium lamp, steel retaining clip
- Type of rechargeable battery/battery: AlMn
- Number of rechargeable batteries/batteries: 1
- Rechargeable battery/battery designation: Micro AAA; R03; UM4



ATORN®

Overall Length mm	Luminous Flux lm	Order Code	Price
140	100	56801005	**£25.91**

PEN LIGHT WITH BATTERIES

- Push button at the lamp end, with simultaneousstrong magnetic function
- Light beam can be focused with infinite adjustment by moving lamp head
- Sturdy aluminium lamp, steel retaining clip
- 3 switchable light modes
- The micro-USB charging input is protected by a sliding cover
- Small LED at the side to indicate the charging status
- Type of rechargeable battery/battery: Lithium
- Number of rechargeable batteries/batteries: 2
- Rechargeable battery/battery designation: Micro AAA; R03; UM4



ATORN®

Overall Length mm	Luminous Flux lm	Order Code	Price
126	110	56801007	**£39.22**

IP66 LED HIGH-POWER LAMP

- Focusing function for optimum short- and long-range illumination
- High-performance Cree LED 5 W
- Light beam can be focused using one hand
- Waterproof and dust-proof, protection class IP66
- 4 light levels
- Type of rechargeable battery/battery: Lithium
- Number of rechargeable batteries/batteries: 1
- Rechargeable battery/battery designation: Li-Ion battery type 18650



IP66

ATORN®

Overall Length mm	Luminous Flux lm	Order Code	Price
157	230	56801010	**£46.25**

IP54 LED/UV INSPECTION LAMP WITH BATTERY

- For illuminating and finding scratches, dirt or leaks
- With two LEDs — can be switched with two separate switches
- 1. Switching: CRI 95 LED with true-colour, warm white light
- 2. Switching: UV LED (black light 395 nm)
- Bendable lamp head, strong magnet in the lamp base



IP54

ATORN®

Overall Length mm	Luminous Flux lm	Order Code	Price
112	70	56801110	**£38.31**

LED HEAD LAMP WITH BATTERIES

- Rubberised push switch at the lamp head
- 2 switchable light modes, battery compartment in the lamp head
- Textile headband and additional interchangeable rubber headband for the helmet insert
- Housing made of robust ABS plastic



ATORN®

Luminous Flux lm	Order Code	Price
100	56808300	**£21.72**

LED FLASHLIGHT

- Toshiba high performance LED
- Powered by 3x AAA batteries (not included)
- Max output: 120 lumens
- Battery run time: 4 hours
- Beam distance: 70 metres
- IP54 dust/waterproof



INSIZE

Luminous Flux lm	Order Code	Price
120	ISGF-0501	**£3.51**

TWEEZERS

- Hardened tips



Type A (Short Tip Chrome Plated)



Type B (Swiss Pattern Chrome Plated)



Type C (Pin Point Chrome Plated)



Type D (Strong Tip Chrome Plated)



Type E (Fine Long Tip Chrome Plated)



Type F (Rounded Tip Nickel Plated)



Type G (Rounded Tip Nickel Plated With Grooves in Gripper End)



Type H (Rounded Tip Nickel Plated With Grooves in Gripper End)



Type I (Fine Tip Anti-Magnetic)



Type J (Strong Fine Tip Anti-Magnetic)



Type K (Laterally Straight Tip Anti-Magnetic)



Type L (Laterally Curved Tip Anti-Magnetic)



Type M (Strong Flap Round Tip Matt Polished)



Type N (Fine Straight Tip Matt Polished)



Type O (Angled Tip Anti-Magnetic)



Type P (Angled Tip Matt Polished)



Type Q (Fine Tip With Teeth Matt-Polished Stainless Steel)



Type R (Round Tip With Teeth Matt-Polished Stainless Steel)



Type S (Long Type With Butt Round Teeth Nickel Plated)



Type T (Angled Type With Teeth Nickel Plated)



Type U (PVC Hangle Curved Type Nickel Plated)



Type V (Flat Wide Jaw Gripping Pincers)

ATORN®

Length mm	Type	Design	Order Code	Price
110	A	Short Tip Chrome Plated	53002610	**£6.85**
120	B	Swiss Pattern Chrome Plated	53002620	**£6.85**
120	C	Pin Point Chrome Plated	53002630	**£6.68**
130	D	Strong Tip Chrome Plated	53002640	**£6.90**
130	E	Fine Long Tip Chrome Plated	53002650	**£9.04**
120	F	Rounded Tip Nickel Plated	53002710	**£5.63**
140	G	Rounded Tip Nickel Plated With Grooves in End	53002720	**£5.71**
160	H	Rounded Tip Nickel Plated With Grooves in End	53002730	**£6.81**
140	I	Fine Tip Anti-Magnetic	53002820	**£8.87**
140	J	Strong Fine Tip Anti-Magnetic	53002830	**£8.77**
120	K	Laterally Straight Tip Anti-Magnetic	53002840	**£8.77**
120	L	Laterally Curved Tip Anti-Magnetic	53002850	**£9.03**
120	M	Strong Flat Round Tip Matt Polished	53002860	**£8.86**
120	N	Fine Straight Tip Matt Polished	53002870	**£8.98**
120	O	Angled Fine Extra-Strong Tip Anti-Magnetic	53002880	**£10.29**
150	P	Angled Fine Extra-Strong Tip Anti-Magnetic	53003210	**£7.07**
145	Q	Fine Tip Matt-Polished Stainless Steel	53003240	**£8.89**
145	R	Round Tip Matt-Polished Stainless Steel	53003220	**£7.22**
250	S	Long Type With Butt Round Teeth Nickel Plated	53004120	**£24.95**
155	T	Angled Type With Teeth Nickel Plated	53003250	**£8.50**
155	U	PVC Hangle Curved Type Nickel Plated)	53003260	**£10.68**
145	V	Flat Wide Jaw Gripping Pincers	53003510	**£12.31**

8 PIECE TWEEZERS SET

- Rustproof
- Fine matt-polished, anti-glare
- Supplied in a plastic case

Contents:
- Fine tip x2
- Strong, fine tip
- Laterally stright, super-fine tip
- Laterally curved, super-fine tip
- Strong, flat, rounded tip
- Fine, stright tip
- Angled, fine, extra-strong tip



ATORN®

Order Code	Price
53002900	**£76.59**

10 PIECE TWEEZER SET

Contents:
- 1 pair of electronic tweezers
- 2 pairs of precision tweezers, 130 and 105mm long, fine and very fine tips
- 1 pair of pointed tweezers, hardened, 145mm long
- 1 gripping pincers with rounded grip ends, 145mm long
- 1 pair of installation tweezers, bent, 155mm long



ATORN®

Order Code	Price
53003710	**£104.65**

FITTING TWEEZERS FOR VERTICAL, HORIZONTAL, DIAGONAL COMPONENTS

- Stainless steel
- For diameters from 2.5-5mm



Vertical



Horizontal



Diagonal

ATORN®

Length mm	Component	Order Code	Price
145	Vertical	53003420	**£14.13**
	Horizontal	53003430	**£14.13**
	Diagonal	53003440	**£14.76**

HEAVY DUTY TOOL BAGS

- Reinforced rubberised base
- Main compartment with zip
- Removable shoulder strap
- Carry handle
- 12 external and 6 internal pockets
- One external Velcro pocket



Starrett®

Internal Length x Width x Height mm	Order Code	Price
300 x 170 x 220	STAR-BGS	**£11.56**
400 x 220 x 320	STAR-BGM	**£16.82**
410 x 240 x 270	STAR-BGL	**£21.02**

PROFI-LINE TOOLBOX

- Made of polypropylene, black
- 1 end-to-end carrying handle with locking function
- 2 locks
- 1 small parts magazine, removable
- 1 tray, removable
- 1 fixture for a padlock



PARAT

Internal Length x Width x Height mm	Order Code	Price
180 x 400 x 210	55390010	**£20.24**
205 x 435 x 235	55390020	**£24.24**
220 x 530 x 260	55390030	**£32.03**

NYLON TOOL BAG WITH REINFORCED BASE

- **Internal:** Large main compartment with 8 tool compartments, 8 rubber loops, 2 other large main compartments
- **External:** 7 compartments, 2 of which can be closed, 1 measuring tape holder made of metal, 1 drawer for address label, 2 lashing loops for spirit level
- Reinforced base with integrated glide runners
- Low tare weight and high-quality carrying handles



PARAT

Internal Length x Width x Height mm	Size	Order Code	Price
465 x 270 x 350	M	55467010	**£31.95**

PARABELT TOOL BELT POUCH

- Made from high-quality strong nylon
- With 7 tool compartments and one large main compartment
- Hammer holder and snap hook
- Press stud clip for belt fastening



PARAT

Order Code	Price
55409010	**£6.79**

NYLON TOOL BACKPACK

- 15 tool compartments, 6 rubber loops and 4 other spacious storage compartments
- Separate laptop compartment for devices up to 14 inches
- Plastic-reinforced base and padded back panel
- Padded carry strap, chest and waist belt



PARAT

Internal Length x Width x Height mm	Order Code	Price
360 x 150 x 430	55467030	**£61.25**

NYLON BUCKET TOOL BAG

- Round, bucket-like tool bag with large capacity
- 12 internal and 37 external tool compartments
- Practical carrying and shoulder strap



PARAT

Internal Length x Width x Height mm	Order Code	Price
305 x 305 x 370	55467040	**£73.75**

UNIVERSAL TOOL CASE

- The base and side panels are made of shatterproof and moisture-resistant HDPE plastic
- Black, grained
- Main bag section reinforced with aluminium corners
- Parat snap-in locks
- Semi-fold-out front panel, with 11 loops
- Rear panel with 9 fixed plastic loops
- Ring caps for carry strap



PARAT

Internal Length x Width x Height mm	Number of Compartments	Order Code	Price
420 x 160 x 250	20	55435650	**£129.14**
415 x 165 x 275	10	55445020	**£194.15**

TOOL CASE 2-COLOUR

- With one-sided tool panel and plug-in options in lid
- Stitched nylon pockets
- Sturdy aluminium frame, plastic floor glides
- Spacious base shell, freely dividable
- Comfortable carrying handle, lockable buckle locks



ATORN®

Internal Length x Width x Height mm	Order Code	Price
450 x 318 x 140	55463010	**£91.80**

TOOL CASE WITH 60-PIECE TOOL ASSORTMENT

- Highly impact-resistant ABS plastic
- With solid aluminium frame
- With castors and ratchet hinges
- Lockable anti-tilt cylinder locks
- Equipped with high-quality and robust ATORN, ORION and branded tools



Contents

- 1 x jointed wooden ruler 2m
- 1 x aluminium spirit level 400mm
- 1 x tape measure 3m
- 12 x combination spanners, AF 6/7/8/9/10/11/12/13/14/17/19/22mm
- 3 x slotted screwdrivers, 4.0 x 100/5.5 x 100/6.5 x 125mm
- 2 x phillips screwdrivers PH 1/PH 2
- 4 x VDE slotted screwdrivers, 2.5 x 75/4 x 100/5.5 x 125/8.0 x 175mm
- 2 x VDE Phillips screwdrivers PH 1/PH 2
- 1 x voltage tester 3 x 65mm
- 1 x automatic wire stripping pliers
- 1 x safety knife
- 1 x tweezers 110mm
- 1 x all-purpose shears
- 1 x side cutters 165mm
- 1 x snipe nose pliers 160mm
- 1 x water pump pliers 240mm
- 2 x machinist's hammers 200/500g
- 1 x combination pliers 180mm
- 1 x plastic hammer 32mm
- 1 x reamer 100mm
- 1 scriber
- 1 x flat chisel 175mm
- 1 set with 6 pieces (5 x drift punches 2–6mm/1 x centre punch)
- 3 x flat hand engineer's files with handle, 150mm H2: Flat/round/half-round
- 8 x hex. screwdrivers 2-10mm
- 1 x metal saw bow with blade 300mm
- 1 x screw clamp 200mm

ORION

Pieces	Order Code	Price
60	52560500	**£377.09**

11 PIECE FILES AND SAWS TOOL SET

Contents

- 1 x flat blunt-ended file 300mm, cut 1
- 1 x flat blunt-ended file 300mm, cut 3
- 1 x triangular file 250mm, cut 1
- 1 x triangular file 250mm, cut 3
- 1 x round file 250mm, cut 2
- 1 x square file 250mm, cut 2
- 1 x half-round file 250mm, cut 2
- 1 x file brush
- 1 x saw bow 300mm
- 1 x bi-metal saw blade
- 1 x chip brush



ORION

Pieces	Order Code	Prices
11	52561010	**£56.65**

20 PIECE WORKBENCH TOOL SET

Contents

- 1 x machinist's hammer 300g
- 1 x machinist's hammer 500g
- 1 x chisel/drift/centre punch set, 6 pieces
- 1 x parting chisel 150mm
- 1 x pair of safety goggles
- 1 x slotted screwdriver 6.5mm
- 1 x cowhide leather work gloves
- 1 x hand brush
- 1 x banded ear plugs
- 1 x triangular hollow scraper 150mm
- 1 x utility knife with trapezoidal blades
- 1 x non-recoil soft-face hammer 40mm
- 1 x side cutters 165mm, with two-component grip cover
- 1 x water pump pliers 250mm
- 1 x Phillips screwdriver PH 2



Pieces	Order Code	Prices
20	52561020	**£131.83**

13 PIECE VDE ELECTRICAL TOOL SET

Contents

- 1 x VDE screwdrivers, 6 pieces, slotted/PH
- 1 x voltage testing screwdriver
- 1 x switch cabinet key
- 1 x VDE combination pliers 180mm
- 1 x VDE snipe nose pliers 200mm
- 1 x VDE side cutters 160mm
- 1 x automatic wire stripping pliers
- 1 x electrician's knife
- 1 x crimping pliers 0.25–16mm²
- 1 x BENNING DUTEST continuity tester
- 1 x LED pen light with batteries
- 1 x ERSA soldering iron
- 1 x tin solder 250g



ATORN

Pieces	Order Code	Prices
13	52561030	**£282.58**

17 PIECE VDE TOOL SET

- Robust, lockable leather tool case
- VDE tools according to DIN EN 60900
- Pliers with two-component handle and chrome-plated head
- Screwdriver with protective insulation and ergonomic two-component handle

Contents

- 1 each of VDE screwdriver, slotted 2.5/3.5/5.5/8.0
- 1 each of VDE screwdriver Phillips PH1, PH2
- 1 x VDE combination pliers 180mm
- 1 x VDE side cutters 160mm
- 1 x VDE snipe nose pliers 200mm
- 1 x VDE water pump pliers 250mm
- 1 x automatic wire stripping pliers
- 1 x cable knife with hooked blade
- 1 x machinist's hammer 300g
- 1 x universal switch cabinet key
- 1 x voltage tester screwdrivers



ATORN

Pieces	Order Code	Price
17	52560300	**£226.25**

48 PIECE TOOL SET WITH HARD TOOL CASE

- Highly impact-resistant ABS plastic
- With solid aluminium frame
- With castors
- Ratchet hinges
- Lockable anti-tilt cylinder locks
- Equipped with high-quality and robust ATORN tools

Contents
- 9 x combination wrenches AF 8/10/13/14/15/16/17/18/19mm
- 2 x Phillips screwdrivers PH 1 x 80mm, PH 2 x 100mm
- 1 x hexagon socket wrench set long, with ball head AF 1.5–10
- 1 x TX wrench set with ball head TX 9–40
- 3 x slotted screwdrivers 4.5 x 90mm/6.5 x 125mm/8.0 x 150mm
- 1 x machinist's hammer 500g
- 1 x combination pliers 180mm
- 1 x snipe nose pliers
- 1 x side cutters 165mm
- 1 x water pump pliers 250mm
- 1 x aluminium handsaw bow 300mm
- 10 x saw blades for metal
- 1 x folding rule 2m



ATORN®

Pieces	Order Code	Price
48	52560600	**£380.64**

38 PIECE TOOL SET WITH ROLLER TOOL CASE

- Highly impact-resistant ABS plastic
- With solid aluminium frame
- With castors and ratchet hinges
- Lockable anti-tilt cylinder locks
- Equipped with high-quality and robust ATORN tools

Contents
- 1 x roller case 470 x 190 x 360mm
- 1 x combination spanner set, 9 pcs 8–19mm
- 1 set of hexagon socket screwdrivers 9 pcs
- 1 x TX screwdriver, hinged holder 8 pieces
- Screwdrivers, 1 each of 4.5 x 90mm, 6.5 x 125mm, 8.0 x 150mm
- Screwdrivers 1 each PH 1 x 80mm, PH 2 x 100mm
- 1 x 3C machinist's hammer 0.300kg
- 1 x combination pliers, 180mm, 2-component grip
- 1 x snipe nose pliers, 200mm, curved, 2 component grip
- 1 x water pump pliers 250mm, chrome-plated
- 1 x side cutters, 165mm, 2-component grip
- 1 x soft-face hammer, no recoil, 30mm
- 1 x utility knife with 18mm snap-off blade



ATORN®

Pieces	Order Code	Price
38	52560700	**£457.78**

50 PIECE TOOL SET IN PLASTIC TOOL CASE

- Tool case equipped with wide range of tools, with hard foam inlay — all tools are neatly laid out and held securely.
- Robust and durable tools in industrial quality
- Screwdriver, pliers and reversible ratchet with two-component handles with perfect ergonomic functionality

Contents
- 1 x combination spanner set DIN 3113 A, chrome-plated 8 pieces, size 8–19mm
- 1 x hexagonal socket wrench inserts 1/2 inch, size 10 to 24mm
- 1 x hexagonal spark plug insert 1/2 inch with rubber insert size 20.8
- 1 x reversible ratchet 1/2 inch with quick release button 255mm
- 1 x handle with sliding piece 1/2 inch and cardan joint 70mm
- 1 x extension 1/2 inch, 125mm and 250mm
- 1 x hexagonal ball head T-handle wrench set, 9 pcs, long, size 1.5–10mm
- Workshop screwdrivers, slotted, 1 each of 0.8 x 4.5/1.0 x 5.5/1.2 x 6.5mm
- Phillips screwdrivers, 1 each PH 1 x 80mm, PH 2 x 100mm
- 1 x machinist's hammer, DIN 1041 with nylon shaft protection sleeve, 300g
- 1 x water pump pliers 250mm
- 1 x combination pliers, 180mm
- 1 x side cutters 160mm
- 1 x VDE single-pole voltage tester, 150–250 volts
- 1 x pocket tape rule, end hook with magnet, 5 metres
- 1 x snipe nose pliers, bent, 200mm
- 1 x universal knife, with 18-mm snap-off blade
- 1 x LED pen lamp incl. battery
- 1 x universal voltage tester, 6–24 volts



ATORN®

Pieces	Order Code	Price
50	52560800	**£410.94**

92 PIECE INDUSTRIAL MECHANICS TOOL SET

Contents

- 1 x machinist's hammer 0.4kg
- 1 x plastic hammer D 32
- 1 x half-round file 200mm, cut 2
- 1 x file handle made of hardwood 110mm, long
- 6 x key files 100mm, cut 2
- 1 x mini universal saw bow 240mm
- 9 x combination spanners 8–19mm
- 6 x hexagonal screwdrivers 2–6mm, in plastic pouch
- 1 x socket wrench set; 1/4 inch, 42 pieces
- 7 x slotted screwdrivers, VDE
- 1 x Langbeck flat-nose pliers 160mm, chrome-plated, VDE
- 1 x snipe nose pliers 200mm, chrome-plated, angled 45°, VDE
- 1 x combination pliers VDE 180mm, chrome-plated
- 1 x side cutters VDE 140mm
- 1 x all-purpose shears, straight, 190mm
- 1 x crimping pliers for insulated connectors 210mm
- 1 x universal key made of metal, for switch cabinet
- 1 x combination shoulder and contact screw key
- 1 x universal cable knife
- 1 x cable stripping tool
- 1 x round-nose pliers 160mm, chrome-plated VDE
- 1 x side cutters 160mm, chrome-plated VDE
- 1 x water pump pliers 250mm
- 1 x cable and installation knife
- 1 x automatic wire stripping pliers
- 1 x voltage tester
- 1 x wire stripping pliers 160mm
- 1 x wooden folding rule 2m



Pieces	Order Code	Price
92	52560010	**£497.48**

78 PIECE INDUSTRIAL MECHANICS TOOL SET

Contents

- 1 x spirit level 500mm
- 1 x machinist's hammer 0.5kg
- 1 x plastic hammer D 40
- 6 x chisels, in metal case
- 1 x blind rivet tool, model NTS, in assortment
- 1 x scriber with steel tip 165mm
- 1 x flat blunt-ended file 200mm, cut 2
- 1 x round file 200mm, cut 2
- 1 x half-round file 200mm, cut 2
- 1 x triangular file 200mm, cut 2
- 4 x file handles made of hardwood, 110mm
- 1 x triangular hollow-ground scraper, chrome-van. 150mm
- 1 x metal saw bow for saw blades 300mm
- 10 x bow saw spare blades HSS-Bi.Flex. 300mm, 24 teeth
- 12 x combination spanners SW 10–32mm
- 8 x hexagonal screwdrivers 2–10mm, in plastic pouch
- 6 x screwdrivers in box
- 1 x water pump pliers 250mm
- 1 x pipe wrench 1½ inch, 425mm
- 1 x heavy-duty side cutters, plain, 160mm
- 1 x combination pliers, plain, 180mm
- 1 x triple pliers, chrome-plated, 160mm
- 1 x pliers for circlips, straight 19–60mm diameter type J 2
- 1 x pliers for circlips, straight 19–60mm diameter type A 2
- 1 x punch snips, stainless steel, left-handed, 250mm
- 1 x punch snips, stainless steel, right-handed, 250mm
- 1 x socket wrench set 1/2 inch square, in metal case; 13 pieces
- 1 x prism-jaw locking pliers 250mm
- 1 x pocket tape measure 3m
- 1 x precision pocket vernier caliper 150mm
- 1 x universal safety goggles
- 1 x safety knife with 3 trapezoidal blades
- 1 pair of work gloves



Pieces	Order Code	Price
78	52560020	**£483.18**

151 PIECE TOOL SET WITH 7 DRAWER MOBILE TOOL TROLLEY

- Can be used as a mobile workshop — all tools securely housed and at your fingertips
- Sturdy sheet steel construction with solvent-resistant plastic worktop and 2 integrated storage compartments
- Plastic-coated metal sliding handle attached directly to the frame
- Central locking with cylinder lock secures all drawers, incl. 2 keys
- 4 abrasion-proof transport wheels, 100mm diameter, 2 of which can be steered, 1 lockable steering roller
- 7 ATORN hard foam inserts fitted with 151 ATORN tools fill 4 drawers of the tool trolley



ATORN®

Height mm	Width mm	Depth mm	No. Drawers	Load Carrying Capacity kg	Order Code	Price
913	778	496	7	300	50278575	**£1,219.86**

6 PIECE WIRE-STRIPPING TOOL SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents
- 1 x ATORN cable cutters 160mm
- 1 x ATORN crimping tool
- 1 x ATORN wire-stripping tool VDE
- 1 x ATORN tripe pliers 160mm
- 1 x ATORN voltage tester
- 1 x ORION cable knife



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
6	345	260	30	50537565	**£201.46**

12 PIECE FILE SET

With Hard Foam Insert

- For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents
- 6x ORION key files 100mm cut 2
- 5x DICK files 200mm cut 2
- ORION file brush 115 x 40mm



ORION®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
12	587	293	30	50537706	**£91.51**

79 PIECE TORQUE SCREWDRIVER SET + ACCESSORIES

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- The PE foam is lightweight, resistant, durable, odour-neutral and safe for foodstuffs
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents
- 1 each of ATORN torque screwdriver 0.6-1.5 / 1.5-3 / 3-5.4Nm
- 1 each of ATORN socket wrench 1/4" 4 / 4.5 / 5 / 5.5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14
- 1 x ATORN bit holder for blades 170mm, 1/4" bit holder
- 1 x ATORN bit adapter for cordless drill 1/4"
- 1 x ATORN Universal Bitbox collector, 61 pieces



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
79	345	260	30	50537570	**£247.07**

67 PIECE SOCKET WRENCH SET

With Hard Foam Insert

- For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents
- ATORN 1/2" and 1/4" socket wrench set, 35 pieces
- ATORN bit box, 32 pieces



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
67	587	293	30	50537711	**£276.01**

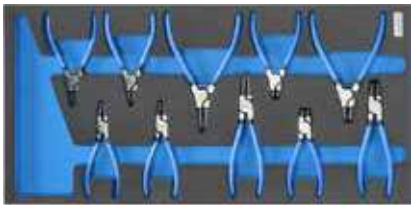
10 PIECE ASSORTED PLIER TOOL SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents

- 1 x each of ATORN circlip plier sizes: J0/J1/J2/J11/J21/A0/A1/A2/A11/A21



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
10	587	293	30	50537705	**£131.32**

20 PIECE COMBINATION SPANNER SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Resistant against most oils and chemicals due to closed cells
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents

- 1 x each of ATORN combination spanner sizes: 6-22mm, 24mm, 27mm, 30mm



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
20	587	293	30	50537900	**£126.70**

11 PIECE ALLEN KEY & SCREWDRIVER SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm

Contents

- 9 piece ATORN hexagonal angle screwdriver set
- 1 x ATORN slotted screwdriver 5.5 x 100/6.5 x 125/8 x 150mm
- 1 x ATORN Phillips screwdriver PH 1/PH 2/PH 3/PZ 1/PZ 2



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
11	265	490	30	50537420	**£86.01**

12 PIECE VDE SCREWDRIVER SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents

- 1 each of ATORN slotted screwdriver VDE 2.5 x 75/3.5 x 100/4 x 100/5.5 x 125
- 1 each of ATORN Phillips screwdriver VDE PH 0/PH 1/PH 2/PZ 0/PZ 1/PZ
- ATORN wire-stripping tool, voltage tester 3x0.8 mm



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
12	587	293	30	50537702	**£130.16**

18 PIECE HAMMER + SAW SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- The tool insert fills the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- 1 x ATORN machinist's hammer 500g
- 1 x ATORN aluminium saw bow 300mm with blade
- 1 x ATORN bow saw spare blades 300mm 10 pieces
- 1 x ATORN carbide scriber 150mm
- 1 x ORION soft-face hammer diameter 30mm
- 6 piece ORION chisel set
- 6 piece ORION pin punch set
- 1 x ORION knife 145m



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
18	345	520	30	50537591	**£149.94**

17 PIECE SCREWDRIVER SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents

- 1 each of ATORN slotted screwdriver 5.5 x 100/6.5 x 125/8.0 x 150mm
- 1 each of ATORN Phillips screwdriver PH 1/PH 2/PZ 1/PZ 2
- 1 each of ATORN screwdriver T 6/T 7/T 8/T 9/T 10/T 15/T 20/T 25/T 27/T 30



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
17	587	293	30	50537701	**£121.43**

HAMMER/SAW CHISEL SET

With Hard Foam Insert

- For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents

- 1 x ATORN machinist's hammer 500g
- 1 x ATORN recoil-free soft-face hammer 30mm
- 1 x ORION 6-piece chisel in holder, ORION 6-piece pin punch set
- 1 x ATORN cemented carbide scriber 150mm
- 1 x ATORN bow saw spare blades 300mm 24 teeth
- 1 x ATORN aluminium saw bow 300mm
- 1 x ORION knife with snap-off blade 9mm



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
18	587	293	30	50537707	**£152.04**

10 PIECE UNIVERSAL TOOL SET

With Hard Foam Insert

- For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents

- 1 x ATORN vernier callipers 150mm
- 1 x ATORN pocket tape measure 3m
- 1 x ATORN light metal ruler 300mm
- 1 x ATORN try square 100 x 70mm
- 1 x ATORN hexagonal screwdrivers
- 1 x ATORN straight edge 125mm
- 1 x ORION knife 145mm
- 1 x ORION all-purpose shears 180mm
- 1 x TICOM white metal marker
- 1 x Turbo LED hand-held lamp (not including batteries)



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
10	587	293	30	50537708	**£167.17**

10 PIECE UNIVERSAL TOOL SET

With Hard Foam Insert

- For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents

- 1 x ATORN pocket tape measure 3m
- 1 x ATORN triangular hollow-ground scraper 150mm
- 1 x ORION knife 165mm
- 1 x ORION all-purpose shears 180mm
- 1 x ORION saw bow 255mm
- 1 x TICOM white metal marker
- 1 x Telescopic mirror Ø 50mm
- 1 x Telescopic pick-up magnet with 3 kg retention force
- 1 x Turbo LED hand-held lamp (not including batteries)
- 12 x saw blades



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
10	587	293	30	50537709	**£145.15**

12 PIECE ANALOGUE MEASURING EQUIPMENT SET

With Hard Foam Insert

- For flexible and modular equipping of drawers from the HK drawer cabinet system 700 S and 700 B
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm

Contents

- 1 x ATORN vernier callipers 150mm
- 1 x ATORN micrometer 0-25mm
- 1 x ATORN straight edge 125mm
- 1 x ATORN try square 100 x 70mm
- 1 x ATORN knife-edge square 75 x 50mm
- 1 x ATORN spirit level length 400mm
- 1 x ORION spring divider 125mm
- 1 x ORION feeler gauges
- 1 x ORION spring steel ruler 300mm
- 1 x ORION protractor 120 x 150mm
- 1 x ORION scriber 160 x 5mm
- 20 x blades 0.05-1.00mm



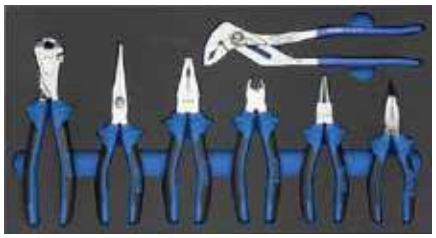
ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
12	587	293	30	50537710	**£193.98**

7 PIECE PLIERS SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm



Contents

- 1 x ATORN round-nose pliers 160mm
- 1 x ATORN triple pliers 160mm
- 1 x ATORN side-cutters 165mm
- 1 x ATORN combination pliers 180mm
- 1 x ATORN snipe nose pliers 200mm
- 1 x ATORN end cutting nippers 200mm,
- 1 x ATORN water pump pliers VDE 250mm

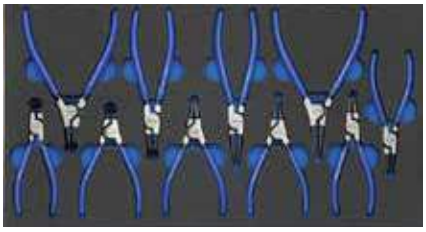
ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
7	265	490	30	50537435	**£150.10**

10 PIECE CIRCLIP PLIERS SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm



Contents

- ATORN circlip pliers:
  J0 / J1 / J2 / J11 / J21 / A0 / A1 / A2 / A11 / A21

ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
10	265	490	30	50537445	**£122.56**

12 PIECE VDE SCREWDRIVER & WIRE STRIPPING TOOL SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm



Contents

- 1 x each of ATORN slotted screwdriver:
  VDE 2.5 x 75/3.5 x 100/4 x 100/5.5 x 125
- 1 x each of ATORN Phillips screwdriver:
  VDE PH 0/PH 1/PH 2/PZ 0/PZ 1/PZ 2
- 1 x ATORN wire-stripping tool, voltage tester 3 x 0.8mm

ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
12	265	490	30	50537425	**£120.87**

19 PIECE TORX SCREWDRIVER & ALLEN KEY SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm



Contents

- 1 x ATORN TORX screwdriver T 6/T 7/T 8/T 9/T 10/T 15/T 20/T 25/T 27/T 30/T 40/T
- 8 piece ATORN angled screwdriver T 9-T 40 with ball head

ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
19	265	490	30	50537430	**£106.00**

7 PIECE ASSORTED PLIER TOOL SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone polyethylene (PE) foam inserts equipped with tool assortments
- Closed-cell foam is resistant to most oils and chemicals
- One tool insert fills half of the usable area of drawers with internal dimensions 600 x 600mm
- Two tool inserts fill the entire usable area of drawers with internal dimensions 600 x 600mm
- Three tool inserts fill the entire usable area of drawers with internal dimensions 900 x 600mm



Contents

- 1 x ATORN round-nose pliers 160mm
- 1 x ATORN tripe pliers 160mm
- 1 x ATORN side cutters 165mm
- 1 x ATORN combination pliers 180mm
- 1 x ATORN snipe nose pliers 200mm
- 1 x ATORN end cutting nippers 200mm
- 1 x ATORN water pump pliers VDE 250mm

ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
7	587	293	30	50537703	**£158.89**

12 PIECE FILE & BRUSH SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm



Contents

- 6 x ORION key files 100mm cut 2
- 5 x DICK files 200mm cut 2
- 1 x ORION file brush 115 x 40mm

DICK ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
12	265	490	30	50537450	**£82.24**

22 PIECE HAMMER AND CHISEL SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm



Contents

- 1 x ATORN machinist's hammer 500g
- 1 x ATORN carbide marking needle 150mm
- 1 x ORION flat chisel 200mm
- 1 x ORION chisel set 6 pcs
- 1 x ORION pin punch set 6 pcs
- 1 x ORION drift punch 1-5mm
- 1 x ORION centre punch 120 x 10mm
- 1 x GEDORE protective cover for 0.5kg hammer

ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
22	265	490	30	50537460	**£107.13**

67 PIECE 1/2" + 1/4" SOCKET WRENCH SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm



Contents

- ATORN socket wrench set 1/2" and 1/4" (35 pieces)
- ATORN Bitbox (32 pieces)

ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
67	265	490	30	50537490	**£264.48**

8 PIECE MEASURING EQUIPMENT SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- 1 x ATORN vernier caliper 150mm
- 1 x ATORN micrometer 0-25mm
- 1 x ATORN knife-edge square 75 x 50mm
- 1 x ATORN straight edge 125mm
- 1 x ATORN try square 100 x 70mm
- 1 x ORION spring steel strip ruler 300mm
- 1 x ORION scriber 160 x 5mm
- 1 x ORION spring divider 125mm
- 1 x ORION feeler gauges 20-sheet 0.05-1mm



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
9	345	260	30	50537525	**£155.72**

8 PIECE BITBOX, VERNIER CALIPERS, RULER, KNIFE SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- 1 x ATORN vernier calipers 150mm
- 1 x ATORN pocket tape measure 3m
- 1 x ATORN try square 100 x 70mm
- 1 x ORION knife 165mm
- 1 x ORION all-purpose shears 180mm
- 1 x ORION spring steel strip ruler 300mm
- 1 x LED hand-held lamp Turbo (without batteries)
- 32 piece ATORN bitbox



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
8	345	260	30	50537526	**£156.55**

11 PIECE MEASURING EQUIPMENT SET

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm

Contents

- 1 x ATORN vernier caliper 150mm
- 1 x ATORN external micrometer 0-25mm
- 1 x ATORN straight edge 125mm
- 1 x ATORN back square 100 x 70mm
- 1 x ATORN knife-edge square 75 x 50mm
- 1 x ATORN spirit level length 400mm
- 1 x ORION spring divider 125mm
- 1 x ORION feeler gauges 20 sheets 0.05-1mm
- 1 x ORION scale spring steel 300mm
- 1 x ORION protractor 120 x 150mm
- 1 x ORION marking needle 160 x 5mm



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
11	265	490	30	50537475	**£197.09**

7 PIECE TELESCOPIC INSPECTION MIRROR/PICK-UP MAGNET SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- 1 x ATORN pocket tape measure 3m
- 1 x ATORN triangular hollow-ground scraper 150mm
- 1 x ORION all-purpose shears 180mm
- 1 x ORION knife 165mm
- 1 x Telescopic mirror Ø 50mm telescopic pick-up magnet retention force 6kg
- 1 x LED hand-held lamp turbo (without batteries)



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
7	345	260	30	50537524	**£102.26**

10 PIECE ASSORTED TOOL SET WITH SAW, SCRAPER, KNIFE AND PICKUP TOOLS

With Hard Foam Insert

- For flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 500 x 540mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 500 x 540mm

Contents

- 1 x ATORN pocket tape measure 3m
- 1 x ATORN triangular hollow-ground scraper 150mm
- 1 x ORION knife 165mm
- 1 x ORION all-purpose shears 180mm
- 1 x ORION saw bow 255mm
- 1 x TICOM metal marker white
- 1 x telescopic mirror Ø 50mm
- 1 x telescopic pick-up magnet retention force 3kg
- 1 x LED hand-held lamp turbo (without batteries)
- 12 x Saw blades



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
10	265	490	30	50537470	**£135.35**

10 PIECE HAND TOOL SET

With Hard Foam Insert

- For the flexible and modular equipping of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Resistant against most oils and chemicals due to closed cells
- The tool insert fills the entire useful area of a drawer with internal dimensions 475 x 345mm

Contents

- 1 x ORION soft-face hammer 30mm
- 1 x ORION machinist's hammer 0.5 kg
- 1 x ORION flat chisel 150mm
- 1 x ORION flat chisel 200mm
- 1 x ORION parting chisel 125 x 10 x 2mm
- 1 x ORION pin punch 3mm
- 1 x ORION pin punch 5mm
- 1 x ORION pin punch 8mm
- 1 x ORION centre punch 120 x 10mm
- 1 x ORION metal saw bow with blade
- 10 x ATORN handsaw blades



ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Length mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
10	332	332	467	31	50537895	**£102.76**

8 PIECE HEXAGONAL T SCREWDRIVER SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents
- 1 x each ATORN hexagonal screwdriver with t-handle width a.f
  2 / 2.5 / 3 / 4 / 5 / 6 / 8 / 10mm



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
8	345	260	30	50537522	**£50.22**

9 PIECE TORX SCREWDRIVER SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents
- 1 x each ATORN TORX screwdriver with t-handle:
  T8 / T10 / T15 / T20 / T25 / T27 / T30 / T40 / T45



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
9	345	260	30	50537523	**£65.49**

18 PIECE RATCHET COMBINATION SPANNER SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents
- 1 x ATORN adapter for 1/4” bits, for 1/4”, 3/8”, 1/2” square head
- 1 x each ATORN ratchet combination spanner width a.f:
  8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 21 / 22mm



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
18	345	260	30	50537511	**£173.57**

8 PIECE DOUBLE RING WRENCH SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Resistant against most oils and chemicals due to closed cells
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents
- 1 each of ATORN double ring wrench:
  size 6 x 7/8 x 9/10 x 11/12 x 13/14 x 15/16 x 17/18 x 19/20 x 22mm



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
8	345	260	30	50537905	**£69.17**

11PIECE DOUBLE ENDED COMBINATION SPANNER SET

With Hard Foam Insert



- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Resistant against most oils and chemicals due to closed cells
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- 1 each of ATORN double open-end wrench:
  size 6 x 7/8 x 9/10 x 11/12 x 13/14 x 15/16 x 17/18 x 19/20 x 22/21 x 23/24 x 27/30 x 32mm

ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
11	345	260	30	50537907	**£72.55**

17 PIECE COMBINATION SPANNER SET

With Hard Foam Insert



- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Resistant against most oils and chemicals due to closed cells
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- 1 ATORN combination spanner:
  6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 21 / 22 / 24mm

ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
17	345	260	30	50537909	**£84.07**

15 PIECE HAMMER + CHISEL SET

With Hard Foam Insert



- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- 1 x ATORN machinist's hammer 500g
- 1 x ATORN carbide scriber 150mm
- 6 piece ORION chisel set
- 6 piece ORION pin punch
- 1 x GEDORE protective cover for hammer

ORION® ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
15	345	260	30	50537527	**£87.75**

35 PIECE 1/2" + 1/4" SOCKET WRENCH SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- ATORN socket wrench set 1/4" and 1/2"



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
35	345	260	30	50537530	**£202.82**

35 PIECE SOCKET WRENCH 1/2" SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- ATORN socket wrench set 1/2", 35 pieces



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
35	345	260	30	50537534	**£180.90**

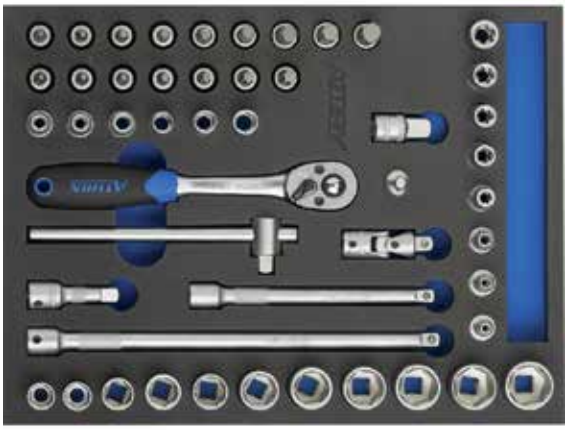
49 PIECE SOCKET WRENCH 3/8" SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- ATORN socket wrench set 3/8", 49 pieces



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
49	345	260	30	50537531	**£180.75**

77 PIECE SOCKET WRENCH 1/4" SET

With Hard Foam Insert

- For the flexible fitting of drawers
- Two-tone foam inserts made of polyethylene (PE) equipped with tool assortments
- Closed cells provide resistance against most oils and chemicals
- One tool insert fills half of the useful area of a drawer with internal dimensions 527 x 348mm
- Two tool inserts fill the entire useful area of a drawer with internal dimensions 527 x 348mm

Contents

- ATORN socket wrench set 1/4", 45 pieces
- ATORN bitbox 32 pieces



ATORN®

Pieces	Foam Insert Depth mm	Foam Insert Width mm	Foam Insert Height mm	Order Code	Price
77	345	260	30	50537532	**£186.23**

HACKSAW MACHINE SAW BLADES

Universal

- HSS & BI-METAL suitable for steel <1100N/mm², aluminium, brass, bronze and cast iron
- HSSE suitable for above materials + stainless steel, titanium, nickel alloys
- HSS (high speed steel) for harder wearing over bi-metal blades
- Bi-Metal for increased shatter resistance over HSS blades
- HSSE (5% cobalt) for longest tool life and difficult materials



ATORN®

Length mm	Width mm	Thickn. mm	Teeth /Inch	Order Code	Price
HSS					
300	25	1.5	10	14060010	**£8.50**
300	25	1.5	14	14060012	**£8.50**
350	30	1.5	6	14060014	**£10.78**
350	30	1.5	8	14060016	**£10.78**
350	30	1.5	10	14060018	**£10.78**
350	30	1.5	14	14060020	**£10.78**
350	30	2	4	14060022	**£13.24**
350	30	2	6	14060024	**£13.24**
350	30	2	8	14060026	**£13.24**
350	30	2	10	14060028	**£13.24**
400	25	1.25	14	14060030	**£8.59**
400	25	1.25	22	14060032	**£8.59**
400	25	1.5	10	14060034	**£10.06**
400	25	1.5	14	14060036	**£10.06**
400	30	1.5	6	14060038	**£11.71**
400	30	1.5	8	14060040	**£11.71**
400	30	1.5	10	14060042	**£11.71**
400	30	1.5	14	14060044	**£11.71**
400	30	1.5	18	14060046	**£11.71**
400	30	1.5	22	14060048	**£11.71**
400	30	2	4	14060050	**£14.47**
400	30	2	6	14060052	**£14.47**
400	30	2	8	14060054	**£14.47**
400	30	2	10	14060056	**£14.47**
400	40	2	4	14060058	**£18.58**
400	40	2	6	14060060	**£18.58**
400	40	2	8	14060062	**£18.58**
450	30	2	4	14060064	**£15.69**
450	30	2	6	14060066	**£15.69**
450	30	2	8	14060068	**£15.69**
500	40	2	6	14060070	**£21.74**
500	40	2	8	14060072	**£21.74**
550	50	2.5	6	14060074	**£36.63**
600	50	2.5	6	14060076	**£39.09**
650	50	2.5	4	14060078	**£41.60**
650	50	2.5	6	14060080	**£41.60**
BI-METAL					
300	32	1.6	10	14060200	**£10.60**
350	32	1.6	6	14060202	**£11.48**
350	32	1.6	8	14060204	**£11.48**
400	32	1.6	4	14060206	**£12.37**
400	32	1.6	6	14060208	**£12.37**
400	32	1.6	8	14060210	**£12.37**
500	38	1.9	6	14060212	**£21.07**
500	50	2.5	6	14060214	**£35.85**
600	50	2.5	4	14060216	**£40.37**
600	50	2.5	6	14060218	**£40.37**
HSSE					
400	32	2	4	14060300	**£21.69**
400	32	2	6	14060302	**£21.69**
400	32	2	8	14060304	**£21.69**
450	40	2	4	14060306	**£28.31**
450	40	2	6	14060308	**£28.31**
450	40	2	8	14060310	**£28.31**

HACKSAW MACHINE SAW BLADES

Universal (KASTO)

- **HSS & BI-METAL** Suitable for steels <1100N/mm², Aluminium, Brass, Bronze and Cast Iron
- **HSSE** Suitable for above materials + Stainless Steel, Titanium, Nickel Alloys
- **HSS** (high speed steel) for harder wearing over bi-metal blades
- **Bi-Metal** for increased shatter resistance over HSS blades
- **HSSE** (5% cobalt) for longest tool life and difficult materials
- Suitable for KASTO SAWS



ATORN®

Length mm	Width mm	Thickn. mm	Teeth /Inch	Order Code	Price
HSS					
300	30	1.5	6	14060100	**£9.80**
300	30	1.5	10	14060102	**£9.80**
300	30	1.5	14	14060104	**£9.80**
350	36	2	4	14060106	**£15.24**
350	36	2	6	14060108	**£15.24**
350	36	2	10	14060110	**£15.24**
400	32	2	4	14060112	**£14.96**
400	32	2	6	14060114	**£14.96**
400	32	2	8	14060116	**£14.96**
400	32	2	10	14060118	**£14.96**
450	36	2	4	14060120	**£18.07**
450	36	2	6	14060122	**£18.07**
450	36	2	8	14060124	**£18.07**
450	40	2	4	14060126	**£20.13**
450	40	2	6	14060128	**£20.13**
450	40	2	10	14060130	**£20.13**
550	45	2	4	14060132	**£25.66**
550	45	2	6	14060134	**£25.66**
575	50	2.5	4	14060136	**£37.82**
575	50	2.5	6	14060138	**£37.82**
600	50	2.5	4	14060140	**£39.09**
600	50	2.5	6	14060142	**£39.09**
650	55	2.5	4	14060144	**£46.26**
650	55	2.5	6	14060146	**£46.26**
700	55	2.5	4	14060148	**£49.04**
700	55	2.5	6	14060150	**£49.04**
BI-METAL					
400	38	1.9	4	14060250	**£18.40**
400	38	1.9	6	14060252	**£18.40**
400	38	1.9	10	14060254	**£18.40**
450	40	2	8	14060255	**£21.25**
500	38	1.9	6	14060256	**£21.07**
575	50	2.5	4	14060258	**£39.26**
575	50	2.5	6	14060260	**£39.26**
600	50	2.5	4	14060262	**£40.37**
600	50	2.5	6	14060264	**£40.37**
700	50	2.5	4	14060266	**£45.01**
700	50	2.5	6	14060268	**£45.01**
HSSE					
400	36	2	4	14060350	**£23.44**
400	36	2	6	14060352	**£23.44**
450	40	2	4	14060354	**£28.31**
450	40	2	6	14060356	**£28.31**
450	40	2	8	14060358	**£28.31**
450	40	2	10	14060360	**£28.31**
500	40	2	6	14060362	**£30.44**
550	45	2	6	14060364	**£35.90**
600	50	2.5	4	14060366	**£55.30**
600	36	2	4	14060368	**£55.30**
700	55	2.5	4	14060370	**£69.76**
700	55	2.5	6	14060372	**£69.76**

