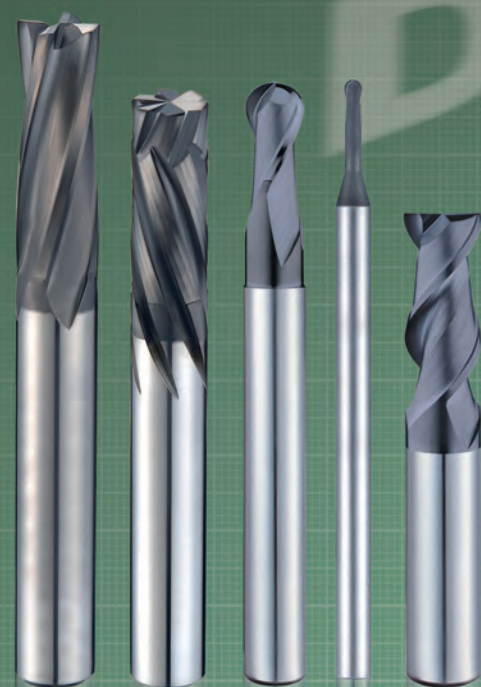


YE-DP14



D-POWER END MILLS



D-POWER END MILLS

DIAMOND COATED CARBIDE END MILLS
FOR GRAPHITE & COMPOSITE MATERIALS

YG YG-1 CO., LTD.

HEAD OFFICE

211, Sewolcheon-ro, Bupyeong-gu, Incheon, Korea

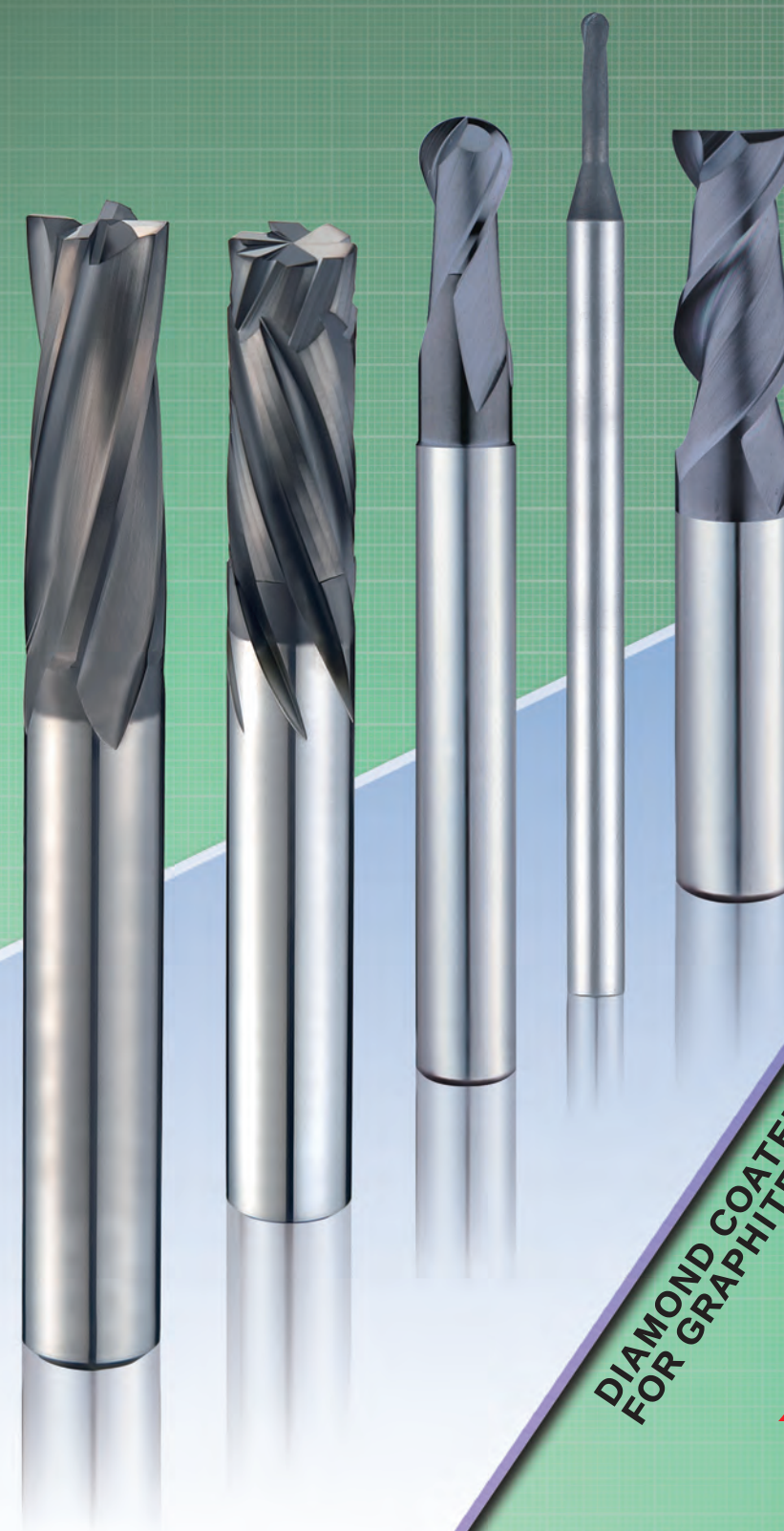
PHONE: +82-32-526-0909, FAX: +82-32-526-4373