BAND SAW BLADES

BI-Metal Uni Max 0°

- Cutting of short-chipping solid material and profiles with small cross-sections in steel, stainless steel, cast iron and non-ferrous metals
- Stable 0° geometry optimised for small cross-sections and profiles
- Universal use in full cuts and interrupted cuts
- Staggered tooth geometry to reduce vibration



ATORN®

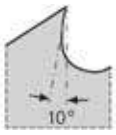
Length mm	Width mm	Contact Range	Teeth /Inch	Thickn. mm	Order Code	Price
2375	20	10-25	6/10	0.9	14044045	**£24.89**
2375	20	3-8	10/14	0.9	14044055	**£23.79**
2450	27	15-40	5/8	0.9	14044080	**£25.55**
2450	27	10-25	6/10	0.9	14044085	**£25.55**
2480	27	15-40	5/8	0.9	14044097	**£25.81**
2480	27	10-25	6/10	0.9	14044098	**£25.81**
2710	27	15-40	5/8	0.9	14044103	**£27.65**
2750	27	15-40	5/8	0.9	14044125	**£27.65**
2750	27	10-25	6/10	0.9	14044135	**£27.98**
2835	27	15-40	5/8	0.9	14044201	**£27.93**
2890	27	15-40	5/8	0.9	14044218	**£28.68**
2890	27	10-25	6/10	0.9	14044220	**£29.71**
2910	27	15-40	5/8	0.9	14044226	**£29.71**
2910	27	10-25	6/10	0.9	14044228	**£29.86**
2950	27	15-40	5/8	0.9	14044260	**£29.86**
2950	27	10-25	6/10	0.9	14044262	**£29.62**
3000	27	15-40	5/8	0.9	14044287	**£29.62**
3150	27	15-40	5/8	0.9	14044295	**£30.02**
3150	27	10-25	6/10	0.9	14044305	**£31.26**
3280	27	15-40	5/8	0.9	14044326	**£31.26**
3280	27	10-25	6/10	0.9	14044330	**£32.31**
3320	27	15-40	5/8	0.9	14044332	**£32.31**
3320	27	10-25	6/10	0.9	14044333	**£32.63**
3370	27	15-40	5/8	0.9	14044340	**£32.63**
3370	27	10-25	6/10	0.9	14044341	**£33.04**
3660	27	15-40	5/8	0.9	14044355	**£33.04**
3660	27	10-25	6/10	0.9	14044360	**£35.38**
3770	27	15-40	5/8	0.9	14044382	**£35.38**
3770	27	10-25	6/10	0.9	14044385	**£36.28**
3800	27	15-40	5/8	0.9	14044396	**£36.28**
3830	27	15-40	5/8	0.9	14044420	**£36.51**
3830	27	10-25	6/10	0.9	14044430	**£36.73**
4150	27	15-40	5/8	0.9	14044456	**£36.73**

BAND SAW BLADES

HSS-Co 8% Uni Max 10°

- Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless steel, cast iron and non-ferrous metals
- Positive 10° tooth geometry ensures a soft cut with a long service life on production bandsaws
- High quality HSS 8% cobalt substrate with an excellent price/performance ratio
- Staggered tooth geometry to reduce vibration







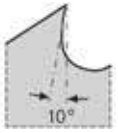
ATORN®

Length mm	Width mm	Contact Range	Teeth /Inch	Thick. mm	Order Code	Price
2140	20	25-70	4/6	0.9	14055053	£21.88
2450	27	25-70	4/6	0.9	14055069	£25.81
2480	27	25-70	4/6	0.9	14055087	£26.07
2710	27	25-70	4/6	0.9	14055101	£28.14
2720	27	25-70	4/6	0.9	14055107	£28.22
2750	27	50-150	3/4	0.9	14055123	£28.47
2750	27	25-70	4/6	0.9	14055125	£28.47
2760	27	25-70	4/6	0.9	14055135	£28.59
2765	27	25-70	4/6	0.9	14055141	£28.61
2835	27	50-150	3/4	0.9	14055151	£29.24
2835	27	25-70	4/6	0.9	14055153	£29.24
2890	27	50-150	3/4	0.9	14055157	£29.74
2890	27	25-70	4/6	0.9	14055159	£29.74
2910	27	50-150	3/4	0.9	14055165	£29.92
2910	27	25-70	4/6	0.9	14055167	£29.92
2950	27	50-150	3/4	0.9	14055173	£30.27
2950	27	25-70	4/6	0.9	14055175	£30.27
3000	27	50-150	3/4	0.9	14055191	£30.70
3150	27	50-150	3/4	0.9	14055197	£32.05
3150	27	25-70	4/6	0.9	14055199	£32.05
3280	27	50-150	3/4	0.9	14055205	£33.21
3280	27	25-70	4/6	0.9	14055207	£33.21
3320	27	50-150	3/4	0.9	14055213	£33.60
3320	27	25-70	4/6	0.9	14055219	£33.60
3350	27	25-70	4/6	0.9	14055221	£33.88
3370	27	50-150	3/4	0.9	14055229	£34.03
3370	27	25-70	4/6	0.9	14055231	£34.03
3660	27	25-70	4/6	0.9	14055253	£36.63
3660	27	50-150	3/4	0.9	14055265	£36.63
3700	27	50-150	3/4	0.9	14055271	£37.00
3700	27	25-70	4/6	0.9	14055273	£37.00
3770	27	50-150	3/4	0.9	14055279	£37.62
3770	27	25-70	4/6	0.9	14055281	£37.62
3800	27	50-150	3/4	0.9	14055287	£37.89
3800	27	25-70	4/6	0.9	14055289	£37.89
3830	27	50-150	3/4	0.9	14055295	£38.16
3830	27	25-70	4/6	0.9	14055297	£38.16
3950	34	50-150	3/4	1.1	14055307	£46.15
4100	34	50-150	3/4	1.1	14055315	£47.73
4100	34	25-70	4/6	1.1	14055317	£47.73
4100	34	120-250	2/3	1.1	14055321	£47.73
4150	27	50-150	3/4	0.9	14055325	£41.04
4200	34	50-150	3/4	1.1	14055329	£48.76
4200	34	25-70	4/6	1.1	14055331	£48.76
4400	34	120-250	2/3	1.1	14055345	£50.88
4400	34	50-150	3/4	1.1	14055347	£50.88
4400	34	25-70	4/6	1.1	14055349	£50.88
4530	34	25-70	4/6	1.1	14055351	£52.25
4530	34	120-250	2/3	1.1	14055353	£52.25
4530	34	50-150	3/4	1.1	14055355	£52.25
4640	34	120-250	2/3	1.1	14055357	£53.44
5090	34	120-250	2/3	1.1	14055385	£58.16
5090	34	50-150	3/4	1.1	14055387	£58.16
5090	41	120-250	2/3	1.1	14055389	£84.16
5090	41	50-150	3/4	1.1	14055391	£84.16
5400	41	120-250	2/3	1.1	14055393	£88.98
5400	41	50-150	3/4	1.1	14055395	£88.98
5700	41	120-250	2/3	1.3	14055397	£93.64
5700	41	50-150	3/4	1.3	14055399	£93.64
5800	41	25-70	4/6	1.3	14055409	£95.17
5800	41	120-250	2/3	1.3	14055411	£95.17
5800	41	50-150	3/4	1.3	14055413	£95.17

BAND SAW BLADES

Bi-Metal Basic Uni Max 10°

- Cutting of solid material, beams and profiles with medium cross-sections in steel, stainless, cast iron and non-ferrous metals
- Positive 10° tooth geometry ensures a soft cut with a long service life on production bandsaws
- Minimum 5pcs per size
- Staggered tooth geometry to reduce vibration







ORION®

Length mm	Width mm	Contact Range	Teeth /Inch	Thick. mm	Order Code	Price
2360	19	25-70	4/6	0.9	14049400	£18.75
2360	19	50-150	6/10	0.9	14049402	£18.75
2375	20	50-150	6/10	0.9	14049404	£18.85
2375	20	3-8	10/14	0.9	14049406	£18.85
2450	27	25-70	4/6	0.9	14049408	£20.28
2450	27	15-40	5/8	0.9	14049410	£20.28
2450	27	50-150	6/10	0.9	14049412	£20.28
2480	27	25-70	4/6	0.9	14049414	£20.47
2480	27	15-40	5/8	0.9	14049416	£20.47
2480	27	50-150	6/10	0.9	14049418	£20.47
2700	27	50-150	3/4	0.9	14049420	£21.75
2700	27	25-70	4/6	0.9	14049422	£21.75
2710	27	25-70	4/6	0.9	14049424	£22.11
2710	27	50-150	6/10	0.9	14049426	£21.78
2710	27	5-20	8/12	0.9	14049428	£21.78
2720	27	50-150	3/4	0.9	14049430	£21.85
2720	27	25-70	4/6	0.9	14049432	£21.85
2750	27	50-150	3/4	0.9	14049434	£22.01
2750	27	25-70	4/6	0.9	14049436	£22.01
2750	27	15-40	5/8	0.9	14049438	£22.01
2750	27	50-150	6/10	0.9	14049440	£22.01
2750	27	3-8	10/14	0.9	14049442	£22.01
2760	27	25-70	4/6	0.9	14049444	£22.06
2760	27	5-20	8/12	0.9	14049446	£22.06
2765	27	50-150	3/4	0.9	14049448	£22.11
2765	27	25-70	4/6	0.9	14049450	£22.11
2765	27	15-40	5/8	0.9	14049452	£22.11
2765	27	50-150	6/10	0.9	14049454	£22.11
2825	27	50-150	3/4	0.9	14049456	£22.45
2825	27	15-40	5/8	0.9	14049458	£22.45
2835	27	15-40	5/8	0.9	14049460	£22.52
2835	27	50-150	6/10	0.9	14049462	£22.52
2835	27	50-150	3/4	0.9	14049464	£22.52
2835	27	25-70	4/6	0.9	14049466	£22.52
2835	27	3-8	10/14	0.9	14049468	£22.52
2890	27	120-250	2/3	0.9	14049470	£22.83
2890	27	50-150	3/4	0.9	14049472	£22.83
2890	27	25-70	4/6	0.9	14049474	£22.83
2890	27	15-40	5/8	0.9	14049476	£22.83
2890	27	50-150	6/10	0.9	14049478	£22.83
2910	27	50-150	3/4	0.9	14049480	£22.93
2910	27	25-70	4/6	0.9	14049482	£22.93
2910	27	15-40	5/8	0.9	14049484	£22.93
2910	27	50-150	6/10	0.9	14049488	£22.93
2910	27	5-20	8/12	0.9	14049490	£22.93
2950	27	50-150	3/4	0.9	14049494	£23.17
2950	27	25-70	4/6	0.9	14049496	£23.17
2950	27	15-40	5/8	0.9	14049498	£23.17
2950	27	50-150	6/10	0.9	14049502	£23.17
2950	27	5-20	8/12	0.9	14049504	£23.17
3000	27	25-70	4/6	0.9	14049508	£23.45
3000	27	15-40	5/8	0.9	14049510	£23.45
3010	27	120-250	2/3	0.9	14049512	£23.52
3010	27	50-150	3/4	0.9	14049514	£23.52
3010	27	25-70	4/6	0.9	14049516	£23.52
3010	27	15-40	5/8	0.9	14049518	£23.52
3150	27	50-150	3/4	0.9	14049520	£24.33
3150	27	15-40	5/8	0.9	14049522	£24.33
3150	27	50-150	6/10	0.9	14049524	£24.33
3280	27	120-250	2/3	0.9	14049526	£25.08
3280	27	50-150	3/4	0.9	14049528	£25.08
3280	27	25-70	4/6	0.9	14049530	£25.08
3280	27	15-40	5/8	0.9	14049532	£25.08
3280	27	50-150	6/10	0.9	14049534	£25.08
3320	27	50-150	3/4	0.9	14049536	£25.29
3320	27	15-40	5/8	0.9	14049538	£25.29
3320	27	50-150	6/10	0.9	14049540	£25.29
3370	27	50-150	3/4	0.9	14049542	£25.59
3370	27	25-70	4/6	0.9	14049544	£25.59
3370	27	15-40	5/8	0.9	14049546	£25.59
3370	27	50-150	6/10	0.9	14049548	£25.59

Length mm	Width mm	Contact Range	Teeth /Inch	Thick. mm	Order Code	Price
3660	27	120-250	2/3	0.9	14049550	£27.25
3660	27	50-150	3/4	0.9	14049552	£27.25
3660	27	25-70	4/6	0.9	14049554	£27.25
3660	27	15-40	5/8	0.9	14049556	£27.25
3660	27	50-150	6/10	0.9	14049558	£27.25
3660	27	3-8	10/14	0.9	14049560	£27.25
3770	27	120-250	2/3	0.9	14049562	£27.91
3770	27	50-150	3/4	0.9	14049564	£27.91
3770	27	25-70	4/6	0.9	14049566	£27.91
3770	27	50-150	6/10	0.9	14049570	£27.91
3800	27	50-150	3/4	0.9	14049572	£28.07
3800	27	25-70	4/6	0.9	14049574	£28.07
3800	27	15-40	5/8	0.9	14049576	£28.07
3800	27	50-150	6/10	0.9	14049578	£28.07
3800	34	50-150	3/4	1.1	14049580	£39.06
3800	34	25-70	4/6	1.1	14049582	£39.06
3830	27	120-250	2/3	0.9	14049584	£28.27
3830	27	50-150	3/4	0.9	14049586	£28.27
3830	27	15-40	5/8	0.9	14049588	£28.27
3830	27	50-150	6/10	0.9	14049590	£28.27
3930	27	50-150	3/4	0.9	14049592	£28.83
3930	27	25-70	4/6	0.9	14049594	£28.83
4100	34	120-250	2/3	1.1	14049596	£41.52
4100	34	50-150	3/4	1.1	14049598	£41.52
4100	34	25-70	4/6	1.1	14049600	£41.52
4100	34	15-40	5/8	1.1	14049602	£41.52
4115	34	50-150	3/4	1.1	14049604	£41.67
4115	34	25-70	4/6	1.1	14049606	£41.67
4115	41	120-250	2/3	1.3	14049608	£51.08
4115	41	50-150	3/4	1.3	14049610	£51.08
4115	41	25-70	4/6	1.3	14049612	£51.08
4150	27	50-150	3/4	0.9	14049614	£30.11
4150	27	25-70	4/6	0.9	14049616	£30.11
4150	27	15-40	5/8	0.9	14049618	£30.11
4150	34	120-250	2/3	1.1	14049622	£41.93
4150	34	50-150	3/4	1.1	14049624	£41.93
4150	34	25-70	4/6	1.1	14049626	£41.93
4200	34	120-250	2/3	1.1	14049628	£42.36
4200	34	50-150	3/4	1.1	14049630	£42.36
4200	34	25-70	4/6	1.1	14049632	£42.36
4240	34	120-250	2/3	1.1	14049634	£42.67
4240	34	50-150	3/4	1.1	14049636	£42.67
4400	34	120-250	2/3	1.1	14049638	£44.02
4400	34	50-150	3/4	1.1	14049640	£44.02
4400	34	25-70	4/6	1.1	14049642	£44.02
4400	34	50-150	6/10	1.1	14049644	£44.02
4450	34	50-150	3/4	1.1	14049646	£44.40
4450	34	25-70	4/6	1.1	14049648	£44.40
4570	34	120-250	2/3	1.1	14049650	£45.39
4570	34	50-150	3/4	1.1	14049652	£45.39
4570	34	25-70	4/6	1.1	14049654	£45.39
4640	34	120-250	2/3	1.1	14049656	£45.98
4640	34	50-150	3/4	1.1	14049658	£45.98
4860	34	50-150	3/4	1.1	14049660	£47.76
4860	34	25-70	4/6	1.1	14049662	£47.76
4930	34	120-250	2/3	1.1	14049664	£48.34
5000	34	120-250	2/3	1.1	14049666	£48.91
5000	34	50-150	3/4	1.1	14049668	£48.91
5090	41	120-250	2/3	1.1	14049670	£62.18
5090	41	50-150	3/4	1.1	14049672	£62.18
5334	41	50-150	3/4	1.3	14049674	£64.66
5334	41	25-70	4/6	1.3	14049676	£64.66
5400	41	120-250	2/3	1.3	14049678	£65.34
5400	41	50-150	3/4	1.3	14049680	£65.34
5800	41	120-250	2/3	1.3	14049682	£69.44
5800	41	50-150	3/4	1.3	14049684	£69.44
5800	41	25-70	4/6	1.3	14049686	£69.44
5800	41	15-40	5/8	1.3	14049688	£78.73

SOLID CARBIDE SLITTING SAW BLADES

Fine Tooth DIN 1837 A

- Precision ground metal circular saw blade with tooth shape A, fine toothed, hollow ground on side
- Universal use in full cuts and interrupted cuts
- Suitable for steel, stainless steel, cast iron and non-ferrous metals
- Plain bore



SLITTING SAW ARBORS (FRONT MOUNT)

Saw Dia	Shank Dia	Spigot Dia	Length	Order Code	Price
15-20	20	5	90	14010022	**£110.00**
25	20	8	100	14010027-1	**£110.00**
30	20	8	105	14010034-1	**£110.00**
40	20	10	110	14010042	**£110.00**
50	25	13	136	14010052	**£110.00**
63	25	16	136	14010065	**£110.00**
6pc SET				14010900	**£710.00**



ATORN®

Dia	Thick.	Bore	Teeth	Order Code	Price
15	0.1	5	64	14020020	**£20.80**
15	0.15	5	64	14020021	**£17.14**
15	0.2	5	64	14020022	**£13.52**
15	0.25	5	64	14020023	**£13.52**
15	0.3	5	64	14020024	**£13.52**
15	0.35	5	64	14020025	**£13.52**
15	0.4	5	64	14020026	**£13.52**
15	0.5	5	48	14020027	**£14.46**
15	0.6	5	48	14020028	**£14.46**
15	0.7	5	48	14020029	**£17.20**
15	0.8	5	40	14020030	**£17.20**
15	0.9	5	40	14020031	**£17.73**
15	1	5	40	14020032	**£18.34**
15	1.1	5	40	14020033	**£19.14**
15	1.2	5	40	14020034	**£19.14**
15	1.3	5	40	14020035	**£19.14**
15	1.4	5	40	14020036	**£17.72**
15	1.5	5	40	14020037	**£20.80**
15	1.6	5	40	14020038	**£22.28**
15	1.7	5	40	14020039	**£24.14**
15	1.8	5	40	14020040	**£24.14**
15	1.9	5	40	14020041	**£25.10**
15	2	5	40	14020042	**£25.55**
15	2.5	5	40	14020043	**£35.05**
15	3	5	40	14020044	**£39.72**
15	3.5	5	40	14020045	**£44.78**
15	4	5	40	14020046	**£55.25**
20	0.1	5	80	14020051	**£22.00**
20	0.15	5	80	14020052	**£18.42**
20	0.2	5	80	14020053	**£14.73**
20	0.25	5	64	14020054	**£14.73**
20	0.3	5	64	14020055	**£14.73**
20	0.35	5	64	14020056	**£14.73**
20	0.4	5	64	14020057	**£14.73**
20	0.5	5	48	14020058	**£15.79**
20	0.6	5	48	14020059	**£15.79**
20	0.7	5	48	14020060	**£18.34**
20	0.8	5	48	14020061	**£18.34**
20	0.9	5	40	14020062	**£19.14**
20	1	5	40	14020063	**£20.80**
20	1.1	5	40	14020064	**£22.28**
20	1.2	5	40	14020065	**£22.28**
20	1.3	5	40	14020066	**£23.54**
20	1.4	5	40	14020067	**£25.55**
20	1.5	5	40	14020068	**£25.55**
20	1.6	5	40	14020069	**£26.67**
20	1.7	5	40	14020070	**£28.09**
20	1.8	5	32	14020071	**£28.09**
20	1.9	5	32	14020072	**£29.41**
20	2	5	32	14020073	**£29.41**
20	2.5	5	32	14020074	**£36.97**
20	3	5	32	14020075	**£42.17**
20	3.5	5	24	14020076	**£47.50**
20	4	5	24	14020077	**£56.47**
20	4.5	5	24	14020078	**£67.31**
20	5	5	24	14020079	**£70.05**
25	0.1	8	80	14020082	**£25.76**
25	0.15	8	80	14020083	**£20.54**
25	0.2	8	80	14020084	**£15.17**
25	0.25	8	80	14020085	**£15.17**
25	0.3	8	80	14020086	**£15.17**
25	0.35	8	64	14020087	**£15.17**
25	0.4	8	64	14020088	**£15.17**
25	0.5	8	64	14020089	**£16.68**
25	0.6	8	64	14020090	**£17.58**
25	0.7	8	48	14020091	**£19.40**
25	0.8	8	48	14020092	**£20.59**
25	0.9	8	48	14020093	**£22.31**
25	1	8	48	14020094	**£22.31**
25	1.1	8	48	14020095	**£25.63**
25	1.2	8	48	14020096	**£25.63**
25	1.3	8	40	14020097	**£26.77**
25	1.4	8	40	14020098	**£29.39**
25	1.5	8	40	14020099	**£29.39**
25	1.6	8	40	14020100	**£32.26**
25	1.7	8	40	14020101	**£32.26**
25	1.8	8	40	14020102	**£33.59**
25	1.9	8	40	14020103	**£35.90**
25	2	8	40	14020104	**£36.94**
25	2.5	8	40	14020105	**£44.80**
25	3	8	32	14020106	**£58.28**
25	3.5	8	32	14020107	**£64.18**
25	4	8	32	14020108	**£72.53**
25	4.5	8	32	14020109	**£83.09**
25	5	8	32	14020110	**£87.80**
25	5.5	8	24	14020111	**£99.79**
25	6	8	24	14020112	**£104.49**
30	0.1	8	100	14020113	**£29.59**
30	0.15	8	100	14020114	**£28.26**
30	0.2	8	100	14020115	**£19.40**
30	0.25	8	100	14020116	**£19.40**
30	0.3	8	80	14020117	**£18.37**
30	0.35	8	80	14020118	**£18.37**
30	0.4	8	80	14020119	**£18.37**
30	0.5	8	80	14020120	**£19.46**
30	0.6	8	64	14020121	**£19.46**
30	0.7	8	64	14020122	**£23.33**
30	0.8	8	64	14020123	**£24.18**
30	0.9	8	64	14020124	**£26.29**
30	1	8	64	14020125	**£26.29**
30	1.1	8	64	14020126	**£29.51**
30	1.2	8	48	14020127	**£30.06**
30	1.3	8	48	14020128	**£31.00**
30	1.4	8	48	14020129	**£33.72**
30	1.5	8	48	14020130	**£35.72**
30	1.6	8	48	14020131	**£37.96**
30	1.7	8	48	14020132	**£37.96**
30	1.8	8	48	14020133	**£39.02**
30	1.9	8	48	14020134	**£40.19**
30	2	8	48	14020135	**£41.24**
30	2.5	8	40	14020136	**£51.11**
30	3	8	40	14020137	**£60.78**
30	3.5	8	40	14020138	**£68.92**
30	4	8	40	14020139	**£77.27**
30	4.5	8	32	14020140	**£89.09**
30	5	8	32	14020141	**£93.81**
30	5.5	8	32	14020142	**£105.62**
30	6	8	32	14020143	**£110.31**
40	0.1	10	128	14020144	**£30.15**
40	0.15	10	128	14020145	**£27.78**
40	0.2	10	128	14020146	**£23.06**
40	0.25	10	100	14020147	**£23.06**
40	0.3	10	100	14020148	**£23.06**
40	0.35	10	100	14020149	**£23.06**
40	0.4	10	80	14020150	**£24.28**
40	0.5	10	80	14020151	**£26.32**
40	0.6	10	100	14020152	**£26.32**
40	0.7	10	80	14020153	**£30.15**
40	0.8	10	80	14020154	**£31.27**
40	0.9	10	64	14020155	**£31.27**
40	1	10	64	14020156	**£32.34**
40	1.1	10	64	14020157	**£33.41**
40	1.2	10	64	14020158	**£36.54**
40	1.3	10	64	14020159	**£37.05**
40	1.4	10	64	14020160	**£39.41**
40	1.5	10	64	14020161	**£40.48**
40	1.6	10	64	14020162	**£41.61**
40	1.7	10	48	14020163	**£43.94**
40	1.8	10	48	14020164	**£45.01**
40	1.9	10	48	14020165	**£46.32**
40	2	10	48	14020166	**£46.32**
40	2.5	10	48	14020167	**£56.25**
40	3	10	48	14020168	**£68.63**
40	3.5	10	48	14020169	**£76.58**
40	4	10	40	14020170	**£84.84**
40	4.5	10	40	14020171	**£96.19**
40	5	10	40	14020172	**£102.01**
40	5.5	10	40	14020173	**£114.57**
40	6	10	40	14020174	**£120.37**
50	0.1	13	128	14020175	**£53.91**
50	0.15	13	128	14020176	**£48.86**
50	0.2	13	128	14020177	**£37.67**
50	0.25	13	128	14020178	**£36.44**
50	0.3	13	128	14020179	**£29.42**
50	0.35	13	100	14020180	**£31.18**
50	0.4	13	100	14020181	**£31.18**
50	0.5	13	100	14020182	**£32.12**
50	0.6	13	100	14020183	**£32.12**
50	0.7	13	80	14020184	**£33.71**
50	0.8	13	80	14020185	**£36.44**
50	0.9	13	80	14020186	**£37.56**
50	1	13	80	14020187	**£38.69**
50	1.1	13	80	14020188	**£39.76**
50	1.2	13	80	14020189	**£43.21**
50	1.3	13	64	14020190	**£48.27**
50	1.4	13	64	14020191	**£49.29**
50	1.5	13	64	14020192	**£51.77**
50	1.6	13	64	14020193	**£52.81**
50	1.7	13	64	14020194	**£53.58**
50	1.8	13	64	14020195	**£56.96**
50	1.9	13	64	14020196	**£56.96**
50	2	13	64	14020197	**£58.65**
50	2.5	13	64	14020198	**£67.59**
50	3	13	48	14020199	**£78.38**
50	3.5	13	48	14020200	**£94.22**
50	4	13	48	14020201	**£100.02**
50	4.5	13	48	14020202	**£116.14**
50	5	13	48	14020203	**£121.95**
50	5.5	13	40	14020204	**£135.57**
50	6	13	40	14020205	**£141.39**
63	0.2	16	160	14020206	**£56.76**
63	0.25	16	160	14020207	**£54.65**
63	0.3	16	128	14020208	**£50.96**
63	0.35	16	128	14020209	**£48.21**
63	0.4	16	128	14020210	**£43.65**
63	0.5	16	128	14020211	**£42.71**
63	0.6	16	100	14020212	**£43.65**
63	0.7	16	100	14020213	**£49.17**
63	0.8	16	100	14020214	**£53.96**
63	0.9	16	100	14020215	**£54.65**
63	1	16	100	14020216	**£55.80**
63	1.1	16	80	14020217	**£57.85**
63	1.2	16	80	14020218	**£59.89**
63	1.3	16	80	14020220	**£61.26**
63	1.4	16	80	14020221	**£62.25**
63	1.5	16	80	14020222	**£66.85**
63	1.6	16	80	14020223	**£66.34**
63	1.7	16	80	14020224	**£69.79**
63	1.8	16	80	14020225	**£70.90**
63	1.9	16	80	14020226	**£73.91**
63	2	16	80	14020227	**£76.38**
63	2.5	16	64	14020228	**£91.51**
63	3	16	64	14020229	**£97.72**
63	3.5	16	64	14020230	**£118.65**
63	4	16	64	14020231	**£129.61**
63	4.5	16	64	14020232	**£148.17**
63	5	16	48	14020233	**£154.81**
63	5.5	16	48	14020234	**£173.34**
63	6	16	48	14020235	**£179.84**
80	0.4	22	160	14020238	**£94.44**
80	0.5	22	128	14020239	**£67.55**
80	0.6	22	128	14020240	**£69.41**
80	0.7	22	128	14020241	**£70.78**
80	0.8	22	128	14020242	**£70.78**
80	0.9	22	100	14020243	**£73.63**
80	1	22	100	14020244	**£73.63**
80	1.1	22	100	14020245	**£75.57**
80	1.2	22	100	14020246	**£78.82**
80	1.3	22	100	14020247	**£82.03**
80	1.4	22	100	14020248	**£85.03**
80	1.5	22	100	14020249	**£86.99**
80	1.6	22	100	14020250	**£89.21**
80	1.7	22	80	14020251	**£101.98**
80	1.8	22	80	14020252	**£103.14**
80	1.9	22	80	14020253	**£105.19**
80	2	22	80	14020254	**£108.61**
80	2.5	22	80	14020255	**£128.16**
80	3	22	80	14020256	**£144.84**
80	3.5	22	64	14020257	**£169.42**
80	4	22	64	14020258	**£183.57**
80	4.5	22	64	14020259	**£216.17**
80	5	22	64	14020260	**£222.77**
80	5.5	22	64	14020261	**£246.87**
80	6	22	64	14020262	**£253.29**
100	0.5	22	160	14020263	**£131.38**
100	0.6	22	160	14020264	**£116.53**
100	0.7	22	128	14020265	**£112.06**
100	0.8	22	128	14020266	**£104.56**
100	0.9	22	128	14020267	**£102.63**
100	1	22	128	14020268	**£100.41**
100	1.1	22	128	14020269	**£105.19**
100	1.2	22	128	14020270	**£110.71**
100	1.3	22	100	14020271	**£117.59**
100	1.4	22	100	14020272	**£122.39**
100	1.5	22	100	14020273	**£125.86**
100	1.6	22	120	14020274	**£132.71**
100	1.7	22	100	14020275	**£139.60**
100	1.8	22	100	14020276	**£139.60**
100	1.9	22	100	14020277	**£151.98**
100	2	22	100	14020278	**£155.40**
100	2.5	22	100	14020279	**£182.94**
100	3	22	80	14020280	**£204.94**
100	3.5	22	80	14020281	**£232.43**
100	4	22	80	14020282	**£255.14**
100	4.5	22	80	14020283	**£297.76**
100	5	22	80	14020284	**£308.09**
100	5.5	22	64	14020285	**£351.42**
100	6	22	64	14020286	**£361.74**
125	0.6	22	160	14020287	**£193.12**
125	0.7	22	160	14020288	**£179.09**
125	0.8	22	160	14020289	**£172.47**
125	0.9	22	160	14020290	**£174.58**
125	1	22	160	14020291	**£162.15**
125	1.1	22	128	14020292	**£167.67**
125	1.2	22	128	14020293	**£177.95**
125	1.3	22	128	14020294	**£195.16**
125	1.4	22	128	14020295	**£195.16**
125	1.5	22	128	14020296	**£203.45**
125	1.6	22	128	14020297	**£210.31**
125	1.7	22	128	14020298	**£214.83**
125	1.8	22	128	14020299	**£214.83**
125	1.9	22	128	14020300	**£231.07**
125	2	22	128	14020301	**£231.07**
125	2.5	22	100	14020302	**£271.99**
125	3	22	100	14020303	**£320.70**
125	3.5	22	100	14020304	**£389.08**
125	4	22	100	14020305	**£442.70**
125	4.5	22	100	14020306	**£495.70**
125	5	22	80	14020307	**£511.52**
125	5.5	22	80	14020308	**£607.74**
125	6	22	80	14020309	**£624.99**
150	1	32	150	14020310	**£272.54**
150	1.5	32	150	14020312	**£285.91**
150	1.6	32	150	14020313	**£292.61**
150	2	32	128	14020314	**£376.95**
150	2.5	32	128	14020315	**£423.74**
150	3	32	128	14020316	**£470.55**
150	4	32	128	14020317	**£604.37**
160	1	32	160	14020318	**£332.43**
160	1.5	32	160	14020320	**£339.27**
160	1.6	32	160	14020321	**£346.17**
160	2	32	128	14020322	**£445.19**
160	2.5	32	128	14020323	**£507.09**
160	3	32	128	14020324	**£545.59**
160	4	32	100	14020325	**£713.37**
200	1.5	32	160	14020326	**£647.44**
200	2	32	160	14020328	**£778.06**
200	2.5	32	160	14020329	**£899.12**
200	3	32	128	14020330	**£1,018.73**
200	4	32	128	14020331	**£1,270.47**

SOLID CARBIDE SLITTING SAW BLADES

Coarse Tooth DIN 1838 B

- Precision ground metal circular saw blade with tooth shape A, fine toothed, hollow ground on side
- Universal use in full cuts and interrupted cuts
- Suitable for steel, stainless steel, cast iron and non-ferrous metals
- Plain bore



SLITTING SAW ARBORS (FRONT MOUNT)

Saw Dia	Shank Dia	Spigot Dia	Length	Order Code	Price
15-20	20	5	90	14010022	**£110.00**
25	20	8	100	14010027	**£110.00**
30	20	8	105	14010034-1	**£110.00**
40	20	10	110	14010042	**£110.00**
50	25	13	136	14010052	**£110.00**
63	25	16	136	14010065	**£110.00**
		6pc SET		14010900	**£710.00**



ATORN®

Dia	Thick.	Bore	Teeth	Order Code	Price
15	0.2	5	20	14020332	**£13.52**
15	0.25	5	20	14020333	**£13.52**
15	0.3	5	20	14020334	**£13.52**
15	0.35	5	20	14020335	**£13.52**
15	0.4	5	20	14020336	**£13.52**
15	0.5	5	20	14020337	**£14.46**
15	0.6	5	20	14020338	**£14.46**
15	0.7	5	20	14020339	**£17.20**
15	0.8	5	20	14020340	**£17.20**
15	0.9	5	20	14020341	**£17.73**
15	1	5	20	14020342	**£18.34**
15	1.1	5	20	14020343	**£19.14**
15	1.2	5	20	14020344	**£19.14**
15	1.3	5	20	14020345	**£19.14**
15	1.4	5	20	14020346	**£19.14**
15	1.5	5	20	14020347	**£20.80**
15	1.6	5	20	14020348	**£22.28**
15	1.7	5	20	14020349	**£24.14**
15	1.8	5	20	14020350	**£24.14**
15	1.9	5	20	14020351	**£25.10**
15	2	5	20	14020352	**£25.55**
15	2.5	5	20	14020353	**£35.05**
15	3	5	20	14020354	**£39.72**
15	3.5	5	20	14020355	**£44.78**
15	4	5	20	14020356	**£55.25**
15	4.5	5	20	14020357	**£64.78**
15	5	5	20	14020358	**£67.31**
15	5.5	5	20	14020359	**£80.27**
15	6	5	20	14020360	**£82.81**
20	0.2	5	20	14020361	**£14.73**
20	0.25	5	20	14020362	**£14.73**
20	0.3	5	20	14020363	**£14.73**
20	0.35	5	20	14020364	**£14.73**
20	0.4	5	20	14020365	**£14.73**
20	0.5	5	20	14020366	**£15.79**
20	0.6	5	20	14020367	**£15.79**
20	0.7	5	20	14020368	**£18.34**
20	0.8	5	20	14020369	**£18.34**
20	0.9	5	20	14020370	**£19.14**
20	1	5	20	14020371	**£20.80**
20	1.1	5	20	14020372	**£22.28**
20	1.2	5	20	14020373	**£22.28**
20	1.3	5	20	14020374	**£23.54**
20	1.4	5	20	14020375	**£25.55**
20	1.5	5	20	14020376	**£25.55**
20	1.6	5	20	14020377	**£26.67**
20	1.7	5	20	14020378	**£28.09**
20	1.8	5	20	14020379	**£28.09**
20	1.9	5	20	14020380	**£29.41**
20	2	5	20	14020381	**£29.41**
20	2.5	5	20	14020382	**£36.97**
20	3	5	20	14020383	**£42.17**
20	3.5	5	20	14020384	**£47.50**
20	4	5	20	14020385	**£56.47**
20	4.5	5	20	14020386	**£67.31**
20	5	5	20	14020387	**£70.05**
20	5.5	5	20	14020388	**£81.45**
20	6	5	20	14020389	**£84.05**
25	0.2	8	20	14020390	**£15.17**
25	0.25	8	20	14020391	**£15.17**
25	0.3	8	20	14020392	**£15.17**
25	0.35	8	20	14020393	**£15.17**
25	0.4	8	20	14020394	**£15.17**
25	0.5	8	20	14020395	**£16.68**
25	0.6	8	20	14020396	**£17.58**
25	0.7	8	20	14020397	**£19.40**
25	0.8	8	20	14020398	**£20.59**
25	0.9	8	20	14020399	**£22.31**
25	1	8	20	14020400	**£22.31**
25	1.1	8	20	14020401	**£25.63**
25	1.2	8	20	14020402	**£25.63**
25	1.3	8	20	14020403	**£26.77**
25	1.4	8	20	14020404	**£29.39**
25	1.5	8	20	14020405	**£29.39**
25	1.6	8	20	14020406	**£32.26**
25	1.7	8	20	14020407	**£32.26**
25	1.8	8	20	14020408	**£33.59**
25	1.9	8	20	14020409	**£35.90**
25	2	8	20	14020410	**£36.94**
25	2.5	8	20	14020411	**£44.80**
25	3	8	20	14020412	**£58.28**
25	3.5	8	20	14020413	**£64.18**
25	4	8	20	14020414	**£72.53**
25	4.5	8	20	14020415	**£83.09**
25	5	8	20	14020416	**£87.80**
25	5.5	8	20	14020417	**£99.79**
25	6	8	20	14020418	**£104.49**
30	0.2	8	30	14020419	**£19.40**
30	0.25	8	30	14020420	**£19.40**
30	0.3	8	30	14020421	**£18.37**
30	0.35	8	30	14020422	**£18.37**
30	0.4	8	30	14020423	**£18.37**
30	0.5	8	30	14020424	**£19.46**
30	0.6	8	30	14020425	**£19.46**
30	0.7	8	30	14020426	**£23.33**
30	0.8	8	24	14020427	**£24.18**
30	0.9	8	24	14020428	**£26.29**
30	1	8	24	14020429	**£26.29**
30	1.1	8	24	14020430	**£29.51**
30	1.2	8	24	14020431	**£30.06**
30	1.3	8	24	14020432	**£31.00**
30	1.4	8	24	14020433	**£33.72**
30	1.5	8	24	14020434	**£35.72**
30	1.6	8	24	14020435	**£37.96**
30	1.7	8	24	14020436	**£37.96**
30	1.8	8	24	14020437	**£39.02**
30	1.9	8	24	14020438	**£40.19**
30	2	8	24	14020439	**£41.24**
30	2.5	8	24	14020440	**£51.11**
30	3	8	24	14020441	**£60.78**
30	3.5	8	24	14020442	**£68.92**
30	4	8	24	14020443	**£77.27**
30	4.5	8	24	14020444	**£89.09**
30	5	8	24	14020445	**£93.81**
30	5.5	8	24	14020446	**£105.62**
30	6	8	24	14020447	**£110.31**
40	0.2	10	40	14020448	**£23.06**
40	0.25	10	40	14020449	**£23.06**
40	0.3	10	40	14020450	**£23.06**
40	0.35	10	40	14020451	**£23.06**
40	0.4	10	40	14020452	**£24.28**
40	0.5	10	40	14020453	**£26.32**
40	0.6	10	40	14020454	**£26.32**
40	0.7	10	40	14020455	**£30.15**
40	0.8	10	32	14020456	**£31.27**
40	0.9	10	32	14020457	**£31.27**
40	1	10	32	14020458	**£32.34**
40	1.1	10	32	14020459	**£33.41**
40	1.2	10	32	14020460	**£36.54**
40	1.3	10	32	14020461	**£37.05**
40	1.4	10	32	14020462	**£39.41**
40	1.5	10	32	14020463	**£40.48**
40	1.6	10	32	14020464	**£41.61**
40	1.7	10	32	14020465	**£43.94**
40	1.8	10	32	14020466	**£45.01**
40	1.9	10	32	14020467	**£46.32**
40	2	10	32	14020468	**£46.32**
40	2.5	10	32	14020469	**£56.25**
40	3	10	32	14020470	**£68.63**
40	3.5	10	32	14020471	**£76.58**
40	4	10	32	14020472	**£84.84**
40	4.5	10	32	14020473	**£96.19**
40	5	10	32	14020474	**£102.01**
40	5.5	10	32	14020475	**£114.57**
40	6	10	32	14020476	**£120.37**
50	0.2	13	48	14020477	**£37.67**
50	0.25	13	48	14020478	**£36.44**
50	0.3	13	48	14020479	**£29.42**
50	0.35	13	48	14020480	**£31.18**
50	0.4	13	48	14020481	**£31.18**
50	0.5	13	48	14020482	**£32.12**
50	0.6	13	48	14020483	**£32.12**
50	0.7	13	40	14020484	**£33.71**
50	0.8	13	40	14020485	**£36.44**
50	0.9	13	40	14020486	**£37.56**
50	1	13	40	14020487	**£38.69**
50	1.1	13	40	14020488	**£39.76**
50	1.2	13	40	14020489	**£43.21**
50	1.3	13	32	14020490	**£48.27**
50	1.4	13	32	14020491	**£49.29**
50	1.5	13	32	14020492	**£51.77**
50	1.6	13	32	14020493	**£52.81**
50	1.7	13	32	14020494	**£53.58**
50	1.8	13	32	14020495	**£56.96**
50	1.9	13	32	14020496	**£56.96**
50	2	13	32	14020497	**£58.65**
50	2.5	13	32	14020498	**£67.59**
50	3	13	24	14020499	**£78.38**
50	3.5	13	24	14020500	**£94.22**
50	4	13	24	14020501	**£100.02**
50	4.5	13	24	14020502	**£116.14**
50	5	13	24	14020503	**£121.95**
50	5.5	13	20	14020504	**£135.57**
50	6	13	20	14020505	**£141.39**
63	0.3	16	64	14020506	**£50.96**
63	0.35	16	64	14020507	**£48.21**
63	0.4	16	64	14020508	**£43.65**
63	0.5	16	64	14020509	**£42.71**
63	0.6	16	48	14020510	**£43.65**
63	0.7	16	48	14020511	**£49.17**
63	0.8	16	48	14020512	**£53.96**
63	0.9	16	48	14020513	**£54.65**
63	1	16	48	14020514	**£55.80**
63	1.1	16	40	14020515	**£57.85**
63	1.2	16	40	14020516	**£59.89**
63	1.3	16	40	14020517	**£61.26**
63	1.4	16	40	14020518	**£62.25**
63	1.5	16	40	14020519	**£66.85**
63	1.6	16	40	14020520	**£66.34**
63	1.7	16	40	14020521	**£69.79**
63	1.8	16	40	14020522	**£70.90**
63	1.9	16	40	14020523	**£73.91**
63	2	16	40	14020524	**£76.38**
63	2.5	16	32	14020525	**£91.51**
63	3	16	32	14020526	**£97.72**
63	3.5	16	32	14020527	**£118.65**
63	4	16	32	14020528	**£129.61**
63	4.5	16	32	14020529	**£148.17**
63	5	16	24	14020530	**£154.81**
63	5.5	16	24	14020531	**£173.34**
63	6	16	24	14020532	**£179.84**
80	0.3	22	64	14020533	**£101.04**
80	0.35	22	64	14020534	**£98.59**
80	0.4	22	64	14020535	**£94.44**
80	0.5	22	64	14020536	**£67.55**
80	0.6	22	64	14020537	**£69.41**
80	0.7	22	64	14020538	**£70.78**
80	0.8	22	64	14020539	**£70.78**
80	0.9	22	48	14020540	**£73.63**
80	1	22	48	14020541	**£73.63**
80	1.1	22	48	14020542	**£75.57**
80	1.2	22	48	14020543	**£78.82**
80	1.3	22	48	14020544	**£82.03**
80	1.4	22	48	14020545	**£85.03**
80	1.5	22	48	14020546	**£86.99**
80	1.6	22	48	14020547	**£89.21**
80	1.7	22	40	14020548	**£101.98**
80	1.8	22	40	14020549	**£103.14**
80	1.9	22	40	14020550	**£105.19**
80	2	22	40	14020551	**£108.61**
80	2.5	22	40	14020552	**£128.16**
80	3	22	40	14020553	**£144.84**
80	3.5	22	32	14020554	**£169.42**
80	4	22	32	14020555	**£183.57**
80	5	22	32	14020557	**£222.77**
80	5.5	22	32	14020558	**£246.87**
80	6	22	32	14020559	**£253.29**
100	0.5	22	80	14020560	**£131.38**
100	0.6	22	80	14020561	**£116.53**
100	0.7	22	80	14020562	**£112.06**
100	0.8	22	64	14020563	**£104.56**
100	0.9	22	64	14020564	**£102.63**
100	1	22	64	14020565	**£100.41**
100	1.1	22	64	14020566	**£105.19**
100	1.2	22	64	14020567	**£110.71**
100	1.3	22	48	14020568	**£117.59**
100	1.4	22	48	14020569	**£122.39**
100	1.5	22	48	14020570	**£125.86**
100	1.6	22	48	14020571	**£132.71**
100	1.7	22	48	14020572	**£139.60**
100	1.8	22	48	14020573	**£139.60**
100	1.9	22	48	14020574	**£151.98**
100	2	22	48	14020575	**£155.40**
100	2.5	22	48	14020576	**£182.94**
100	3	22	40	14020577	**£204.94**
100	3.5	22	40	14020578	**£232.43**
100	4	22	40	14020579	**£255.14**
100	4.5	22	40	14020580	**£297.76**
100	5	22	40	14020581	**£308.09**
100	5.5	22	32	14020582	**£351.42**
100	6	22	32	14020583	**£361.74**
125	0.6	22	80	14020584	**£193.12**
125	0.7	22	80	14020585	**£179.09**
125	0.8	22	80	14020586	**£172.47**
125	0.9	22	80	14020587	**£174.58**
125	1	22	80	14020588	**£162.15**
125	1.1	22	64	14020589	**£167.67**
125	1.2	22	64	14020590	**£177.95**
125	1.3	22	64	14020591	**£195.16**
125	1.4	22	64	14020592	**£195.16**
125	1.5	22	64	14020593	**£203.45**
125	1.6	22	64	14020594	**£210.31**
125	1.7	22	64	14020595	**£214.83**
125	1.8	22	64	14020596	**£214.83**
125	1.9	22	64	14020597	**£231.07**
125	2	22	64	14020598	**£231.07**
125	2.5	22	48	14020599	**£271.99**
125	3	22	48	14020600	**£320.70**
125	3.5	22	48	14020601	**£389.08**
125	4	22	48	14020602	**£442.70**
125	4.5	22	40	14020603	**£495.70**
125	5	22	40	14020604	**£511.52**
125	5.5	22	40	14020605	**£607.74**
125	6	22	40	14020606	**£624.99**
150	1	32	80	14020607	**£272.54**
150	1.2	32	80	14020608	**£279.22**
150	1.5	32	80	14020609	**£285.91**
150	1.6	32	80	14020610	**£292.61**
150	2	32	64	14020611	**£376.95**
150	2.5	32	64	14020612	**£423.74**
150	3	32	64	14020613	**£470.55**
150	4	32	48	14020614	**£604.37**
160	1	32	80	14020615	**£332.43**
160	1.2	32	80	14020616	**£325.52**
160	1.5	32	80	14020617	**£339.27**
160	1.6	32	80	14020618	**£346.17**
160	2	32	64	14020619	**£445.19**
160	2.5	32	64	14020620	**£507.09**
160	3	32	64	14020621	**£545.59**
160	4	32	48	14020622	**£713.37**
200	1.5	32	80	14020623	**£647.44**
200	1.6	32	80	14020624	**£658.42**
200	2	32	80	14020625	**£778.06**
200	2.5	32	80	14020626	**£899.12**
200	3	32	64	14020627	**£1,018.73**
200	4	32	64	14020628	**£1,270.47**

HACKSAW BLADES

- For universal sawing tasks including on rustproof sheet steel.
- Elastic blade body made from tool steel
- Long service life and excellent heat resistance



ATORN®

Blade Length mm	Number of Teeth Per Inch	Order Code	Price
300	18	51648590	
300	24	51648600	**£1.05**
300	32	51648610	

BI-METAL UNIQUE HACKSAWS BLADES

- Massive increase in tooth strength
- Stronger than traditional bi-metal blades
- Excellent for interrupted cuts in cramped places



Starrett®

Blade Length mm	Number of Teeth Per Inch	Order Code	Price	Order Code	Price
300	18	STAR-KBS1218-2	**£1.97**	STAR-KBS1218-10	
	24	STAR-KBS1224-2	**£1.97**	STAR-KBS1224-10	**£9.85**
	32	STAR-KBS1232-2	**£1.97**	STAR-KBS1232-10	

BOW SAW BLADE

- For cutting hard and toughened steels that are difficult to machine
- Flexible, side-set blade, sharp milled teeth
- Fully hardened HSS



ATORN®

Blade Length mm	Number of Teeth Per Inch	Order Code	Price
300	24	51648630	**£1.15**

DOUBLE SIDED BOW SAW BLADE

- Universal use in industry and workshops
- Toothed on both sides
- SS high-speed steel, fully hardened



ATORN®

Blade Length mm	Number of Teeth Per Inch	Order Code	Price
300	24	51648640	**£2.45**

ALUMINIUM BOW SAW FRAME

- Die-cast aluminium
- Weighs only 650g
- Captive pins hold the blade



ATORN®

Suitable for Sawblade Length mm	Order Code	Price
300	51849020	**£17.07**

METAL BOW SAW FRAME

- Bracket made from strong square tubing
- Aluminium grip, blue, powder-coated



ATORN®

Suitable for Sawblade Length mm	Order Code	Price
300	51848020	**£13.71**

CLOSED GRIP HEAVY DUTY HACKSAW FRAME WITH BLADE

- Handle is covered by rubber overmould for comfortable grip
- Six turns of the tensioning handle will tension the blade to the recommended point
- Easy to use with efficient adjustment lever



Starrett®

Sawblade Length mm	Order Code	Price
300	STAR-K145	**£27.59**

CLOSED GRIP HACKSAW FRAME WITH BLADE

- Closed grip hacksaw frame with 300mm Bi-Metal hacksaw blade
- The blades can be tensioned by a single wing nut in the front of frame



Starrett®

Sawblade Length mm	Order Code	Price
300	STAR-140G	**£10.99**

STRAIGHT TIPPED SCRIBER WITH PLASTIC HANDLE

- One-sided, straight, chrome-plated
- Inlaid cemented carbide tip
- Plastic handle



ORION®

Overall Length mm	Shaft Diameter mm	Order Code	Price
175	9	51310020	**£9.75**

SCRIBER WITH STRAIGHT TIP

- CrV steel, hardened and bronzed
- One-piece construction
- With straight tip
- Knurled handle



ORION®

Overall Length mm	Shaft Diameter mm	Order Code	Price
180	9	51310010	**£3.74**

SCRAPER CRV STEEL

- CrV steel, hardened and bronzed
- One-piece construction
- With straight and 90° bent tip
- Knurled handle



ORION®

Overall Length mm	Shaft Diameter mm	Order Code	Price
160	5	51315500	**£5.09**

SCRIBER WITH EXCHANGEABLE TIPS

- Tips made from CrV steel, hardened and bronzed, screwed
- With straight and 90° bent tip
- Knurled and zinc-plated steel handle, length 110mm



ORION®

Overall Length mm	Shaft Diameter mm	Order Code	Price
250	8	51320010	**£5.09**

CARBIDE SCRIBER WITH PLASTIC HOUSING

- HM needle regrindable
- Shatterproof plastic housing
- Non-slip grip zone
- Retractable pencil system



ATORN®

Overall Length mm	Shaft Diameter mm	Order Code	Price
150	2	51330500	**£14.22**

CARBIDE SCRIBER WITH NICKEL HOUSING

- HM needle regrindable
- Nickel-plated metal housing with attachment clip
- Knurled handle
- Retractable pencil system



ATORN®

Overall Length mm	Diameter of Needle mm	Order Code	Price
146	2	51331500	**£11.75**

Abrasives & Deburring



Karnasch ORION® ATORN® NORTON DICK PFERD 3M SHAVIV KLINGSPOR

Wide Range of Abrasives & Deburring Products

Includes high quality carbide rotary burrs from Karnasch, Shaviv deburring tools, ATA abrasives such as flap discs, hand pads, shop rolls & more.



Hand Deburring 1512
Handheld deburring tools from market leader Shaviv

Files 1522
High quality hand files, handles & sets



Carbide Burrs 1530
High quality solid carbide rotary burrs & sets from Karnasch & ATA Garryson



Mounted Points 1536
For fast cutting, grinding & finishing applications



Abrasive Caps 1540
A seamless design where the entire tool surface can be used



Spiral Bands 1541
For finishing hard-to-reach areas & removing burrs on all surfaces



Cutting Discs & Grinding Discs 1542
Used on angle grinders for cutting & grinding a wide range of materials



Quick Change Grinding Discs 1546
For material removal & blending where access is a problem, or where the worked area needs to be kept to a minimum



Fibre Discs 1548
Ideal for general purpose applications ranging from heavy stock removal to surface blending



Flap Discs 1550
ATA Garryson flap discs for weld preparation, weld seam removal, surface blending & edge grinding



Flexi Flap Discs 1552
For blending & finishing on large & convex surfaces



Cleaning Discs 1554
Cleans various surface types, ideal for removing paint, rust & surface imperfections



Velcro Backed Discs 1555
Available in a range of grits & are used for various sanding applications



Precision Grinding Wheels 1556
Covers all grinding applications that require specific dimensions & high tolerances



Power Brushes 1557
For removing rust, scale, & oxidation, as well as for weld removal



Flap Wheels 1561
ATA Garryson flap wheels are ideal for shock removal, deburring, cleaning, blending & finishing



Abrasive Cloth & Hand Pads 1564
For the removal of surface imperfections, finishing & polishing



Abrasive Belts 1568
Available in various sizes & grits, suitable for heavy stock removal & finishing applications



Bench Stores 1570
For sharpening & re-machining tools for wood, metal & plastic processing



Grinding Files & Stones 1571
For all grinding, deburring & precision grinding work



Dressing Tools 1574
For removing worn abrasive particles, revealing new sharp edges & creating a uniform surface on various grinding wheels

SHAVIV

DEBURRING TOOLS FOR A WIDE RANGE OF APPLICATIONS.

Smooth out imperfections effortlessly with Shaviv. Their cutting edge deburring solutions ensure flawless finishes, increased efficiency, and unmatched precision.



Elevate your manufacturing standards today!
Includes blades, holders, handles & kits.

MANGO IIB EXTRA CLOSE DEBURRING SETS

- For multi-purpose B blades
- All Shaviv blades are interchangeable with Noga handles and holders

Mango IIB +1 Blade



Mango IIB +2 Blades



Mango IIB +4 Blades



Mango IIB +10 Blades



SHAVIV

Set Name	Holder	Blades	Order Code	Price
Mango IIB + 1	Mango IIB	B10	155-90058	**£7.44**
Mango IIB + 2		B10, B20	155-90060	**£8.61**
Mango IIB + 4		B10, B11, B20, B25	155-90061	**£11.36**
Mango IIB + 10		B10x10	155-00177	**£10.14**

MANGO IIE EXTRA CLOSE DEBURRING SETS

- For heavy-duty E blades
- All Shaviv blades are interchangeable with Noga handles and holders

Mango IIE +1 Blade



Mango IIE +3 Blades



Mango IIE +5 Blades



Mango IIE +10 Blades



SHAVIV

Set Name	Holder	Blades	Order Code	Price
Mango IIE + 1	Mango IIE	E100	155-90066	**£7.29**
Mango IIE + 3		E100, E200, E300	155-90068	**£10.11**
Mango IIE + 5		E100, E111, E120, E200, E300	155-00162	**£12.72**
Mango IIE + 10		E100x10	155-00178	**£12.58**

MANGO CLICK & GO SETS

- Works with heavy duty E blades, just Click n' Go!
- Easy-to-use, comfortable and durable
- Best suited for larger sized hands
- All Shaviv blades are interchangeable with Noga handles and holders



SHAVIV

Set Name	Holder	Blades	Order Code	Price
Mango Click + 12 E100	Mango Click E	E100x12	155-29229	**£17.60**
Mango Click Set E5		E100, E111, E120, E200, E300	155-00161	**£12.54**
Mango Click Set E3		E100, E200, E300	155-90076	**£13.85**



MANGO II SET B

- Popular set for holes, slots & edges
- B holder supports all B blades which can be inserted axially or perpendicular to the holder
- All Shaviv blades are interchangeable with Noga handles and holders

Hole Edge · Cross-Hole Both Edges · Straight Edge



B20





B10 B

SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	B	B10, B20	155-90056	**£11.66**

MANGO II SET E

- Rugged deburring set for heavy duty deburring of holes, slots & edges
- E holder supports all E blades
- All Shaviv blades are interchangeable with Noga handles and holders

Hole Edge · Straight Edge · Cross-Hole Both Edges



E200



E300





E100 E

SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	E	E100, E200, E300	155-90065	**£13.45**

MANGO II SET D

- Perfect for sheet metal up to 0.12" thick (3mm)
- Blade deburrs both sides of sheet in one pass
- Blade also functions as a surface cleaner
- All Shaviv blades are interchangeable with Noga handles and holders

Flat Surface · Sheets

For added safety, use with Handguard,
Ordering No.: 152-00030





D80C D

SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	D	D80C	155-90064	**£17.99**

MANGO II SET C

- Triangular blade with 3 cutting edges for high quality finishing & scraping
- The telescopic blade holder lets you get to difficult-to-reach areas
- Includes key for safely removing blades edges
- All Shaviv blades are interchangeable with Noga handles and holders

Straight Edge · Hole Inner Surface · Hole Edge · Flat Surface





C42 C

SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	C	C42	155-90062	**£27.11**

MANGO II SET FR

- Features FR ratchet holder, ideal for rotational chamfering, even when workspace is limited
- Inside diameter (ID) up to 0.79" (20mm)
- All Shaviv blades are interchangeable with Noga handles and holders

Hole Edge





F20 FR

SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	FR	F20	155-90072	**£44.29**

MANGO II SET F

- Powerful tool, excellent for chamfering and countersinking
- Use for hole edge applications with up to 0.79" (20mm) diameter
- All Shaviv blades are interchangeable with Noga handles and holders

Hole Edge





F20 F

SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	F	F20	155-90071	**£33.50**

MANGO II SET M

- Deburrs holes, slots & edges
- Holder M supports both B & E blades
- All Shaviv blades are interchangeable with Noga handles and holders





Cross-Hole Both Edges · Hole Edge · Straight Edge

SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	M	B10, B20, B30, E100, E111, E200	155-00199	**£16.43**

MANGO II SET U

- Precision scraper, ideal for die makers
- Contains 3 mini-scraper blades and
- Specially designed extra precision holder for linear movement work
- All Shaviv blades are interchangeable with Noga handles and holders

Flat Surface · Hole Inner Surface





SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	U	U1 (BUS1), U31 (BUS31), U4 (BUS4)	155-00221	**£41.06**

MANGO II SET L

- External curved edge cleaner
- Tool set for the deburring of external curved edges, like pipes, tubes and varnishes
- All Shaviv blades are interchangeable with Noga handles and holders

Straight Edge · Outer Edge





SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	L	L10	155-00220	**£31.84**

MANGO II SET G

- Precision scraper, ideal for die makers
- Contains 3 mini-scraper blades and
- Specially designed extra precision holder for linear movement work
- All Shaviv blades are interchangeable with Noga handles and holders

Slot/ Keyways





SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	G	G10	155-90074	**£18.61**

MANGO II SET FR

- Ratchet burr for outer diameter
- Features FR ratchet holder, ideal for rotational chamfering, even when workspace is limited
- For: outer diameter (OD) chamfering up to 1” (26mm)
- All Shaviv blades are interchangeable with Noga handles and holders

Outer Edge





SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	FR	F26X	155-90073	**£54.78**

MANGO II SET BURR-BI

- For heavy duty deburring of materials with single or double straight edges up to 0.56” (14mm) thick
- Holder can take two R10, R20 or R30 blades for arc-shaped finishes on workpieces up to 0.63” (16mm) thick
- Handguard attached for worker safety
- All Shaviv blades are interchangeable with Noga handles and holders

Sheets · Straight Edge







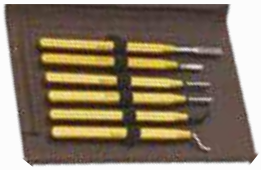
SHAVIV

Handle	Holder	Blades	Order Code	Price
Mango II	BR	R10x2	155-00206	**£25.73**

TOOL & DIE MAKERS KIT

Professional, miniature deburring & scraping tools for providing a quality finish to molds & dies

Contains:
- UF1 - Flat diamond coated file
- US1 - Triangular scraper
- US2 - Flat scraper
- US3 - Round scraper
- US4 - Hooked corner scraper
- UB38 - Miniature rotational deburring tool for 2mm min hole diameter 0.08”



Flat Surface
Hole Back Edges
Hole Edge
Straight Edge

SHAVIV

Order Code	Price
154-29079	**£70.28**

TOP 3 MANGO II STARTER KIT

The all-in-one deburring kit for your workshop. Includes an ergonomic Mango II handle with the three most popular types of blades and holders for different deburring applications

Contains:
- Mango II handle
- Holders - B, C, & E
- Blades - B10, B20, B30, B50, B60, C40, E100, & E300
- UB38 - Miniature rotational deburring tool for 2mm min hole diameter



Hole Edge
Hole Inner Surface
Straight Edge
Flat Surface
Cross-Hole Both Edges
Hole Back Edge

SHAVIV

Order Code	Price
154-90085	**£60.01**

CLASSIC KPC2 KIT

The most popular sets, provided in one handy kit

Contains:
- Set B: The Workhorse
- Set C: The Scraper
- Set D: The Sheet Cleaner
- Set E: The Heavy Deburr Set
- Set F: The Countersink
- Each set is supplied with the Classic Handle A



Cross-Hole Both Edges
Straight Edge
Hole Inner Surface
Hole Edge
Hole Back Edge
Sheets

SHAVIV

Order Code	Price
154-29060	**£102.11**

KPA PLASTICS DEFLASH KIT

The perfect, complete Mango II kit for deflashing plastic

Contains:
- Mango II Handle
- UB38 deburring tool
- Holders - B, E, G3 & LP
- Blades - B12, B25, E110, E700, G30C & L10



Cross-Hole Both Edges
Straight Edge
Hole Inner Surface
Hole Edge
Hole Back Edge
Inner Straight Corners

SHAVIV

Order Code	Price
154-00037	**£96.50**

SHEET CLEANER KIT

Universal kit perfect for a wide variety of deburring applications including deburring sheets made of practically any material: metal, plastic, acrylic, etc. Removes ragged edges from one side at a time or both sides at once.

Contains:
- Mango II Handle
- Holders – B, BR, D, D5 & E
- Blades – B10, B20, B30, B70, E100, E200, E300, D80C, D82C, D85, 2xR10 & 2xR30
- Handguard



Sheets
Straight Edge
Cross-Hole Both Edges
Hole Edge
Flat Surface

SHAVIV

Order Code	Price
154-00038	**£111.36**

TOOL & DIE INTERCHANGEABLE KIT

Replaceable blades now available for Shaviv’s professional line of miniature deburring and scraping tools for the mold & die industry.

Contains:
- Aluminium Handle
- BUS1 - Triangular Scraper
- BUS2 - Flat Scraper
- BUS3 - Round Scraper
- BUS4 - Hooked Corner Scraper
- Shaviv UF1 Mini File - Diamond Coated
- Scrape-Burr 400 for extra fine finishing
- Non-rotating U Holder
- Scraper blades



Hole Back Edge
Straight Edge
Flat Surface
Hole Edge

SHAVIV

Order Code	Price
154-00046	**£99.77**

AEROBURR SETS

PREMIUM KIT

- Deburring sets for aerospace, electronic and medical industries
- Customised for the unique applications required by the aerospace industry. Also excellent for electronic and medical applications
- Designed to deburr curves and small holes as small as 1/16" (1.5mm)
- Blades are TiN (Titanium Nitride) coated for deburring various materials such as steel, aluminium, copper, stainless steel, and plastic
- All Shaviv blades are interchangeable with Noga handles and holders



Standard Duty Applications
Set B11P



Heavy Duty Applications
Set E111P



SHAVIV

Set Name	Holder	Blades	Order Code	Price
Set B11P	Mango II	B11Px5	155-00231	**£19.15**
Set E111P	Mango II	E111Px5	155-00232	**£19.77**

EXOTIC SETS

- Deburring sets for exotic materials
- Customised for the unique applications required by the aerospace, oil and gas industries
- Aluminium handle
- Blades are TiN (Titanium Nitride) coated
- Contains B and E type blades
- All Shaviv blades are interchangeable with Noga handles and holders



SHAVIV

Holder	Blades	Order Code	Price
Aluminium	**B Blades:** B10P, B11P, B20P, B30P **E Blades:** E100P, E111P, E200P, E300P	154-00045	**£34.76**

GOLDENFLEX SETS

The perfect, complete Mango II kit for deflashing plastic

Contains:

- Aluminium handle
- Blade holder B or E
- 5 different pairs of TiN coated multi-purpose B blades or heavy duty E blades
- All Shaviv blades are interchangeable with Noga handles and holders



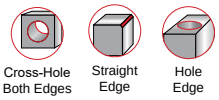
SHAVIV

Set Name	Blades	Order Code	Price
Golden Flex B	B10Px2, B11Px2, B12Px2, B20Px2, B30Px2	155-00258	**£44.74**
Golden Flex E	E110Px2, E111Px2, E200Px2, E300Px2	155-00259	

SHAVIV SET B & E

CLASSIC KIT

- Popular set for holes, slots & edges
- B holder supports all B blades which can be inserted axially or perpendicular to the holder
- E holder supports all E blades
- All Shaviv blades are interchangeable with Noga handles and holders





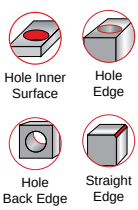
SHAVIV

Set Name	Handle	Holder	Blades	Order Code	Price
Shaviv Set B	Classic Handle A	B	B10, B20	155-29065	**£13.78**
Shaviv Set E	Classic Handle A	E	E100, E200 & E300	155-29069	**£15.59**

SHAVIV SET HC HANDY PIN CHUCK

CLASSIC KIT

- Pin vise versatility for finish & scraping applications
- Grips miniature files, drills, reamers, taps, wires, countersinks and other small objects - 0.03" - 0.32" (1-8mm) in diameter
- All Shaviv blades are interchangeable with Noga handles and holders





SHAVIV

Handle	Blades	Order Code	Price
Handy Chuck Pin Vise	C50	155-00163	**£40.11**

DEBURRING BLADES
COMPATIBLE WITH SHAVIV & NOGA DEBURRING HANDLES

SHAVIV

Popular blades highlighted in yellow

Blade Name	Description	Blade (Work Direction Shown)	APPLICATIONS										MATERIALS									Order Code	Price
			Straight Edge	Hole Edge	Outer Edge	Cross-Hole Both Edges	Hole Back-Edge	Hole Inner Surface	Flat Surface	Sheet	Slot/Keyway	Inner Straight Corners	Steel	Aluminium	Copper	Brass	Cast Iron	Stainless Steel	Hardened Steel	Plastics	Carbide & Glass		
B1	Tough, long-life cobalt blade. N1 geometry.		●	●									●	●	●			●		●		151-29215	£1.29
B10	HSS. Deburrs materials with spiral chips. Bulk pack available.		●	●									●	●	●					●		151-29212	£1.09
B10C	Solid carbide. B10 geometry.		●	●									●	●	●				●	●		151-29013	£6.28
B10L	B10 for left-handed users.		●	●									●	●	●					●		151-29095	£1.61
B10P	PVD TiN coated for high wear resistance. B10 geometry.		●	●									●	●	●			●		●		151-29015	£2.50
B10PL	B10 coated with PVD TiN. For left-handed users.		●	●									●	●	●			●		●		151-29096	£3.61
B10S	Long-lasting, cobalt-enriched. B10 geometry.		●	●									●	●	●			●		●		151-29210	£1.29
B11	Extra thin, HSS. Deburrs holes with min. diameter 0.08" (2mm).		●	●									●	●	●					●		151-29108	£1.29
B11P	PVD TiN coated for high wear resistance. B11 geometry.		●	●									●	●	●			●		●		151-00120	£2.55
B12	Short-nosed, HSS.		●	●									●	●	●					●		151-29016	£1.25
B12P	Short-nosed, PVD TiN coated for high wear resistance.		●	●									●	●	●			●		●		151-19017	£2.58
B20	HSS. Rotates clockwise & counterclockwise.		●	●												●	●			●		151-19019	£1.00
B20C	Solid carbide. Rotates clockwise & counterclockwise.		●	●												●	●	●		●		151-19020	£6.79
B20P	PVD TiN coated for high wear resistance. Rotates clockwise & counterclockwise.		●	●												●	●	●		●		151-29021	£2.47
B25	Thin-nosed. Specially designed for plastics.		●	●									●	●	●					●		151-29022	£3.75
B25C	Solid carbide, thin-nosed. Specially designed for abrasive plastics.		●	●									●	●	●					●		151-29110	£7.54
B30	Simultaneously deburrs the inside and outside of holes up to 0.16" (4mm) thick.					●							●	●	●					●		151-29023	£1.34
B30P	PVD TiN coated for high wear resistance. B30 geometry.					●							●	●				●		●		151-29024	£2.57
B32	Rotates clockwise & counterclockwise. B30 geometry.					●										●	●			●		151-29025	£1.64
B50C	Carbide tipped scriber. Can be reground.								●				●	●	●	●	●	●	●	●		151-29026	£7.18
B60	HSS. Removes burrs from back edge of holes up to 0.78" (20mm) thick.						●						●	●	●					●		151-29027	£4.63
B70	Carbide tipped. Deburrs sheet metal up to 0.14" (3.5mm) thick.									●			●	●	●	●	●	●	●	●		151-29028	£9.28
C40	Small, 0.16" (4mm), triangular HSS scraper for precision work.						●	●	●				●	●	●	●	●	●		●		151-29029	£5.41
C42	Standard size, 0.31" (8mm), triangular HSS scraper.						●	●	●				●	●	●	●	●	●		●		151-29030	£9.94
C50	Double-sided, 0.30" (7.8mm), triangular scraper.						●	●	●				●	●	●	●	●	●		●		151-29117	£18.92
D80C	Solid carbide, 6 cutting edges. Scrapes surfaces and deburrs sheet metal up to 0.12" (3mm) thick.								●	●			●	●	●	●	●	●	●	●		151-29031	£8.50
D82C	Heavy-duty, double-edged carbide blade. Deburrs sheet metal up to 0.35" (9mm) thick.									●			●	●	●	●	●	●	●	●		151-29032	£12.11
D85	Tough HSS with chipbreaker and 6 cutting edges. Deburrs sheet metal up to 0.24" (6mm) thick.									●			●	●	●	●				●		151-29033	£15.39

Blade Name	Description	Blade (Work Direction Shown)	APPLICATIONS										MATERIALS									Order Code	Price
			Straight Edge	Hole Edge	Outer Edge	Cross-Hole Both Edges	Hole Back-Edge	Hole Inner Surface	Flat Surface	Sheet	Slot/Keyway	Inner Straight Corners	Steel	Aluminium	Copper	Brass	Cast Iron	Stainless Ssteel	Hardened Steel	Plastics	Carbide & Glass		
E100	Heavy-duty HSS. Deburrs materials with spiral chips.		●	●									●	●	●					●		151-29034	**£1.45**
E100C	Wear resistant carbide. E100 geometry.		●	●															●	●		151-29035	**£6.40**
E100D	Diamond-coated. E100 geometry.		●	●																	●	151-29036	**£14.42**
E100L	E100 for left-handed users.		●	●									●	●	●					●		151-29098	**£2.19**
E100P	PVD TiN coated for high wear resistance. E100 geometry.		●	●									●	●				●		●		151-29037	**£2.75**
E100PL	Coated for left-handed users.		●	●									●	●				●		●		151-00022	**£2.97**
E100S	Long-lasting, cobalt-enriched. E100 geometry.		●	●									●	●	●			●		●		151-29211	**£1.81**
E110	E shaft, B10 cutting edge for materials with spiral chips. Deburrs holes with min. diameter 0.08" (2mm).		●	●									●	●	●			●		●		151-29038	**£1.91**
E110P	PVD TiN coated for high wear resistance. E110 geometry.		●	●									●	●				●		●		151-29039	**£2.55**
E111	Thin-nosed, HSS. Deburrs holes with min. diameter 0.06" (1.5mm).		●	●									●	●	●					●		151-29109	**£1.91**
E111P	PVD TiN coated for high wear resistance. E111 geometry.		●	●									●	●	●					●		151-00099	**£2.68**
E120	E shaft, B20 cutting edge for materials with powdery chips. Rotates clockwise & counterclockwise.		●	●												●	●			●		151-29058	**£1.91**
E200	HSS for materials with powdery chips. Rotates clockwise & counterclockwise.		●	●												●	●			●		151-29040	**£1.60**
E200P	PVD TiN coated for high wear resistance. E200 geometry.		●	●												●	●			●		151-29099	**£3.15**
E200S	Long lasting, cobalt enriched. E200 geometry.		●	●												●	●			●		151-00107	**£1.72**
E250	Specially designed for plastics. Very thin, heavy duty.		●	●									●	●	●					●		151-29106	**£2.47**
E300	HSS for materials with spiral chips. Simultaneously deburrs the inside and outside of holes up to 0.24" (6mm) thick.					●							●	●	●							151-29042	**£1.75**
E300P	PVD TiN coated for high wear resistance. E300 geometry.					●							●	●	●			●		●		151-29227	**£3.54**
E320	HSS for materials with powdery chips. Simultaneously deburrs the inside and outside of holes up to 0.24" (6 mm) thick. Rotates clockwise & counterclockwise.					●										●	●			●		151-29043	**£2.35**
E350	HSS for materials with powdery chips. Rotates clockwise & counterclockwise.		●													●	●			●		151-29044	**£2.13**
E400	Mini triangular scraper.		●				●	●	●				●	●	●	●	●	●		●		151-29233	**£6.70**
E600	HSS. Removes burrs from back-edges of holes up to 0.78" (20mm) thick.						●						●	●	●					●		151-29045	**£4.64**
E601	Extra-long HSS. Removes burrs from back-edges of holes up to 1.57" (40mm) thick.						●						●	●	●					●		151-29046	**£4.64**
E604	Cross-hole, back-edge with short nose.						●						●	●	●					●		151-29231	**£6.56**
E700	HSS for materials with spiral chips. Excellent for deburring & scraping inside thick-walled holes and cross-holes.						●	●					●	●	●					●		151-29047	**£3.63**
E707	Contour cleaner.		●	●									●	●	●	●	●	●	●	●		151-29232	**£4.64**
E720	HSS for materials with powdery chips. Excellent for deburring & scraping inside thick-walled holes and cross-holes. Rotates clockwise & counterclockwise.						●	●								●	●			●		151-29048	**£3.61**
F12	Countersink for hole-edges with up to 0.47" (12mm) diameter.			●									●	●	●	●	●	●		●		151-29049	**£14.95**
F20	Countersink for hole-edges with up to 0.78" (20mm) diameter.			●									●	●	●	●	●	●		●		151-29050	**£16.28**
F26X	Excellent for external chamfering of pipes, tubes and other items with up to 1.02" (26mm) diameter.				●								●	●	●	●	●	●		●		151-29147	**£22.81**

DEBURRING BLADE HOLDERS
COMPATIBLE WITH SHAVIV & NOGA DEBURRING HANDLES

SHAVIV

Blade Name	Holder	Order Code	Price
Blade Holder E For all E blades		153-29004	£6.59
Blade Holder B Holds all B blades Use axially or perpendicular to holder		153-29000	£6.35
Blade Holder M Holds all M blades For both B or E series blades		153-29138	£12.92
Blade Holder C For C40 & C42 blades		153-29001	£6.12
Blade Holder D For D80C & D82C blades		153-29002	£11.07
Blade Holder D5 For D85 blades		153-29003	£12.83
Blade Holder F For all F blades		153-29005	£5.71
BURR-BI (BR) Holder Holds all R blades		153-29139	£15.48

Blade Name	Holder	Order Code	Price
Blade Holder FR Ratchet holder for all F blades		153-29006	£13.46
Blade Holder U For all BUS blades		153-29121	£8.53
Blade Holder L For the L10 blade		153-29010	£13.07
Blade Holder G Holds G10, G20 & G40C blades		153-29007	£6.68
Blade Holder G4 Angled to offer easy access to work area Holds G10, G20 & G40C blades		153-29102	£8.20
Blade Holder G3 Angled to offer easy access to work area Holds G30C blades		153-29094	£8.20
Handguard Stainless steel handguard to protect your hand		152-00030	£12.48

CERAMIC BLADE DEBURRING FOR PLASTICS & SOFT METALS

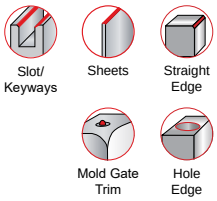
SHAVIV Leading Deburring Solutions





CERA-BURR SETS

- Ceramic tools for deflashing plastics and deburring soft metals
- New curved blades to reach arched and angled areas
- The ideal tools to remove unwanted mold gate trim on plastic work pieces





CERA-BURR



CERA-BURR CURVE Q11

SHAVIV

Set Name	Handle	Blades	Order Code	Price
Cera-Burr	Glo-Burr	Permanent	155-90084	**£21.96**
Cera-Burr Curve Q11			155-00239	**£20.39**

CERA-MIX SET Q10

- Heavy-duty handle with ceramic Q10 blade
- Adjust the cutting angle between the blade and the material for best results and to prevent scratches







Free utility blade provided with set

Flip blade for 2 types of jobs:



Side 1: Surface cleaner



Side 2: Sheet edge cleaner

SHAVIV

Handle	Blades	Order Code	Price
Ceramic	Q10	155-29238	**£21.59**

CERA-MIX BLADES

- Ceramic Q10/11 blades

Blade Q10

Side 2

Cleans up to 6mm (0.236") sheets

Cleans up to 4mm (0.157") sheets

Side 1

Surface cleaner



Blade Q11

Side 2

Cleans up to 6mm (0.236") sheets

Cleans up to 4mm (0.157") sheets

Side 1

Cleans curved edges & small ridges



SHAVIV

Blades	Order Code	Price
Blade Ceramix Q10	151-29236	**£16.01**
Ceramix Curved Blade Q11	151-00132	

CERA-MIX CURVED SET Q12

- Heavy-duty handle with ceramic Q11 blade
- Adjust the cutting angle between the blade and the material for best results and to prevent scratches







Free utility blade provided with set

Flip blade for 2 types of jobs:



Side 1: Curved edge cleaner



Side 2: Sheet edge cleaner

SHAVIV

Handle	Blades	Order Code	Price
Ceramic	Q11	155-00238	**£21.56**

5 PIECE FILE & RASP SET WITH BEECH HANDLE IN TEXTILE TOOL ROLL (A)

Application:
- For general and rough filing and rasping work on steel, iron and non-ferrous metal in industry, skilled trades and hobby use

Set Contains:
- 1x flat blunt-ended, half-round, round, triangular & square flat hand engineer's file with beech handle, in robust textile tool roll

Specification data:
- File blade length: 200mm
- File cut: 2



DICK

Handle	Order Code	Price
Beech	51508002	**£40.33**

5 PIECE FILE & RASP SET WITH PLASTIC HANDLE IN PLASTIC POUCH (B)

Application:
- For general and rough filing and rasping work on steel, iron and non-ferrous metal in industry, skilled trades and hobby use

Set Contains:
- 1x flat blunt-ended, half-round, triangular, round flat hand engineer's file, half-round rasp, with plastic handle, in plastic pouch

Specification data:
- File blade length: 200mm
- File cut: 2



DICK

Handle	Order Code	Price
Plastic	51508005	**£35.59**

3 PIECE FILE SET WITH PLASTIC HANDLE IN PLASTIC POUCH (C)

Application:
- For general and rough filing and rasping work on steel, iron and non-ferrous metal in industry, skilled trades and hobby use

Set Contains:
- 1x flat blunt-ended, half-round and round flat hand engineer's file, with plastic handle, in a plastic pouch

Technical data:
- File blade length: 250mm
- File cut: 1



DICK

Handle	Order Code	Price
Plastic	51507002	**£37.14**

5 PIECE FILE SET WITH BEECH HANDLE IN TEXTILE TOOL ROLL (D)

Application:
- For general and rough filing and rasping work on steel, iron and non-ferrous metal in industry, skilled trades and hobby use

Set Contains:
- 1x flat blunt-ended, half-round, round, triangular & square flat hand engineer's file with beech handle, in robust textile tool roll

Technical data:
- File blade length: 200mm
- File cut: 2



DICK

Handle	Order Code	Price
Beech	51507010	**£23.31**

FLAT UNIVERSAL FILE

Application:
- For rough & fine manual material removal on all materials

Features:
- Rough face for preliminary filing, when removing particularly large amounts of metal
- Fine face for retouching work & for fine filing of surfaces
- Made in Switzerland

Advantages:
- Ideal for universal use due to two different flat faces
- Excellent performance with special cut designed for cast iron, steel, stainless steel, non-ferrous metal, soft metals, plastic and wood



DICK

Length	Width	Thickness	Order Code	Price
200	20	5	51470200	**£6.18**
250	25	6.3	51470250	**£7.82**

MILLED FLAT BLUNT-ENDED FILE

Application:
- For manual material removal on light and soft metals (aluminium, lead & tin), synthetic resin, wood, leather & marble

Features:
- Helical toothing, uniform rough toothing on both faces
- Narrow un-cut faces

Advantages:
- High removal performance and favourable chip removal



DICK

Length	Width	Thickness	Order Code	Price
250	25	6.3	51520125	**£26.65**
300	30		51520130	**£31.23**

ENGINEERS / MACHINIST'S FILES

Application:
- General purpose machinist files available in flat, half-round, round, triangle & square cut
- 1st cut (bastard) for rough aggressive filing
- 2nd cut for medium to finish filing
- 3rd cut for finish filing



FLAT



HALF-ROUND



TRIANGLE



SQUARE

ROUND

ORION

Form	File Length	Width	Thickness	Order Code					
				Cut 1	Price	Cut 2	Price	Cut 3	Price
Flat	100	12	3	51490110	**£2.50**	51490210	**£2.70**	51490310	**£2.74**
	150	16	4	51490115	**£2.82**	51490215	**£2.92**	51490315	**£3.02**
	200	20	5	51490120	**£3.29**	51490220	**£3.49**	51490320	**£3.87**
	250	25	6.3	51490125	**£4.52**	51490225	**£4.52**	51490325	**£5.17**
	300	30	7	51490130	**£5.92**	51490230	**£6.19**	51490330	**£6.78**
	350	35	7.5	51490135	**£8.05**	51490235	**£8.80**	51490335	**£8.86**
Half-Round	100	11	4	51492110	**£4.32**	-	-	51492310	**£4.73**
	150	16	5	51492115	**£4.61**	51492215	**£4.73**	51492315	**£4.81**
	200	21	6	51492120	**£5.38**	51492220	**£5.60**	51492320	**£5.70**
	250	25	7	51492125	**£6.92**	51492225	**£7.28**	51492325	**£7.59**
	300	30	9	51492130	**£9.19**	51492230	**£9.51**	51492330	**£10.33**
Triangle	100	8.7	-	-	-	-	-	51493310	**£3.39**
	150	12	-	51493115	**£3.41**	51493215	**£3.57**	51493315	**£3.92**
	200	15	-	51493120	**£4.32**	51493220	**£4.52**	51493320	**£4.52**
	250	18	-	51493125	**£6.13**	51493225	**£6.51**	51493325	**£6.78**
	300	21	-	51493130	**£9.03**	51493230	**£9.35**	-	-
Square	100	4	-	51494110	**£2.64**	-		-	-
	150	6.3	-	51494115	**£3.02**	51494215	**£3.23**	51494315	**£3.49**
	200	8	-	51494120	**£3.39**	51494220	**£3.81**	51494320	**£3.87**
	250	10	-	51494125	**£4.61**	51494225	**£4.89**	51494325	**£5.36**
	300	12.5	-	51494130	**£6.84**	51494230	**£7.24**	-	
Round	100	4	4	51495110	**£2.60**	51495210	**£2.82**	51495310	**£3.02**
	150	6.3	6.3	51495115	**£2.64**	51495215	**£2.86**	51495315	**£2.92**
	200	7.1	7.1	51495120	**£3.08**	51495220	**£3.35**	51495320	**£3.49**
	250	9.2	9.2	51495125	**£4.24**	51495225	**£4.52**	51495325	**£4.81**
	300	12.5	12.2	51495130	**£5.36**	51495230	**£5.80**	-	-

HARDWOOD FILE HANDLE

Application:
- For files ranging from 100-400mm length
- Deeply pressed-in steel tube clamp gives superior durability



ORION

File Length	Handle Length	Order Code	Price
100	80	51582080	**£1.21**
100-175	100	51582100	**£1.32**
150-300	120	51582110	**£1.52**
250-350	140	51582140	**£2.08**
350-400	160	51582160	**£2.76**

PLASTIC FILE HANDLE

Application:
- For files ranging from 125-200mm length

Features :
- Made of plastic, with soft core insert

Advantages :
- The handle can be inserted cold. It has a firm seating and can be repeatedly used



ORION

File Length	Handle Length	Colour	Order Code	Price
125	90	Blue	51586190	**£3.60**
		Red	51586290	**£4.18**
		Black	51586490	**£3.60**
150	100	Blue	51586200	**£4.12**
		Red	51586300	**£4.77**
		Black	51586500	**£4.12**
200	110	Green	51586110	**£5.08**
		Blue	51586210	**£5.87**

6 PIECE PRECISION NEEDLE FILE SET

- 6 different shapes
- Flat, triangular, square, half-round, round & barrette
- With securely attached two-component plastic handle with screw cap
- 2nd cut
- Supplied with handle and plastic pouch
- Made in Switzerland



DICK

Length mm	Order Code	Price
140	51405100	**£69.59**

12 PIECE PRECISION NEEDLE FILE SETS

Application:
For precise work in tool manufacturing and precision engineering or in training shops, on steel, steel alloys and non-greasy soft metals.

Features:
- Helical toothing, uniform rough toothing on both faces
- Narrow un-cut faces
- 2nd Cut
- Barett, Triangle, Equalling needle, Equalling, Half-round, Knife shape, Round, Blade shape, Square-cut, Crossing shape, Flat end round & Flat tip round shape

Advantage:
- High removal performance and favourable chip removal



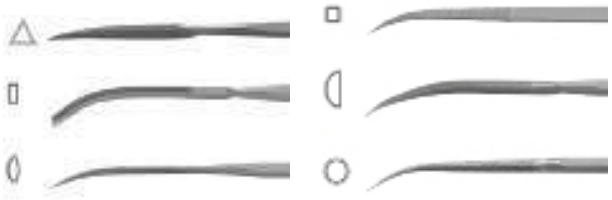
DICK

Set Length	Blade Length	Order Code	Price
100	60	51405005	**£113.44**
140	80	51405008	**£90.90**
160	80	51405010	**£98.97**
180	90	51405018	**£114.44**
200	100	51405020	**£134.92**

6 PIECE PRECISION RIFFLER FILE SETS

Application:
For machining of hard-to-reach surfaces and contours on steel, plastic, copper, etc.

Features:
- 6 different shapes
- Round, oval, flat, square, triangular & half-round
- Central handle with two curved file ends
- 2nd cut
- Made in Switzerland



DICK

Length	Order Code	Price
150	51457150	**£119.25**

12 PIECE PRECISION NEEDLE FILE SET

Application:
For precise work in tool manufacturing and precision engineering or in training shops, on steel, steel alloys and non-greasy soft metals.

Features:
- 12 different shapes
- Barett, Triangle, Equalling needle, Equalling, Half-round, Knife shape, Round, Blade shape, Square-cut, Crossing shape, Flat end round & Flat tip round
- 2nd cut
- Supplied with plastic box with round handle
- Made in Switzerland



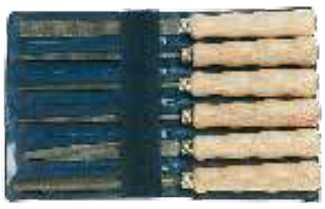
DICK

Set Length	Blade Length	Order Code	Price
140	80	51406010	**£90.90**
160		51406016	**£98.97**

6 PIECE KEY FILE SETS

Application:
For precise manual material removal with all metal materials

- 6 different shapes
- Ergonomically shaped wooden handle
- Supplied in a plastic pouch with handle in the following shapes: flat blunt ended, flat pointed, half-round, triangular, square & round
- 2nd cut
- Made in Germany



DICK

Blade Length	Order Code	Price
100	51452010	**£22.86**

6 PIECE KEY FILE SETS

Application:
For precise manual material removal with all metal materials

- 6 different shapes
- Ergonomically shaped wooden handle
- Supplied in a plastic pouch with handle in the following shapes: flat blunt ended, flat pointed, half-round, triangular, square and round
- 2nd cut



ORION®

Blade Length	Order Code	Price
100	51451010	**£14.36**

PRECISION NEEDLE FILES

Application:
With sharp tips and edges for precise work in tool manufacturing and precision engineering or in training shops, on steel, steel alloys and non-greasy soft metals.

- Made in Switzerland

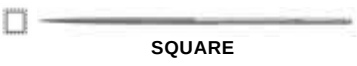

HALF-ROUND


FLAT


TRIANGLE


BARETTE


BLADE SHAPE


SQUARE


ROUND


KNIFE


FLAT BLUNT ENDED


CROSSING SHAPE

DICK

Form	File Length	Blade Length	Order Code									Price
			Cut 00	Price	Cut 1	Price	Cut 2	Price	Cut 3	Price	Cut 4	
Half Round	160	80	51402002	£9.21	51402102	£9.21	51402202	£9.21	51402302	£9.21	51402402	£9.80
	200	100	51403002	£12.77	51403102	£12.77	51403202	£12.77	51403302	£12.77	51403402	£13.24
Flat Point	160	80	51402001	£8.48	51402101	£8.48	51402201	£8.48	51402301	£8.48	51402401	£9.02
	200	100	-	-	51403101	£11.89	51403201	£11.89	51403301	£11.89	-	-
Triangle	160	80	51402006	£8.48	51402106	£8.48	51402206	£8.48	51402306	£8.48	51402406	£9.02
	200	100	51403006	£11.89	51403106	£11.89	51403206	£11.89	51403306	£11.89	51403406	£12.21
Barette	160	80	51402005	£8.48	51402105	£8.48	51402205	£8.48	51402305	£8.48	51402405	£9.02
	200	100	-	-	51403105	£11.89	51403205	£11.89	51403305	£11.89	51403405	£12.21
Blade Shape	160	80	-	-	51402110	£9.21	-	-	51402310	£9.21	-	-
	200	100	-	-	-	-	-	-	-	-	-	-
Square	160	80	51402007	£9.80	51402107	£9.80	51402207	£9.80	51402307	£9.80	51402407	£10.39
	200	100	51403007	£13.57	51403107	£13.57	51403207	£13.57	51403307	£13.57	51403407	£14.08
Round	160	80	51402008	£8.05	51402108	£8.05	51402208	£8.05	51402308	£8.05	51402408	£8.59
	200	100	51403008	£10.47	51403108	£10.47	51403208	£10.47	51403308	£10.47	51403408	£11.08
Knife	160	80	-	-	51402104	£9.21	51402204	£9.21	51402304	£9.21	-	-
	200	100	-	-	51403104	£12.77	51403204	£12.77	51403304	£12.77	-	-
Flat Blunt Ended	160	80	51402009	£8.05	51402109	£8.05	51402209	£8.05	51402309	£8.05	51402409	£8.59
	200	100	51403009	£10.47	51403109	£10.47	51403209	£10.47	51403309	£10.47	51403409	£11.08
Crossing Shape	160	80	-	-	51402103	£10.65	51402203	£10.65	51402303	£10.65	-	-
	200	100	-	-	-	-	-	-	-	-	-	-

CORINOX PRECISION FILES

Application:
Exceptional surface hardness grade of 1,200HV and can be used to file very small and delicate components with precision. Suitable for use on stainless steel, non-ferrous materials and exotics.