Http://www.yg1.kr

E-mail: yg1@yg1.kr

Tool specifications are subject to change without prior notice.

YG1YEDP141029003

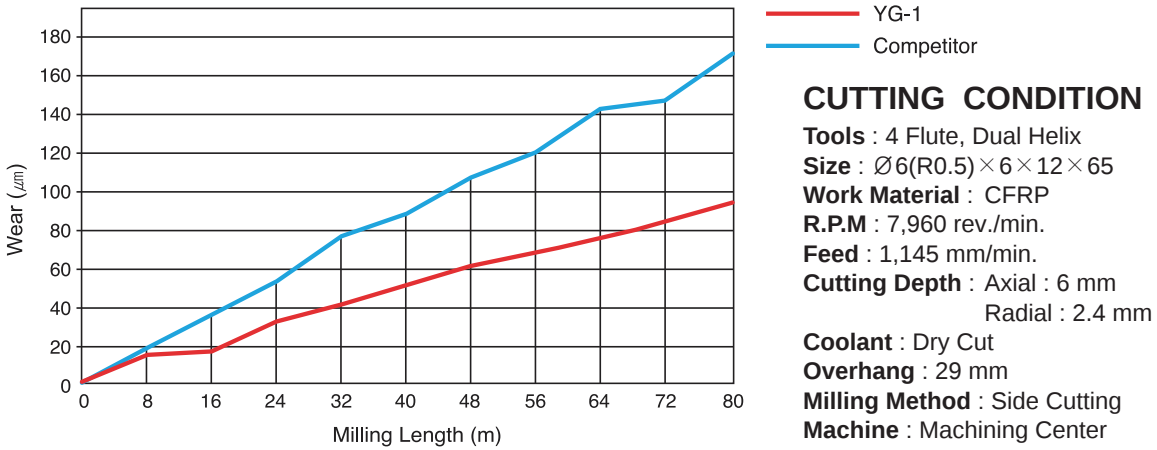


DIAMOND COATED CARBIDE END MILLS
FOR GRAPHITE & COMPOSITE MATERIALS

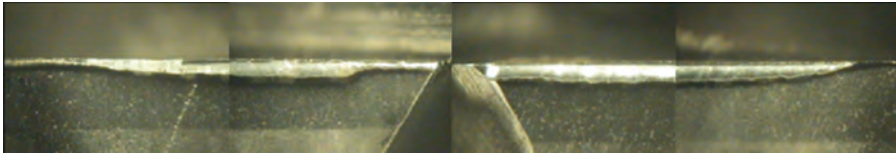
YG YG-1 CO., LTD.