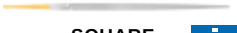

POTTANCE HAND


REGULAR PILLAR


HALF ROUND TANG

ROUND

THREE SQUARE


SQUARE

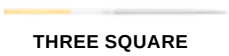
Form	File Length (mm)	File Length (inch)	Cut Type	Order Code	Price
Pottance Hand File	150	6	Swiss Cut 00	304082	£22.56
	200	8		304105	£30.86
	250	10		669464	£42.53
	150	6	Swiss Cut 0	304099	£23.20
	200	8		304112	£32.06
	250	10		669471	£44.12
	200	8	Swiss Cut 2	304129	£36.51
	250	10		669488	£51.37
Regular Pillar Files	150	6	Swiss Cut 00	304136	£24.08
	200	8		304150	£32.94
	150	6	Swiss Cut 0	304143	£24.78
	200	8		304167	£35.20
Half-Round Tang Files	150	6	Swiss Cut 0	304174	£39.49
	200	8		304181	£53.29
	200	8	Swiss Cut 2	317785	£36.68
	200	8		317792	£55.69
Round	200	8	Swiss Cut 0	304198	£27.24
	200	8	Swiss Cut 2	317808	£28.86
Three Square	200	8	Swiss Cut 0	304211	£36.24
	200	8	Swiss Cut 2	317815	£38.33
Square	150	6	Swiss Cut 0	304204	£24.78
	150	6	Swiss Cut 2	317822	£26.65

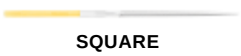
CORINOX NEEDLE FILES

Application:
Exceptional surface hardness grade of 1,200HV and can be used to file very small and delicate components with precision. Suitable for use on stainless steel, non-ferrous materials and exotics.

FLAT

HAND


THREE SQUARE


SQUARE

ROUND

HALF-ROUND

Form	File Length mm	File Length inch	Cut Type	Order Code	Price
Flat	180	7	Swiss Cut 0	346532	£14.02
			Swiss Cut 2	346549	£14.02
Hand			Swiss Cut 0	346556	£12.63
			Swiss Cut 2	346570	£12.63
Three Square			Swiss Cut 0	346587	£14.02
			Swiss Cut 2	346594	£14.02
Square			Swiss Cut 0	346600	£14.02
			Swiss Cut 2	346648	£14.02
Round			Swiss Cut 0	346624	£12.63
			Swiss Cut 2	346662	£12.63
Half-Round			Swiss Cut 0	346686	£15.86
			Swiss Cut 2	346716	£15.86

PRECISION FILES

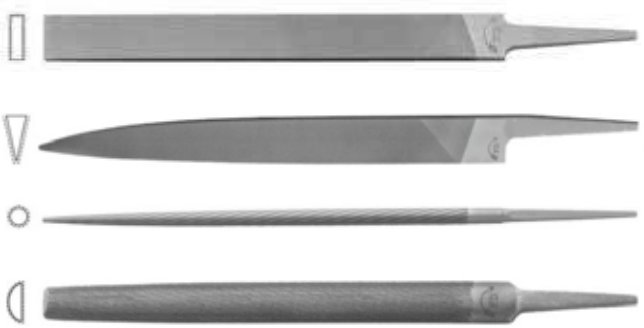
Application:
For precise work in tool manufacturing, precision engineering, the jewellery industry or in training shops, for reworking and fine processing of pre-processed surfaces or to achieve fine and perfect surfaces

Flat File - Features:
- 2 flat faces and 1 small face cut
- Uniform width
- File is thinner towards the pointed end

Knife File - Features:
- Sharp tips and edges

Round File - Features:
- Sharp tips and edges

Half Round File - Features:
- 2 flat faces and 1 small face cut
- Sharp tips and edges
- Narrow or normal width



DICK

Blade Length	Cut	Width	Thickness	Order Code	Price
Flat					
100	1	9.5	2.5	51411110	**£16.72**
	2			51411210	**£17.27**
	3			51411310	**£18.85**
	4			51411410	**£20.58**
	5			51411510	**£24.79**
125	1	12.5	3.2	51411112	**£18.20**
	2			51411212	**£18.62**
	3			51411312	**£20.31**
	4			51411412	**£22.38**
150	1	16	4	51411115	**£19.27**
	2			51411215	**£19.78**
	3			51411315	**£21.51**
	4			51411415	**£26.28**
	5			51411515	**£29.02**
200	1	21.3	4.8	51411120	**£25.11**
	2			51411220	**£25.54**
	3			51411320	**£27.09**
	4			51411420	**£30.91**
	5			51411520	**£33.56**
250	1	25.3	6.3	51411125	**£34.61**
	2			51411225	**£36.23**
	3			51411325	**£37.93**
	4			51411425	**£40.30**
300	1	29.3	7.8	51411130	**£49.52**
	2			51411230	**£51.73**
	3			51411330	**£53.72**
Knife					
150	1	17.9	3.5	51419115	**£30.29**
200	1	22.0	4.2	51419120	**£43.12**
150	2	17.9	3.5	51419215	**£32.79**
200	2	22.0	4.2	51419220	**£47.37**
200	3	22.0	4.2	51419320	**£51.50**

Blade Length	Cut	Width	Thickness	Order Code	Price
Round					
100	1	3.85	-	51418110	**£14.91**
	2			51418210	**£15.42**
	3			51418310	**£16.72**
125	1	4.8	-	51418112	**£14.91**
	2			51418212	**£15.42**
	3			51418312	**£16.72**
150	1	5.8	-	51418115	**£15.49**
	2			51418215	**£16.62**
	3			51418315	**£18.87**
200	1	7.8	-	51418120	**£20.50**
	2			51418220	**£23.05**
	3			51418320	**£25.18**
250	1	9.4	-	51418125	**£26.53**
	2			51418225	**£29.09**
	3			51418325	**£31.34**
Half Round With Narrow Point					
150	1	12.7	3.5	51415150	**£37.17**
	2			51415250	**£39.13**
	3			51415350	**£43.86**
Half Round With Normal Point					
125	1	13.1	4.1	51415112	**£31.95**
	2			51415212	**£34.77**
	3			51415312	**£36.82**
150	1	18.4	5.2	51415115	**£34.61**
	2			51415215	**£36.77**
	3			51415315	**£38.41**
200	1	21.1	6.3	51415120	**£46.09**
	2			51415220	**£48.47**
	3			51415320	**£52.14**
250	1	25.5	7.5	51415125	**£52.96**
	2			51415225	**£56.52**
	3			51415325	**£60.27**

BODYWORK / COVERED FILE

Application:
Cut 1: For manual material removal on light and soft metals (aluminium, lead, tin), synthetic resin, wood, leather, marble

Cut 2: For manual material removal on steel with a strength of less than 800 N/mm², steel casting, chilled casting, copper, brass and bronze.

Features:
- Made of chrome-alloy steel
- Flat blunt-ended
- Both faces with radial toothing
- Made in Germany



DICK

Blade Length	Cut	Width	Thickness	Order Code	Price
300	1	30	4	51550130	**£23.98**
350	1	35		51550135	**£26.26**
300	2	30		51550230	**£25.50**
350	2	35		51550235	**£27.75**

ADJUSTABLE BODYWORK FILE HOLDER

Application:
For use with bodywork/covered files.

Features:
- Adjustable
- Made in Germany



DICK

Blade Length	Order Code	Price
350	51551035	**£28.42**

TRIANGLE HARDNESS TESTING FILE

Application:
For hardness testing on hardened material with a maximum hardness of 63 HRC.

Features:
- Faces with a special double cut
- Edges with a single cut
- 2nd cut
- Made in Switzerland



DICK

Length	Width	Thickness	Order Code	Price
150	10.3	10.3	51516250	**£25.93**

HALF ROUND RASP

Application:
For manual material removal on wood with a strength of less than 800 N/mm², steel casting, chilled casting, copper, brass and bronze.

Features:
- Made of chrome-alloy steel
- 2nd cut
- Made in Switzerland

Advantage:
- High removal performance and favourable chip removal



DICK

Length	Width	Thickness	Order Code	Price
200	20	5.5	51533220	**£7.01**
250	25	7	51533225	**£8.97**

NEEDLE & DIAMOND FILE HANDLE WITH SPRING ACTION

Application:
For needle and diamond files, scrapers, reamers and countersinks.

- With spring-action collet chuck and clamping knob
- Fast, easy tool change with secure fastening
- Made in Switzerland



DICK

Clamping Diameter Range	Length	Order Code	Price
1.1-2.1	95	51409010	**£9.83**
2.0-3.1		51409015	
3.0-4.0		51409020	

THREAD FILE SETS

Application:
For reworking of inner and outer threads.

- 51458010: For metric ISO coarse-pitch threads
- 51459010: For Whitworth threads
- Length: 230mm



ORION

Composition of Set	Order Code	Price
0.8 / 1 / 1.25 / 1.5 / 1.75 / 2 / 2.5 / 3mm	51458010	**£37.49**
3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4 inch	51459010	

FILE CLEANING BRUSH

Application:
Abrasive brush for cleaning all types of files.



LESSMANN

Brush Strip Size	Length	Order Code	Price
115x40	250	56720500	**£3.17**

SCRATCH BRUSHES FOR FILES

Application:
Effortlessly cleans chips from a clogged file.



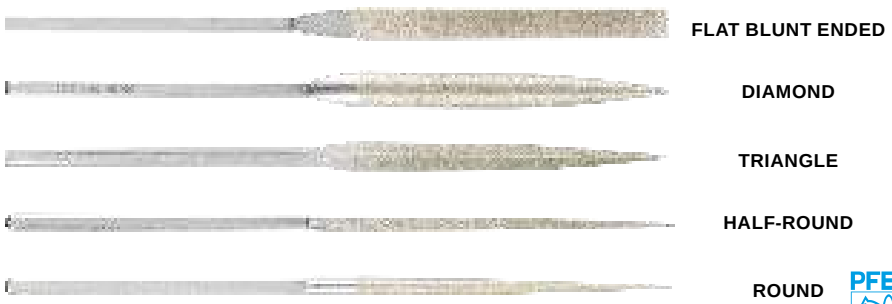
PFERD

Filament Length (mm)	Length	Order Code	Price
7	232	015315	**£4.17**

DIAMOND FILES

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

- Galvanic bond
- With forged shank for use without file handle
- 215mm length (100mm blade length)
- Made in Germany



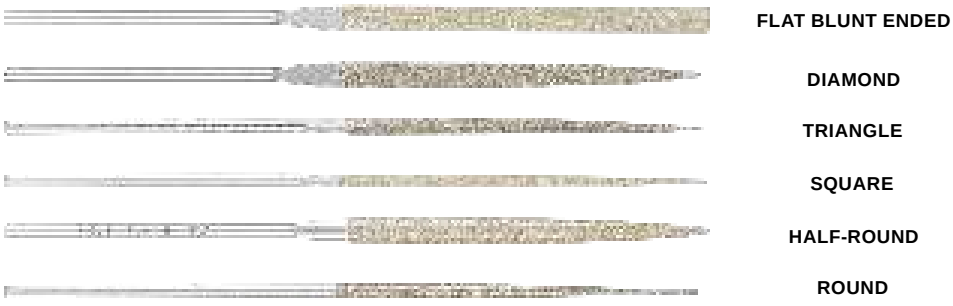
PFERD

Application	Grain Size	Width	Thickness	Order Code	Price
Flat Blunt Ended					
Universal	126	10.3	2.8	017302	**£61.12**
Roughing	182			535455	
Diamond					
Universal	126	5.5	5.5	017333	**£61.12**
Roughing	182			535486	
Triangle					
Universal	126	10	10	017326	**£53.85**
Roughing	182			535479	
Half-Round					
Universal	126	12.5	12.5	017319	**£61.12**
Roughing	182	3.8	3.8	535462	
Round					
Universal	126	6.7	-	017340	**£53.85**
Roughing	182		-	535493	

DIAMOND NEEDLE FILES

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

- Galvanic bond
- With forged shank for use without file handle
- 3mm shaft diameter
- 140mm length (70mm blade length)
- Made in Germany



PFERD

Application	Grain Size	Width	Thickness	Order Code	Price
Flat Blunt Ended					
Finishing	91	5.5	1.6	016664	**£26.37**
Universal	126			016671	**£23.52**
Roughing	182			016688	**£29.52**
Diamond					
Finishing	91	5.5	1.6	016725	**£26.37**
Universal	126			016732	**£23.52**
Roughing	182			016749	**£29.52**
Triangle					
Finishing	91	3.5	3.5	016756	**£26.37**
Universal	126			016763	**£23.52**
Roughing	182			016770	**£29.52**

Application	Grain Size	Width	Thickness	Order Code	Price
Square					
Finishing	91	2.6	2.6	016787	**£26.37**
Universal	126			016794	**£23.52**
Roughing	182			016800	**£29.52**
Half-Round					
Finishing	91	5.5	1.6	016817	**£26.37**
Universal	126		1.6	016824	**£23.52**
Roughing	182		1.3	016831	**£29.52**
Round					
Finishing	91	3.2	-	016848	**£26.37**
Universal	126			016855	**£23.52**
Roughing	182			016862	**£29.52**

5-PIECE DIAMOND ESCAPEMENT FILE SET

Application:
Diamond escapement files are used on very small shapes in tool making and precision mechanics. They have a forged shank which allows use without an additional handle.

- Supplied in a sturdy, practical plastic box
- Types included: half-round, three square, hand, square and round
- Ideal for keeping in the tool trolley or workbench
- For small geometries on hard materials
- Forged shank which allows use without an additional handle



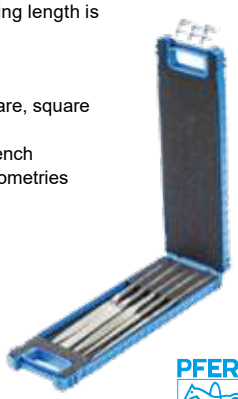
PFERD

Application	Grain Size (µm)	Length	Order Code	Price
Fine	25	140	535639	£119.30
Fine	46		323700	
Fine	91		323694	
Medium	126		017364	

5-PIECE DIAMOND HANDY FILE SET

Application:
Diamond riffler files are used for work in hard-to-reach areas and on complex geometries. The coating length is 25mm on both sides of the files.

- Supplied in a sturdy, practical plastic box
- Types included: hand, half-round, three square, square and round
- Ideal for keeping in the tool trolley or workbench
- For hard-to-reach areas and on complex geometries
- 140mm length
- Supplied in plastic case
- Made in Germany



PFERD

Application	Grain Size (µm)	Order Code	Price
Finishing	126	017357	£290.99
Universal	181	535585	

5-PIECE DIAMOND NEEDLE FILE SET

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

- Galvanic bond
- Types included: flat hand file, triangular, square, half-round and round
- With forged shank for use without file handle
- 3mm shaft diameter
- Supplied in plastic case



PFERD

Application	Grain Size (µm)	Length	Order Code	Price
Finishing	91	140	017371	£131.88
Universal	126		017388	£117.57
Roughing	181		017395	£147.63

11-PIECE DIAMOND NEEDLE FILE SET

Application:
For machining of punching and drawing tools, blanking punches and other workpieces made of hardened steel, cemented carbide, ceramic, porcelain, glass or plastic in tool manufacturing and mechanical engineering.

- Galvanic bond
- Types included: flat hand file, triangular, square, half-round, round, flat-pointed, knife-edge, sword, lenticular crossing and barrette
- With forged shank for use without file handle
- 3mm shaft diameter
- 140mm length
- Supplied in plastic case
- Made in Germany



PFERD

Application	Grain Size (µm)	Order Code	Price
Finishing	91	017401	£290.18
Universal	126	017418	£258.76
Roughing	181	017425	£324.70

NEEDLE & DIAMOND FILE HANDLE

Application:
For needle and diamond files, 100-200mm long.

- With closed end
- Adjustable clamping diameter: Ø 2-5mm



DICK

Handle Length	File Length	Order Code	Price
95	100-200	51408020	£5.83

NEEDLE & DIAMOND FILE HANDLE

Application:
For needle and diamond files, 100-200mm long.

- With closed end
- Adjustable clamping diameter: Ø 2.8-4mm
- Made in Germany



DICK

Handle Length	File Length	Order Code	Price
80	100-200	51408010	£2.81

CYLINDER WITHOUT END CUT - TYPE A CARBIDE BURR

Karnasch PROFESSIONAL TOOLS



Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	14	38	113000030	£7.48	115000030	£10.02	113001031	£6.06	115001030	£10.99	113005030	£10.28	115005030	£14.46
6	6	18	50	113000065	£11.83	115000065	£14.55	113001066	£9.54	115001065	£15.49	113005065	£15.90	115005065	£22.07
8	6	20	65	113000080	£13.99	115000080	£16.50	113001081	£12.53	115001080	£18.12	113005080	£19.62	115005080	£25.31
10	6	20	65	113000090	£15.31	115000090	£19.35	113001091	£13.47	115001090	£20.99	113005090	£22.08	115005090	£29.75
12	6	25	70	113000105	£25.73	115000105	£32.10	113001108	£19.13	115001105	£34.11	113005105	£35.36	115005105	£45.66
16	6	25	70	-	-	-	-	113001121	£26.36	115001120	£38.93	113005120	£39.63	115005120	£49.10

CYLINDER WITH END CUT - TYPE B CARBIDE BURR

Karnasch PROFESSIONAL TOOLS



Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	14	38	113010015	£8.26	115010015	£10.96	113011016	£6.71	115011015	£11.49	113015015	£12.20	115015015	£16.71
6	6	18	50	113010050	£11.79	115010050	£14.32	113011051	£10.56	115011050	£15.51	113015050	£16.30	115015050	£22.00
8	6	20	65	113010070	£17.10	115010070	£19.62	113011076	£13.79	115011075	£20.78	113015075	£23.34	115015075	£29.53
10	6	20	65	113010075	£16.90	115010075	£19.58	113011086	£14.80	115011085	£23.89	113015085	£26.30	115015085	£34.59
12	6	25	70	113010085	£18.15	115010085	£22.50	113011104	£21.03	115011100	£34.76	113015100	£35.51	115015100	£44.99
16	6	25	70	113010100	£21.05	115010100	£31.02	113011116	£29.05	115011115	£44.67	113015115	£47.15	115015115	£57.30

BALL NOSED CYLINDER - TYPE C CARBIDE BURR

Karnasch PROFESSIONAL TOOLS



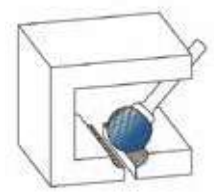
Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	14	38	113020022	£8.10	115020022	£10.81	113021026	£6.06	115021025	£11.64	113025025	£11.11	115025025	£15.61
6	6	18	50	113020025	£8.10	115020025	£10.81	113021054	£11.12	115021055	£17.35	113025055	£17.77	115025055	£24.03
8	6	20	65	113020055	£13.62	115020055	£16.35	113021076	£13.63	115021075	£20.64	113025075	£27.21	115025075	£33.39
10	6	20	65	113020075	£16.71	115020075	£19.40	113021086	£14.97	115021085	£24.20	113025085	£23.85	115025085	£32.17
12	6	25	70	113020085	£18.20	115020085	£22.58	113021108	£21.51	115021105	£37.52	113025100	£37.73	115025100	£47.18
16	6	25	70	113020105	£28.59	115020105	£34.95	113021121	£29.53	115021120	£42.93	113025120	£53.40	115025120	£62.86

Cut Type	Application
Single	Medium removal - Deburring, finishing and cleaning of steel, stainless steel and cast iron
Double	Aggressive removal - Deburring, finishing and cleaning of steel, stainless steel and cast iron
Aluma	Deep flute pockets for aggressive removal - Deburring, finishing and cleaning of soft steel, aluminium, copper, brass & plastic

Finish	Application
Uncoated	Ideal for low hardness steel, sticky metal, general aluminium, and plastic
Blue-Tec	Improved tool life on harder steel, stainless steel and exotics
Black-Tec	Improved tool life machining abrasive aluminium, copper, brass and abrasive plastic

BALL NOSED - TYPE D CARBIDE BURR

Karnasch™ PROFESSIONAL TOOLS





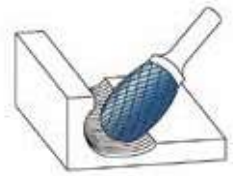




Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	2.5	38	113030025	£9.12	115030025	£12.18	113031026	£6.06	115031025	£11.64	113035025	£11.11	115035025	£15.61
6	6	4.7	50	113030055	£14.07	115030055	£17.10	113031056	£10.25	115031055	£16.13	113035055	£17.61	115035055	£23.80
8	6	7	52	113030060	£13.90	115030060	£16.77	113031061	£11.01	115031060	£16.18	113035060	£22.26	115035060	£27.99
10	6	9	54	113030070	£15.73	115030070	£20.29	113031071	£12.30	115031070	£19.55	113035070	£18.16	115035070	£25.82
12	6	11	56	113030080	£21.10	115030080	£27.80	113031084	£15.13	115031085	£29.68	113035080	£32.27	115035080	£41.73
16	6	14	60	-	-	-	-	113031096	£20.55	115031095	£33.56	113035095	£45.50	115035095	£55.64

OVAL SHAPE - TYPE E CARBIDE BURR

Karnasch™ PROFESSIONAL TOOLS





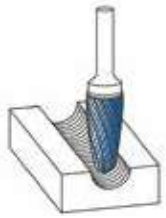




Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	6	38	113040010	£6.35	115040010	£11.27	113041009	£6.06	115041010	£9.89	113045010	£10.28	115045010	£14.46
6	6	10	50	113040020	£12.28	115040020	£18.80	113041021	£12.53	115041020	£16.29	113045020	£24.50	115045020	£30.23
8	6	15	60	113040025	£15.28	115040025	£23.31	113041026	£13.70	115041025	£20.35	113045025	£24.16	115045025	£30.33
10	6	16	60	113040030	£14.46	115040030	£23.70	113041031	£14.97	115041030	£20.53	113045030	£23.46	115045030	£31.14
12	6	21	66	113040035	£22.81	115040035	£37.42	113041036	£19.99	115041035	£31.82	113045035	£31.88	115045035	£42.15
16	6	25	70	-	-	-	-	113041046	£30.38	115041045	£41.77	113045045	£51.86	115045045	£62.12

BALL NOSED TREE - TYPE F CARBIDE BURR

Karnasch™ PROFESSIONAL TOOLS









Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	14	38	113050015	£8.48	115050015	£12.18	113051016	£6.06	115051015	£10.48	113055015	£11.11	115055015	£15.61
6	6	18	50	113050030	£13.20	115050030	£17.68	113051031	£11.66	115051030	£15.33	113055030	£16.42	115055030	£22.22
8	6	20	60	113050035	£19.28	115050035	£24.76	113051036	£14.88	115051035	£21.58	113055035	£25.81	115055035	£31.93
10	6	20	60	113050040	£16.57	115050040	£19.51	113051041	£14.64	115051040	£20.11	113055040	£23.38	115055040	£31.08
12	6	25	66	113050050	£24.50	115050050	£34.28	113051054	£19.76	115051055	£29.72	113055050	£34.31	115055050	£43.80
16	6	25	70	-	-	-	-	113051066	£29.83	115051065	£41.22	113055065	£45.50	115055065	£55.64

Cut Type	Application
Single	Medium removal - Deburring, finishing and cleaning of steel, stainless steel and cast iron
Double	Aggressive removal - Deburring, finishing and cleaning of steel, stainless steel and cast iron
Aluma	Deep flute pockets for aggressive removal - Deburring, finishing and cleaning of soft steel, aluminium, copper, brass & plastic

Finish	Application
Uncoated	Ideal for low hardness steel, sticky metal, general aluminium, and plastic
Blue-Tec	Improved tool life on harder steel, stainless steel and exotics
Black-Tec	Improved tool life machining abrasive aluminium, copper, brass and abrasive plastic

TREE SHAPE - TYPE G CARBIDE BURR

Karnasch PROFESSIONAL TOOLS









Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	10	38	113060012	£8.10	115060012	£10.81	113061016	£6.06	115061015	£10.48	113065015	£11.11	115065015	£15.61
6	6	18	50	113060035	£14.27	115060035	£16.98	113061036	£11.66	115061035	£16.24	113065035	£24.55	115065035	£30.74
8	6	20	65	-	-	-	-	113061041	£14.11	115061040	£18.03	113065040	£22.98	115065040	£28.70
10	6	20	65	113060045	£18.91	115060045	£23.30	113061046	£15.59	115061045	£22.40	113065045	£27.57	115065045	£35.89
12	6	25	70	113060060	£23.87	115060060	£29.75	113061064	£19.37	115061065	£33.32	113065060	£34.20	115065060	£43.61
16	6	25	70	-	-	-	-	113061086	£29.53	115061085	£40.70	113065085	£57.18	115065085	£67.41

FLAME SHAPE - TYPE H CARBIDE BURR

Karnasch PROFESSIONAL TOOLS









Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	6	38	113070005	£8.17	115070005	£10.89	113071004	£6.06	115071005	£10.48	-	-	-	-
6	6	14	50	-	-	-	-	113071011	£12.59	115071010	£19.53	-	-	-	-
8	6	20	65	113070015	£18.88	115070015	£21.56	113071016	£15.36	115071015	£20.65	113075015	£26.80	115075015	£33.04
10	6	20	65	113070020	£31.38	115070020	£35.46	113071021	£20.71	115071020	£35.51	113075020	£45.32	115075020	£53.01
12	6	30	72	113070025	£38.83	115070025	£45.22	113071026	£28.58	115071025	£44.47	113075025	£52.00	115075025	£62.24
16	6	36	85	-	-	-	-	113071036	£43.23	115071035	£56.92	113075035	£83.80	115075035	£94.04

COUNTERSINK 60° - TYPE J CARBIDE BURR

Karnasch PROFESSIONAL TOOLS







Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	3	38	113100005	£8.10	115100005	£10.81	113101005	£8.31	115101005	£12.34
6	6	6	50	113100010	£11.45	115100010	£13.99	113101010	£11.55	115101010	£15.80
8	6	8	56	-	-	-	-	113101015	£16.49	115101015	£23.45
12	6	11	60	113100020	£18.41	115100020	£24.40	113101020	£18.41	115101020	£27.43
16	6	15	62	-	-	-	-	113101025	£26.50	115101025	£37.06
20	6	17	65	-	-	-	-	113101035	£34.83	115101035	£48.60

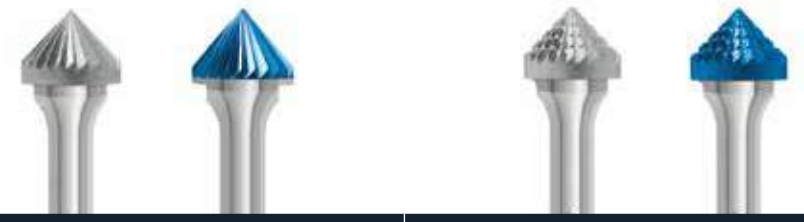
Cut Type	Application
Single	Medium removal - Deburring, finishing and cleaning of steel, stainless steel and cast iron
Double	Aggressive removal - Deburring, finishing and cleaning of steel, stainless steel and cast iron
Aluma	Deep flute pockets for aggressive removal - Deburring, finishing and cleaning of soft steel, aluminium, copper, brass & plastic

Finish	Application
Uncoated	Ideal for low hardness steel, sticky metal, general aluminium, and plastic
Blue-Tec	Improved tool life on harder steel, stainless steel and exotics
Black-Tec	Improved tool life machining abrasive aluminium, copper, brass and abrasive plastic

COUNTERSINK 90° - TYPE K CARBIDE BURR

Karnasch PROFESSIONAL TOOLS





Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	1.5	38	113110005	**£8.10**	115110005	**£10.81**	113111005	**£8.31**	115111005	**£10.96**
6	6	6	50	113110010	**£11.45**	115110010	**£13.99**	113111010	**£11.55**	115111010	**£14.06**
10	6	5	53	113110015	**£16.49**	115110015	**£20.85**	113111015	**£16.49**	115111015	**£20.85**
12	6	7	55	113110020	**£18.41**	115110020	**£24.40**	113111020	**£18.41**	115111020	**£24.40**
16	6	8	57	-	-	-	-	113111030	**£24.50**	115111030	**£30.49**
20	6	12	60	-	-	-	-	113111040	**£32.22**	115111040	**£39.95**

CONE SHAPE - TYPE M CARBIDE BURR

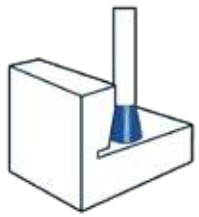
Karnasch PROFESSIONAL TOOLS

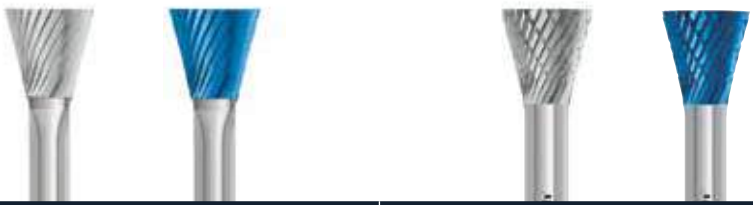


Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT				ALUMA CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated		Uncoated		Black-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	11	38	113090015	**£8.10**	115090015	**£10.81**	113091016	**£6.06**	115091015	**£10.48**	113095015	**£11.11**	115095015	**£15.61**
6	6	20	50	113090030	**£13.32**	115090030	**£15.82**	113091031	**£11.89**	115091030	**£15.58**	113095030	**£21.79**	115095030	**£27.57**
8	6	18	63	-	-	-	-	113091036	**£15.84**	115091035	**£20.82**	-	-	-	-
10	6	20	65	113090040	**£21.19**	115090040	**£25.23**	113091041	**£18.74**	115091040	**£25.22**	113095040	**£27.03**	115095040	**£34.72**
12	6	25	70	113090045	**£28.72**	115090045	**£35.10**	113091048	**£21.41**	115091045	**£33.32**	113095045	**£35.18**	115095045	**£45.41**
16	6	26	70	-	-	-	-	113091056	**£31.30**	115091055	**£42.81**	-	-	-	-

INVERTED CONE - TYPE N CARBIDE BURR

Karnasch PROFESSIONAL TOOLS





Tool Dia	Shank Dia	Cut Length	Overall Length	SINGLE CUT				DOUBLE CUT			
				Uncoated		Blue-Tec Coated		Uncoated		Blue-Tec Coated	
				Order Code	Price	Order Code	Price	Order Code	Price	Order Code	Price
3	3	5	38	113099005	**£8.26**	115099005	**£10.96**	113096005	**£8.10**	115096005	**£12.18**
6	6	8	50	113099015	**£13.90**	115099015	**£16.63**	113096015	**£13.90**	115096015	**£18.70**
10	6	10	55	113099020	**£18.55**	115099020	**£22.60**	113096020	**£18.76**	115096020	**£25.67**
12	6	13	58	113099025	**£28.72**	115099025	**£35.10**	113096025	**£28.72**	115096025	**£39.47**
16	6	19	64	-	-	-	-	113096035	**£36.82**	115096035	**£48.60**
20	6	16	61	-	-	-	-	113096045	**£41.32**	115096045	**£55.92**

Cut Type	Application
Single	Medium removal - Deburring, finishing and cleaning of steel, stainless steel and cast iron
Double	Aggressive removal - Deburring, finishing and cleaning of steel, stainless steel and cast iron
Aluma	Deep flute pockets for aggressive removal - Deburring, finishing and cleaning of soft steel, aluminium, copper, brass & plastic

Finish	Application
Uncoated	Ideal for low hardness steel, sticky metal, general aluminium, and plastic
Blue-Tec	Improved tool life on harder steel, stainless steel and exotics
Black-Tec	Improved tool life machining abrasive aluminium, copper, brass and abrasive plastic

DOUBLE CUT 5 PIECE ASSORTED BURR KIT

Ø10mm or Ø12mm - Uncoated

Application:
Uncoated burrs are suitable for softer steels and non-ferrous materials such as aluminium, copper, brass and plastic.

Set contains 5pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø10 or 12mm)
- Ball nose cylinder (Ø10 or 12mm)
- Ball nose tree (Ø10 or 12mm)
- Tree (Ø10 or 12mm)
- Ball nose cone (Ø10 or 12mm)





DOUBLE CUT
UNCOATED

Karnasch PROFESSIONAL TOOLS

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
10	6	5pcs	Double	11.4918U	**£94.76**
12				11.4926U	**£132.42**

DOUBLE CUT 5 PIECE ASSORTED BURR KIT

Ø10mm or Ø12mm - Blue-Tec Coated

Application:
Blue-Tec coated burrs are suitable for all ferrous metals such as steel <60 HRC, stainless steel and cast iron.

Set contains 5pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø10 or 12mm)
- Ball nose cylinder (Ø10 or 12mm)
- Ball nose tree (Ø10 or 12mm)
- Tree (Ø10 or 12mm)
- Ball nose cone (Ø10 or 12mm)





DOUBLE CUT
COATED

Karnasch PROFESSIONAL TOOLS

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
10	6	5pcs	Double	11.4918	**£126.49**
12				11.4926	**£154.77**

DOUBLE CUT 10 PIECE ASSORTED BURR KIT

Ø10mm or Ø12mm - Uncoated

Application:
Uncoated burrs are suitable for softer steels and non-ferrous materials such as aluminium, copper, brass and plastic.

Set contains 10pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø10 & 12mm)
- Ball nose cylinder (Ø10 & 12mm)
- Ball nose tree (Ø10 & 12mm)
- Tree (Ø10 & 12mm)
- Ball nose cone (Ø10 & 12mm)





DOUBLE CUT
UNCOATED

Karnasch PROFESSIONAL TOOLS

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
10 & 12	6	10pcs	Double	11.4934U	**£234.30**

DOUBLE CUT 10 PIECE ASSORTED BURR KIT

Ø10mm or Ø12mm - Blue-Tec Coated

Application:
Blue-Tec coated burrs are suitable for all ferrous metals such as steel <60 HRC, stainless steel and cast iron.

Set contains 10pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø10 & 12mm)
- Ball nose cylinder (Ø10 & 12mm)
- Ball nose tree (Ø10 & 12mm)
- Tree (Ø10 & 12mm)
- Ball nose cone (Ø10 & 12mm)





DOUBLE CUT
COATED

Karnasch PROFESSIONAL TOOLS

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
10 & 12	6	10pcs	Double	11.4934	**£263.38**

DOUBLE CUT 10 PIECE SUPER ASSORTED BURR KIT

Ø12mm - Uncoated

Application:
Uncoated burrs are suitable for softer steels and non-ferrous materials such as aluminium, copper, brass and plastic.

Set contains 10pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø12mm)
- Cylinder without end cut (Ø12mm)
- Ball nose cylinder (Ø12mm)
- Ball (Ø12mm)
- Ball nose tree (Ø12mm)
- Oval (Ø12mm)
- Tree (Ø12mm)
- Flame (Ø12mm)
- Ball nose cone (Ø12mm)
- Cone (Ø12mm)





DOUBLE CUT
UNCOATED

Karnasch PROFESSIONAL TOOLS

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
12	6	10pcs	Double	11.4942U	**£256.68**

DOUBLE CUT 10 PIECE SUPER ASSORTED BURR KIT

Ø12mm - Blue-Tec Coated

Application:
Blue-Tec coated burrs are suitable for all ferrous metals such as steel <60 HRC, stainless steel and cast iron.

Set contains 10pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø12mm)
- Cylinder without end cut (Ø12mm)
- Ball nose cylinder (Ø12mm)
- Ball (Ø12mm)
- Ball nose tree (Ø12mm)
- Oval (Ø12mm)
- Tree (Ø12mm)
- Flame (Ø12mm)
- Ball nose cone (Ø12mm)
- Cone (Ø12mm)





DOUBLE CUT
COATED

Karnasch PROFESSIONAL TOOLS

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
12	6	10pcs	Double	11.4942	**£311.64**

SINGLE CUT 10 PIECE ASSORTED MINI BURR KIT

Ø1mm & 1.5mm - Uncoated

Application:
Uncoated burrs are suitable for softer steel and non-ferrous materials such as aluminium, copper, brass and plastic.

Set contains 10pcs MINI SINGLE CUT burrs including:
- Cylinder with end cut (Ø1 & 1.5mm)
- Ball nose cylinder (Ø1 & 1.5mm)
- Ball (Ø1 & 1.5mm)
- Oval (Ø1.5mm)
- Cone (Ø1.5mm)
- Tree (Ø1.5mm)
- Ball nose tree (Ø1.5mm)





SINGLE CUT UNCOATED

Karnasch PROFESSIONAL TOOLS

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
1 & 1.5	3	10pcs	Single	11.4805U	**£132.42**

DOUBLE CUT 10 PIECE ASSORTED MINI BURR KIT

Ø3mm - Uncoated

Application:
Uncoated burrs are suitable for softer steel and non-ferrous materials such as aluminium, copper, brass and plastic.

Set contains 10pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø3mm)
- Cylinder without end cut (Ø3mm)
- Ball nose cylinder (Ø3mm)
- Ball (Ø3mm)
- Ball nose tree (Ø3mm)
- Oval (Ø3mm)
- Tree (Ø3mm)
- Flame (Ø3mm)
- Ball nose cone (Ø3mm)
- Cone (Ø3mm)





DOUBLE CUT UNCOATED

Karnasch PROFESSIONAL TOOLS

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
3	3	10pcs	Double	11.4904U	**£70.28**

DOUBLE CUT 5 PIECE ASSORTED BURR KIT

Ø10mm - Uncoated

Application:
Uncoated burrs are suitable for softer steels and non-ferrous materials such as aluminium, copper, brass and plastic.

Set contains 5pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø10mm)
- Ball nose cylinder (Ø10mm)
- Ball nose tree (Ø10mm)
- Ball (Ø10mm)
- Ball nose cone (Ø10mm)





DOUBLE CUT UNCOATED

Garryson

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
10	6	5pcs	Double	GGBKIT36	**£113.33**

DOUBLE CUT 10 PIECE ASSORTED BURR KIT

Ø10mm or Ø12mm - Uncoated

Application:
Uncoated burrs are suitable for softer steels and non-ferrous materials such as aluminium, copper, brass and plastic.

Set contains 10pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø10 & 12mm)
- Ball nose cylinder (Ø10 & 12mm)
- Ball nose tree (Ø10 & 12mm)
- Ball (Ø10 & 12mm)
- Ball nose cone (Ø10 & 12mm)





DOUBLE CUT UNCOATED

Garryson

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
10 & 12	6	10pcs	Double	GGBKIT30	**£269.20**

ALUMA CUT 5 PIECE ASSORTED BURR KIT

Ø12mm - Uncoated

Application:
Aluma cut burrs are designed for maximum metal removal on aluminium, copper and plastic.

Set contains 5pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø12mm)
- Ball nose cylinder (Ø12mm)
- Ball nose tree (Ø12mm)
- Ball (Ø12mm)
- Ball nose cone (Ø12mm)



Garryson

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
12	6	5pcs	Aluma	GGBKIT33	**£272.47**

INOX CUT 5 PIECE ASSORTED BURR KIT

Ø12mm - Uncoated

Application:
Inox cut burrs are designed for maximum metal removal on stainless steel or heat resistant super alloys. Inox geometry reduces heat build up on the workpiece.

Set contains 5pcs DOUBLE CUT burrs including:
- Cylinder with end cut (Ø12mm)
- Ball nose cylinder (Ø12mm)
- Ball nose tree (Ø12mm)
- Pointed tree (Ø12mm)
- Ball nose cone (Ø12mm)



Garryson

Burr Dia	Shank Dia	Burr Qty	Cut Type	Order Code	Price
12	6	5pcs	Inox	GGBKIT38	**£97.97**

MOUNTED POINT STEEL EDGE

Aluminium Oxide Cylindrical Shape ZY, Pink

Application:
Ideal for use on edges and for deburring work on steel structural and cast steel parts. Additionally for removing burrs and for grinding of chamfers for preparation of weld seams and sanding of contours.

- Ceramically bound, hardness O
- Thanks to its high edge stability, it can also be used economically on low-speed tool drives
- Long service life and large machining volume due to wear-resistant grain and hard bonding



PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
2	5	3	100	201800	ZY 0205 3	10	094372	£2.47
3	6		100	206100	ZY 0306 3		094525	£2.17
4	8		100	175100	ZY 0408 3		094686	£2.17
5	10		100	130700	ZY 0510 3		094884	£2.17
6	13		100	93600	ZY 0613 3		095157	£2.32
8	10		46	87600	ZY 0810 3		095355	£2.17
8	16		46	61000	ZY 0816 3		095546	£2.19
10	13		46	58400	ZY 1013 3		095720	£2.28
13	3		60	73400	ZY 1303 3		098806	£2.28
13	13		46	45300	ZY 1313 3		096154	£2.28
16	4		46	59600	ZY 1604 3		098974	£2.28
3	6	6	100	206100	ZY 0306 6	10	094464	£2.17
4	8		100	177400	ZY 0408 6		094587	£2.17
5	10		100	157800	ZY 0510 6		094761	£2.15
6	13		100	131500	ZY 0613 6		095041	£2.32
8	10		80	119300	ZY 0810 6		095287	£2.17
8	16		80	119300	ZY 0816 6		095447	£2.19
10	13		46	95400	ZY 1013 6		095638	£2.28
10	20		46	95400	ZY 1020 6		095874	£2.47
10	32		46	83200	ZY 1032 6		096024	£3.09
13	13		46	73400	ZY 1313 6		096109	£2.28
13	25		46	73400	ZY 1325 6		096369	£2.87
13	40		46	42400	ZY 1340 6		098059	£3.78
16	10		30	59600	ZY 1610 6		099063	£2.47
16	20		30	59600	ZY 1620 6		096475	£2.70
16	32		30	51200	ZY 1632 6		096611	£3.09
16	40		30	40500	ZY 1640 6		096741	£3.75
20	6		46	47700	ZY 2006 6		099124	£2.64
20	25		30	47700	ZY 2025 6		097014	£2.94
20	40		30	32400	ZY 2040 6		097236	£3.85
25	6		46	38100	ZY 2506 6		099339	£2.75
25	32		30	32900	ZY 2532 6		097458	£3.75
32	20		24	29800	ZY 3220 6		099780	£3.60
40	10		30	23800	ZY 4010 6		099896	£3.38
40	20		24	23800	ZY 4020 6		100042	£3.78

MOUNTED POINT TOUGH EDGE

Ceramic Cylindrical Shape ZY, Blue

Application:
For extensive use on titanium materials, nickel and cobalt-based alloy, for the machining of hardened steel components, application welds and for the grinding and regrinding of repair welds in tool and mould making.

- Ceramically bound, hardness J
- Cool grinding, due to good fragility of the grain mixture
- Consistently high removal rate and very long service life due to the self-sharpening effect of the ceramic abrasive grain



PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
3	6	3	80	206100	ZY 0306 3	10	802106	£2.68
4	8	3	80	175100	ZY 0408 3		802137	£2.68
5	10	3	80	130700	ZY 0510 3		802151	£2.68
6	13	3	80	93600	ZY 0613 3		802182	£2.87
8	16	6	46	119300	ZY 0816 6		802205	£2.75
10	13	6	46	95400	ZY 1013 6		802229	£2.79
13	25	6	46	73400	ZY 1325 6		802304	£3.56
16	20	6	46	59600	ZY 1620 6		802328	£3.38
16	32	6	46	51200	ZY 1632 6		802342	£3.79
20	25	6	46	47700	ZY 2025 6		802373	£3.63
32	32	6	46	25700	ZY 3232 6		802427	£5.17
40	20	6	46	23800	ZY 4020 6		802434	£4.87

MOUNTED POINT INOX EDGE

Cylindrical Shape ZY, Black Fused

Application:
Especially suitable for edge applications, grinding of fillet welds, deburring of moulded parts made of high heat-resistant alloys and stainless steel castings as well as grinding of chamfers to prepare stainless steel profiles.

- Synthetic resin, hardness N
- High grinding comfort due to low-vibration cutting
- Cool grinding during use on temperature-sensitive materials



Head Dia	Head Length	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
8	16	6	46	119300	ZY 0816 6	10	346860	£2.19
13	25		46	76400	ZY 1325 6		096420	£2.87
16	32		30	51200	ZY 1632 6		096673	£3.09
20	25		30	47700	ZY 2025 6		097076	£2.94
25	32		30	32900	ZY 2532 6		097526	£3.75
32	20		24	29800	ZY 3220 6		099834	£3.60
40	20		24	23800	ZY 4020 6		100110	£3.78

MOUNTED POINT HARDENED STEEL

CBN Cylindrical Shape BZY

Application:
Ideal for use on edges and for deburring work on tool steels, hardened steels (>38 HRC) and bearing steels parts as well as for removing burrs and for grinding of chamfers for preparation of weld seams and sanding of contours.

- Single-layer coating with electroplated CBN grain
- Much less sensitive to heat than diamond grinding points
- Exceptional tool life compared to aluminium oxide



PFERD

Head Dia	Head Length	Shank Dia	Grit	Type	Pack Size	Order Code	Price (Each)
1	4	3	126	BZY 0404 3	5	258224	£16.92
2	4	3		BZY 0204 3	5	119310	£18.35
3	4	3		BZY 0304 3	5	119334	£20.71
4	5	3		BZY 0405 3	5	119358	£20.81
5	5	3		BZY 0505 3	5	119372	£24.64
6	6	6		BZY 0606 6	5	119389	£28.04
8	8	6		BZY 0808 6	1	119402	£36.03
10	8	6		BZY 1008 6	1	119419	£42.00
12	8	6		BZY 1208 6	1	119426	£49.42

MOUNTED POINT HRSA/CARBON FIBRE - DIAMOND

Cylindrical Shape DZY

Application:
Ideal for use on edges and for deburring work on Carbide, Grey cast iron, Ferrite, Graphite, Thermoset plastic, GRP, CFK, Superalloy nickel or titanium based parts as well as for removing burrs and for grinding of chamfers for preparation of weld seams and sanding of contours.

- Single-layer coating with electroplated DIAMOND grain
- Exceptional tool life on abrasive materials



PFERD

Head Dia	Head Length	Shank Dia	Grit	Type	Pack Size	Order Code	Price (Each)
1	4	3	126	DZY 0404 3	5	257890	£15.35
2	4	3		DZY 0204 3	5	119181	£16.88
3	4	3		DZY 0304 3	5	119204	£18.60
4	5	3		DZY 0405 3	5	119228	£19.00
5	5	3		DZY 0505 3	5	119242	£22.64
6	6	6		DZY 0606 6	5	119259	£25.73
8	8	6		DZY 0808 6	1	119273	£32.84
10	8	6		DZY 1008 6	1	119280	£38.17
12	8	6		DZY 1208 6	1	119297	£45.07

MOUNTED POINT STEEL EDGE

Aluminium Oxide, Ball Shape KU, Pink

Application:
Ideal for use on edges and for deburring work on steel structural and cast steel parts as well as for removing burrs and for grinding of chamfers for preparation of weld seams and sanding of contours.

- Ceramically bound, hardness O
- Thanks to its high edge stability, it can also be used economically on low-speed tool drives
- Long service life and large machining volume due to wear-resistant grain and hard bonding



PFERD

Head Dia	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
5	3	100	190900	KU 05 3	10	101094	**£2.47**
8	3	80	116200	KU 08 3		101568	**£2.64**
10	3	46	83300	KU 10 3		101520	**£2.68**
16	6	30	59600	KU 16 6		101278	**£3.36**
20	6	30	47700	KU 20 6		101353	**£3.78**
32	6	24	29800	KU 32 6		101445	**£5.44**

MOUNTED POINT TOUGH EDGE

Ceramic Ball Shape KU, Blue

Application:
For extensive use on titanium materials, nickel and cobalt-based alloys, for the machining of hardened steel components, application welds and for the grinding and regrinding of repair welds in tool and mould making.

- Ceramically bound, hardness J
- Cool grinding, due to good friability of the grain mixture
- Consistently high removal rate and very long service life due to the self-sharpening effect of the ceramic abrasive grain



PFERD

Head Dia	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
6	3	80	149200	KU 06 3	10	802465	**£3.13**
8	3	80	116200	KU 08 3		802489	**£3.30**
13	6	46	73400	KU 13 6		802533	**£3.53**

MOUNTED POINT HARDENED STEEL

CBN Ball Shape BKU

Application:
Ideal for use on tool steels, hardened steels (>HRC38) and bearing steels parts. This shape is well suited for engraving, contour grinding and deburring tasks.

- Single-layer coating with electroplated CBN grain
- Much less sensitive to heat than diamond grinding points
- Exceptional tool life compared to aluminium oxide



PFERD

Head Dia	Shank Dia	Grit	Type	Pack Size	Order Code	Price (Each)
2	3	126	BKU-A 2.0/3	5	259023	**£24.26**
4	3		BKU-A 4.0/3	5	259085	**£27.38**
5	3		BKU-A 5.0/3	5	259115	**£35.20**
8	6		BKU-A 8.0/6	5	259207	**£52.29**
10	6		BKU-A 10/6	1	259269	**£67.40**
12	6		BKU-A 10/6	1	259320	**£84.76**

MOUNTED POINT HRSA/CARBON FIBRE

Diamond Ball Shape DKU

Application:
Ideal for use on edges and for deburring work on Carbide, Grey cast iron, Ferrite, Graphite, Thermoset plastic, GRP, CFK, Superalloy nickel or titanium based parts. This shape is well suited for engraving, contour grinding and deburring tasks.

- Single-layer coating with elctroplated DIAMOND grain
- Exceptional tool life on abrasive materials



PFERD

Head Dia	Shank Dia	Grit	Type	Pack Size	Order Code	Price (Each)
2	3	126	DKU-A 2.0/3	5	258668	**£21.94**
4	3		DKU-A 4.0/3	5	258729	**£24.84**
5	3		DKU-A 5.0/3	5	258750	**£32.04**
8	6		DKU-A 8.0/6	5	258842	**£47.46**
10	6		DKU-A 10/6	1	258903	**£61.39**
12	6		DKU-A 10/6	1	258965	**£77.17**

MOUNTED POINT STEEL EDGE

Aluminium Oxide Cone Shape KE, Pink

Application:
Ideal for use on edges and for deburring work on steel structural and cast steel parts as well as for removing burrs and for grinding of chamfers for preparation of weld seams and sanding of contours.

- Ceramically bound, hardness O
- Thanks to its high edge stability, it can also be used economically on low-speed tool drives
- Long service life and large machining volume due to wear-resistant grain and hard bonding



PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
10	10	3	46	95400	KE 1010 3	10	102404	**£2.47**
10	25	6	46	95400	KE 1025 6		102787	**£3.19**
20	32	6	30	4700	KE 2032 6		102688	**£4.08**
20	40	6	30	4700	KE 2040 6		102978	**£4.55**

MOUNTED POINT TOUGH EDGE

Ceramic Cone Shape KE, Blue

Application:
For extensive use on titanium materials, nickel and cobalt-based alloys, for the machining of hardened steel components, application welds and for the grinding and regrinding of repair welds in tool and mould making.

- Ceramically bound, hardness J
- Cool grinding, due to good friability of the grain mixture
- Consistently high removal rate and very long service life due to the self-sharpening effect of the ceramic abrasive grain



PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
10	25	6	46	95400	KE 1025 6	10	802601	**£4.11**
16	46			52000	KE 1645 6		802625	**£6.31**

MOUNTED POINT STEEL EDGE ALUMINIUM OXIDE

Pointed Tree Shape SP, Pink



Application:
Ideal for use on edges and for deburring work on steel structural and cast steel parts as well as for removing burrs and for grinding of chamfers for preparation of weld seams and sanding of contours.

- Ceramically bound, hardness O
- Thanks to its high edge stability, it can also be used economically on low-speed tool drives
- Long service life and large machining volume due to wear-resistant grain and hard bonding

PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
3	6	3	100	252000	SP 0306 3	10	101810	**£2.47**
5	10		100	149500	SP 0510 3		101933	**£2.64**
8	16		80	72800	SP 0816 3		102091	**£2.68**
3	6	6	100	255500	SP 0306 6		101773	**£2.47**
5	10		100	190900	SP 0510 6		101865	**£2.64**
8	16		80	119300	SP 0816 6		102022	**£2.68**

MOUNTED POINT STEEL EDGE ALUMINIUM OXIDE

Pointed Tree Shape SP, Pink



Application:
For extensive use on titanium materials, nickel and cobalt-based alloys, for the machining of hardened steel components, application welds and for the grinding and regrinding of repair welds in tool and mould making.

- Ceramically bound, hardness J
- Cool grinding, due to good friability of the grain mixture
- Consistently high removal rate and very long service life due to the self-sharpening effect of the ceramic abrasive grain

PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Type	Pack Size	Order Code	Price (Each)
6	13	3	80	107900	SP 0613 3	10	802663	**£3.31**
8	16	3	80	72800	SP 0816 3		802694	**£3.36**
13	20	6	46	73400	SP 1320 6		802717	**£4.00**

MOUNTED POINT SET 2001 TOUGH COARSE

Shank Diameter 6mm, 10pc Set

Application:
Contains 10 mounted points with 6mm shank in the most common shapes and dimensions. It can be used on High-temperature-resistant materials, Cobalt-based alloys, Other non-ferrous metal, Nickel-based alloys (e.g. Inconel and Hastelloy),Titanium, Hard non-ferrous metal, Hardened steels over 1,200 N/mm ² (over 38 HRC)

Contents:
1 piece each ZY 1013, ZY 1325, ZY 1620, ZY 2025, ZY 2040, ZY 4010, KU 13, SP 1320, KE 1025, KE 1645



PFERD

Shank Dia	Hardness	Surface Structure	Binder	Colour	Order Code	Price
6	J	Rough	Ceramic	Blue	947609	**£35.57**

MOUNTED POINT SET STEEL EDGE ROUGH

Shank Diameter 6mm, 10pc Set

Application:
Contains 10 mounted points with 6mm shank in the most common shapes and dimensions in high performance Pink fused aluminium oxide.

Can be used on low hardness carbon and alloy steels.

Contents:
1 piece each: ZY 1013, ZY 1320, ZY 2006, ZY 2013, ZY 2025, KU 16, WR 2025, KE 2032, SP 1320, KE 2020



PFERD

Shank Dia	Hardness	Surface Structure	Binder	Colour	Order Code	Price
3	O	Rough	Ceramic	Pink	114469	**£34.43**

MOUNTED POINT SET 2002 J F TOUGH FINE

Shank Diameter 3mm, 15pc Set

Application:
Contains 15 mounted points with 3mm shank in the most common shapes and dimensions. Can be used on High-temperature-resistant materials, Cobalt-based alloys, Other non-ferrous metal, Nickel-based alloys (e.g. Inconel and Hastelloy),Titanium, Hard non-ferrous metal, Hardened steels over 1,200 N/mm ² (over 38 HRC)

Contents:
1 piece each: ZY 0205, ZY 0306, ZY 0408, ZY 0510, ZY 0613, ZY 0816, ZY 1303, ZY 2006, KU 03, KU 06, KU 08, SP 0306, SP 0408, SP 0613, SP 0816



PFERD

Shank Dia	Hardness	Surface Structure	Binder	Colour	Order Code	Price
3	J	Fine	Ceramic	Blue	947616	**£40.51**

MOUNTED POINT SET STEEL EDGE FINE

Shank Diameter 3mm, 15pc Set

Application:
Contains 15 mounted points with 3mm shank in the most common shapes and dimensions in high performance pink fused aluminium oxide.

Can be used on low hardness carbon and alloy steel.

Contents:
2 piece each: ZY 0510, ZY 0810, ZY 1604
1 piece each: ZY 0408, ZY 0613, ZY 0802, ZY 1013, ZY 1303, WR 0510, KU 05, SP 0306, SP 0816



PFERD

Shank Dia	Hardness	Surface Structure	Binder	Colour	Order Code	Price
3	O	Fine	Ceramic	Pink	114476	**£39.70**

POLIFLEX FINE GRINDING POINTS PUR BINDING

Cylindrical Shape, Green Silicon Carbide



Application:
For preliminary grinding before polishing steel parts, stainless steel (INOX), titanium, light and non-ferrous metals as well as components for food and kitchen technology. For use on flexible shafts, electrical and pneumatic straight grinders.

- Optimum contour following due to high flexibility
- Cool, very soft grinding thanks to open structure and elastic binding
- For achieving a fine, matt grinding finish

PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Rec. RPM	Pack Size	Order Code	Price (Each)
15	30	6	80	19000	12500	10	535141	**£8.64**
20				14300	9500		535233	**£9.08**
25				11400	7500		297841	**£9.27**
15	30	6	150	19000	12500		535165	**£8.64**
20				14300	9500		535257	**£9.08**
25				11400	7500		297865	**£9.27**

POLIFLEX FINE GRINDING POINTS GR BINDING

Cylindrical Shape, Pink Aluminium Oxide



Application:
For finishing of surfaces. Suitable for steel parts, stainless steel (INOX), titanium, light and non-ferrous metals as well as components for food and kitchen technology. For use on flexible shafts, electric and compressed air straight grinders.

- For achieving a fine, polished grinding finish
- Soft, elastic binding for soft grinding

PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Rec. RPM	Pack Size	Order Code	Price (Each)
4	8	3	120	71600	47500	10	144800	**£3.94**
6	10	3		47700	32000		144824	**£3.94**
8	12	3		35800	24000		144886	**£4.20**
10	10	3		28600	19000		144947	**£4.20**
10	25	6		28600	19000		145265	**£4.20**
12	20	3		23800	16000		145128	**£4.25**
12	20	6		23800	16000		145296	**£4.20**
15	25	6		19000	12500		145418	**£4.25**
20	20	6		14300	9500		145562	**£4.77**
20	30	6		14300	9500		145630	**£5.18**

POLIFLEX FINE GRINDING POINTS GHR BINDING

Cylindrical Shape, Synthetic Aluminium Oxide



Application:
For finishing of edges. Suitable for steel parts, stainless steel (INOX), titanium, light and non-ferrous metals as well as components for food and kitchen technology. For use on flexible shafts, electric and compressed air straight grinders.

- For achieving a fine, polished grinding finish
- Soft, elastic binding for soft grinding

PFERD

Head Dia	Head Length	Shank Dia	Grit	Max RPM	Rec. RPM	Pack Size	Order Code	Price (Each)
8	12	3	120	71600	60000	10	533765	**£4.20**
10	10	3		57200	45000		533871	**£4.20**
10	15	3		52000	45000		533895	**£4.20**
10	25	6		57200	45000		533956	**£4.25**

FELT POLISHING & GRINDING POINTS

Cylindrical Shape ZYA



Application:
For pre-polishing and gloss polishing of injection moulding tools, fittings, cemented carbide cutting knives and for gloss polishing of stainless steel components (INOX).

- Exact preservation of geometric shapes due to its hardness
- Can be used for tools with complicated geometries
- Cylinder shape ideal for surface and edge work

PFERD

Head Dia	Head Length	Shank Dia	Min RPM	Max RPM	Pack Size	Order Code	Price (Each)
10	14	6	10000	20000	10	153772	**£3.74**
15	20		12000	6000		294727	**£5.69**
20	25		10000	5000		153802	**£6.99**
25	30		8000	4000		153888	**£8.61**

FELT POLISHING & GRINDING POINTS

Cone Shape KEL



Application:
For pre-polishing and gloss polishing of injection moulding tools, fittings, cemented carbide cutting knives and for gloss polishing of stainless steel components (INOX).

- Exact preservation of geometric shapes due to its hardness
- Can be used for tools with complicated geometries
- Cone shape ideal to machine radii

PFERD

Head Dia	Head Length	Shank Dia	Min RPM	Max RPM	Pack Size	Order Code	Price (Each)
10	18	6	10000	20000	10	153796	**£4.20**
15	30		6000	12000		153949	**£5.69**
20	25		5000	10000		294734	**£7.17**

FELT POLISHING & GRINDING POINTS

Pointed Cone Shape SPK



Application:
For pre-polishing and gloss polishing of injection moulding tools, fittings, cemented carbide cutting knives and for gloss polishing of stainless steel components (INOX).

- Exact preservation of geometric shapes due to its hardness
- Freely profilable and can therefore also be used for tools with complicated geometries
- Pointed cone shape ideal to machine radii and contours

PFERD

Head Dia	Head Length	Shank Dia	Min RPM	Max RPM	Pack Size	Order Code	Price (Each)
15	20	6	6000	12000	10	294741	**£4.98**
20	25		5000	10000		153956	**£7.17**
25	30		4000	8000		153819	**£8.96**
30	35		3200	6350		153826	**£10.91**

FELT POLISHING & GRINDING POINTS

Cylindrical Shape with Radius WRC



Application:
For pre-polishing and gloss polishing of injection moulding tools, fittings, cemented carbide cutting knives and for gloss polishing of stainless steel components (INOX).

- Exact preservation of geometric shapes due to its hardness
- Freely profilable and can therefore also be used for tools with complicated geometries
- Mainly used for machining small concave contours

PFERD

Head Dia	Head Length	Shank Dia	Min RPM	Max RPM	Pack Size	Order Code	Price (Each)
15	20	6	6000	12000	10	153895	**£4.98**
20	25		5000	10000		153901	**£6.40**
25	30		4000	8000		153918	**£8.12**

POLICAP® ALUMINIUM OXIDE ABRASIVE CAPS

Cylindrical Form A

Application:
POLICAP tools are the ideal alternative to carbide burrs or mounted points for fine grinding, finishing, feather edging, blending of ferrous and non-ferrous metal.

Cylindical shape, ideal for edges, flat surfaces, chamfers.



PFERD

Head Diameter	Head Length	Grit	Colour	Max RPM	Pack Size	Order Code	Price (Each)
5	10	80	Brown	40000	50	150788	£0.72
		150	Black			150795	
		280	Red brown			150801	
7	12	60	Brown	30000		150818	£0.78
		150	Black			150825	
		280	Red brown			150832	
10	15	60	Brown	20000		150849	£0.81
		150	Black			150856	
		280	Red brown			150863	
13	17	60	Brown	16000		150870	£0.91
		150	Black			150887	
		280	Red brown			150894	

POLICAP® ABRASIVE CAP HOLDERS

Cylindrical Form A

Application:
For use with Pferd abrasive caps - Form A

POLICAP tools have a seamless design and the entire tool surface can be used. The high degree of fitting accuracy between the components ensures that the abrasive caps and cones remain securely attached to the holder during use.

- Because of slots, the holder expands during use, guaranteeing that the abrasive cap/cone is firmly clamped in place
- Good dimensional stability and excellent fine grinding thanks to a special manufacturing process
- Easy tool change



PFERD

Head Diameter	Head Length	Shank Diameter	Shank Length	Pack Size	Max RPM	Order Code	Price (Each)
5	10	3	27	5	95000	147139	£5.67
7	12	3	25		65000	147146	£6.14
10	15	3	24		45000	147153	£6.22
13	17	6	39		35000	147221	£6.19

POLICAP® ALUMINIUM OXIDE ABRASIVE CAPS

Cylindrical with Radius End Form C

Application:
POLICAP tools are the ideal alternative to carbide burrs or mounted points for fine grinding, finishing, feather edging, blending of ferrous and non-ferrous metal.

With radius end, ideal for contours, 3D grinding and moulds.



PFERD

Head Diameter	Head Length	Grit	Colour	Max RPM	Pack Size	Order Code	Price (Each)
5	11	80	Brown	40000	50	150931	£0.72
		150	Black			150948	
		280	Red brown			150955	
7	13	60	Brown	30000		150962	£0.78
		150	Black			150979	
		280	Red brown			150986	
10	15	60	Brown	20000		150993	£0.81
		150	Black			151006	
		280	Red brown			151013	
13	17	60	Brown	16000		151020	£0.91
		150	Black			151037	
		280	Red brown			151044	

POLICAP® ABRASIVE CAP HOLDERS

Cylindrical with Radius End Form C

Application:
For use with Pferd abrasive caps - Form C

POLICAP tools have a seamless design and the entire tool surface can be used. The high degree of fitting accuracy between the components ensures that the abrasive caps and cones remain securely attached to the holder during use.

- Because of slots, the holder expands during use, guaranteeing that the abrasive cap/cone is firmly clamped in place
- Good dimensional stability and excellent fine grinding thanks to a special manufacturing process
- Easy tool change



PFERD

Head Diameter	Head Length	Shank Diameter	Shank Length	Pack Size	Max RPM	Order Code	Price (Each)
5	11	3	26	5	95000	147160	£5.67
7	13	3	24		65000	147177	£6.14
10	15	3	24		45000	147184	£6.22
13	17	6	39		35000	147245	£6.19

POLICAP® ALUMINIUM OXIDE ABRASIVE CAPS

Cylindrical with Radius End Form S

Application:
POLICAP tools are the ideal alternative to carbide burrs or mounted points for fine grinding, finishing, feather edging, blending of ferrous and non-ferrous metal.

With pointed end, ideal for corners, chamfers and difficult to reach places



PFERD

Head Diameter	Head Length	Grit	Colour	Max RPM	Pack Size	Order Code	Price (Each)
5	11	80	Brown	40000	50	151082	£0.72
		150	Black			151099	
		280	Red brown			151105	
7	13	60	Brown	30000		151112	£0.78
		150	Black			151129	
		280	Red brown			151136	
10	15	60	Brown	20000		151143	£0.81
		150	Black			151150	
		280	Red brown			151167	
13	17	60	Brown	16000		151174	£0.91
		150	Black			151181	
		280	Red brown			151198	

POLICAP® ABRASIVE CAP HOLDERS

Cylindrical with Pointed End

Application:
For use with Pferd abrasive caps - Form S

POLICAP tools have a seamless design and the entire tool surface can be used. The high degree of fitting accuracy between the components ensures that the abrasive caps and cones remain securely attached to the holder during use.

- Because of slots, the holder expands during use, guaranteeing that the abrasive cap/ cone is firmly clamped in place
- Good dimensional stability and excellent fine grinding thanks to a special manufacturing process
- Easy tool change



PFERD

Head Diameter	Head Length	Shank Diameter	Shank Length	Pack Size	Max RPM	Order Code	Price (Each)
5	11	3	27	5	95000	147191	£5.58
7	13	3	26		65000	147207	£6.14
10	15	3	26		45000	147214	£6.22
13	17	6	41		35000	147269	£6.19

CYLINDER SHAPE ALUMINIUM OXIDE

Spiral Band (A Type)

Application:
For all kinds of sanding operations from coarse to precision grinding on metals and other materials.

Recommended cutting speed: 20–30m/s. Use with a grinding oil that is suitable for the material being processed to significantly increase service life and grinding performance.



PFERD

Head Diameter	Head Length	Grit	Pack Size	RPM Range	Order Code	Price (Each)
15	10	60	25	26000-36000	149041	
		80			149058	**£0.55**
		150			149065	
15	30	60	25	26000-36000	149096	
		80			149102	**£0.81**
		150			149119	
22	20	60	25	18000-26000	149188	
		80			149195	**£0.62**
		150			149201	
30	20	60	25	13000-19100	149270	
		80			149287	**£0.68**
		150			149294	
30	30	60	25	13000-19100	149331	
		80			149348	**£0.94**
		150			149355	
45	30	60	10	8500-12700	149478	
		80			149485	**£1.31**
		150			149492	
60	30	60	10	6500-9500	149584	
		80			149591	**£1.56**
		150			149607	

CYLINDER SHAPE CERAMIC OXIDE GRAIN E

Spiral Band Co-Cool Type

Application:
For aggressive grinding with maximum stock removal rates on hard and tough materials which do not conduct heat well.

Consistently high performance due to self-sharpening ceramic oxide grain. Recommended cutting speed: 15–30m/s.



PFERD

Head Diameter	Head Length	Grit	Pack Size	RPM Range	Order Code	Price (Each)
15	30	60	100	26000-36000	772195	
		80		26000-36000	772201	**£1.08**
		120		26000-36000	772218	
22	20	60		18000-26000	772225	
		80		18000-26000	772232	**£0.73**
		120		18000-26000	772249	
25	25	60		16000-22900	772256	
		80		16000-22900	772263	**£1.12**
		120		16000-22900	772270	
30	30	60		13000-19100	772294	
		80		13000-19100	772317	**£1.24**
		120		13000-19100	772331	
45	30	60		8500-12700	772362	
		80		8500-12700	772393	**£1.60**
		120		8500-12700	772409	
60	30	60		6500-9500	772423	
		80		6500-9500	772430	**£2.10**
		120		6500-9500	772447	

CYLINDER SHAPE RUBBER SPIRAL BAND HOLDER

Application:
For use with spiral bound abrasive sanding bands or abrasive sleeves.



PFERD

Head Diameter	Head Length	RPM Range	Shank Diameter	Shank Length	Order Code	Price (Each)
15	10	26000-36000	6	35	146811	**£12.53**
15	30	26000-36000			146828	**£19.04**
22	20	18000-26000			146842	**£15.77**
25	25	16000-22900			146866	**£21.41**
30	20	13000-19100			146873	**£17.27**
30	30	13000-19100			146880	**£19.04**
45	30	8500-12700			146927	**£21.81**
60	30	6500-9500			146958	**£28.06**

CUTTING DISCS FOR STEEL - EXTRA THIN

Type 74 A30 T11-BF 725

Application:
For burr-free cutting of thin-walled pipes, sheet steel and profiles

Advantages:
- Very hard cutting disc for extremely short cutting times
- Excellent performance

Specification:
- Form: Straight
- Material suitability: Steel
- Design: Very hard



ATORN®

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1	22.23	13300	50	76116020	**£0.90**
125	1		12250		76116022	**£1.00**

KRONENFLEX SPECIAL CUTTING DISCS

A 46 TZ Series

Application:
Designed specially for demanding tasks on a wide range of materials

Advantages:
- Synthetically produced grit ensures consistently high performance
- Exceptionally well suited for all types of applications

Technical Information:
- Grain: Aluminium oxide
- Bonding agent: Synthetic resin, fibre-reinforced
- Materials: Steel, stainless steel



KLINGSPOR

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1.6	22.23	13300	25	187170	**£0.98**
125	1.6		12200		187171	**£1.02**
180	1.6		8500		221161	**£1.64**
230	1.6		6600		224084	**£2.10**

CUTTING DISCS FOR STEEL & STAINLESS STEEL - EXTRA THIN

Type A 46 U9 BF 725

Application:
For burr-free cutting of thin-walled pipes, sheet steel and profiles

Advantages:
- Very hard cutting disc for extremely short cutting times
- Excellent performance
- Thickness from 1mm

Technical Information:
- Form: Straight
- Material suitability: Steel, Stainless Steel
- Design: Very hard



ATORN®

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1	22.23	13300	25	76116010	**£1.18**
125	1		12250		76116012	**£1.48**
125	1.5		12250		76116013	**£2.56**
180	1.5		8500		76116014	**£3.29**

CUTTING DISCS FOR STEEL - EXTRA THIN

Type A 46 T 11-BF 130

Application:
For burr-free cutting of thin-walled pipes, sheet steel and profiles

Advantages:
- Low cost
- Thickness1mm

Technical Information:
- Free from iron & sulphur
- Form: Straight
- Material suitability: Stainless steel
- Design: Hard



ORION®

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1	22.23	13300	50	76115115	**£0.78**

CUTTING DISCS FOR ALUMINIUM/ NON-FERROUS

Type A 24 P-BF 26

Application:
For long chipping and sticky non-ferrous metal

Advantages:
- Special design to prevent clogging of the disc
- High cutting performance

Technical Information:
- Form: 115/125 Cranked, 180/230 Straight
- Material suitability: Aluminium
- Design: Medium hard



RHODIUS

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	2	22.23	13300	25	76117115	**£1.61**
125	2		12250		76117125	**£1.74**
180	2.5		8500		76117180	**£2.69**
230	2.5		6650		76117230	**£3.43**

CUTTING DISCS FOR STEEL & STAINLESS STEEL

SG-Steel OX Type A 46 R BF 80

Application:
For burr-free cutting of sheet metals, steel sections and solid materials with cool cutting. Specially optimised for use on thin sheet metal and profiles

Advantages:
- Very robust, high-performance design with maximum cutting performance and outstanding service life
- Can be used universally on steel and stainless steel
- Thickness from 1mm

Technical Information:
- Free from iron & sulphur
- Form: Straight
- Material suitability: Steel & stainless steel
- Design: Hard



PFERD

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1	22.23	13300	25	499702	**£2.78**
125	1		12250		499733	**£3.24**
180	1.6		8500		807729	**£4.08**
230	1.9		6650		807736	**£5.99**

KRONENFLEX CUTTING DISCS FOR STEEL, STAINLESS STEEL & ALUMINIUM

EDGE Special Series

Application:
Bond is perfectly matched to the grit type

Advantages:
- Self-sharpening abrasive grain
- Great cutting performance combined with long life

Technical Information:
- Grain: Aluminium oxide
- Bonding Agent: Synthetic resin, fibre-reinforced
- Materials: Steel, stainless steel & aluminium



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1.2	22.23	13300	25	355380	£1.35
125			12200		355379	£1.51

KRONENFLEX CUTTING DISCS FOR STAINLESS STEEL

A 60 Extra Series

Application:
Ideal for cutting thin tubes to length or cutting metal sheets and profiles

Advantages:
- High level of aggressiveness & long service life
- Ideal for tasks that require efficiency and precision

Technical Information:
- Grain: Aluminium oxide
- Bonding Agent: Synthetic resin, fibre-reinforced
- Materials: Stainless steel



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1	22.23	13300	25	262936	£0.72
			13300		310499	£1.89
125			12200		262937	£0.82
			12200		310500	£2.13
			12200		312031	£2.28

KRONENFLEX CUTTING DISCS FOR STEEL & STAINLESS STEEL

K 960 TX Special Series

Application:
For ultra fine cuts and miniumum burr formation

Advantages:
- Ultimate service life & aggressive cutting performance
- Specially designed for hard and resilient materials

Technical Information:
- Grain: Cermic Aluminium oxide
- Bonding Agent: Synthetic resin, fibre-reinforced
- Materials: Steel, stainless steel



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1	22.23	13300	25	362590	£3.23
			13300		328885	£1.48
125			12200		362589	£2.97
			12200		328886	£1.59

SIACUT CUTTING DISCS FOR STAINLESS STEEL

8913 Series

Application:
For cutting of pipes, profiles, sheet metals, flat bars & solid materials

Advantages:
- Comfortable to use with little contact pressure
- Easy handling

Technical Information:
- Grain: Aluminium oxide
- Materials: Steel & stainless steel



Diameter	Thickness	Bore Diameter	Pack Size	Order Code	Price (Each)
115	1	22.2	25	0020.8720	£0.88
	1.6			0020.8721.01	£1.43
125	1			0020.8724	£0.98
	1.6			0020.8725.01	£1.23

X-TREME CUTTING DISCS FOR STEEL EXTRA THIN

Type 41

Application:
Ultra-thin design produces extremely precise, burr free, straight cuts

Advantages:
- High performance grain for fast material removal
- Reduced vibration reduces hand fatigue

Technical Information:
- Grain: Aluminium oxide
- Machine: Angle Grinder
- Materials: Steel, stainless steel



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1	22.23	13300	25	66252919427	£1.22
	1.6				66252920339	£1.37
125	1		12250		66252920341	£1.41
	1.6				66252920342	£1.55

UNIVERSAL CUTTING DISC FOR ALUMINIUM & NON-FERROUS

Universal Line PSF ALU+STONE

Application:
Thin cuts with minimum burr formation

Advantages:
- Fast work progress thanks to good cutting performance
- High economic efficiency due to good tool life

Technical Information:
- Grain: Silicon carbide SiC/C
- Machine: Angle Grinder
- Materials: Aluminium, cast iron, non-ferrous



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	1	22.23	13300	25	669310	£1.82
	1.6				669297	£1.85
125	1		12250		804278	£2.07
	1.6				804308	£2.08
180	3.2		8500		163641	£2.18

KRONENFLEX GRINDING DISCS FOR STEEL

A 24 R Supra

Application:
For surface grinding, edge bevelling and deburring of edges

Advantages:
- Long surface life due to even wear of grit
- Made from premium abrasive materials

Technical Information:
- Grain: Aluminium oxide
- Bonding Agent: Synthetic resin, fibre-reinforced
- Materials: Steel, stainless steel



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	6	22.23	13300	10	13401	**£1.78**
125	6		12250		13402	**£2.07**
180	4		8500		13408	**£4.03**
230	6		13300		13433	**£5.12**

KRONENFLEX GRINDING DISCS FOR ALUMINIUM

A 46 N Supra

Application:
For surface grinding, edge bevelling and burr removal

Advantages:
- Rarely clog up on material when used on non-ferrous
- Long service life

Technical Information:
- Grain: Aluminium oxide
- Bonding Agent: Synthetic resin, fibre-reinforced
- Materials: Aluminium, non-ferrous



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	6	22.23	13300	25	6622	**£3.32**
125	6		12250	25	2226	**£3.80**
180	8		8500	10	13410	**£5.46**
180	6		6650	10	13415	**£6.47**

X-TREME GRINDING DISCS FOR STEEL & STAINLESS STEEL

Type 27

Application:
Superior bond system holds the grain for long wheel life, resulting in less wheel erosion

Advantages:
- Superior bond system holds the grain for long wheel life, resulting in less wheel erosion
- Long-lasting disc provides great performance and value

Technical Information:
- Grain: Aluminium oxide
- Machines: Angle Grinder
- Materials: Steel, stainless steel



Diameter	Thickness	Bore Diameter	Pack Size	Order Code	Price (Each)
115	7	22.23	10	66252918822	**£1.93**
125				66252918823	**£2.12**
180				66252918824	**£4.36**
230				66252918825	**£6.89**

X-LOCK GRINDING DISC FOR STEEL

8933 Series

Application:
For welded seam preparation, removal of fillet welds, removing solid material and deburring

Advantages:
- Designed to remove material effectively while minimising heat buildup and maintaining consistent grinding results
- Exceptional grinding performance on various materials

Technical Information:
- Grain: Aluminium oxide
- Bonding Agent: Glass fibre
- Materials: Steel



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	6	22.23	13300	20	0020.8744.01	**£2.07**
125			12250		0020.8745.01	**£2.30**

UNIVERSAL GRINDING DISC FOR STEEL & STAINLESS STEEL

Universal Line PSF STEELOX

Application:
Surface grinding, weld dressing, work on fillet welds, grouting, chamfering and deburring

Advantages:
- Fast work progress and high economic efficiency
- Long tool life
- Suitable for low-power angle grinders

Technical Information:
- Grain: Aluminium oxide A
- Machine: Angle Grinder, drive spindle
- Materials: Steel, stainless steel



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	4.1	22.23	13300	10	640869	**£2.46**
125			12250		643068	**£2.84**
180			8500		640753	**£3.56**
230	7.2		6650		640951	**£6.96**

PERFORMANCE GRINDING DISC FOR STAINLESS STEEL

Performance Line SG INOX

Application:
Surface grinding, weld dressing, work on fillet welds, grouting, chamfering and deburring

Advantages:
- Fast work progress & maximum economic efficiency
- Soft grinding characteristics for cool grinding
- Fewer tool changes due to the very good tool life

Technical Information:
- Grain: Aluminium oxide A
- Machine: Angle Grinder, drive spindle
- Materials: Stainless steel



Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	4.1	22.23	13300	10	457627	**£3.64**
125			12250		457689	**£5.01**
180			8500		475287	**£8.86**
230	7.2		6650		470411	**£10.86**

GRINDING DISCS FOR STEEL & CAST IRON

Type A 24 P-BF 130

Application:
For rough deburring, chamfering, fettling and for preparatory and finishing work on weld seams

Advantages:
- Hard version - ideal for grinding edges
- Excellent value

Technical Information:
- Form: Cranked
- Material suitability: Steel & cast iron
- Design: Hard



ORION®

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
125	7	22.23	12250	25	76101225	£1.30

GRINDING DISCS FOR STEEL & CAST IRON

Type A 24 Q-BF 725

Application:
For rough deburring, chamfering, fettling and for preparatory and finishing work on weld seams

Advantages:
- Hard version - ideal for grinding edges
- High removal rate with long service life

Technical Information:
- Form: Cranked
- Material suitability: Steel & cast iron
- Design: Hard



ATORN®

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
180	7	22.23	8500	10	76100180	£2.37

GRINDING DISCS FOR STEEL & STAINLESS STEEL

Silver Ceramic Type 27

Application:
For heavy grinding applications, such as chamfering/bevelling, slag/rolling skin removal, welding seam and edge machining

Advantages:
- 3M Precision Shaped Grain cuts cleanly and fast, drastically increasing productivity
- Long-lasting disc provides great performance value

Technical Information:
- Free from iron & sulphur
- Form: Cranked
- Material suitability: Steel & Stainless
- Design: Hard



3M

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	7	22.23	13300	20	76105100	£3.61
125			12200		76105103	£3.79
180			8500		76105106	£6.82
230			6850		76105109	£10.23

GRINDING DISCS FOR STEEL & STAINLESS STEEL

Cubitron II Type 27

Application:
For rough deburring, chamfering, fettling and for preparatory and finishing work on weld seams

Advantages:
- Triangular shaped ceramic grain wears evenly, runs cool, and optimises mineral breakdown, for extra long life & higher metal removal rate
- Rigid, reinforced resin-bonded wheel slices through almost all materials including stainless steel, mild steel, and aerospace alloys

Technical Information:
- Form: Cranked
- Material suitability: Steel & Stainless
- Design: Hard



3M

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	7	22.23	13300	20	76105116	£8.15
125			12250		76105126	£8.49
180			8500		76105181	£15.10
230			6650		76105231	£20.87

GRINDING DISCS FOR ALUMINIUM/NON-FERROUS

Topline Type A 24 N-BF 28

Application:
For deburring, chamfering and pre/post-machining of welding seams

Advantages:
- Special design to prevent clogging of the disc
- High cutting performance
- Minimal heat generation

Technical Information:
- Form: cranked
- Material suitability: Aluminium & non-ferrous metal
- Design: Medium hard



RHODIUS TOPLINE

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	7	22.23	13300	25	76102100	£2.69
125			12200	25	76102103	£2.62
180			6850	10	76102106	£5.17

GRINDING DISCS FOR STEEL & STAINLESS STEEL

Type AK 24 v-BF

Application:
Preparation & removal of welding seams, removal of welding spatters, descaling & coarse deburring and abrasive grinding on stainless steel or steel

Advantages:
- Ceramic abrasive grain with ultra-sharp cutting edge
- Freegrind function reduces tilting at the beginning
- Cool grinding without thermal blue colouring minimises the need for post-processing

Technical Information:
- Free from iron & sulphur
- Form: cranked
- Material suitability: Steel & Stainless steel
- Design: Hard



ATORN®

Diameter	Thickness	Bore Diameter	Max RPM	Pack Size	Order Code	Price (Each)
115	7	22.23	13300	10	76100250	£5.41
125			12250		76100252	£5.93
180			8500		76100254	£9.11
230			6650		76100256	£13.12

CERAMIC QUICK CHANGE DISCS

Application:
Ceramic quick change discs are for aggressive metal removal on difficult to grind and finish materials such as stainless steel and high nickel alloys

Advantages:
- Cooler cutting achieved to reduce work piece discolouration
- Rapid metal removal on high pressure applications

(S Type) (R Type)



Ordering Guide
REPLACE _ _ _ WITH THE REQUIRED GRIT
For example: 40 grit = GQC50040-S

Garryson

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
S Type					
50	25000	36, 40, 50, 60	50	GQC50_ _ _-S	**£0.91**
75	20000	36, 40, 50, 60		GQC75_ _ _-S	**£1.22**
R Type					
50	25000	36, 40, 50, 60, 80	50	GQC50_ _ _R	**£0.91**
75	20000	36, 40, 50, 60, 80		GQC75_ _ _-R	**£1.22**

CERAMIC QUICK CHANGE DISCS

Application:
Ceramic quick change discs are for aggressive metal removal on titanium, hastelloy, inconel and other exotic materials including composites

Advantages:
- Zirconium quick change discs offer rapid stock removal at medium to high levels of pressure

(S Type) (R Type)



Ordering Guide
REPLACE _ _ _ WITH THE REQUIRED GRIT
For example: 40 grit = GQC50040-S

Garryson

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
S Type					
50	25000	36, 40, 50, 60, 80	50	GQZ50_ _ _-S	**£0.91**
75	20000	36, 40, 50, 60, 80		GQZ75_ _ _-S	**£1.27**
R Type					
50	25000	36, 40, 50, 60, 80	50	GQZ50_ _ _R	**£0.91**
75	20000	36, 40, 50, 60, 80		GQZ75_ _ _-R	**£1.27**

ALUMINIUM OXIDE QUICK CHANGE DISCS

Application:
Ideal for general purpose grinding, deburring, blending and edge grinding on ferrous and non-ferrous materials.

Advantages:
- Aluminium oxide discs offer reduced heat, finer surface finish and rapid stock removal on softer materials
- Excellent durability for edge grinding

(S Type) (R Type)



Ordering Guide
REPLACE _ _ _ WITH THE REQUIRED GRIT
For example: 40 grit = GQZ50040-S

Garryson

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
S Type					
50	25000	36, 40, 50, 60, 80	50	GQA50_ _ _-S	**£0.71**
75	20000	36, 40, 50, 60, 80		GQA75_ _ _-S	**£0.91**
R Type					
50	25000	36, 40, 50, 60, 80	50	GQA50_ _ _R	**£0.71**
75	20000	36, 40, 50, 60, 80		GQA75_ _ _-R	**£0.91**

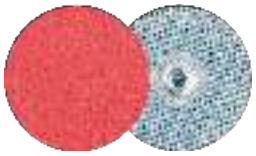
COMBIDISC CO-COOL CERAMIC GRINDING DISCS

Application:
For aggressive grinding with maximum removal rate on hard, poorly heat-conducting materials such as stainless steel and high nickel alloys

Advantages:
- Ceaseless maximum performance due to self-sharpening ceramic grain
- Active grinding additives in the coating noticeably increase the removal rate, prevent clogging and facilitate cooler grinding

COMBIDISC SYSTEM





PFERD

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
50	13000	36	100	617298	**£2.35**
		60		617304	**£2.02**
		80		617311	**£1.98**
		120		771365	**£1.99**

COMBIDISC A-COOL CORUNDUM GRINDING DISCS

Application:
For universal coarse to fine grinding on hard-to-machine materials such as stainless steel or nickel-based alloys. Suitable for roughing, levelling, deburring, sharpening, staged finishing and machining surfaces and weld seams.

Advantages:
- Active grinding additives in the coating noticeably increase the removal rate, prevent clogging and facilitate cooler grinding.
- Very high tear resistance for long service life

COMBIDISC SYSTEM





PFERD

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
50	13000	60	100	266427	**£1.59**
		80		266434	

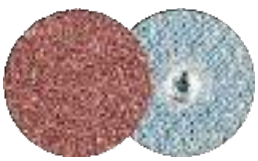
COMBIDISC A-PLUS CORUNDUM GRINDING DISCS

Application:
For universal use from rough to fine grinding.
Particularly suitable for edge grinding on ferrous and non-ferrous materials.

Advantages:
- Corundum aluminium oxide discs offer reduced heat, finer surface finish and rapid stock removal on softer materials
- Higher removal rate due to stiffer base material
- Very high tear resistance for long service life

COMBIDISC SYSTEM





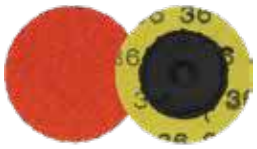
PFERD

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
50	13000	50	100	593608	**£1.77**
		60		593615	**£1.52**
		80		593622	**£1.50**
		120		593653	**£1.46**

BLAZE CERAMIC QUICK CHANGE DISCS

Application:
Ideal for light deburring and blending operations

Advantages:
- Excessive metal removal rate, even when using the disc at a medium pressure
- Remarkable disc longevity, durability and aggressiveness



(R Type)



Diameter	Grit	Pack Size	Order Code	Price (Each)
50	36	50	63642597039	£0.92
	50		63642597045	
	60		63642597050	
	80		63642597052	
	120	25	66261043386	

ZIRCONIA ALUMINA QUICK CHANGE DISCS

Application:
For welded seam preparation, removal of fillet welds, removing solid material & deburring

Advantages:
- High performance for stock removal
- Long lifetime
- Aggressive cut



(R Type)



Diameter	Grit	Pack Size	Order Code	Price (Each)
50	36	50	0020.1378.01	£0.65
	60		4917.8786.0060	
	80		4917.8786.0080	
	120		4917.8786.0120	

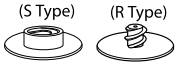
PCLR PLUS SILICON POLICLEAN QUICK CHANGE DISCS

Application:
For coarse cleaning work, such as removing paint, scale, heat discolouration, rust and adhesive residues in face-down grinding.

Advantages:
- High economic efficiency as tool can be changed quickly
- Considerably higher stock removal rate, a very good tool life & very aggressive



(S Type) (R Type)



Diameter	Min RPM	Max RPM	Pack Size	Order Code	Price (Each)
S Type Backplate					
50	5500	8000	10	069288	£9.56
75	3800	5000		069295	£13.63
R Type Backplate					
50	5500	8000	10	069301	£9.56
75	3800	5000		069318	£13.63

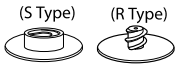
FINISHING QUICK CHANGE DISCS

Application:
Ideal for removing small surface defects, handling marks, light oxidation and cleaning all metals

Advantages:
- No undercut or gouge
- Flexible and conformable
- Quick change



(S Type) (R Type)



Diameter	Max RPM	Grain	Pack Size	Order Code	Price (Each)
S Type Backplate					
50	25000	Coarse	25	GQB50C-S	£1.24
		Medium		GQB50M-S	£1.24
		Fine		GQB50F-S	£1.16
		Very Fine		GQB50VF-S	£1.16
75	20000	Coarse		GQB75C-S	£1.73
		Medium		GQB75M-S	
		Fine		GQB75F-S	
		Very Fine		GQB75VF-S	
R Type Backplate					
50	25000	Coarse	25	GQB50C-R	£1.16
		Medium		GQB50M-R	
		Fine		GQB50F-R	
		Very Fine		GQB50VF-R	
75	20000	Coarse		GQB75C-R	£1.73
		Medium		GQB75M-R	
		Fine		GQB75F-R	
		Very Fine		GQB75VF-R	

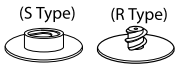
FINISHING QUICK CHANGE DISCS

Application:
Ideal for removing surface defects, machining marks, heavy oxidation, weld splatter and cleaning all metals

Advantages:
- Offers durability for edge work
- Effective on flat and contoured surfaces
- Quick change



(S Type) (R Type)



Diameter	Max RPM	Grain	Pack Size	Order Code	Price (Each)
S Type Backplate					
50	25000	Coarse	25	GQSC50C-S	£1.13
		Medium		GQSC50M-S	
		Fine		GQSC50F-S	
75	20000	Coarse		GQSC75C-S	£1.87
		Medium		GQSC75M-S	
		Fine		GQSC75F-S	
R Type Backplate					
50	25000	Coarse	25	GQSC50C-R	£1.13
		Medium		GQSC50M-R	
		Fine		GQSC50F-R	
75	20000	Coarse		GQSC75C-R	£1.87
		Medium		GQSC75M-R	
		Fine		GQSC75F-R	

SIARON CERAMIC FIBRE DISCS

4582 Series

Application:
For removal of rust & discolouration, weld preparation, stock removal, surface treatment, deburring & smoothing & blending of flaws.

Advantages:
- High performance for stock removal
- Long lifetime
- Versatile

Specification:
- Grit type: Zirconia Alumina
- Backings: Fibre
- Coating: Closed
- Bonding: Resin over resin
- Special coating: Cooling additive
- Materials: Steel, stainless steel



Diameter	Grit	Pack Size	Order Code	Price (Each)
115	36	25	6936.0824.0036.0	**£1.36**
	60		6936.0824.0060.0	**£1.24**
	80		6936.0824.0080.0	**£1.24**
	120		6936.0824.0120.0	**£1.24**
125	36		7155.7602.0036.0	**£1.57**
	60		7155.7602.0060.0	**£1.43**
	80		7155.7602.0080.0	**£1.43**
	120		7155.7602.0120.0	**£1.43**

CERAMIC CO-COOL FIBRE DISCS

Application:
For aggressive grinding with maximum stock removal rate on hard materials which do not conduct heat well.