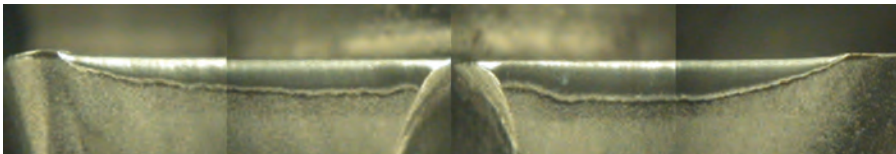
TEST I - D-POWER CFRP DUAL HELIX



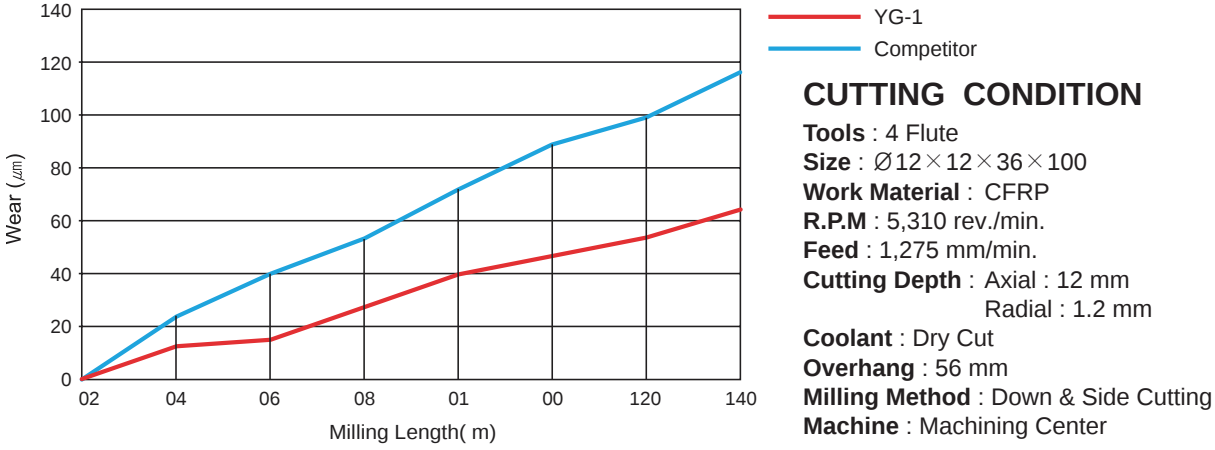
YG-1
(Total Milling Length 80m)



Competitor A
(Total Milling Length 80m)



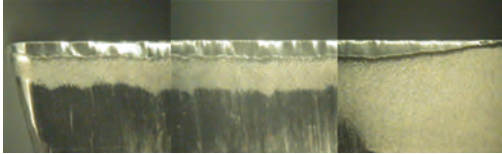
TEST II - D-POWER CFRP 4 FLUTE



YG-1
(Total Milling Length 140m)



Competitor A
(Total Milling Length 140m)