Advantages:
- High economic efficiency thanks to long tool life and very high stock removal rate
- Consistent surface finish thanks to high-quality abrasives
- Highly flexible, enabling optimal adjustment to the contour

Specification:
- Grit type: Ceramic oxide
- Backings: Fibre
- Special coating: CO-COOL
- Materials: Stainless steel



Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22	13300	24	25	696880	**£1.92**
			36		696897	**£1.73**
			50		696903	**£1.38**
			60		696910	**£1.14**
			80		696927	**£1.03**
			100		696934	**£1.03**
			120		696941	**£1.03**
125		12200	24		696958	**£2.16**
			36		696965	**£1.90**
			50		696972	**£1.52**
			60		696989	**£1.24**
			80		696996	**£1.17**
			100		697009	**£1.17**
			120		697016	**£1.17**

ZIRCONIA ALUMINA FIBRE DISCS

F827 Series

Application:
For fast removal of old paint and rust, smoothing down welding beads, light deburring and blending.

Advantages:
- High stock removal rate for rough grinding and deburring of steel and stainless steel
- NorZon abrasive with self-sharpening effect
- High & regular cut rate at medium pressure

Specification:
- Grit type: Zirconia alumina
- Backings: Fibre (thick)
- Grain: NorZon self-sharpening
- Materials: Steel, stainless steel



Diameter	Bore Diameter	Grit	Pack Size	Order Code	Price (Each)
115	22	36	25	63642539615	**£0.71**
		60		63642539616	
		80		63642539617	
		120		63642533055	
125		36		63642536483	**£0.83**
		60		69957360057	
		80		63642539622	
		120		63642533056	

ALUMINIUM OXIDE FIBRE DISCS

CS 561 Series

Application:
For exceptionally high removal rates on steel and non-ferrous. Also suitable for metal removal on wood or plastic.

Advantages:
- Superior stock removal
- Exceptionally long service life
- Flexible, yet enormously powerful

Specification:
- Grit type: Aluminium oxide
- Backings: Fibre
- Bonding agent: Resin
- Coating: Closed
- Materials: Steel, non-ferrous



Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22	13300	36	25	10980	**£0.59**
			40		10981	**£0.59**
			50		10982	**£0.56**
			60		10983	**£0.47**
			80		10984	**£0.45**
			100		10985	**£0.45**
			120		10986	**£0.45**
			150		10987	**£0.50**
			180		10988	**£0.50**
125		12200	36		11012	**£0.71**
			40		11013	**£0.69**
			50		11014	**£0.66**
			60		11015	**£0.53**
			80		11016	**£0.53**
			100		11017	**£0.58**
			120		11018	**£0.53**
			150		11019	**£0.58**
			180		11020	**£0.58**

CUBITRON™ II FIBRE DISCS

Type 982/987C

Application:
For sharp grinding, especially suitable for general metal working such as weld seam preparation, machining of cast and flame-cut parts and polishing.

Advantages:
- High degree of sharpness owing to precision formed ceramic grains
- Very long service lives and fast cutting
- Increase productivity
- Pleasant work owing to low dust formation and low contact pressure

Specification:
- Backing produced from very robust vulcanised fibre
- Type 982C for steel and cast iron
- Type 987C for stainless steel



Diameter	Type	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	982C	22.23	13300	36+	25	76206036	£2.65
				60+		76206060	£2.35
				80+		76206080	£2.26
125	982C		12000	36+		76206136	£2.80
				60+		76206160	£2.60
				80+		76206180	£2.48
180	982C		8500	36+		76206436	£5.43
				60+		76206460	£5.00
				80+		76206480	£4.77
115	987C		13300	36+		76206236	£2.80
				60+		76206260	£2.50
				80+		76206280	£2.36
125	987C		12000	36+		76206336	£2.97
				60+		76206360	£2.69
				80+		76206380	£2.52
180	987C		8500	36+		76206536	£5.50
				80+		76206580	£4.88

CERAMIC RESIN FIBRE DISCS

Application:
For highly aggressive grinding on weld seams, cast and flame cut parts, especially in demanding applications.

Advantages:
- Ideal for removing large amounts of metal without excess heat build up
- Highest quality ceramic grain gives exceptional performance on a wide range of materials

Technical Information:
- Suitable for steel, stainless steels, titanium and cast iron



Diameter	Bore Diameter	Max RPM	Grit	Order Code	Price (Each)
115	22	13300	36	GRFDC115036	£0.87
			50	GRFDC115050	
			60	GRFDC115060	
			80	GRFDC115080	
			120	GRFDC115120	
125		12000	24	GRFDC125024	£0.87
			36	GRFDC125036	£1.11
			50	GRFDC125050	£1.11
			60	GRFDC125060	£1.11
			80	GRFDC125080	£1.11
			120	GRFDC125120	£1.11
180		8500	24	GRFDC180024	£1.11
			50	GRFDC180050	£2.08
			60	GRFDC180060	£2.08
			80	GRFDC180080	£2.08
			120	GRFDC180120	£2.08

ZIRCONIUM RESIN FIBRE DISCS

Application:
For highly aggressive grinding on weld seams, cast and flame cut parts.

Advantages:
- Ideal for removing large amounts of metal without excess heat build up
- High quality zirconia grain is supported by grinding additives which lubricate and cool the area being ground - preventing clogging, and prolonging the effective life of the disc

Technical Information:
- Suitable for carbon and alloy steel, stainless steel and cast iron



Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22	13300	24	25	GRFDZ115024	£0.99
			36		GRFDZ115036	£0.52
			50		GRFDZ115050	£0.52
			60		GRFDZ115060	£0.52
			80		GRFDZ115080	£0.52
			120		GRFDZ115120	£0.52
125		12000	24		GRFDZ125024	£0.52
			36		GRFDZ125036	£0.64
			50		GRFDZ125050	£0.64
			60		GRFDZ125060	£0.64
			80		GRFDZ125080	£0.64
			120		GRFDZ125120	£0.64
180		8500	24		GRFDZ180024	£0.64
			50		GRFDZ180050	£1.25
			60		GRFDZ180060	£1.25
			80		GRFDZ180080	£0.99
			120		GRFDZ180120	£1.25

ALUMINIUM OXIDE RESIN FIBRE DISCS

Application:
Aluminium oxide abrasive is ideal for general purpose cleaning, stripping and grinding mild steel, cast iron and non-ferrous metal. These discs also work well on hard and old wood.

Advantages:
- Ideal for low cost applications

Technical Information:
- Suitable for carbon and alloy steel, stainless steels and aluminium



Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22	13300	24	25	GRFDA115024	£0.46
			36		GRFDA115036	
			50		GRFDA115050	
			60		GRFDA115060	
			80		GRFDA115080	
			120		GRFDA115120	
125		12000	24		GRFDA125024	£0.55
			36		GRFDA125036	
			50		GRFDA125050	
			60		GRFDA125060	
			80		GRFDA125080	
			120		GRFDA125120	
180		8500	24		GRFDA180024	£0.99
			50		GRFDA180050	
			60		GRFDA180060	
			80		GRFDA180080	
			120		GRFDA180120	

CERAMIQ™ FLAP DISCS

Application:
For aggressive metal removal on difficult to grind and finish materials.

Advantages:
- For aggressive metal removal on difficult to grind and finish materials
- Ideal for steels, stainless steel, carbon steel, high nickel alloys and titanium

Technical Information:
- Angled glass fibre back plate



Garryson

Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22	13300	36	10	GFBCIQ115036	£3.19
			40		GFBCIQ115040	
			60		GFBCIQ115060	
			80		GFBCIQ115080	
125		12000	36		GFBCIQ125036	£3.46
			40		GFBCIQ125040	
			60		GFBCIQ125060	
			80		GFBCIQ125080	

CERAMIC FLAP DISCS

Application:
Ideal for extreme sanding work or special processing tasks on high-alloy steels, titanium alloys, nickel-based alloys, chrome steel and chrome-nickel steel, brass or bronze.

Advantages:
- Self-sharpening ceramic abrasive grain for permanently high material removal
- Full synthetic resin bond with grinding additives for high wear resistance

Technical Information:
- Angled glass fibre back plate



ATORN®

Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22.23	13300	40	10	76084205	£3.96
			60		76084210	£4.24
125	22.23	12250	40		76084305	£4.12
			60		76084310	£3.96
			80		76084315	£4.34

ZIRCONIUM FLAP DISCS

Application:
For universal use on a wide range of ferrous materials, ideal for weld preparation, weld seam removal, surface blending and edge grinding.

Advantages:
- Zirconium flap discs offer consistent grinding and finishing performance
- Ideal for steel, stainless steel, carbon steel

Technical Information:
- Angled glass fibre back plate



Garryson

Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
			40		GFBLZ100040	£1.99
			60		GFBLZ100060	
			80		GFBLZ100080	
			120		GFBLZ100120	
115	22	13300	36		GFBLZ115036	£2.06
			60		GFBLZ115060	£2.00
			80		GFBLZ115080	£2.00
			120		GFBLZ115120	£2.00
125	22	12200	36		GFBLZ127036	£2.33
			40		GFBLZ127040	£2.33
			60		GFBLZ127060	£2.26
			80		GFBLZ127080	£2.26
			120		GFBLZ127120	£2.26

ALUMINIUM OXIDE FLAP DISCS

Application:
For universal use on non-ferrous metal and softer materials.

Advantages:
- Ideal for use where glazing of zirconium discs is a problem
- Aluminium oxide discs offer reduced heat, finer surface finish & rapid stock removal on soft materials

Technical Information:
- Angled glass fibre back plate



Garryson

Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
100	16	15300	36	10	GFBA100036	£2.59
			40		GFBA100040	£2.59
			60		GFBA100060	£2.59
			80		GFBA100080	£2.59
			120		GFBA100120	£2.59
			40		GFBA115040	£2.84
			60		GFBA115060	£2.84
			80		GFBA115080	£2.84
			120		GFBA115120	£2.92
125	22	12000	36		GFBA127036	£3.16
			40		GFBA127040	£3.07
			60		GFBA127060	£3.07
			80		GFBA127080	£3.07

POLISHING FLAP DISCS

Application:
Used for descaling and derusting of stainless steel, steel, aluminium and non-ferrous metal. Preparation and finishing of welding seams, preparing of painted surfaces and polishing of stainless steel. For use with an angle grinder.

Advantages:
- Can be used universally on stainless steel, steel, aluminium and non-ferrous metal

Technical Information:
- Innovative, highly effective abrasive fleece with a fan-shaped lamella structure
- Can be used for edge and surface grinding on all angle grinders without a support plate
- Angled glass fibre back plate



Rough

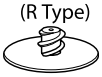


Medium



Fine

(R Type)



ATORN®

Diameter	Bore Diameter	Max RPM	Surface Structure	Pack Size	Order Code	Price (Each)
115	22.23	13300	Rough	10	76084980	£4.51
			Fine		76084984	£4.58
125		12250	Rough		76084986	£5.07
			Medium		76084988	£5.07
			Fine		76084990	£4.85

CERAMIC FLAP DISCS

SMT 975 Series

Application:
For exceptionally high stock removal rates on steel and non-ferrous. Also suitable for metal removal on wood or plastic.

Advantages:
- Very long tool life due to trimable backing plate
- Maximum performance in every application due to CEVOLUTION technology



Specification:
- Grit type: Ceramic aluminium oxide
- Backing plate: Plastic, glass fibre reinforced
- Bonding agent: Resin
- Design: Convex 6°
- Materials: Steel, stainless steel

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	13000	40	10	369295	£3.32
		60		369296	
		80		369297	
125		40		369301	£3.92

ZIRCONIA ALUMINA FLAP DISCS

SMT 324 Series

Application:
Designed for universal edges and suface work.

Advantages:
- Superior abrasive performance
- Excellent removal rates



Specification:
- Grit type: Zirconia Alumina
- Backing plate: Glass fibre
- Design: Convex 12°, flat
- Materials: Steel, stainless steel

Diameter	Max RPM	Grit	Form	Pack Size	Order Code	Price (Each)
115	13300	40	Convex 12°	10	321509	£1.77
		60			321511	
		80			321513	
125	12200	40			321510	£2.09
		60			321512	£2.09
		80			321514	£1.77
115	13300	40	Flat		321645	£1.77
		60			321647	£1.77
		80			321649	£2.09
125	12200	40			321646	£4.88
		60			321648	
		80			321650	

ALUMINIUM OXIDE A-COOL FLAP DISCS

Application:
Designed for surface grinding, weld dressing, chamfering and deburring.

Advantages:
- Less heat build up in the workpiece
- Active grinding abrasive prevents clogging



Specification:
- Grit type: Ceramic aluminium oxide
- Shape: Conical
- Materials: Stainless steel, aluminium (use only 40 & 60 grit)

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	13300	40	10	232880	£6.48
		60		232897	
		80		232903	
125	12200	40		232927	£7.14
		60		232941	
		80		232965	
180	8500	40		232972	£11.29
		60		232996	
		80		233016	

ZIRCONIA ALUMINA STEELOX FLAP DISCS

Application:
For chamfering, work on weld seams and deburring.

Advantages:
- Special coating prevents disc from clogging
- Designed to last longer than other discs



Specification:
- Grit type: Zirconia alumina
- Shape: Conical
- Materials: Steel, stainless steel

Diameter	Max RPM	Grit	Bore Diameter	Pack Size	Order Code	Price (Each)
115	13300	40	22.23	10	167922	£6.22
		60			167953	
		80			934241	
		120			934258	
125	12200	40			167939	£6.78
		60			167960	
		80			934265	
		120			934272	
150	10200	40			030363	£9.82
		60			030394	
180	8500	40			167946	£11.46
		60			167977	

ZIRCONIA ALUMINA FLAP DISCS

2824 Series

Application:
Designed for general treatment of unalloyed or low-alloyed steel.

Advantages:
- Cost reduction thanks to long lifetime
- Consistent surface quality until the abrasive is completely worn



Specification:
- Grit type: Zirconia alumina
- Coating: Closed
- Special Coating: Cooling additive
- Materials: Unalloyed / low-alloyed steel

Diameter	Grit	Pack Size	Order Code	Price (Each)
115	40	10	0020.8912.01	£3.30
	60		0020.8913.01	
	80		0020.8914.01	
	120		0020.8915.01	
125	40		0020.8916.01	£3.97
	60		0020.8917.01	
	80		0020.8918.01	
	120		0020.8919.01	

ZICRONIA ALUMINA X-TREME FLAP DISCS

R860 Series

Application:
Designed to grind faster and last longer, it is ideal for all heavy duty applications.

Advantages:
- 100% sharp NorZon grain for a faster cut from the very beginning
- Lower disc wear for longer grinding time, without loss of cut throughout disc life



Specification:
- Grit type: Zirconia alumina
- Shape: Conical
- Materials: Steel, stainless steel, cast iron, non-ferrous

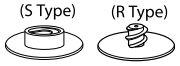
Diameter	Bore Diameter	Grit	Pack Size	Order Code	Price (Each)
115	22	40	10	78072726071	£2.82
		60		78072726074	
		80		78072726075	
		120		78072726043	
125		40		78072726076	£2.92
		60		78072726077	

CERAMIQ™ MINI-FLEXIDISCS®

Application:
Ideal for blending & finishing large concave and convex surfaces, contours & profiles on steel, stainless, titanium, exotics.

Advantages:
- Minimised area of repair/work to reduce time spent on further finishing operations
- Improved access to awkward areas
- Reduced risk of undercutting & gauging

(S Type) (R Type)





Ordering Guide
REPLACE _ _ _ WITH THE REQUIRED GRIT
For example: 40 grit = GQC50040-S

Garryson

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
R Type					
50	30000	40, 60, 80	10	GFLXCIQ050_ _ _-R	**£2.52**
75	20000	40, 60, 80		GFLXCIQ075_ _ _-R	**£3.34**

CERAMIQ™ FLEXIDISCS®

Application:
Ideal for blending & finishing large concave and convex surfaces, contours & profiles on steel, stainless, titanium, exotics.

Advantages:
- Fibreglass backing plate
- Minimised area of repair/work to reduce time spent on further finishing operations
- Improved access to awkward areas
- Reduced risk of undercutting & gauging



Garryson

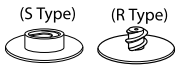
Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22	13300	40	10	GFLXCIQ115040	**£5.64**
			60		GFLXCIQ115060	
			80		GFLXCIQ115080	
125		12200	40		GFLXCIQ127040	**£6.45**
			60		GFLXCIQ127060	
			80		GFLXCIQ127080	

ZIRCONIUM MINI-FLEXIDISCS®

Application:
Ideal for blending & finishing large concave and convex surfaces, contours & profiles on steel, stainless steel, cast iron.

Advantages:
- Minimised area of repair/work to reduce time spent on further finishing operations
- Improved access to awkward areas
- Reduced risk of undercutting & gauging

(S Type) (R Type)





Ordering Guide
REPLACE _ _ _ WITH THE REQUIRED GRIT
For example: 40 grit = GQC50040-S

Garryson

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
S Type					
50	20000	40, 60, 80, 120	10	GFLXZ050_ _ _-S	**£2.52**
75	30000	40, 60, 80, 120		GFLXZ075_ _ _-S	**£3.34**
R Type					
50	30000	40, 60, 80, 120	10	GFLXZ050_ _ _-R	**£2.52**
75	20000	40, 60, 80, 120		GFLXZ075_ _ _-R	**£3.34**

ZIRCONIUM FLEXIDISCS®

Application:
Ideal for blending & finishing large concave and convex surfaces, contours & profiles on steel, stainless steel, cast iron.

Advantages:
- Fibreglass backing plate
- Minimised area of repair/work to reduce time spent on further finishing operations
- Improved access to awkward areas
- Reduced risk of undercutting & gauging



Garryson

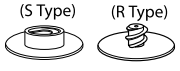
Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22	13300	40	10	GFLXZ115040	**£5.64**
			60		GFLXZ115060	
			80		GFLXZ115080	
125		12200	40		GFLXZ127040	**£6.45**
			60		GFLXZ127060	
			80		GFLXZ127080	

ALUMINIUM OXIDE MINI-FLEXIDISCS®

Application:
Ideal for blending & finishing large concave and convex surfaces, contours & profiles on aluminium, non-ferrous & soft materials.

Advantages:
- Minimised area of repair/work to reduce time spent on further finishing operations
- Improved access to awkward areas
- Reduced risk of undercutting & gauging

(S Type) (R Type)





Ordering Guide
REPLACE _ _ _ WITH THE REQUIRED GRIT
For example: 40 grit = GQC50040-S

Garryson

Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
S Type					
50	20000	40, 60, 80, 120	10	GFLXA050_ _ _-S	**£2.52**
75	30000	40, 60, 80, 120		GFLXA075_ _ _-S	**£3.34**
R Type					
50	30000	40, 60, 80, 120	10	GFLXA050_ _ _-R	**£2.52**
75	20000	40, 60, 80, 120		GFLXA075_ _ _-R	**£3.34**

ALUMINIUM OXIDE FLEXIDISCS®

Application:
Ideal for blending & finishing large concave and convex surfaces, contours & profiles on aluminium, non-ferrous & soft materials.

Advantages:
- Fibreglass backing plate
- Minimised area of repair/work to reduce time spent on further finishing operations
- Improved access to awkward areas
- Reduced risk of undercutting & gauging



Garryson

Diameter	Bore Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
115	22	13300	40	10	GFLXA115040	**£5.43**
			60		GFLXA115060	
			80		GFLXA115080	
125		12200	40		GFLXA127040	**£6.18**
			60		GFLXA127060	
			80		GFLXA127080	

4PC SILICON CARBIDE POLISHING DISCS SET

Application:
Polishing large areas in a short time to a mirror finish. Also for removing paints and coatings, cleaning components, derusting and fine deburring on aluminium, cast material, plastic, stainless steel, steel and titanium.

Advantages:
- Available in flat or oblique
- Replaces cloth discs, felt discs and polishing pastes
- Works without polishing paste
- One step cleaning of the workpiece and finishing of the surface
- Quick and effortless polishing, even over large surfaces, with a controlled angle grinder
- Set contains 1 of each: K150, K240, K400 & K800



Shape	Pcs	Order Code	Price (Each)
Oblique	4	76081510	£101.88
Flat		76081500	

SCOTCH-BRITE™ DB-WL FIBRE FLEECE WOUND SILICON CARBIDE DEBURRING DISCS

Application:
Hard density conformable wheel performs effective burr removal without undercutting the workpiece. Effective for all types of metals, composites, and glass, allowing one wheel to perform more tasks.

Advantages:
- Convolute construction keeps the wheel running smooth, producing consistent results
- Scotch-Brite™ non-woven material resists loading and continuously supplies fresh abrasives for continuous cutting action
- Minimises heat build up to reduce risk of discolouration and warping on heat sensitive substrates



Diameter	Bore Diameter	Max RPM	Grain	Pack Size	Order Code	Price (Each)
152	25.4	6000	Fine - Hard	1	69473015	£89.18
			Fine - V.Hard		69473020	£98.87

SCOTCH-BRITE™ FS-WL FIBRE FLEECE WOUND SILICON CARBIDE FINISHING DISCS

Application:
For finishing on nearly all metals or for removal of light draw marks on stainless steel profiles.

Advantages:
- Highly conformable for consistent finishing on contoured, curved and other surfaces
- Moderate aggressiveness and lighter density provide controlled wear for consistent results
- Convolute construction provides a balanced, smooth running wheel



Diameter	Bore Diameter	Max RPM	Grain	Pack Size	Order Code	Price (Each)
152	25.4	6000	Medium	1	69473030	£125.29
			Fine		69473040	£104.96

SILICON CARBIDE POLISHING DISCS

Application:
Polishing large areas in a short time to a mirror finish. Also for removing paints and coatings, cleaning components, derusting and fine deburring on aluminium, cast material, plastic, stainless steel, steel and titanium.

Advantages:
- Replaces cloth discs, felt discs and polishing pastes
- Works without polishing paste
- One step cleaning of the workpiece and finishing of the surface
- Quick and effortless polishing, even over large surfaces, with a controlled angle grinder
- Extremely long service life
- Suitable for any angle grinder/polisher
- Angled glass fibre back plate



Diameter	Bore Diameter	Max RPM	Grain	Pack Size	Order Code	Price (Each)
125	22.23	4850	Medium 150	5	76081520	£19.02
			Fine 240		76081525	£18.05
			Very fine 400		76081530	£20.86
			Ultra fine 800		76081535	£21.99

POLISHING FELT WHEELS

Application:
Mainly used peripherally & for high-gloss polishing.

Advantages:
- Precise retention of geometric shapes due to the hardness of these tools.
- Can be profiled as desired, meaning they can also be used for tools with complex geometries.

Technical Information:
- Suitable for steel, stainless steel, cast iron, exotics



Diameter	Thickness	Height	Type	Pack Size	Order Code	Price (Each)
17	5	2	M (Medium)	10	036372	£4.98
20	5	2			036389	£5.17
30	5	2			036396	£5.86
30	7	6	M (Medium)	5	153864	£6.37
45	9	6			153840	£7.66
60	10	6			297605	£6.64
80	10	10			154069	£9.92
100	20	10	M (Medium)	1	297612	£29.00
125	20	20			297629	£39.96
150	25	20			297636	£60.11
200	30	20			297643	£122.39
80	10	10	MS (Metal Insert)	5	295342	£25.30
100	20	10	MS (Metal Insert)	1	295359	£57.08
125	20	20			295366	£98.71

SCOTCH-BRITE™ BRISTLE DISC

Type BD-ZB Designed for Planer Surfaces

Application:
Molded, abrasive-filled bristles strip, deburr, blend, finish, polish, clean and remove coatings more effectively, with less pressure than wire brushes.

Advantages:
- Bristle spacing is ideal for coating removal and other high-loading substances
- Flexible bristles require less pressure than wire brushes & conform to contours
- Contains no wire filaments for improved safety
- Proprietary 3M™ Ceramic Abrasive Grain provides aggressive cutting and consistent finish quality throughout the life of the disc

Technical Information:
- Radial design with 19mm long bristles



Diameter	Chuck Connection	Max RPM	Colour	Grid Size	Order Code	Price (Each)
115	M14	12200	Green	50	76098010	**£36.94**
			Yellow	80	76098021	
			White	120	76098031	

SCOTCH-BRITE™ CLEAN & STRIP DISC

Type CG-RD Silicon Carbide

Application:
Discs aggressively remove paint, rust and coatings.

Advantages:
- The spring-like nature of the fibres responds to contours and effectively removes unwanted burrs, soils, and contaminants while maintaining the geometry of the workpiece
- Load & smear resistant
- Safe for operators
- Conformable to get into difficult-to-reach areas
- Safer than wire tools
- Does not clog
- Free of corrosive materials



Diameter	Bore	Max RPM	Colour	Order Code	Price (Each)
115	22.23	11000	Blue	76098220	**£11.00**

SCOTCH-BRITE™ BRISTLE DISC

Type BB-ZS Designed for Contour Surfaces

Application:
Molded, abrasive-filled bristles strip, deburr, blend, finish, polish, clean, and remove coatings more effectively, with less pressure than wire brushes.

Advantages:
- Curved bristles ideal for working on contoured surfaces
- Flexible bristles require less pressure than wire brushes & conform to contours
- Contains no wire filaments for improved safety
- Proprietary 3M™ Ceramic Abrasive Grain provides aggressive cutting and consistent finish quality throughout the life of the disc

Technical Information:
- Axial design with 25mm long bristles



Diameter	Shaft Diameter	Max RPM	Colour	Grid Size	Order Code	Price (Each)
75	6	15000	Yellow	80	76098110	**£27.54**
			White	120	76098120	
			Red	220	76098130	

SCOTCH-BRITE™ CLEAN & STRIP DISC

Type XT-RD Pro Silicon Carbide

Application:
Removes rust, paint, mill scale and coatings from metal fast.

Advantages:
- High-strength fibre resists chunking and performs well on edges
- High conformability provides a larger contact patch for faster removal rates
- Silicon carbide mineral cuts aggressively and leaves a fine finish
- High speed rating, low vibration and low spark
- Resists loading for consistent cutting action



Diameter	Bore	Max RPM	Colour	Order Code	Price (Each)
115	22.23	13300	Purple	76098200	**£15.93**
125				76098203	**£18.34**

SCOTCH-BRITE™ BRISTLE DISC

Type BB-ZB Designed for Contour Surfaces

Application:
Molded, abrasive-filled bristles strip, deburr, blend, finish, polish, clean, and remove coatings more effectively, with less pressure than wire brushes.

Advantages:
- Curved bristles ideal for working on contoured surfaces
- Flexible bristles require less pressure than wire brushes & conform to contours
- Contains no wire filaments for improved safety
- Proprietary 3M™ Ceramic Abrasive Grain provides aggressive cutting and consistent finish quality throughout the life of the disc

Technical Information:
- Axial design with 38mm long bristles



Diameter	Bore	Max RPM	Colour	Grid Size	Order Code	Price (Each)
150	25.4	6000	Yellow	80	76098080	**£89.51**
			Red	220	76098090	**£89.58**

SCOTCH-BRITE™ CLEAN & STRIP DISC

Type XT-RD Pro Silicon Carbide

Application:
Designed to remove tough coatings, such as heavy rust, thick paint and corrosion, while also blending and refining the bare metal underneath.

Advantages:
- Aluminium oxide mineral aggressively removes top layer and refines to the bare metal underneath
- High conformability provides a larger contact patch for faster removal rates
- High-strength fibre resists chunking and performs well on edges
- High speed rating and low vibration



Diameter	Bore	Max RPM	Colour	Order Code	Price (Each)
115	22.23	13300	Green	76098206	**£15.59**
125		12000		76098209	**£18.31**

SCOTCH-BRITE™ SC-DH ALUMINIUM OXIDE FLEECE DISC WITH CENTERING HOLE

Velcro Hook & Loop Backing

Application:
For reducing roughness depth, removing discolouration, smoothing surfaces, for light cleaning and deburring work on stainless steel, non-ferrous metal, steel, paint, plastic, GRP. For use on all standard angle grinders.



Advantages:
- Centring for easy disc changes and 50% vibration reduction
- Even grinding out possible thanks to homogeneous mineral distribution

Diameter	Bore Dia	Grid Size	Grain	Pack Size	Order Code	Price (Each)
115	22	150-180	Rough	20	76201030	£2.97
		220-280	Medium		76201035	
		600-1000	Very Fine		76201040	
125		150-180	Rough		76201045	£3.40
		220-280	Medium		76201050	
		600-1000	Very Fine		76201055	

SCOTCH-BRITE™ GB-DH CERAMIC ALUMINIUM OXIDE FLEECE DISC WITH CENTERING HOLE

Velcro Hook & Loop Backing

Application:
For removing narrow welding seams and small spot welds and for tough cleaning and deburring jobs. For use on all standard angle grinders

Advantages:
- Centering for easy disc changes and 50% vibration reduction
- Most aggressive variant with best edge stability



Technical Details:
- Aluminium oxide
- For use on all standard angle grinders

Diameter	Bore Dia	Colour	Grain	Pack Size	Order Code	Price (Each)
115	22	Red	Very Coarse	50	76201011	£3.58
		Blue			76201016	
125		Red			76201021	£3.64
		Blue			76201026	

UNIVERSAL ABRASIVE DISC

Velcro Hook & Loop Backing

Application:
For universal sanding of plastic & non-ferrous metal.
For use on orbital sanders or all standard angle grinders.

Advantages:
- High removal rate
- Low clogging tendency



Diameter	Grit	Pack Size	Order Code	Price (Each)
115	40	50	2785	£0.63
	60		2786	£0.50
	80		6756	£0.45
	120		6757	£0.42
125	40		2294	£0.71
	60		2295	£0.58
	80		6774	£0.51
	120		6775	£0.47

1950 SIASPEED ALUMINIUM OXIDE DISC WITH 65 HOLE PATTERN

Velcro Hook & Loop Backing

Application:
This versatile all-round aluminium oxide 1950 siaspeed is specially designed for high stock removal rates, perfect surface quality and long life in applications such as the surface treatment of body filler, primer filler, lacquers and paints.

Advantages:
- Very high stock removal rates and excellent finish
- Minimal clogging thanks to open coating in 220-600 grit range
- Grain mix including ceramic corundum in grain 40–180, for an enhanced performance
- Very long service life



125mm Diameter

Diameter	Grit	Pack Size	Order Code	Price (Each)
125	40	100	7159.2870.0040	£0.36
	60		7159.2870.0060	
	80		7159.2870.0080	
	100		4089.0148.0100	
	120		4089.0148.0120	
	150		4089.0148.0150	
	180		4089.0148.0180	
	220		4089.0148.0220	
	240		4089.0148.0240	
	320		4089.0148.0320	
	400		4089.0148.0400	
	500		4089.0148.0500	
	600		4089.0148.0600	

150mm Diameter

Diameter	Grit	Pack Size	Order Code	Price (Each)
150	40	50	1546.3150.0040	£0.52
	60		1546.3150.0060	£0.52
	80		1546.3150.0080	£1.04
	100	100	8443.7842.0100	£0.52
	120		8443.7842.0120	
	150		8443.7842.0150	
	180		8443.7842.0180	
	240		8443.7842.0240	
	320		8443.7842.0320	
	400		8443.7842.0400	
	500		8443.7842.0500	
	600		8443.7842.0600	

SURFACE GRINDING WHEELS

For Wet Use

Application:
Ceramic bound straight general purpose wheel suitable for surface grinding & sharpening high speed steel (HSS) tools and grinding most steel, hardnened steel and stainless steel.

Material Suitability:
- White fused aluminium oxide: Carbon steel, alloy steel & hardened steel
- Sintered & fused aluminium oxide: HSS, high alloy steel, stainless steel

Advantages:
- Low wear
- Cool grinding
- Smooth cutting

Notes:
Ensure that an adequate coolant supply is available. Discs are not suitable for dry sanding. Recommended operating speed is: 20–30m/s


TYPE A


TYPE B


TYPE C

ORION

Dia	Thickness	Bore Diameter	Abraisive Type & Grain	Type	Order Code	Price (Each)
200	20	51	White fused aluminium oxide **46 Medium**	A	69496611	**£33.25**
200	25	32			69496641	**£40.89**
225	25	51			69496671	**£68.31**
300	30	76.2			69496730	**£105.65**
350	50	127			69496800	**£130.54**
300	50	76.2		C	69496760	**£117.98**
200	20	51	Sintered & fused aluminium oxide **60 Medium**	B	69496616	**£89.12**
200	25	32			69496646	**£92.99**
225	25	51			-	-
300	30	76.2			69496735	**£234.84**
350	50	127			69496805	**£455.23**
200	20	51	White fused aluminium oxide **80 Fine**	A	69496621	**£35.28**
200	25	32			69496651	**£40.89**
225	25	51			69496681	**£68.31**
300	30	76.2			69496740	**£105.65**
300	50	76.2		C	69496810	**£135.84**

CUP GRINDING WHEELS

For Dry Use

Application:
For regrinding of cutting tools such as drills and milling cutters.

Material Suitability:
- White fused aluminium oxide: HSS, Steel, Tool Steel
- Green silicon carbide: Carbide

Advantages:
- Low wear
- Cool grinding
- Superior finish


TYPE A


TYPE B

ORION

Dia	Wall Thickness	Bore Diameter	Length	Grit	Type	Order Code	Price (Each)
White Fused Aluminium Oxide							
80	10	20	40	60	A	69472005	**£38.36**
100	10	20	50	60		69472025	**£35.28**
100	10	20	50	80		69472035	**£39.69**
Green Silicon Carbide							
100	10	20	50	80	B	69472055	**£36.78**

BENCH GRINDING WHEELS

For Dry Use

Application:
Ceramic bound bench grinding wheels with different geometries for steel, HSS, cast metal and carbide.

Material Suitability:
- White fused aluminium oxide: HSS, carbon steel, alloy steel & hardened steel
- Green silicon carbide: Carbide, cast metal
- Normal corundum: Non-alloy and low alloy steel

Advantages:
- Low wear
- Smooth cutting
- Reducing rings included

TYPE A


TYPE B


TYPE C

ORION

Dia	Thickness	Bore Diameter	Abraisive Type & Grain	Type	Order Code	Price (Each)
125	20	32	White fused aluminium oxide **46 Medium**	A	69496001	**£20.29**
200	20	32			69496201	**£30.31**
200	32	32			69496263	**£31.22**
125	20	32	White fused aluminium oxide **60 Medium**		69496003	**£20.29**
150	20	32			69496061	**£17.92**
175	20	32			69496111	**£27.42**
175	25	51			69496151	**£23.04**
200	32	32			69496265	**£31.22**
200	32	51			69496281	**£31.22**
300	40	71			69496355	**£93.65**
125	20	32	White fused aluminium oxide **80 Fine**		69496005	**£20.29**
150	20	32			69496065	**£19.54**
175	25	51			69496155	**£26.13**
200	25	51			69496251	**£29.02**
200	32	32			69496267	**£36.61**
200	32	51			69496285	**£36.61**
125	20	32	Green silicon carbide **80 Fine**	B	69496015	**£21.64**
150	20	32			69496071	**£19.44**
175	25	51			69496161	**£24.95**
200	25	51			69496255	**£30.46**
200	32	32			69496269	**£35.97**
200	32	51			69496291	**£35.97**
300	40	76			69496360	**£105.87**
150	20	32	Normal corundum **36 Rough**	C	69496051	**£17.21**
175	20	32			69496101	**£25.56**
175	25	51			69496141	**£22.87**
200	25	51			69496241	**£35.04**
200	32	32			69496259	**£29.35**
200	32	51			69496271	**£29.35**
300	40	76			69496340	**£91.59**
150	20	32	Normal corundum **30 Medium**		69496055	**£17.21**
175	20	32			69496105	**£20.40**
175	25	51			69496145	**£22.87**
200	25	51			69496245	**£35.04**
200	32	32			69496261	**£29.35**
200	32	51			69496275	**£29.35**
300	40	76			69496345	**£89.76**

CRIMPED WIRE SURFACE DISC POWER BRUSHES

High Speed Use

Application:
- For cleaning and deburring on medium and large surface areas
- Steel bristles for use on steel
- Stainless bristles for use on stainless steel, aluminium & non-ferrous metal

Advantages:
- For use on CNC machining centres
- Thick strong bristles guarantee a long service life



ATORN®

Dia	Bore Diameter	Min-Max RPM	Min-Max Feed (mm/min)	Grid Size	Order Code	Price (Each)
50	16	2200-2500	2000-4500	80	76098610	£66.60
				120	76098613	
				180	76098615	
76	22	1900-2300	2500-5000	80	76098630	£72.42
				120	76098633	
				180	76098635	
106	22	1400-1700	3000-5500	80	76098650	£77.84
				120	76098653	
				180	76098655	
125	27	1100-1400	3500-6500	80	76098670	£89.05
				120	76098673	
				180	76098675	
150	32	1000-1200	4500-8000	80	76098690	£129.74
				120	76098693	
				180	76098695	

CERAMIC GRAIN SURFACE DISC BRUSHES

Application:
For use on CNC machining centres and with the use of robots, preferably in wet finishing with coolant. Machining flat components: precise deburring, edge rounding, fine machining after milling, surface finishing. Especially suitable for aluminium and non-ferrous materials.

Advantages:
- Post-machining directly after the cutting process without changing the geometry of the workpiece
- Continuously released abrasive grain ensures reproducible results
- Very high dimensional stability and accuracy
- Controllable wear properties to end of tool life, no bristle breakage



ATORN®

Dia	Bore Diameter	Min-Max RPM	Min-Max Feed (mm/min)	Grid Size	Order Code	Price (Each)
50	16	2200-2500	2000-4500	80	76098510	£76.93
				120	76098515	
76	22	1900-2300	2500-5000	80	76098530	£87.29
				120	76098535	
106	22	1400-1700	3000-5500	80	76098550	£92.01
				120	76098555	
125	27	1100-1400	3500-6500	80	76098570	£99.08
				120	76098575	
150	32	1000-1200	4500-8000	80	76098590	£143.92
				120	76098595	

SILICON CARBIDE SURFACE DISC BRUSHES

Application:
Precise deburring, edge rounding, fine machining after milling, surface finishing. Especially suitable for aluminium and non-ferrous materials.

Advantages:
- Post-machining directly after the cutting process without changing the geometry of the workpiece
- Continuously released abrasive grain ensures reproducible results
- Very high dimensional stability and accuracy
- Controllable wear properties to end of tool life, no bristle breakage



Steel



Stainless steel



LESSMANN®

Dia	Bristle Length	Max RPM	Wire Dia	Wire Material	Order Code	Price (Each)
50	20	10500	0.30	Steel	76099300	£8.67
70	25	6000			76099310	£13.05
50	20	10500		Stainless	76099305	£16.18
50	25	6000			76099315	£23.13

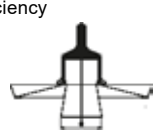
BRAIDED WIRE EXPANDING POWER BRUSHES

6mm Shank - High Speed Use

Application:
- For cleaning and deburring of small surface areas and deburring in hard to reach areas such as holes and cavities
- Steel wire for use on steel
- Stainless steel wire for use on stainless, aluminium and non-ferrous

Advantages:
- Variable outer diameter: the brush opens/closes as the working speed changes
- High flexibility and high cleaning efficiency
- 0.25-0.35mm thickness wire for good durability and excellent finish





ATORN®

Dia	Bristle Length	Max RPM	Wire Dia	Wire Material	Order Code	Price (Each)
20	29	20000	0.25	Steel	76096111	£9.58
23			0.35		76096121	£11.04
30			0.35		76096131	£11.90
20			0.25	Stainless	76096011	£13.98
23			0.35		76096021	£15.11
30			0.35		76096031	£18.34

MINIATURE WIRE CUP POWER BRUSHES

3mm Shank - High Speed Use

Application:
For cleaning and deburring of small surface areas and deburring in hard to reach areas such as holes and cavities, removal of paint, rubber excess, cleaning of moulds and castings.

Advantages:
- For use for fast-running machines





Steel



Goat Hair

ATORN®

Dia	Bristle Length	Max RPM	Wire Dia	Wire Material	Order Code	Price (Each)
18	6	20000	0.10	Steel	76086260	£3.38
			0.10	Stainless	76086270	£3.60
			0.10	Brass	76086280	£3.60
			-	Goat hair	76086290	£3.70

CRIMPED WIRE END POWER BRUSHES

6mm Shank - High Speed Use

Application:
Particularly suitable for deburring bores, horizontal bore holes, threads or O-ring inserts in complex workpieces, as well as for polishing and cleaning nozzles and small holes. Excellent for soft steel, aluminium and non-ferrous metal.

Advantages:
- 3-4 brass-plated steel wires with single wire diameters of 0.2mm twisted into rope construction
- Spring hard and tough
- For use on fast running machines



ATORN®

Dia	Bristle Length	Overall Length	Max RPM	Wire Dia	Wire Material	Order Code	Price (Each)
11	20	40	20000	0.20	Brass Plated Steel	76097121	**£3.45**
16	25	45	20000			76097171	**£4.40**
22	25	45	18000			76097241	**£8.67**
28	30	45	15000			76097301	**£8.67**

CRIMPED WIRE END POWER BRUSHES

6mm Shank - High Speed Use

Application:
For removing burrs, rust, slag, scale, rubber residues, incineration residues and other impurities from places that are difficult to access and from inner surfaces. Steel wire for use on steel, stainless steel wire for use on stainless, auminium and non-ferrous metal.

Advantages:
- For use for fast-running machines including CNC machines, air and electrical driven machines
- Long lengths available
- 0.3-0.5mm thickness wire for good durability and excellent finish



ATORN®

Dia	Bristle Length	Overall Length	Max RPM	Wire Dia	Wire Material	Order Code	Price (Each)
10	20	40	20000	0.5	Steel	76095201	**£2.74**
10	20	100	20000	0.3		76095211	**£3.19**
17	25	45	18000	0.5		76095221	**£4.23**
25	25	50	18000	0.5		76095231	**£4.40**
30	25	45	15000	0.5		76095241	**£5.87**
10	20	40	20000	0.3	Stainless	76095101	**£3.35**
11	20	100	9000	0.3		76095111	**£3.72**

MINIATURE WIRE END POWER BRUSHES

3mm Shank

Application:
For cleaning and deburring of small surface areas and deburring in hard to reach areas such as holes and cavities, removal of paint, rubber excess, cleaning of moulds and castings.

Advantages:
- Guarantees exceptional finish
- Compact design for small bores





Steel



Goat Hair

ATORN®

Dia	Bristle Length	Max RPM	Wire Dia	Wire Material	Order Code	Price (Each)
5	6	5000	0.10	Steel	76086360	**£2.92**
			0.10	Stainless	76086370	
			0.10	Brass	76086380	
			-	Goat hair	76086390	

ALUMINIUM OXIDE MICRO PIPE POWER BRUSHES

For Use On Electric Drills

Application:
Particularly suitable for deburring bores, horizontal bore holes, threads or O-ring inserts in complex workpieces, as well as for polishing and cleaning nozzles and small holes. Excellent for soft steel, aluminium and non-ferrous metal.

Advantages:
- Can be used flexibly as a conventional internal cleaning brush due to sanding bristles
- Perfect for small diameter bores



LESSMANN®

Dia	Bristle Length	Overall Length	Max RPM	Shank Dia	Wire Diameter	Order Code	Price (Each)
3.2	25	125	800	1.5	0.3	76099000	**£10.92**
4.2			1000	2.2		76099005	**£10.60**
4.8			1000	2.2		76099010	**£10.28**
5.5			1000	2.2		76099015	**£10.06**
6.6			1000	2.5		76099020	**£10.16**
8.2			2000	3.2		76099025	**£9.86**
9.8			2000	3.2		76099030	**£9.96**

SILICON CARBIDE PIPE POWER BRUSHES

For Use on Electric Drills

Application:
Particularly suitable for deburring bores, horizontal bore holes, threads or O-ring inserts in complex workpieces, as well as for polishing and cleaning nozzles and small holes. Excellent for stainless steel and aluminium.

Advantages:
- Can be used flexibly as a conventional internal cleaning brush due to sanding bristles
- 10-25mm diameter



LESSMANN®

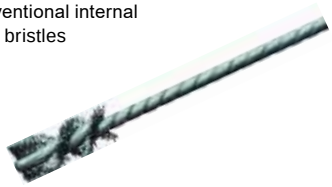
Dia	Bristle Length	Overall Length	Max RPM	Shank Dia	Wire Diameter	Order Code	Price (Each)
10	65	125	2000	3.7	0.6	76099035	**£6.63**
13				3.7		76099040	**£6.74**
16				5.2		76099045	**£6.86**
19				5.2		76099050	**£7.07**
25				5.7		76099055	**£7.39**

STEEL WIRE PIPE POWER BRUSHES

For Use on Electric Drills

Application:
Particularly suitable for deburring bores, horizontal bore holes, threads or O-ring inserts in complex workpieces, as well as for polishing and cleaning nozzles and small holes. Excellent for carbon and alloy steel.

Advantages:
- Can be used flexibly as a conventional internal cleaning brush due to sanding bristles
- From 10-25mm diameter



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Dia	Bristle Length	Overall Length	Max RPM	Shank Dia	Wire Diameter	Order Code	Price (Each)
10	25	90	3000	3.8	0.12	76099100	**£6.53**
13					0.12	76099105	**£5.22**
16					0.12	76099110	**£5.49**
19					0.20	76099114	**£5.49**
25					0.20	76099120	**£5.87**

CYLINDRICAL WIRE POWER BRUSHES

6mm Shank - High Speed Use

Application:
- For roughing, deburring, paint stripping, de-scaling, matting and cleaning
- Steel bristles for use on steel
- Brass bristles for use on brass
- Stainless bristles for use on stainless steel, aluminium and non-ferrous metal

Advantages:
- For use on fast-running machines including CNC machines, air and electrical driven machines



Steel Brass Stainless

ATORN®

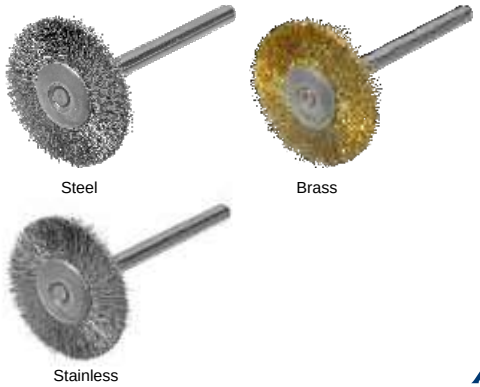
Diameter	Head Width	Wire Diameter	Max RPM	Wire Material	Order Code	Price (Each)
20	4	0.15	20000	Steel	76090011	£3.70
30	6	0.15	20000		76090031	£3.09
40	11	0.20	18000		76090041	£2.81
50	17	0.20	15000		76090061	£3.25
70	18	0.30	15000		76090071	£4.01
20	4	0.20	20000	Stainless	76090111	£3.60
30	9	0.20	20000		76090131	£3.60
40	11	0.20	18000		76090141	£3.85
50	10	0.30	15000		76090161	£4.09
70	18	0.30	15000		76090171	£4.82
20	4	0.15	20000	Brass	76090021	£5.17
40	11	0.20	18000		76090051	£3.38
70	18	0.30	15000		76090081	£5.68

CYLINDRICAL WIRE POWER BRUSHES

3mm Shank - High Speed Use

Application:
- For cleaning and polishing as well as for light deburring work in holes & cavities
- Steel bristles for use on steel
- Brass bristles for use on brass or softwood
- Stainless bristles for use on Stainless, Aluminium and non-ferrous metal

Advantages:
- For use on fast-running machines including CNC machines, air and electrical driven machines
- Due to the low trim width, targeted processing is possible in hard-to-reach spots



Steel Brass Stainless

ATORN®

Diameter	Wire Diameter	Max RPM	Wire Material	Order Code	Price (Each)
16	0.1	25000	Steel	76086101	£3.31
22				76086105	£3.43
32		15000		76086109	£3.53
16	0.1	25000	Stainless	76086111	£3.43
22				76086115	£3.58
16	0.1	25000	Brass	76086121	£3.72
22				76086125	£3.90

SILICON CARBIDE CYLINDRICAL WIRE BRUSHES

6mm Shank - High Speed Use

Application:
- For deburring, rounding edges and surface finishing, and for processing stamped, turned, milled and drilled parts
- Nylon SIC 180 grain bristles for use on stainless steel, steel, aluminium and non-ferrous metal
- Nylon SIC 320 grain bristles for use on stainless steel and steel

Advantages:
- For use on fast-running machines
- Optimal adaptation to irregular surfaces due to nylon fibres
- High elasticity without risk of breakage paired with a long service life



ATORN®

Diameter	Head Width	Wire Diameter	Max RPM	Wire Material	Order Code	Price (Each)
50	15	0.90	15000	Nylon SIC180	76091011	£13.10
70	18				76091021	£14.59
50	15	0.55		Nylon SIC320	76091031	£13.10
70	18				76091041	£14.59

CYLINDRICAL BRAIDED WIRE POWER BRUSHES

6mm Shank - High Speed Use

Application:
- For machining weld seams, removing hard scale, underbody sealing, sand residues and for deburring
- Steel bristles for use on steel
- Stainless bristles for use on stainless, aluminium & non-ferrous metal

Advantages:
- For use on fast-running machines
- Braided wire for additional strength



ATORN®

Diameter	Head Width	Wire Diameter	Max RPM	Wire Material	Order Code	Price (Each)
75	13	0.5	20000	Steel	76090091	£5.88
	12			Stainless	76090181	£7.84

CYLINDRICAL BRAIDED WIRE POWER BRUSHES

For Use on Angle Grinders

Application:
- For machining weld seams, removing hard scale, underbody sealing, sand residues and for deburring
- Steel bristles for use on steel, softwood and hardwood
- Stainless bristles for use on stainless, aluminium & non-ferrous metal

Advantages:
- Long life even at diagonal applications



ATORN®

Dia	Head Width	Bore Dia	Wire Dia	Max RPM	Wire Material	Order Code	Price (Each)
115	12	22.2	0.5	12500	Steel	76089021	£7.47
125	13			12500		76089031	£8.47
178	13			10000		76089061	£14.40
115	12	22.2	0.5	12500	Stainless	76089121	£15.13
125	13			12500		76089131	£23.10
178	13			10000		76089161	£35.70

CYLINDRICAL CRIMPED WIRE POWER BRUSHES

For Use on Bench Grinders

Application:
- For removing rust and scale and for grinding applications
- Crimped steel bristles for use on steel
- Crimped Stainless bristles for use on stainless steel, aluminium & non-ferrous metal

Advantages:
- With particularly dense material filling

Specification:
- 32mm bore brushes include a 7pc reducer adapter set for 13/15/16/19/20mm and 7/8 inch bore
- 20mm bore brushes includes a reducer adapter 10mm bore



ATORN®

Dia	Head Width	Bore Dia	Wire Dia	Max RPM	Wire Material	Order Code	Price (Each)
80	18	10	0.3	10000	Steel	76092081	**£8.47**
100	20	20		8000		76092101	**£7.61**
150	25	32		6000		76092151	**£10.50**
178	25	32		6000		76092176	**£14.40**
200	25	32		4500		76092201	**£14.40**
80	18	10	0.3	10000	Stainless	76093081	**£15.18**
100	20	20		8000		76093101	**£16.43**
150	30	32		6000		76093151	**£26.15**
178	32	32		6000		76093176	**£33.12**
200	30	32		4500		76093201	**£42.33**

CYLINDRICAL BRAIDED WIRE POWER BRUSHES

For Use on Bench Grinders

Application:
For heavy duty brush work, ideal for removing rust, scale, varnish and for machining weld seams and general deburring applications

Advantages:
- Braided steel bristles for use on steel, softwood and hardwood
- For heavy duty applications



ATORN®

Dia	Head Width	Bore Dia	Wire Dia	Max RPM	Wire Material	Order Code	Price (Each)
100	23	20	0.5	12500	Steel	76094101	**£19.17**
200	35	25.4	0.5	8500		76094201	**£64.73**

CYLINDRICAL BRAIDED WIRE POWER BRUSHES

Narrow Design - For Use on Angle Grinders

Application:
- For machining U & V weld seams
- Steel bristles for use on steel
- Stainless bristles for use on stainless, aluminium & non-ferrous metal

Advantages:
- Pipeline brush is particularly narrow and is therefore suitable for cleaning all welding seams on pipe connections



LESSMANN®

Dia	Head Width	Bore Dia	Wire Dia	Max RPM	Wire Material	Order Code	Price (Each)
115	6	22.2	0.50	15000	Steel	76099400	**£20.23**
125				15000		76099405	**£22.91**
178				12500		76099410	**£32.34**
115				15500	Stainless	76099430	**£25.39**

CORRUGATED WIRE CUP POWER BRUSHES

M14 Connection For Use on Angle Grinders

Application:
For medium to light cleaning work on large surfaces and welding seams. Ideal for steel, cast steel, softwood and hardwood.

Advantages:
- Corrugated wire design for gentler abrasive action



ATORN®

Dia	Connection Thread	Wire Dia	Max RPM	Wire Material	Order Code	Price (Each)
60	M14	0.3	12500	Steel	76085007	**£3.85**
100			8500		76085011	**£9.16**

BRAIDED WIRE CUP POWER BRUSHES

M14 Connection For Use on Angle Grinders

Application:
For medium to light cleaning work on large surfaces and welding seams. Ideal for steel, cast steel, softwood and hardwood.

Advantages:
- Braided wire design for aggressive abrasive action



ATORN®

Dia	Connection Thread	Wire Dia	Max RPM	Wire Material	Order Code	Price (Each)
65	M14	0.5	12500	Steel	76088066	**£5.82**
80			8500		76088111	**£12.27**
100			8500		76088121	**£13.95**

BRAIDED WIRE CONICAL POWER BRUSHES

M14 Connection For Use on Angle Grinders

Application:
For use in hard-to-reach places. For preparatory and finishing work on weld seams, for removing rust, scale, varnish, slag, rubber residues and for deburring.

Advantages:
- Braided wire design for aggressive abrasive action



ATORN®

Dia	Connection Thread	Wire Dia	Max RPM	Wire Material	Order Code	Price (Each)
100	M14	0.5	12500	Steel	76089081	**£7.62**
115					76089091	**£8.01**
100		0.5	12500	Stainless	76089181	**£12.66**
115					76089191	**£14.45**

ABRASIVE FLEECE MATTING WHEELS

Aluminium Oxide

Application:
For matting and burnishing metals, matting non-ferrous metal and cleaning oxidised non-ferrous base metals. Smoothing and final grinding of workpiece surfaces. Ideal for steel, aluminium, brass.

Features:
- Made of multiple fleece lamella which are positioned around the axis of the tool in a fan shape

Features:
- Extra soft abrasive fleece for optimum adaptation to workpiece contours
- Creates a smooth, matte finish
- Longer service life thanks to increased material density and precise machining



ATORN®

Head Dia	Head Length	Shank Dia	Rec. RPM	Max RPM	Fleece Grid Size	Pack Size	Order Code	Price (Each)
40	20	6	7500	14000	100 (Rough)	10	76043650	£3.31
50	30		6000	11000			76043652	£4.26
60	30		5000	9000			76043654	£4.97
60	50		5000	9000			76043656	£6.36
80	50		4000	7000			76043658	£8.05
40	20		7500	14000	180 (Medium)		76043660	£3.31
50	30		6000	11000			76043662	£4.26
60	30		5000	9000			76043664	£4.97
60	50		5000	9000			76043666	£6.36
80	50		4000	7000			76043668	£8.32
40	20		7500	14000	280 (Fine)		76043670	£3.31
50	30		6000	11000			76043672	£4.26
60	30		5000	9000			76043674	£4.97
60	50		5000	9000			76043676	£5.90
80	50		4000	7000			76043678	£8.40

ABRASIVE FLEECE/CLOTH MATTING FLAP WHEELS

Aluminium Oxide

Application:
For cleaning and derusting oxidised and non-ferrous metal and for texturing, roughening and pre-grinding workpiece surfaces.

Features:
- Made of fleece and cloth lamella which are positioned alternately around the axis of the tool in a fan shape
- Extra soft abrasive fleece for optimum adaptation to workpiece contours

Advantages:
- The combination of abrasive fleece and abrasive cloth significantly enhances the sanding effect
- Increased removal thanks to the combination with synthetic corundum abrasive cloth
- Longer service life thanks to increased material density and precise machining



ATORN®

Head Dia	Head Length	Shank Dia	Rec. RPM	Max RPM	Fleece Grid Size	Pack Size	Order Code	Price (Each)
40	20	6	15200	7500	80 (Rough)	10	76043500	£3.99
50	30		12200	6000			76043503	£5.82
60	30		10100	5000			76043506	£6.03
60	50		10100	5000			76043509	£7.07
80	50		7600	4000			76043512	£9.13
40	20		15200	7500	150 (Medium)		76043520	£3.99
50	30		12200	6000			76043523	£5.82
60	30		10100	5000			76043526	£6.03
60	50		10100	5000			76043529	£7.07
80	50		7600	4000			76043532	£9.13
40	20		15200	7500	240 (Fine)		76043540	£3.99
50	30		12200	6000			76043543	£5.82
60	30		10100	5000			76043546	£6.03
60	50		10100	5000			76043549	£7.07
80	50		7600	4000			76043552	£9.13

ABRASIVE FLEECE MATTING WHEELS

Silicon Carbide

Application:
For matting and burnishing metals, matting non-ferrous metal and cleaning oxidised Non-ferrous base metals. Smoothing and final grinding of workpiece surfaces. Sharper grain of silicon carbide makes it ideal for stainless steel.

Features:
- Made of multiple fleece lamella which are positioned around the axis of the tool in a fan shape

Advantages:
- Extra soft abrasive fleece for optimum adaptation to workpiece contours
- Creates a smooth, matte finish
- Longer service life thanks to increased material density and precise machining



ATORN®

Head Dia	Head Length	Shank Dia	Rec. RPM	Max RPM	Fleece Grid Size	Pack Size	Order Code	Price (Each)
40	20	6	7500	14000	100 (Rough)	10	76043750	£4.94
50	30		6000	11000			76043752	£6.49
60	30		5000	9000			76043754	£6.61
60	50		5000	9000			76043756	£8.66
80	50		4000	7000			76043758	£11.11
40	20		7500	14000	180 (Medium)		76043760	£4.94
50	30		6000	11000			76043762	£6.49
60	30		5000	9000			76043764	£6.61
60	50		5000	9000			76043766	£8.66
80	50		4000	7000			76043768	£11.11
40	20		7500	14000	280 (Fine)		76043770	£4.94
50	30		6000	11000			76043772	£6.49
60	30		5000	9000			76043774	£6.61
60	50		5000	9000			76043776	£8.66
80	50		4000	7000			76043778	£11.11

ABRASIVE FLEECE/CLOTH MATTING FLAP WHEELS

Ceramic Abrasive Grain with Colour Coding

Application:
For virtually shoulder-free line matting on stainless steel surfaces.

Features:
- Made of fleece and cloth lamella which are positioned alternately around the axis of the tool in a fan shape
- Extra soft abrasive fleece for optimum adaptation to workpiece contours

Advantages:
- The combination of abrasive fleece and abrasive cloth significantly enhances the sanding effect and achieves a “brushed” grinding finish
- Colour-coded tools ensure the easy assignment of fineness structure
- High degree of removal and long service life thanks to the use of ceramic abrasive grain





ATORN®

Head Dia	Head Length	Shank Dia	Rec. RPM	Max RPM	Fleece Grid Size	Pack Size	Order Code	Price (Each)
40	25	6	15200	7100	60 (Rough) Orange	10	76043600	£7.15
50	25		12200	5700		10	76043602	£7.42
60	40		10100	4700		5	76043604	£10.38
80	50		7600	3500		5	76043606	£13.02
40	25		15200	7100	120 (Medium) Yellow	10	76043610	£7.15
50	25		12200	5700		10	76043612	£7.42
60	40		10100	4700		5	76043614	£10.38
80	50		7600	3500		5	76043616	£13.02
40	25		15200	7100	240 (Fine) Green	10	76043620	£7.15
50	25		12200	5700		10	76043622	£7.42
60	40		10100	4700		5	76043624	£10.38
80	50		7600	3500		5	76043626	£13.02

ALUMINIUM OXIDE FLAP WHEELS

Application:
For machining small parts, tight curves, pipes, shapes, models, fittings etc. Particularly suitable for levelling, deburring, surface and welding seam machining, as well as for the stepless finishing.

Advantages:
- Perfect fit on the workpiece through flexible abrasive flaps
- Consistently high material removal over the entire service life
- Optimised air supply prevents discolouration occurring



ATORN®

Head Dia	Head Length	Shank Dia	Max RPM	Pack Size	Order Code											
					40 Grit	Price (Each)	60 Grit	Price (Each)	80 Grit	Price (Each)	120 Grit	Price (Each)	150 Grit	Price (Each)	240 Grit	Price (Each)
20	10		19000		76043100	£1.99	76043102	£1.99	76043104	£1.99	76043106	£1.99	76043109	£1.99	76043110	£2.01
20	15		19000		76043120	£2.01	76043122	£2.01	76043125	£2.01	76043126	£2.01	76043128	£2.01	76043130	£2.06
30	5		16000		76043140	£2.16	76043142	£2.11	76043144	£2.11	76043146	£2.11	76043148	£2.16	76043150	£2.20
30	10		16000		76043160	£2.16	76043162	£2.11	76043164	£2.11	76043166	£2.11	76043168	£2.11	76043170	£2.11
30	15		16000		76043180	£2.16	76043182	£2.16	76043184	£2.16	76043186	£2.16	76043188	£2.16	76043190	£2.20
40	15		12000		76043200	£2.42	76043202	£2.42	76043204	£2.42	76043206	£2.42	76043209	£2.42	76043210	£2.43
40	20		12000		76043220	£2.77	76043222	£2.77	76043225	£2.77	76043226	£2.77	76043228	£2.77	76043230	£2.79
50	15	6	9000	10	76043240	£2.79	76043242	£2.79	76043244	£2.79	76043246	£2.79	76043248	£2.79	76043250	£2.81
50	20		9000		76043260	£2.98	76043262	£2.98	76043264	£2.98	76043266	£2.98	76043268	£2.98	76043270	£2.99
50	30		9000		76043281	£3.58	76043282	£3.58	76043284	£3.58	76043286	£3.58	76043288	£3.58	76043290	£3.58
60	20		8000		76043300	£3.58	76043302	£3.58	76043304	£3.58	76043306	£3.58	76043309	£3.58	76043310	£3.60
60	30		8000		76043320	£3.53	76043322	£3.53	76043325	£3.53	76043326	£3.53	76043328	£3.53	76043330	£3.58
60	40		8000		76043340	£4.23	76043342	£4.23	76043344	£4.23	76043346	£4.23	76043348	£4.23	76043350	£4.24
80	30		6000		76043360	£5.60	76043362	£5.60	76043364	£5.60	76043366	£5.60	76043368	£5.60	76043370	£5.63
80	50		6000		76043380	£8.20	76043382	£8.20	76043384	£8.20	76043386	£8.20	76043388	£8.20	76043390	£8.20

ALUMINIUM OXIDE MINI FLAP WHEELS

Application:
For machining in hard-to-reach places and of very small surfaces, e.g. fittings made of light or heavy metal, in tool construction, with pressing, casting or die-cast moulds or similar. Ideal for use with die grinders.

Features:
- Plastic-bonded abrasive cloth discs
- Cast resin core
- Corundum Aluminium oxide

Advantages:
- Adjusts to the shape of the workpiece during grinding



ORION®

Head Diameter	Head Length	Shank Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
10	10	3	26000	80	10	76042008	£2.25
15	15	3	24000			76042058	£2.25
15	15	6	24000			76042108	£2.25
20	10	3	20000			76042158	£2.32
20	10	6	20000			76042208	£2.32
20	15	3	20000			76042258	£2.33
20	15	6	20000			76042308	£2.33
10	10	3	26000	120		76042012	£2.25
15	15	3	24000			76042062	£2.25
15	15	6	24000			76042112	£2.25
20	10	3	20000			76042162	£2.32
20	10	6	20000			76042212	£2.32
20	15	3	20000			76042262	£2.33
20	15	6	20000			76042312	£2.33
10	10	3	26000	150		76042015	£2.25
15	15	3	24000			76042065	£2.25
15	15	6	24000			76042115	£2.25
20	10	3	20000			76042165	£2.32
20	10	6	20000			76042215	£2.32
20	15	3	20000			76042265	£2.33
20	15	6	20000			76042315	£2.33

ALUMINIUM OXIDE MINI FLAP WHEELS

Application:
For machining in hard-to-reach places and of very small surfaces, e.g. fittings made of light or heavy metal, in tool construction, with pressing, casting or die-cast moulds or similar. Ideal for use with die grinders.

Features:
- Wheel diameters from just 10mm

Features:
- Adjusts to the shape of the workpiece during grinding



ata Garryson

Head Diameter	Head Length	Shank Diameter	Max RPM	Grit	Pack Size	Order Code	Price (Each)
10	10	3	40000	80	10	GSM1010080	£4.48
15	15	3	40000			GSM1515080	£5.14
20	10	6	30000			GSM2010080	£4.45
20	15	6	30000			GSM2020080	£4.85
25	5	6	30000			GSM2505080	£2.76
25	10	6	30000			GSM2510080	£2.81
25	15	6	30000			GSM2515080	£2.99
25	25	6	30000			GSM2525080	£5.23
10	10	3	40000	120		GSM1010120	£4.48
15	15	3	40000			GSM1515120	£5.14
20	10	6	30000			GSM2010120	£4.45
20	15	6	30000			GSM2020120	£4.85
25	5	6	30000			GSM2505120	£2.76
25	10	6	30000			GSM2510120	£2.81
25	15	6	30000			GSM2515120	£2.99
25	25	6	30000			GSM2525120	£5.23
10	10	3	40000	180		GSM1010180	£4.48
15	15	3	40000			GSM1515180	£5.14
20	10	6	30000			GSM2010180	£4.45
20	15	6	30000			GSM2020180	£4.85
25	5	6	30000			GSM2505180	£5.14
25	10	6	30000			GSM2510180	£2.81
25	15	6	30000			GSM2515180	£2.99
25	25	6	30000			GSM2525180	£5.23

ABRASIVE CLOTH FLAP WHEELS

Aluminium Oxide

Application:
Suitable for larger areas, e.g. in tank and equipment manufacturing. For removing rust, oxide layers, minor scratches and for strong texturing (pattern finishes) and burnishing of metals.

Features:
- Made of multiple fleece lamella which are positioned around the axis of the tool in a fan shape
- Synthetic resin-bound aluminium oxide

Advantages:
- Made of synthetic corundum cloth lamella, arranged in a fan shape around the axis inside a plastic core
- The dia. 19mm plastic hole core with 4 keyways fits all commercially available roller drives



ATORN®

Head Dia	Head Length	Bore Dia	Grit Size	Grain	Rec. RPM	Pack Size	Order Code	Price (Each)
100	50	19	40	Coarse	3800	8	76044500	**£14.66**
			60	Medium			76044503	**£15.40**
			80	Fine			76044506	**£14.86**
			120	Very Fine			76044509	**£15.11**
100	100	19	40	Coarse		1	76044520	**£24.41**
			60	Medium			76044523	**£25.29**
			80	Fine			76044526	**£26.10**
			120	Very Fine			76044529	**£26.56**

ABRASIVE FLEECE MATTING WHEELS

Aluminium Oxide

Application:
For matting and burnishing metals, matting non-ferrous metal and cleaning oxidised non-ferrous base metals. Smoothing and final grinding of workpiece surfaces.

Features:
- Made of multiple fleece lamella which are positioned around the axis of the tool in a fan shape

Advantages:
- Made of multiple fleece lamella, arranged in a fan shape around the axis inside a plastic core
- The diameter 19mm plastic hole core with 4 keyways fits all commercially available roller drives
- Extra soft abrasive fleece for optimum adaptation to the workpiece
- Creates a smooth, matte finish



ATORN®

Head Dia	Head Length	Bore Dia	Fleece Grid Size	Design	Rec. RPM	Pack Size	Order Code	Price (Each)
100	50	19	80	Coarse	2800	8	76044600	**£14.81**
			120	Medium			76044603	**£14.81**
			180	Fine			76044606	**£14.81**
			280	Very Fine			76044609	**£14.81**
100	100	19	80	Coarse	2400	1	76044620	**£22.96**
			120	Medium			76044623	**£22.96**
			180	Fine			76044626	**£22.96**
			280	Very Fine			76044629	**£22.96**

ABRASIVE FLEECE/CLOTH FLAP WHEELS

Aluminium Oxide

Application:
Suitable for larger surfaces, e.g. in tank and equipment manufacturing, for removing rust, oxide layers, minor scratches and for the strong texturing (pattern finishes) and burnishing of metals.

Features:
- Made of fleece and abrasive cloth lamella which are positioned in a plastic core around the axis in a fan shape

Advantages:
- The diameter 19mm plastic hole core with 4 keyways fits all commercially available roller drives
- The use of synthetic corundum abrasive cloths achieves a higher degree of material removal and a coarser grinding finish



ATORN®

Head Dia	Head Length	Bore Dia	Grit Size	Grain	Rec. RPM	Pack Size	Order Code	Price (Each)
100	50	19	80	Coarse	2800	8	76044550	**£15.92**
			150	Medium	2800		76044553	**£15.92**
			240	Fine	2800		76044556	**£15.92**
110	100	19	60	X-Coarse	2800	1	76044570	**£24.68**
			80	Coarse	2800		76044573	**£24.68**
			150	Medium	2800		76044576	**£24.68**
			240	Fine	2800		76044579	**£24.68**

ABRASIVE FLEECE CRIMPED MATTING WHEELS STEEL

Aluminium Oxide With Colour Coding

Application:
For shadow-free matting, burnishing and polishing of pre-ground sheets, cleaning of oxide layers and removal of discolouration. Smoothing and final grinding of workpiece surfaces. Suitable for cast iron, grey cast iron, zinc injection moulding, forged steels, C-steel, deep-drawn steel, stainless steels, non-ferrous metal and wood.

Features:
- Made of multiple fleece lamellas which are positioned in a plastic core around the axis in a fan-like, corrugated arrangement

Advantages:
- Shoulder-free line matting of large surfaces thanks to the corrugated design
- The 19mm diameter plastic hole core with 4 keyways fits all commercially available roller drives
- Extremely high stability thanks to double impregnation





ATORN®

Head Dia	Head Length	Bore Dia	Fleece Grid Size	Design/ Colour	Rec. RPM	Pack Size	Order Code	Price (Each)
100	100	19	80	X-Coarse Orange	2400	1	76044680	**£28.92**
			120	Coarse Red			76044682	**£25.04**
			180-240	Medium Yellow			76044684	**£25.04**
			280-320	Fine Green			76044686	**£25.04**
			400-600	X-Fine Purple			76044688	**£25.04**

ABRASIVE CLOTH SHOP ROLL

Aluminium Oxide (In Tear Off Box)

Application:
Tough, durable abrasive cloth for a variety of manual cleaning, blending, de-burring and polishing operations on all metals. 25 metre long roll available in 25mm or 50mm widths.

Advantages:
- Ideal for contour work



Garryson

Grit	Length	Order Code			
		25mm Width	Price	50mm Width	Price
40	25	GSR2525040	£10.13	GSR5025040	£25.60
60		GSR2525060	£9.10	GSR5025060	£22.83
80		GSR2525080	£8.51	GSR5025080	£21.29
100		GSR2525100	£7.74	GSR5025100	£20.43
120		GSR2525120	£7.74	GSR5025120	£19.65
150		GSR2525150	£7.74	GSR5025150	£19.65
180		GSR2525180	£7.74	GSR5025180	£19.65
240		GSR2525240	£7.74	GSR5025240	£19.65
320		GSR2525320	£7.74	GSR5025320	£19.65
400		GSR2525400	£7.71	GSR5025400	£19.65

ABRASIVE CLOTH SHOP ROLL

Aluminium Oxide (In Tear Off Box)

Application:
Hand sanding of alloyed and unalloyed steels, stainless steel, chrome and chrome-nickel steel, brass, bronze, wood, paint and plastic.

Advantages:
- Excellent grinding performance with high-quality aluminium oxide dense covering
- Robust, oil/petroleum-resistant, highly flexible cotton fabric



ATORN®

Grit	Length	Order Code			
		25mm Width	Price	50mm Width	Price
40	25	69251000	£22.80	69251100	£32.90
60		69251002	£19.95	69251102	£29.62
80		69251004	£18.87	69251104	£29.11
100		69251006	£17.90	69251106	£26.37
120		69251008	£17.90	69251108	£26.37
150		69251010	£17.90	69251110	£26.37
180		69251012	£17.90	69251112	£26.37
240		69251014	£17.90	69251114	£26.37
320		69251016	£17.90	69251116	£26.37
400		69251018	£17.90	69251118	£26.37

ABRASIVE CLOTH SHOP ROLL

Aluminium Oxide (In Tear Off Box)

Application:
Highly flexible cloth with a wide range of grits, from coarse to fine, provides excellent results on a variety of applications inluding deburring, rust removal and finishing metal.

Advantages:
- Versatile aluminium oxide abrasive for hand sanding of wood & metal
- Flexible cotton backing ideal for sanding profiled surfaces & round steel parts



NORTON

Grit	Length	Width	Order Code	Price
40	25	25	63642531849	£22.93
50			63642531850	£21.96
60			63642531823	£21.44
80			63642531820	£19.98
100			63642531815	£19.70
120			63642531811	£19.70
150			63642531808	£19.70
180			63642531805	£19.70
220			63642531802	£19.70
240			63642531799	£19.70
320			63642531796	£19.70
400			63642531793	£19.70

ABRASIVE CLOTH SHOP ROLL (50 METRES) ALUMINIUM OXIDE (WIDE ROLL)

Application:
Hand sanding of alloyed and unalloyed steel, stainless steel, chrome and chrome-nickel steel, brass, bronze, wood, paint and plastic.

Advantages:
- Excellent grinding performance with high-quality aluminium oxide dense covering
- Robust, oil/petroleum-resistant, highly flexible cotton fabric



ATORN®

Grit	Length	Order Code			
		50mm Width	Price	115mm Width	Price
40	50	69255040	£46.94	69256040	£91.93
60		69255060	£40.67	69256060	£83.68
80		69255080	£39.51	69256080	£80.31
100		69255100	£37.14	69256100	£75.02
120		69255120	£37.14	69256120	£75.02
150		69255150	£37.14	69256150	£75.02
180		69255180	£37.14	69256180	£75.02
240		69255240	£37.14	69256240	£75.02
320		69255320	£37.14	69256320	£75.02
400		69255400	£37.14	-	-

ABRASIVE CLOTH SHOP ROLL

Aluminium Oxide (In Tear Off Box)

Application:
All-purpose product for applications ranging from rust and paint removal through to structuring and final sanding.

Advantages:
- Can be folded and cut to any desired format
- Highly adaptable to contours, curves and profiles



Grit	Length	Width	Order Code	Price
60	25	25	8115.9825.0060	£18.28
80			8115.9825.0080	£16.66
100			8115.9825.0100	£15.69
120			8115.9825.0120	£15.69
150			8115.9825.0150	£15.69
180			8115.9825.0180	£15.69
240			8115.9825.0240	£15.69
320			8115.9825.0320	£15.69
60	50	50	1133.2142.0060	£36.12
80			1133.2142.0080	£32.44
100			1133.2142.0100	£31.56
120			1133.2142.0120	£31.56
150			1133.2142.0150	£31.56
180			1133.2142.0180	£31.56
240			1133.2142.0240	£31.56
320			1133.2142.0320	£31.56

ABRASIVE CLOTH SHOP ROLL

Aluminium Oxide (In Tear Off Box)

Application:
Ideally suited for many industrial applications on materials such as steel, stainless steel and non-ferrous materials.

Advantages:
- Wide range of possible applications
- Unsurpassed quality



Grit	Length m	Width mm	Order Code	Price
40	50	25	3769	£24.52
60			3771	£21.51
80			3772	£20.09
100			3773	£19.20
120			3774	£19.20
150			3775	£19.20
180			3776	£19.20
220			3777	£19.39
240	50		3778	£19.39
320			3780	£19.39
400			3782	£19.39
80		50	3852	£38.57
120			3854	£36.80
180			3856	£36.80
240			3858	£37.16

ABRASIVE CLOTH HAND PADS

Silicon Carbide

Application:
Ideal for removing surface imperfections, cleaning, deburring, finishing and polishing surfaces. Suitable for use on all kinds of metal but ideal for use on stainless steel.

Advantages:
- Sharper, harder grain compared to aluminium oxide



Length	Width	Grade	Pack Size	Order Code	Price (Each)
230	150	Medium	10	GHPSC150230M	£1.39
		Fine		GHPSC150230F	£1.23
		Very Fine		GHPSC150230VF	£1.23
		Ultra Fine		GHPSC150230UF	£1.23
		Micro Fine		GHPSC150230MF	£1.23

KL385JF ABRASIVE HAND PADS

Aluminium Oxide (Cloth Backed)

Application:
KL 385 JF are ideal for sanding by hand on metal and wooden surfaces with the ability to fold or cut them to the desired size.

Advantages:
- Excellent for work on edges and profiles
- Outstanding flexibility
- Cut or tear to size



Grit	Length	Width	Pack Size	Order Code	Price (Each)
40	280	230	50	218047	£1.08
60				218050	£0.95
80				218051	£0.88
100				218052	£0.85
120				218053	£0.85
150				218054	£0.85
180				218055	£0.85
240				218057	£0.85
320				218059	£0.85

SIASPONGE ABRASIVE BLOCKS

Application:
The soft foam block for a perfect finish on all materials. Thanks to its reduced hardness, this sanding block adapts perfectly to rebates, edges and profiles and ensures uniform pressure distribution without losing its edge stability.

Advantages:
- Consistent finish throughout its life
- Different coloured blocks for different grit levels
- Can be used wet or dry
- Coated on all four sides



Length	Width	Depth	Grade	Colour	Pack Size	Order Code	Price (Each)
98	69	26	Medium	Orange	10	0070.1242	£0.66
			Coarse	Yellow		0070.1256	
			Fine	Green		0070.1233	
			Super Fine	Blue		0070.1241	

PS11C WET/DRY ABRASIVE HAND PADS

Silicon Carbide (Paper Backed)

Application:
Suitable for a wide range of tasks, including wet and dry sanding. For use on paint, varnish, filler and plastic.

Advantages:
- Wide range of applications
- Supremely aggressive abrasive performance
- Outstanding option for work on fine details



Grit	Length	Width	Pack Size	Order Code	Price (Each)
60	280	230	50	2022	£1.17
80				2023	£1.01
100				2117	£0.90
120				2116	£0.79
150				2011	£0.74
180				2012	£0.69
220				2013	£0.69
240				2014	£0.69
280				2015	£0.69
320				2016	£0.69
360				2017	£0.69
400				2018	£0.69

GARRYFLEX® ABRASIVE BLOCKS

Application:
Abrasive hand blocks designed for removing light scratches, corrosion and discolouration from materials.

Advantages:
- Consistent finish throughout its life
- Different coloured blocks for different grit levels



Grit	Length	Width	Depth	Colour	Pack Size	Order Code	Price (Each)
36	80	50	20	Pink	18	GB036	£4.51
60				Blue		GB060	
120				Grey		GB120	
240				Brown		GB240	

SCHLEIFFIX UNIVERSAL ABRASIVE BLOCK

Application:
For cleaning, polishing, smoothing, dulling and grinding of tools and devices, cleaning of marks and welds on metal, putting grain into stainless steel.

Advantages:
- Consistent finish throughout its life
- Flexible hand sanding block with elastically bonded abrasive grain
- Can be used wet or dry



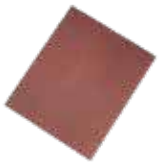
Length	Width	Depth	Grade	Grit	Pack Size	Order Code	Price (Each)
80	50	20	Fine	240	1	13803	£5.10
			Medium	120		13802	
			Rough	60		13801	

ABRASIVE CLOTH SHEETS

Aluminium Oxide

Application:
Sanding of coatings, impurities & unevenness, flatting of bodyfiller and primer filler, fine sanding of primer filler, keying of old and new lacquers and removal of old paint runs, orange-peel and dust inclusions.

Advantages:
- Very high stock removal rates
- Extremely long lifetime
- Highly water resistant
- Can be used wet or dry



Grit	Length	Width	Pack Size	Order Code	Price (Each)
60	280	230	50	3100.3713.0060	£1.87
80				3100.3713.0080	£1.64
100				3100.3713.0100	£1.38
120				3100.3713.0120	£1.25
150				3100.3713.0150	£1.09
180				3100.3713.0180	£1.03
220				3100.3713.0220	£1.03
240				3100.3713.0240	£1.03
280				3100.3713.0280	£1.03
320				3100.3713.0320	£1.03
360				3100.3713.0360	£1.03
400				3100.3713.0400	£1.03

ABRASIVE CLOTH SHEETS

Application:
Felt sheets are suited to a very wide variety of polishing applications. The two different hardness grades available only multiply the number of potential applications.

Advantages:
- Depending on the requirements, can be cut or punched into any shape quickly and easily
- Can be profiled as desired, meaning they can also be used for tools with complex geometries



Length	Thickness	Type	Pack Size	Order Code	Price (Each)
250	3	M (Medium)	50	036433	£50.47
	6			036440	£75.70
	12			036464	£75.70
	6	H (Hard)		036457	£143.38
	12			036471	£143.38

ABRASIVE CLOTH SHEETS

Aluminium Oxide

Application:
Ideal for removing surface imperfections, cleaning, deburring, finishing and polishing surfaces. Ideal for use on metal, composite or plastic surfaces.

Advantages:
- Increased durability compared to silicon carbide



Length	Width	Grade	Pack Size	Order Code	Price (Each)
230	150	Very Fine	10	GHPA150230VF	£1.11
		Fine		GHPA150230F	£1.11
		Medium		GHPA150230M	£1.31
		Coarse		GHPA150230C	£1.52

ABRASIVE CLOTH SHEETS

Aluminium Oxide

Application:
Hand sanding of alloyed and unalloyed steel, stainless steel, chrome and chrome-nickel steel, brass, bronze, wood, paint and plastic.

Advantages:
- Excellent grinding performance with high-quality Aluminium oxide dense covering
- Robust, oil/petroleum-resistant, highly flexible cotton fabric (brown)



Grit	Length	Width	Pack Size	Order Code	Price (Each)
40	280	230	50	69250040	£1.05
60				69250060	£0.90
80				69250080	£0.83
100				69250100	£0.81
120				69250120	£0.81
150				69250150	£0.81
180				69250180	£0.81
240				69250240	£0.81
320				69250320	£0.81
400				69250400	£0.81

PS11 WET/DRY ABRASIVE SHEETS

Silicon Carbide (Paper Backed)

Application:
PS11 is a high-quality, highly flexible, waterproof abrasive paper for working on plastic, paint, varnish and fill.

Advantages:
- Aggressive abrasive performance
- Outstanding flexibility
- Can be used wet or dry



Grit	Length	Width	Pack Size	Order Code	Price (Each)
220	280	230	**50**	2002	£0.69
240				2003	
280				2004	
320				2005	
400				2007	
500				2008	
600				2009	

KL 371XABRASIVE CLOTH SHEETS

Aluminium Oxide (Cloth Backed)

Application:
Exceptional stock removal rate on ferrous and non-ferrous metal. This firm bond and the cloth backing makes this product suitable for universal use, including as an emery abrasive.

Advantages:
- Tear-resistant heavy duty cotton backing for ultimate performance and durability
- Can be used wet or dry



Grit	Length	Width	Pack Size	Order Code	Price (Each)
60	280	230	50	2102	£1.16
80				2103	£1.09
100				2104	£1.04
120				2105	£1.04
150				2106	£1.04
180				2107	£1.04
240				2109	£1.06
320				119886	£1.06
400				119888	£1.06

ABRASIVE FLEECE SHEETS

Aluminium Oxide & Silicon Carbide

Application:
For smoothing, roughing, light sanding, de-greasing & cleaning surfaces, light deburring and removal of dirt & corrosion.

Aluminium oxide:
Rough grade for heavy duty work

Silicon carbide:
Finishing grade for light duty work



ATORN®

Length	Width	Colour	Type	Grade	Pack Size	Order Code	Price (Each)
210	150	Blue	Al-oxide	Rough	10	69297005	£1.18
		Grey	Si-carbide	Fine		69297010	£1.15

SCOTCH-BRITE™ FLEECE HAND PADS

Aluminium Oxide 7440 & Silicon Carbide 7448

Application (Aluminium oxide 7440):
Flexible, conformable Scotch-Brite™ Web produces a consistent, repeatable finish without altering the geometry of the workpiece. Save time and money by reducing rework and improving process time. Use when deburring, cleaning, blending, finishing & polishing.



Application (Silicon carbide 7448):
Ultra fine finishing action outperforms steel wool for cleaning, blending, prepping and finishing on metal, wood, plastics and composites. Performs like steel wool grade 00 without shredding, rusting, or splintering

3M

Length	Width	Colour	Type	Grade	Pack Size	Order Code	Price (Each)
224	158	Brown	Al-oxide	Medium	20	69296006	£78.06
		Red	Al-oxide	Very Fine		69296011	£34.05
		Grey	Si-carbide	Ultra Fine		69296016	£36.94

ABRASIVE FLEECE ROLL

Aluminium Oxide & Silicon Carbide

Application:
For smoothing, roughing, light sanding, de-greasing and cleaning surfaces, light deburring and removal of dirt and corrosion.

Aluminium oxide:
Rough grade for heavy duty work

Silicon carbide:
Finishing grade for light duty work



ATORN®

Length	Width	Colour	Type	Grade	Pack Size	Order Code	Price (Each)
10000	115	Blue	Al-oxide	Rough	10	69297105	£29.19
		Grey	Si-carbide	Fine		69297110	£28.23

SCOTCH-BRITE™ CLEAN AND FINISH ROLL CF-RL

Aluminium Oxide & Silicon Carbide

Application:
Scotch-Brite™ Clean and Finish Roll delivers consistent results for finishing, blending, polishing, and cleaning on a variety of metals, wood and plastic surfaces as well as hard-to-reach areas.

The roll stock can be easily cut to any length. Clean and Finish Roll stock provides consistent surface conditioning for the life of the product.



3M

Length	Width	Colour	Type	Grade	Pack Size	Order Code	Price (Each)
10000	100	Red	Al-oxide	Very Fine	1	69296205	£48.80
		Grey	Si-carbide	Ultra Fine		69296211	£47.26

SCOTCH-BRITE™ 7447 HAND PAD PRO

Aluminium Oxide & Silicon Carbide (7447)

Application:
Scotch-Brite™ general purpose hand pad pro is comparable to steel wool grade 1 in performance. However, unlike steel wool, Scotch-Brite™ pads won't shred during use, rust after use, or create fine metal splinters.

- The non-woven, open-web material resists loading and can be used dry, with water or solvents, and rinsed clean for reuse.
- Suitable for use on wood, metal, plastics, ceramics, porcelain, glass, rubber, or composites



3M

Colour	Type	Pack Size	Grade	Order Code	Price (Pack)
Red	Al-oxide	20	Very Fine	69296051	£30.19
Grey	Si-carbide		Ultra Fine	69296071	£31.30

SCOTCH-BRITETM ABRASIVE FLEECE ROLL CF-SR

Aluminium Oxide & Silicon Carbide

Application:
Scotch-Brite™ hand pads pre-cut on a roll, combines flexibility with effective cutting action and precise hand control to accomplish tough cleaning jobs or produce fine finishing results after use. Very fine grade aluminium oxide and silicon carbide abrasives cut fast and fine, leaving a smooth, finished surface.

- Total length 4.5m cut into 35 pads 150x115mm



3M

Length	Width	Colour	Type	Grade	Pack Size	Order Code	Price (Each)
4500	150	Violet	Al-oxide	Very Fine	35	69296106	£36.07
		Grey	Si-carbide	Ultra Fine		69296111	£34.17

CS 310 XF UNIVERSAL FILE BELTS

Application:
Designed especially for use in combination with hand tool belt grinders. When used on metal, the product is best used for the precision sanding of radii and contours. Suitable for steel, stainless steel and non-ferrous metal. F4G belt connection.

Advantages:
- Cotton tear resistant backing
- Exceptionally high removal rate
- Effective sanding of both the surfaces and the edges of metals



Grit	Length	Width	Pack Size	Order Code	Price (Each)
40	330	10	10	86104	£0.69
60				71110	£0.67
80				71111	£0.67
100				71112	£0.66
120				71957	£0.66

CUBITRON™ II 947A ABRASIVE CERAMIC X-CLOTH BELT

Application:
Designed for outstanding results on applications ranging from high-pressure, automated grinding to low and medium pressure offhand operations, on equipment such as backstands, file belt sanders, inline sanders & stroke sanders. Can be used dry.



Advantages:
- Requires less pressure, reducing operator fatigue
- Precision grain cuts exceptionally fast and increases productivity
- Lasts up to 4 times longer than conventional ceramic belts

Grit	Length	Width	Order Code	Price (Each)
40	330	10	69292050	£0.67
	610	13	69292100	£1.22
60	330	10	69292055	£0.75
	610	13	69292105	£1.77
80	330	10	69292060	£0.70
	610	13	69292110	£1.71
120	330	10	69292065	£0.67
	610	13	69292115	£1.62

LS 309 XH UNIVERSAL ABRASIVE BELTS

Application:
The Klingspor abrasive belt LS 309 XH is suitable for all sanding tasks on hand belt sanders including metals and wood.

Advantages:
- Cotton tear resistant backing
- Exceptionally high removal rate
- Flawless surface quality across a wide range of applications and workpiece



Grit	Length	Width	Connection	Pack Size	Order Code	Price (Each)
40	533	75	F5	10	4137	£1.77
	560	100			4151	£2.17
60	533	75			4139	£1.65
	560	100			4473	£2.02
80	533	75			4140	£1.57
	560	100			4474	£1.93
100	533	75			4141	£1.54
	560	100			4475	£1.88
120	533	75			4142	£1.54
	560	100			4476	£1.88
	620	100			6286	£1.97
150	533	75			4143	£1.54

CERAMIC OXIDE LONG ABRASIVE BELTS

Application:
For aggressive grinding with maximum stock removal rate and very good tool life. For deburring, leveling, sharpening, step-by-step fine grinding, working on edges and work on weld seams.

Advantages:
- High tear strength with optimum flexibility.
- Consistent results through very good grain adhesion.



Length	Width	Grit	Pack Size	Order Code	Price (Each)
2000	75	24	10	950692	£16.51
		36		950708	£14.96
		40		950715	£13.49
		50		950722	£12.53
		60		950739	£11.06
		80		950746	£10.44
		120		950753	£10.01
2500		24		950760	£20.75
		36		950777	£18.89
		40		950784	£16.99
		50		950791	£15.72
		60		950807	£13.79
		80		950814	£13.03
		120		950821	£12.58

LONG NON-WOVEN ABRASIVE BELTS

Suitable for Pedestal Grinding Machines

Application:
Suitable for general work on metal surfaces in stationary applications such as removing rough grinding traces, removing oxidation and light deburring work.

Advantages:
- High economic efficiency due to high abrasive performance and long tool life
- High tear strength with optimum flexibility



Grit	Length	Width	Pack Size	Order Code	Price (Each)
100	2000	75	2	066164	£75.25
180				066188	£70.89
240				066195	£69.66
100	2500			066225	£93.31
180				066232	£89.56
240				066249	£84.59

TRIZACT™ ALUMINIUM OXIDE X-CLOTH BELT 237AA

Application:
For intermediate and final sanding of metal, solid and painted surfaces in addition to varnished surfaces and plastic parts.

Advantages:
- Flexible backing for consistent finish over contours
- Ideal for intermediate finishing and fine polishing prior to plating or buffing
- Self-sharpening pyramids start sharp, stay sharp, and run cooler than conventional abrasives



Length	Width	Grit	Order Code	Price (Each)
2000	75	16	69292400	£17.79
	75	30	69262405	£17.79
	150	30	69262500	£35.59
	75	45	69262410	£18.45
	75	65	69262415	£17.79
	150	65	69262510	£35.59

2829 SIARON Y ZIRCONIUM ABRASIVE BELTS

Application:
Zirconia alumina, fully synthetic resin bonding cloth belt.
Heavy duty stainless steel & hard alloy grinding.

High edge stability & tear resistant backing, making these belts ideal for file belts. Active additives offer a cooler cut.



Advantages:
- Backing with very high stability and rigidity
- Suitable for general use in dry and wet sanding applications

Grit	Length	Width	Pack Size	Order Code	Price (Each)
36	330	10	5	7213.5249.0036	**£1.11**
40				7213.5249.0040	**£1.11**
60			10	7213.5249.0060	**£1.09**
80				7213.5249.0080	**£1.08**
120				7213.5249.0120	**£1.08**
36	520	20	10	0555.1990.0036	**£1.95**

BA ZIRKON ABRASIVE BELTS

Application:
For coarse grinding work with a high stock removal rate and a long tool life. Can be used with steel > 54HRC, hardened steel, stainless steel and cast iron.

Advantages:
- High tear strength with optimum flexibility.
- Consistent results through very good grain adhesion.



Grit	Length	Width	Pack Size	Order Code	Price (Each)
40	1000	100	10	586457	**£6.61**
60				586464	**£5.45**
80				586471	**£5.09**
120				621042	**£5.09**
24	2000	50	10	621219	**£8.15**
36				621233	**£7.37**
40				586327	**£6.46**
60				586334	**£5.29**
80				586341	**£4.94**
120				619353	**£4.94**
24	2000	75	10	600511	**£12.06**
36				586358	**£10.98**
40				586365	**£9.53**
60				586372	**£7.85**
80				586389	**£7.30**
120				586396	**£7.30**
36	2000	150	10	600641	**£20.43**
40				586488	**£17.68**
60				586495	**£14.34**
80				586501	**£13.27**
120				600672	**£13.27**
40	2250	75	10	613191	**£10.98**
60				613214	**£9.09**
36	2500	75	10	586402	**£13.67**
40				586419	**£11.90**
60				586426	**£9.82**
80				586433	**£9.13**
36		150	10	621141	**£25.74**

LS 309X UNIVERSAL ABRASIVE BELTS

Application:
The Klingspor abrasive belt LS 309xis an abrasive belt for universal use in metal and wood processing, suitable for rough and finish sanding as well as for surface sanding.

Advantages:
- Cotton tear resistant backing
- Exceptionally high removal rate
- Flawless surface quality across a wide range of applications and workpiece



Grit	Length	Width	Connection	Pack Size	Order Code	Price (Each)
60	800	100	F5	10	38286	**£3.87**
80					39659	**£3.69**
120					137024	**£3.74**
60	860	100	F5	10	38895	**£3.58**
80					40425	**£3.74**
100					41621	**£4.06**
120					42678	**£3.87**
60	900	100	F5	10	38898	**£3.87**
80					40428	**£3.87**
100					41623	**£4.22**
120					42679	**£4.00**
40	915	100	F5	10	37324	**£3.92**
60					38900	**£3.92**
80					40430	**£3.92**
100					41625	**£3.92**
120					42681	**£3.95**
150					43054	**£4.72**
180					43308	**£4.27**
240					128755	**£4.04**
40	950	100	F5	10	37328	**£4.00**
60					38904	**£4.00**
80					40435	**£4.82**
100					41627	**£4.37**
120					42684	**£4.14**
40	1000	100	F5	10	36999	**£4.14**
60					38304	**£4.14**
80					39679	**£5.02**
100					41019	**£4.53**
120					42199	**£4.29**
40	1020	50	F5	10	36837	**£2.65**
60				25	38075	**£2.65**
80					39401	**£3.11**
100					40832	**£2.84**
120					42020	**£2.71**
60	1220	150	F5	10	38428	**£7.86**
80					39852	**£7.45**
40	2000	50	F4G	10	4502	**£4.93**
60				25	4531	**£4.45**
80					4548	**£4.19**
40		75	F4G	10	36923	**£7.25**
60					38198	**£6.50**
80					39556	**£6.15**
40		150	F4G	10	37071	**£13.13**
60					38460	**£11.64**
80					39884	**£10.91**

RECTANGULAR BENCH STONES

Pink Fused Aluminium Oxide (Medium)

Application:
For sharpening and re-machining tools for wood, metal and plastic processing, e.g. machine and plane knives, steel, scrapers, reamers and gauges as well as measuring instruments. For use with water or oil.

Advantages:
- Pink aluminium oxide offers medium toughness with high cutting performance on hard to very hard steels
- Medium grain surface structure



ATORN®

Length	Width	Thickness	Order Code	Price (Each)
100	25	13	69300100	**£4.40**
150	50	25	69300110	**£8.11**
200	50	25	69300120	**£10.41**

RECTANGULAR BENCH STONES

Green Silicon Carbide (Medium or Fine)

Application:
For sharpening and re-machining tools for wood, metal and plastic processing, e.g. machine and plane knives, steel, scrapers, reamers and gauges as well as measuring instruments. Silicon carbide may be used with water, thin-bodied oil for finer grinding, petroleum or even dry.

Advantages:
- Harder than aluminium oxide, suitable for the hardest of materials including carbide, glass and high alloy tool steels
- Medium or fine grain surface structure



ATORN®

Length	Width	Thickness	Order Code			
			Medium	Price (Each)	Fine	Price (Each)
100	25	13	69300150		69300155	**£4.53**
150	50	25	69300160		69300165	**£8.22**
200	50	25	69300170		69300175	**£9.94**

RECTANGULAR BENCH STONES

White Fused Aluminium Oxide (Fine)

Application:
For sharpening and re-machining tools for wood, metal and plastic processing, e.g. machine and plain knives, steel, scrapers, reamers and gauges as well as measuring instruments. For use with water or oil.

Advantages:
- White aluminium oxide offers low-medium toughness with medium to high cutting performance on medium to hard steels
- Fine grain surface structure



ATORN®

Length	Width	Thickness	Order Code	Price (Each)
100	25	13	69300105	**£4.40**
150	50	25	69300115	**£8.11**
200	50	25	69300125	**£10.41**

RECTANGULAR COMPOSITE BENCH STONES

Green/Dark Green Silicon Aluminium Oxide

Application:
For sharpening and re-machining tools for wood, metal and plastic processing, e.g. machine and plain knives, Steel, scrapers, reamers and gauges as well as measuring instruments. Silicon carbide may be used with water, thin-bodied oil for finer grinding, petroleum or even dry.

Advantages:
- Fine grain surface structure on one side (green), coarse surface structure on the opposite side (dark green)



ATORN®

Length	Width	Thickness	Order Code	Price (Each)
100	25	13	69300250	**£5.90**
150	50	25	69300270	**£9.20**
200	50	25	69300280	**£12.37**

RECTANGULAR COMPOSITE BENCH STONES

White/Pink Fused Aluminium Oxide

Application:
For sharpening and re-machining tools for wood, metal and plastic processing, e.g. machine and plain knives, steel, scrapers, reamers and gauges as well as measuring instruments. For use with water or oil.

Advantages:
- Fine grain surface structure on one side (white), coarse surface structure on the opposite side (pink)



ATORN®

Length	Width	Thickness	Order Code	Price (Each)
100	25	13	69300200	**£5.90**
150	50	25	69300220	**£8.55**
200	50	25	69300230	**£11.22**

SHAPED STONES

Green Silicon Carbide (Medium or Fine)

Application:
For sharpening and re-machining tools for wood, metal and plastic processing, silicon carbide may be used with water, thin-bodied oil for finer grinding, petroleum or even dry.

Advantages:
- Harder than Aluminium oxide, suitable for the hardest of materials including carbide, glass and high alloy tool steel
- Medium or fine grain surface structure in 3 geometries



Multi-shape Gouge-stone Knife shape

ATORN®

Length	Width	Thickness	Shape	Order Code		
				Medium	Fine	Price (Each)
150	50	13/4	Multi-shape	69300050	69300055	**£7.57**
115	45	10/3	Gouge-stone	69300060	69300062	**£5.90**
115	45	10/1	Knife-shape	69300070	69300072	**£5.90**

RECTANGULAR BENCH STONES

Record-Arkansas (Very Fine)

Application:
For grinding cutting tools, knives, instruments, engraving and clock-making tools or similar instruments. Record-Arkansas products have a high degree of hardness and are particularly fine, for removing even the smallest imperfections. They should be used only in conjunction with pure, thin-bodied oil for finer grinding, petroleum or water.

Advantages:
- Extremely hard white synthetic aluminium oxide stone
- The wax impregnation prevents particle build-up and provides a cool smooth finish



Length	Width	Thickness	Order Code	Price (Each)
100	25	13	69430010	**£12.76**
150	50	25	69430030	**£24.07**
200	50	25	69430040	**£33.35**

RECTANGULAR BENCH STONES

Ruby-Degussit (Medium or Fine)

Application:
Degussit stones are used for fine grinding, polishing and deburring. Particular economical advantages are ideal when working with hardened steel, glass and porcelain, also loved by watchmakers, clockmakers and jewellers for their pin point sharpness and long lasting hardness. Made with mixed crystal aluminium oxide (no bonding agent).

Advantages:
- Extremely high hardness, highly resistant and excellent stability
- Wet or dry use
- Sharp edged for excellent surface finish with high accuracy of shape



Length	Width	Thickness	Order Code			
			Medium	Price (Each)	Fine	Price (Each)
100	25	10	69360010	**£80.83**	69361010	**£70.08**
150	25	15	69360020	**£113.44**	69361020	**£111.57**

TAPERED GRINDING FILE (STONE)

Ruby-Degussit (Fine or Rough)

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics. Particular economical advantages are obtained when working with hardened steel, glass and porcelain as they are loved for their pin point sharpness and long lasting hardness.

Advantages:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Excellent surface finish and accuracy of shape during precision work
- Wet or dry use
- Fine or rough grain



Length	Width	Tapered End Thickness	Order Code			
			Fine	Price (Each)	Rough	Price (Each)
100	5	2	69380010	**£42.64**	69381010	**£41.97**

60° PENCIL GRINDING FILE (STONE)

Ruby-Degussit (Fine)

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics. Particular economical advantages are obtained when working with hardened steel, glass and porcelain as they are loved for their pin point sharpness and long lasting hardness.

Advantages:
- Extremely high hardness, highly resistant and excellent stability
- Wet or dry use
- Fine grain
- Sharp 60° pencil point for intricate grinding applications



Length	Diameter	Point Angle	Order Code	Price (Each)
100	5	60°	69382010	**£28.11**

MINI GRINDING FILE (STONE) SET

Ruby-Degussit (Fine)

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Advantages:
- Extremely high hardness, highly resistant and excellent stability
- Wet or dry use
- Sharp edged for excellent surface finish with high accuracy of shape

Set contents:
- 2x triangular (50x2, 100x3)
- 2x square (50x1, 100x2)
- 1x flat (50x3x0.3)
- 3x round (50x1, 100x2, 100x3)
- 1x half-round (100x5x1.5)
- 1 oval (100x5x1.5)



Set Qty	Order Code	Price (Each)
11 files, 1 holder and 2 mountings	69390010	**£114.08**

GRINDING FILE (STONE) SET

Ruby-Degussit (Fine)

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Advantages:
- High resistance to wear and changes in shape due to the hardness of the crystals
- Achieves excellent surface finish and accuracy of shape during precision work

Set contents:
- 1x triangular (100x10mm medium grain)
- 1x square (100x10mm medium grain)
- 1x square (100x8x6mm fine grain)
- 1x half-round (100x10 rough grain)
- 1x round (100x6 medium grain)



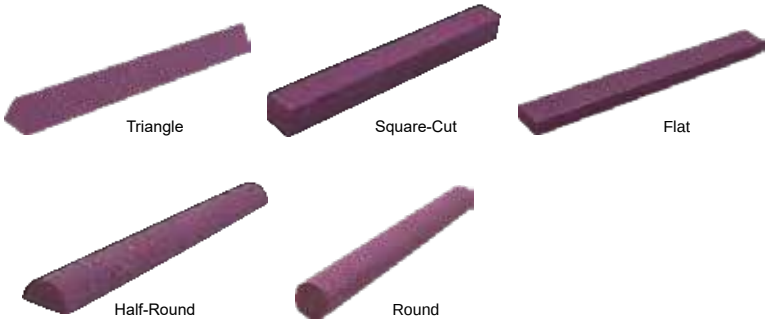
Set Qty	Order Code	Price (Each)
5 pcs	69395010	**£200.01**

PINK FUSED (ALUMINIUM OXIDE) GRINDING FILES/STONES

Rough, Medium & Fine

Application:
For deburring or rounding hardened steel. For use in mould and tool construction, machine and apparatus construction. For use with water or thin oil.

Advantages:
- More edge-resistant and wear-resistant than the silicon carbide version due to high binding hardness
- Ensures a uniform finish on precision machined parts



ATORN®

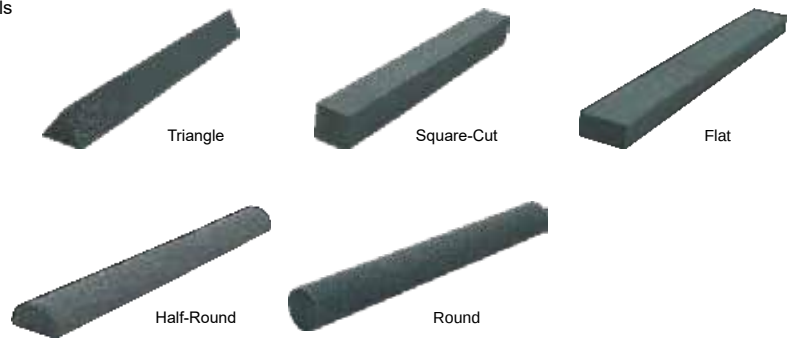
Form	Length	Width	Thickness	Diameter	Pack Size	Order Code					
						Rough	Price	Medium	Price	Fine	Price
Triangle	100	10	10	-	5	69301000	£3.83	69301002	£3.83	69301004	£4.42
	150	16	16	-	3	69301006	£5.80	69301008	£5.80	69301010	£6.88
Square-cut	100	10	10	-	5	69301030	£3.83	69301032	£3.83	69301034	£4.42
	150	16	16	-	3	69301036	£5.80	69301038	£5.80	69301040	£6.88
Flat	100	10	5	-	5	69301060	£3.49	69301062	£3.49	69301064	£4.20
	150	16	8	-	3	69301066	£6.37	69301068	£6.37	69301070	£7.28
Half-round	100	10	5	-	5	69301090	£3.83	69301092	£3.83	69301094	£4.73
	150	16	8	-	3	69301096	£6.37	69301098	£6.37	69301100	£7.79
Round	100	10	-	10	5	69301120	£3.83	69301122	£3.83	69301124	£5.19
	150	16	-	16	3	69301126	£6.37	69301128	£6.37	69301130	£7.79

GREEN SILICON CARBIDE GRINDING FILES/STONES

Rough, Medium & Fine

Application:
For hardened steel, HSS and carbide steel
For use in mould and tool construction, machine and apparatus construction
Silicon carbide may be used with water, thin-bodied oil for finer grinding, petroleum or even dry

Advantages:
- Harder than aluminium oxide, suitable for the hardest of materials
- Ensures a uniform finish on precision machined parts



ATORN®

Form	Length	Width	Thickness	Diameter	Pack Size	Order Code					
						Rough	Price	Medium	Price	Fine	Price
Triangle	100	8	8	-	5	69301202	£3.67	-	-	69301200	£3.67
	100	10	10	-	5	69301206	£3.83	69301208	£3.83	69301210	£3.83
	150	13	13	-	3	69301212	£5.84	69301214	£5.84	69301216	£5.84
	150	16	16	-	3	69301218	£6.21	69301220	£6.21	69301222	£6.21
	150	20	20	-	3	69301224	£6.86	69301226	£6.86	69301228	£6.86
	200	20	20	-	2	69301230	£10.51	69301232	£10.51	69301234	£10.51
Square-Cut	100	8	8	-	5	69301252	£3.67	-	-	69301250	£3.67
	100	10	10	-	5	69301256	£3.83	69301258	£3.83	69301260	£3.83
	150	13	13	-	3	69301262	£5.84	69301264	£5.84	69301266	£5.84
	150	16	16	-	3	69301268	£6.21	69301270	£6.21	69301272	£6.21
	150	20	20	-	3	69301274	£6.86	69301276	£6.86	69301278	£6.86
	200	20	20	-	2	69301280	£10.51	69301282	£10.51	69301284	£10.51
Flat	100	8	4	-	5	69301302	£3.35	-	-	69301300	£3.35
	100	10	5	-	5	69301306	£3.49	69301308	£3.49	69301310	£3.49
	150	13	6	-	3	69301312	£5.84	69301314	£5.84	69301316	£5.84
	150	16	8	-	3	69301318	£6.21	69301320	£6.21	69301322	£6.21
	150	20	10	-	3	69301324	£6.86	69301326	£6.86	69301328	£6.86
Half-Round	100	10	5	-	5	69301340	£3.83	69301342	£3.83	69301344	£3.83
	150	13	6	-	3	69301346	£5.84	69301348	£5.84	69301350	£5.84
	150	16	8	-	3	69301352	£6.21	69301354	£6.21	69301356	£6.21
Round	100	8	-	8	5	69301372	£3.67	-	-	69301370	£3.67
	100	10	-	10	5	69301376	£3.83	69301378	£3.83	69301380	£3.83
	150	13	-	13	3	69301382	£5.84	69301384	£5.84	69301386	£5.84
	150	16	-	16	3	69301388	£6.21	69301390	£6.21	69301392	£6.21

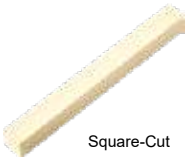
RECORD-ARKANSAS GRINDING FILES/STONES

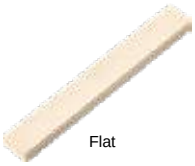
Very Fine

Application:
For grinding of cutting tools, knives, instruments, engraving and clock-making tools and similar instruments. They should be used only in conjunction with pure, thin-bodied oil for finer grinding, petroleum or water.

Advantages:
- Extremely hard white synthetic aluminium oxide stone
- The wax impregnation prevents particle build-up and provides a cool smooth finish
- Record-Arkansas products have a high degree of hardness which enables them to remove even the smallest imperfections.


Triangle


Square-Cut


Flat


Half-Round


Round

Form	Length	Width	Thickness	Diameter	Pack Size	Order Code	Price
Triangle	100	6	6	-	6	69436010	£10.43
	100	10	10	-	6	69436020	£11.16
	100	13	13	-	6	69436030	£12.32
	150	16	16	-	3	69436050	£15.36
Square-Cut	100	6	6	-	6	69434010	£9.57
	100	8	8	-	6	69434020	£10.10
	100	10	10	-	6	69434030	£9.78
	100	13	13	-	6	69434040	£10.70
	150	13	13	-	3	69434060	£13.57
	150	16	16	-	3	69434070	£13.01
	200	20	20	-	2	69434080	£18.42
Flat	100	6	3	-	6	69442010	£8.61
	100	8	4	-	6	69442020	£8.38
	150	20	10	-	3	69442040	£12.44
Half-Round	100	10	5	-	6	69440020	£15.45
Round	100	-	-	6	6	69438010	£13.55
	100	-	-	8	6	69438020	£13.52
	100	-	-	10	6	69438030	£15.09
	100	-	-	13	6	69438040	£15.40

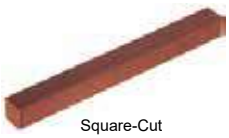
RUBY-DEGUSSIT GRINDING FILES/STONES

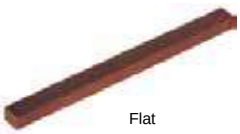
Medium & Fine

Application:
For all grinding, deburring and precision grinding work, for resharpening all kinds of tools and for machining hard or abrasive materials such as quartz, glass or ceramics.

Advantages:
- Extremely high hardness, highly resistant and excellent stability
- Wet or dry use
- Pin point sharpness
- Medium or fine grain


Triangle


Square-Cut


Flat


Half-Round


Round

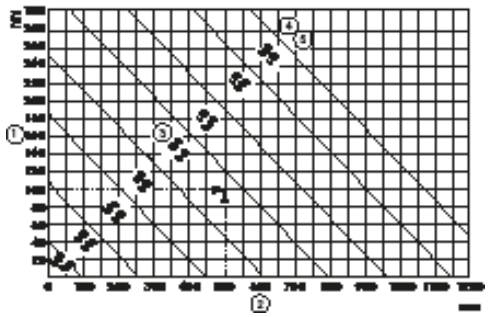
Form	Length	Width	Thickness	Diameter	Pack Size	Order Code			
						Medium	Price (Each)	Fine	Price (Each)
Triangle	100	8	8	-	1	69372030	£59.97	69371030	£68.08
	100	10	10	-		69372040	£62.49	69371040	£77.84
	120	13	13	-		69372050	£100.07	69371050	£109.13
	100	4	4	-		69372010	£37.31	-	-
	100	6	6	-		69372020	£42.76	-	-
Square-cut	100	4	4	-		69375010	£44.63	-	-
	100	6	6	-		69375020	£46.37	-	-
	100	8	8	-		69375030	£59.56	69374030	£59.70
	100	10	10	-		69375040	£67.17	69374040	£68.08
	120	13	13	-		69375050	£79.55	69374050	£87.14
Flat	100	6	3	-		69369010	£36.24	69368010	£36.78
	100	8	6	-		69369020	£47.03	69368020	£54.50
Half-Round	100	10	5	-		69377010	£57.96	-	-
Round	100	-	-	4		69384010	£43.44	-	-
	100	-	-	6		69384020	£48.23	-	-
	100	-	-	8		69384030	£57.70	69383030	£58.50
	100	-	-	10		69384040	£61.44	69383040	£64.76

SINGLE-DIAMOND DRESSING TOOL

For Dressing Ceramic Grinding Wheels

Application:
Universal, traditional dressing tool with a single diamond and protruding working tip.

We recommend selecting the appropriate diamond weight for individual diamond dressing tools according to the following diagram depending on the sanding disc to be adjusted





Diapoint

Shank	Weight of Diamond	Natural Tip Quality	Order Code	Price
MT0	0.5 carat	3	61124050	**£82.14**
	0.7 carat		61124070	**£137.50**
	1.0 carat		61124100	**£217.04**
MT1	0.5 carat		61124350	**£82.14**
	1.0 carat		61124400	**£217.04**
MT0	0.5 carat	2	61135050	**£127.11**
	0.7 carat		61135070	**£212.16**
	1.0 carat		61135100	**£338.10**
	0.4 carat		61135040	**£89.06**
MT1	0.5 carat		61135350	**£127.11**
	0.7 carat		61135370	**£212.16**

MULTI-GRAIN DIAMOND DRESSING TOOL

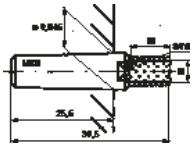
For Dressing Ceramic Grinding Wheels

Application:
For all straight ceramic sanding discs. Chucking: Dressing tool is clamped vertical to the spindle axis. With cylindrical, sintered diamond insert with many working tips. For use with higher dressing traverse speed than single diamonds.

Notes
Not suitable for profile sanding discs. For new use, it is recommended to perform several dressing strokes with increased infeed.



MT0



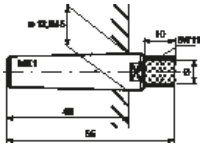


Order Code 61200025



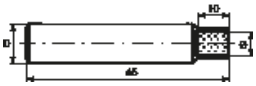
Order Code 61200015

MT1





12mm



Diapoint

Shank	Tool Diameter	Weight of Diamond	Suitable Disc Diameter	Suitable Disc Width	Order Code	Price
MT0	8	2.5 carat	150-400	20-80	61200010	**£111.48**
MT1	8	2.5 carat	150-400	20-80	61200015	**£111.48**
	11	5.0 carat	400-600	0-300	61200025	**£193.51**
12mm	8	2.5 carat	150-400	20-80	61200020	**£111.48**

STEEL DRESSING TOOL

For Dressing Straight Grinding Wheels

Application:
For dressing straight grinding wheels. Sharpening roller consists of specially hardened discs made of Swedish steel that are joined together and equipped with U-shaped teeth. Sharpening roller runs on hardened, lubricated shaft.





ATORN®

Suitable Disc Dia	Suitable Disc Width	Handle Length	Roll Width	Order Code			
				Dressing Tool	Price	Spare Wheel	Price
125-250	0-32	285	12	61964005	**£33.37**	61965005	**£17.54**
300-500	40-65	435	24	61964010	**£44.47**	61965010	**£21.07**
300-500	70-100	435	51	61964020	**£68.79**	61965020	**£35.84**

CERAMIC CUP DRESSING TOOL

For Dressing Grinding Wheels

Application:
The dressing tool consists of a round steel handle and a replaceable ceramic dressing cup. Dressing cup version: rotating, with ball bearings, conical, coarse grain with sheet steel jacket.



CUTWEL PRO

Size	Handle Length	Handle Dia	Roll Dia	Order Code			
				Dressing Tool	Price	Dressing Cup	Price
00	100	22	35	61955010	**£117.61**	61956010	**£19.65**
0	230	30	45	61955020	**£133.85**	61956020	**£33.45**
1	230	30	55	61955030	**£143.04**	61956030	**£35.33**

DIAMOND SAVER DRESSING ROD

Application:
A cost-effective alternative to dressing diamonds. Coarse grain, hard silicon carbide dressing rod in plastic sleeve.



CUTWEL PRO

Outer Dia	Length	Material Handle	Order Code	Price
25	370	Wood	61950020	**£18.82**

DRESSING STONE FOR DIAMOND AND BORON NITRIDE SANDING DISCS

Application:
White fused aluminium oxide dressing stone for diamond and boron nitride sanding and grinding discs.



ORION

Grain Size	Length	Width	Thickness	Order Code	Price
180µm	100	25	13	60597010	**£4.17**

DIAMOND MULTI-GRAIN HAND DRESSING TOOL

Form T

Application:
For accurate dressing and profiling of ceramic grinding wheels.



ORION

Head Length	Head Width	Overall Length	Weight of Diamond	Order Code	Price
25	8	200	1.5 carat	61230010	**£117.50**

DIAMOND HAND LAPPING TOOL

High Precision Version

Application:
For the maintenance and re-machining of cemented/solid carbide cutting edges. Plastic binding, high dimensional stability & long service life.

Use of the hand lapping tool increases the service life of the cemented carbide cutting edges. Ideal for fine boring and precision turning tools.



ORION

Head Length	Head Width	Overall Length	Grain Size	Order Code	Price
30	9	140	91µm	60400040	**£114.68**

DIAMOND MULTI-GRAIN HAND DRESSING TOOL

Form P

Application:
For accurate dressing and profiling of ceramic grinding wheels.



ORION

Head Length	Head Width	Overall Length	Weight of Diamond	Order Code	Price
25	8	200	1.5 carat	61230020	**£117.50**

DIAMOND HAND LAPPING TOOL

Standard Version

Application:
For the maintenance and re-machining of cemented/solid carbide cutting edges. Metal binding, highly wear-resistant and suitable for robust applications.

Use of the hand lapping tool increases the service life of the cemented carbide cutting edges. Ideal for standard cutting and milling tools.



ORION

Head Length	Head Width	Overall Length	Grain Size	Order Code	Price
30	8	140	64µm	60400010	**£120.47**
40	12	150	107µm	60400020	**£127.16**
40	12	150	46µm	60400030	**£127.16**

BORON CARBIDE HAND LAPPING TOOL

Application:
For honing tools of every kind, suitable in particular for cemented carbide and oxide ceramics.



CUTWEL PRO

Head Length	Head Width	Head Thickness	Overall Length	Grain Size	Order Code	Price
60	20	10	120	180µm	69425005	
				220µm	69425010	**£60.64**
				360µm	69425020	

TERMS & CONDITIONS

THE CUSTOMER'S ATTENTION IS SPECIFICALLY DRAWN TO CLAUSE 12 OF THESE TERMS AND CONDITIONS

1. PURPOSE

1.1 The customer's attention is drawn to these terms and conditions of business. All orders placed with the company and contractual agreements with the company are subject to these terms and conditions at all times.

1.2 In the event that the customer shall be a consumer, nothing in these terms and conditions shall affect the statutory rights of a consumer.

2. DEFINITIONS

"the company" shall mean Cutwel Limited whose registered office is c/o Wheawill & Sudworth Accountants, PO Box B30, 35 Westgate, Huddersfield HD7 1PA, a limited company registered in England and Wales company registration number 3202912.

"the customer" shall mean any person or persons, firm, business, partnership, company or other organisation by whom or on whose behalf an order is placed for the company to supply goods

"the goods" shall mean any item or items of equipment supplied by the company to the customer following an order having been placed by the customer. This includes, where appropriate, all replacements thereof and additions there to.

"the premises" shall mean the delivery location address as nominated by the customer and advised to the company at the time an order is placed by the customer with the company

"the price" shall mean the price for the goods as set out in the company's most recent catalogue.

"force majeure" shall mean an event which occurs outside the company's control.

3. GENERAL

3.1 The price detailed in the brochure is valid until such time as the price should be amended or varied either by publication of a further brochure by the company or publication of an amended price list.

3.2 Notwithstanding and without prejudice to clause 3.1 above, the company reserves the right to amend any price for any goods at any time, including at the time of order at the company's sole discretion and without being responsible for any form of loss.

3.3 The company reserves the right to withdraw any of the goods for sale at any point (whether before or after contract) at the company's sole discretion and without being responsible for any form of loss.

3.4 Where any variation to the goods is subsequently agreed by the company, the company reserves the right to amend the price in the brochure and/or the contract accordingly.

3.5 Any typographical or clerical error or omission in any quotation, price list, order, acceptance, invoice, brochure, or any other document issued by the company shall be subject to correction without any liability on the part of the company at whatever time and whenever such a correction shall be necessary.

4. CONTRACT

4.1 Whilst the company shall endeavour to ensure that the details are accurate, at all times, the drawings, specifications, photographs, colours, weights, and information detailed in the brochure or elsewhere relating to the goods are approximate only and do not form part of the contract. The company shall not be held responsible for any variation of the same nor have any liability in respect thereof.

4.2 These terms and conditions shall apply to every contract. The company shall not be bound by any terms and conditions which may be inconsistent with these terms and conditions.

4.3 A contract shall only exist when an order has been placed by or on behalf of the customer and accepted by the company.

4.4 An order may be placed by the customer with the company either verbally or in writing. For the avoidance of doubt, this shall include, by telephone, face to face, letter, facsimile transmission, electronic mail or through a website or online application provided by the company. The company may issue an acknowledgement of order to the customer, but such acknowledgment shall not represent acceptance of the contract by the company unless it specifically says so.

4.5 In the event that after the placing of an order, the customer shall request a modification, amendment, or variation of the contract, any such request shall only be deemed to be an amendment to the contract with the prior written agreement of a director of the company, and shall not constitute a new contract.

4.6 The customer may not cancel a contract unless the company agrees this in writing and then only upon the terms of the customer shall indemnify the company in full against all costs (including the cost of all labour, materials, and services used), claims, actions, damages, charges and expenses incurred by the company as a direct or indirect result of the cancellation.

4.7 I In accepting the cancellation of a contract under clause 4.6 the company may charge the customer a restocking fee of 20% of the total value of the contract and the customer shall be required to pay the carriage fees for the return of the goods to the company's premises.

4.8 Prior to acceptance of any contract by the company, whether or not the company and the customer have entered into any earlier contracts, the company may at the company's sole discretion, request that any directors of the customer enter into a personal guarantee or guarantees with the company (the terms of which shall be of the company's own choosing) prior to confirming or fulfilling any contract. In the event that the customer should refuse to provide such personal guarantee, then the company at the company's sole discretion reserves the right not to fulfil the contract and the customer shall raise no requisition nor any claim for damages in respect of the non-fulfilment of the contract.

5. DELIVERY

5.1 In consideration of the payment of the price by the customer to the company, the company shall deliver the goods to the customer on a date to be notified, and, wherever possible, agreed with the customer. Delivery shall be effected as detailed in clause 5.2 below. In the event of delivery taking place under the provisions of clause 5.2(a) the customer shall pay the company the delivery charges.

5.2 Delivery of the goods shall be effected and take place either: (a) by the company arranging transportation or postage of the goods to the customer's premises (if agreed at the time of order), or (b) by the customer attending at the company's premises to collect the goods

5.3 The company shall not be liable for any penalty, loss, injury, damage or expense arising from any delay or failure in delivery or performance of the contract from any cause at all, nor shall any such delay or failure entitle the customer to refuse to accept any delivery under the contract, performance of the contract, or to repudiate the contract.

5.4 Any dates quoted or provided by the company for the delivery are approximate only although the company shall use its best endeavours to supply the goods within any time notified by the company to the customer but time shall never and not be of the essence at any point.
The company shall not incur any liability whatsoever for failure to supply or deliver goods by any given or such date or dates.

5.5 Any packaging of the goods for/or in order to necessitate delivery shall be at the absolute discretion of the company.

5.6 The customer shall carefully examine the goods upon delivery and shall notify the company in writing of any shortages or defects reasonably discoverable upon careful examination. This notification must be received by the company within 7 days, commencing with the day of delivery. In the absence of such notification, the company excludes all liability in respect of any defects or shortages. Any goods which the customer believes are damaged or defective must be retained together with the packing for inspection by or on behalf of the company.

5.7 If the company shall be satisfied that, at the company's sole discretion, the goods are satisfactory and are as detailed in the order, and are not damaged or defective then the contract shall be deemed to have been fulfilled insofar as the company's obligations under the contract are concerned.

5.8 For the avoidance of doubt, delivery of the goods may take place separately and on a piecemeal basis.

6. PRICE

6.1 The customer agrees to pay the price to the company.

6.2 Should the company be prevented from adhering to the delivery date by the customer's postponement or delays (howsoever arising) then the company reserves the right to amend the price to reflect any extra cost incurred to the company thereby.

6.3 All prices quoted in the brochure and in any sales lists are exclusive of value added tax, and, where applicable, of any substitute taxes, levies, duties, imports, fees, or charges whatsoever and howsoever payable, all of which shall be payable by the customer in full and/or reimbursed to the company as appropriate. The customer shall at all times indemnify the company against nonpayment of the same.

6.4 All invoices shall be issued by the company to the customer.

7. PAYMENT

7.1 In consideration of the supply of goods by the company to the customer, the customer shall pay the company the price.

7.2 Unless otherwise agreed by the company at the time of contract, payment for the goods shall be due from the customer one calendar month from the month end of the date of invoice.

7.3 Payment shall be made either in cash, or by debit/credit card, or by cheque drawn on a UK clearing bank or by bank transfer.

7.4 In the event of any late payment whatsoever, the company shall be entitled to charge interest on any balance due at the rate of 4% over HSBC Bank plc bank base rate of lending the interest being calculated from the date that payment falls due until the date of payment in full, plus interest.

7.5 The customer shall reimburse the company all costs and expenses (including, but not limited to, legal costs) incurred in the collection of any overdue amount.

7.6 If required by the company, a deposit of such figure as may be required by the company to cover any up front costs of the contract shall be paid by the customer to the company upon placing an order and before any goods are supplied.

7.7 Unless otherwise agreed by the company, where goods are to be supplied to an overseas customer, payment shall be made by issue of irrevocable letters of credit drawn on a UK bank in either sterling or Euro denominations as follows: 75% on receipt of order, and 25% on presentation of certified shipping document

8. RISK

The risk in the goods shall pass to the customer immediately upon despatch from the company's warehouse and the customer shall take out and ensure appropriate insurance is in place accordingly.

9. RETENTION OF TITLE

9.1 Notwithstanding clause 8 above, the company shall retain title and ownership in the goods until the price and all other sums outstanding and owing by the customer to the company are paid in full.

9.2 Pending payment in full pursuant to clause 7 above, the following sub-clauses shall apply;

9.2.1 The customer shall store the goods separately and in such a way that they can be readily identifiable as belonging to and being goods of the company.

9.2.2 The customer shall at the customer's own expense immediately return the goods to the company should the company or its authorised representatives so request at any time after payment is due.

9.2.3 In the event that the goods shall be in any way mixed, compounded, or entwined with the property of a third party or parties then the product or products thereof shall be deemed to be held in common with such third party or parties.

9.2.4 Without prejudice to clause 8 above, the customer shall hold the goods as the company's trustee and bailee and shall keep the goods separate, properly stored, protected, insured, labelled and identified as being the company's property.

9.2.5 The customer shall not sell, give away, or otherwise dispose of the goods. In the event that the customer shall do so (which for the avoidance of doubt is strictly forbidden until the price and all sums outstanding have been paid to the company) then any monies received and the proceeds of sale, or disposal, including any cheque received or other payment shall be held on trust by the customer for the company and the customer will forward the cheque or payment to the company immediately. Pending the same, the customer shall keep any monies received in a separate account so as to be identifiable as the company's monies. In particular, but without prejudice to the foregoing, the customer shall not pay the proceeds into any bank account which is overdrawn.

9.2.6 The company shall be entitled at any time following the date upon which payment is due and without additional notice to enter the premises of the customer or any third party where the goods are situate or shall be stored and repossess the same accordingly. For the avoidance of doubt, the customer irrevocably consents to allow the company access onto their premises for this purpose. The customer shall reimburse the company for all reasonable expenses and fees incurred (including, but not limited to, legal expenses) in so doing.

9.2.7 The company shall be entitled to maintain an action for the price of the goods notwithstanding that title to the same shall not have passed to the customer.

9.2.8 The customer will immediately notify the company of any damage to the goods and will hold any insurance monies received in trust for the company absolutely. In the event that a claim is to be made under the customer's insurance, the company may, at the company's sole discretion, conduct negotiations and effect a settlement with the insurers in place of the customer. The customer at all times irrevocably authorises the company to collect any insurance monies from the insurers. The company may apply any insurance monies as the company shall see fit.

10. QUALITY AND WARRANTIES

10.1 The company warrants to the customer that the goods are free from defects in materials and workmanship. The company undertakes (subject to the remainder of this clause 10), at its option, to repair or replace the goods which are found to be defective as a result of defective materials or workmanship within three (3) months of the date of delivery.

10.2 The customer shall not be liable for a breach of the warranty contained in condition 10.1 unless:

10.2.1 the customer gives written notice of the defect to the customer within three (3) days of the time when the customer discovers or ought to have discovered the defect; and

10.2.2 after receiving the notice, the company is given a reasonable opportunity of examining such goods and the customer (if asked to do so by the company) returns such goods to the company's place of business at the company's cost for the examination to take place there.

10.3 The company shall not be liable for a breach of the warranty in condition 10.1 if:

10.3.1 the customer makes any use of goods in respect of which it has given written notice under condition 10.2.1; or

10.3.2 the defect arises because the customer failed to follow the company's oral or written instructions as to the storage, installation, commissioning, use or maintenance of the goods or (if there are none) good trade practice; or

10.3.3 the customer alters or repairs the relevant goods without the written consent of the company.

10.4 Any repaired or replacement goods shall be under warranty for the unexpired portion of the original three (3) month warranty period.

10.5 The company shall not be liable for any damage or defect to the goods caused by improper use of the goods or use outside their normal application.

10.6 Any goods made specifically to a customer's specification are made without any warranty whatsoever as to their fitness for any particular purpose, and the only warranty in respect of the same is that they will comply materially to such specification.

10.7 Except as otherwise provided for under these terms and conditions, all other warranties, conditions and other terms implied by statute or common law (save for the conditions implied by section 12 of the Sale of goods Act 1979) are, to the fullest extent permitted by law, excluded from the contract.

11. REMEDIES

11.1 The company shall not be liable for any non-delivery of the goods (even if caused by the company's negligence) unless the customer notifies the company in writing of the failure to deliver within seven (7) days after the scheduled delivery date.

11.2 Any liability of the company for non-delivery of the goods shall be limited to replacing the goods within a reasonable time or issuing a credit note at the pro rata contract rate against any invoice raised for such goods.

11.3 If the company's performance of its obligations under the contract is prevented or delayed by any act or omission of the customer (other than by reason of an unforeseeable delay under clause 13), the customer shall be liable to pay to the company all reasonable costs, charges or losses sustained by it as a result, subject to the company notifying the customer in writing of any such claim it might have against the customer in this respect.

11.4 In the event of any claim by the customer under the warranty given in clause 10.1, the customer shall notify the company in writing of the alleged defect. The company shall have the option of testing or inspecting the goods at their current location or moving them to the company's premises (or those of its agent or sub-contractor) at the cost of the company. If the customer's claim is subsequently found by the company to be outside the scope or duration of the warranty in clause 10, the costs of transportation of the goods, investigation and repair shall be borne by the customer.

11.5 The company shall have no further liability and the customer shall have no claim for a breach of the warranty in clause 10, if the company fully complies with this clause 11.

12. LIMITATION OF LIABILITY
– THE CUSTOMER'S ATTENTION IS SPECIFICALLY DRAWN TO THIS CLAUSE

12.1 Nothing in these conditions shall limit or exclude the company's liability for:

12.1.1 Death or personal injury caused by its negligence or the negligence of its employees, agents or subcontractors (as applicable);

12.1.2 Fraud or fraudulent misrepresentation;

12.1.3 Breach of the terms implied by section 12 of the Sale of Goods Act 1979;

12.1.4 Defective products under the Consumer Protection Act 1987; or

12.1.5 Any matter in respect of which it would be unlawful for the company to exclude or restrict liability

12.2 Subject to clause 12.1:

12.2.1 The company shall under no circumstances whatever be liable to the customer, whether in contract, tort (including negligence), breach of statutory duty, or otherwise for any loss of profit or any indirect or consequential loss arising under or in connection with the contract; and

12.2.2 The company's total liability to the customer in respect of all other losses arising under or in connection with the contract whether in contract, tort (including negligence), breach of statutory duty, or otherwise, shall in no circumstances exceed 110% of the price under the contract.

13. FORCE MAJEURE

The company shall be entitled, without liability on its part, and without prejudice to its other rights, to terminate the contract or any unfulfilled part thereof or, at its option, to suspend or give partial performance under it, if performance by the company or its suppliers is prevented, hindered, or delayed whether directly or indirectly by any reason or any cause whatever beyond the company's or it's supplier's reasonable control, whether or not such cause existed on the date when the contract was made. Non-exhaustive illustrations include act or acts of God, war, riot, terrorism, explosion, abnormal weather conditions, fire, flood, government action, strike, lock-out, delay by suppliers, accidents and shortage of materials, labour, or manufacturing facilities.

14. INTELLECTUAL PROPERTY

14.1 The company shall have and may retain the property, copyright, and all other intellectual or industrial property rights in any drawings, designs, plans, proofs, models, prototypes, brochures and literature, specifications, and/or quotations prepared by the company.

14.2 The customer shall indemnify the company from all actions, costs, claims, demands, expenses and liabilities whatsoever arising from any actual or alleged infringement brought in connection with clause 14.1 above or in respect of any actual or alleged infringement of others' intellectual property rights by virtue of having been supplied by the customer with drawings, models, pictures, samples or specifications for bespoke goods.

15. TERMINATION

In the event of any payment due by the customer to the company not being paid on the due date, or in the event of the customer becoming insolvent or bankrupt or a petition being presented or a resolution being passed for the liquidation (otherwise for the purpose of amalgamation or reconstruction) or sequestration of the customer or a receiver, administrator, administrative receiver or judicial factor being appointed over all or any of the assets of the customer, or if any steps are taken in relation to any of the foregoing, or the customer making any voluntary arrangements with its creditors generally, or if the customer shall cease, or threaten to cease trading or carrying on business, or if the customer shall, without prior written consent of the company, sell or otherwise dispose of the whole or substantially the whole of its assets, or if the company reasonably apprehends that any of the foregoing events is about to occur (and notifies the customer accordingly), the company shall be entitled to treat the contract of which these conditions form part and any other contract between the company and the customer as repudiated and shall be entitled to suspend deliveries to the customer without being liable for any form of loss.

16. ENTIRE AGREEMENT CLAUSE

16.1 The customer confirms that they have not relied upon any warranty, representation, or undertaking of or on behalf of the company by any of its employees or agents (whether written or oral) in respect of the goods and the company shall have no liability in respect thereof.

16.2 The customer further confirms and acknowledges that it is the sole responsibility of the customer alone to ensure that the goods ordered from the company shall be appropriate for the customer's requirements, and any specific purposes for the goods given by the company, its employees or agents is illustrative only and is not intended as a warranties as to their fitness for any particular purpose.

16.3 This agreement supersedes any other arrangements, if appropriate, and whether past or present, contracts, assurances, understandings, course of dealings, or promises between the parties hereto.

16.4 These terms and conditions represent the entire agreement between the company and the customer.

16.5 Nothing in this clause 16 is intended to exclude or limit the company's liability for fraud.

17. MISCELLANEOUS

17.1 The company may at the company's sole discretion subcontract the performance of this contract in whole or in part.

17.2 In the event of these terms and conditions conflicting with any other terms and conditions, then these terms and conditions shall prevail.

17.3 This contract is between the company and the customer as principals and shall not be assignable by the customer without express written consent of the company.

17.4 Each right or remedy of the company under the contract is without prejudice to any other right or remedy of the company whether under the contract or not.

17.5 No waiver by the company of any breach of contract by the customer shall be construed as a waiver of any subsequent breach of the same or any other provision hereof.

17.6 Failure or delay by the company in enforcing or partially enforcing any provision of this contract shall not be construed as a waiver of its rights generally under the contract.

17.7 For the avoidance of doubt, nothing in this agreement shall confer on any third party any benefit or the right to enforce any term or terms of this agreement.

17.8 If any provision of these terms and conditions is held by any competent authority to be invalid or unenforceable in whole or in part then the validity of the other provisions of these terms and conditions and the remainder of the provision in question shall not be effected thereby.

17.9 Obligations by more than one person are joint and several and where any party under this agreement at any time is more than one person, references to it are to each person individually as well as jointly with the others comprising it.

17.10 Words importing the singular also include the plural and vice versa where the context so requires.

17.11 The headings, marginal notes, and notes for guidance in this agreement shall not be deemed to be part thereof nor taken into consideration in the interpretation or construction thereof.

17.12 All references herein to clauses are references to clauses numbered in this agreement and not to those in any other document unless otherwise stated.

17.13 These terms and conditions on behalf of the company have been prepared to reflect the Unfair Contract Terms Act 1977. The company considers these terms and conditions to be reasonable. Should the customer consider that these terms and conditions may be unreasonable, given the customer's particular circumstances, then the customer shall inform the company before any order is placed and contract entered into. In such circumstances, the company may, at the company's sole discretion, either agree to vary these terms and conditions, enter into different terms and conditions, or insist upon the customer being bound by these terms and conditions which, for the avoidance of doubt, the company maintains at all times are fair and reasonable. Should the customer not notify the company to the contrary then the customer shall be deemed to accept that these terms and conditions are fair and reasonable.

17.14 This contract shall be governed by and construed in accordance with the law of England and Wales and the parties shall submit to the jurisdiction of the English Courts in their entirety.