DIAMOND COATED CARBIDE END MILLS for GRAPHITE

◎ : Excellent ○ : Good

ITEM	MODEL	DESCRIPTION	SIZE		PAGE	Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
			MIN	MAX		~HB225	HB225~325	HRC30~40	HRC40~45	HRC45~55	HRC55~70									
EI997		CARBIDE, 2 FLUTE, MINIATURE, BALL NOSE with NECK	R0.1	R3.0	6~7								◎		○					○
EIB93		CARBIDE, 2 FLUTE, MINIATURE, BALL NOSE with NECK	R0.2	R2.0	8								◎		○					○
EI880		CARBIDE, 2 FLUTE, SHORT LENGTH, BALL NOSE with NECK	R1.0	R6.0	9								◎		○					○
EI451		CARBIDE, 2 FLUTE, LONG LENGTH, BALL NOSE with NECK	R1.0	R6.0	10								◎		○					○
EI450		CARBIDE, 2 FLUTE, LONG REACH, BALL NOSE with NECK	R1.0	R6.0	11								◎		○					○
EI881		CARBIDE, 3 FLUTE, SHORT LENGTH, BALL NOSE with NECK	R1.0	R6.0	12								◎		○					○
EIB04		CARBIDE, 2 FLUTE, LONG LENGTH with NECK	D0.5	D12.0	13								◎		○					○
EIB87		CARBIDE, 2 FLUTE, BALL NOSE with TAPER NECK	R0.5	R1.0	14								◎		○					○
EI996		CARBIDE, 2 FLUTE, MINIATURE, CORNER RADIUS with NECK	D0.2	D6.0	15~16								◎		○					○
EIB86		CARBIDE, 2 FLUTE, CORNER RADIUS with TAPER NECK	D1.0	D2.0	17								◎		○					○
EIB88		CARBIDE, 4 FLUTE, CORNER RADIUS with NECK	D6.0	D12.0	18								◎		○					○
EIA13		CARBIDE, 3 FLUTE, 40° HELIX, SHORT LENGTH, CORNER RADIUS	D2.0	D12.0	19								◎		○					○
EIA14		CARBIDE, 3 FLUTE, 40° HELIX, LONG LENGTH, CORNER RADIUS	D2.0	D12.0	20								◎		○					○

DIAMOND COATED CARBIDE END MILLS for CFRP

◎ : Excellent ○ : Good

NEW

NEW

ITEM	MODEL	DESCRIPTION	SIZE		PAGE	Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
			MIN	MAX		~HB225	HB225~325	HRC30~40	HRC40~45	HRC45~55	HRC55~70									
GUF40		CARBIDE, MULTI FLUTE, DUAL HELIX	D6.0	D12.0	22								○							◎
GUF39		CARBIDE, 4 FLUTE, 15° HELIX	D6.0	D12.0	23								○							◎

D-POWER CARBIDE END MILLS

D-POWER GRAPHITE

* **SIZE** : Ø0.2mm ~ Ø12mm

* **TYPE** : Square, Ball, Corner Radius

* **DESCRIPTION** :

- Higher hardness and superior wear resistance increase tool life significantly.
- High performance on Graphite, Wrought Aluminum, Bakelite, Plastics, Wood, Brass etc...

D-POWER CFRP

* **SIZE** : Ø6.0mm ~ Ø12mm

* **TYPE** : Dual Helix, Low Helix

* **DESCRIPTION** :

- Higher hardness and superior wear resistance increase tool life significantly.
- High performance on Composite materials including CFRP (Carbon Fiber Reinforced Plastics)



ICON GUIDE

TOOL MATERIALS

MG
HM

The tool is made of micro grain carbide.

HELIX ANGLE



Helix angle for Ball End Mills



Helix angle for Square, Corner Radius End Mills

NUMBER OF FLUTES



2-flute tool



3-flute tool



4-flute tool

TYPE OF SHANK



Plain Shank

TYPE OF MILLING



Side, Profile, Slot



Side, Profile

BALL RADIUS TOLERANCE



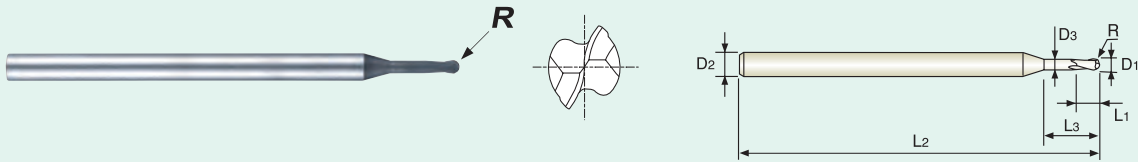
±0.01mm

D-POWER GRAPHITE DIAMOND COATED CARBIDE END MILLS



- Diamond coating increases hardness and improves wear-resistance for an extended tool life.
- YG-1 D-Power End Mill's ultra fine diamond coating ensures smooth and excellent surface finish on work materials.
- High performance on Graphite, Wrought Aluminium, Bakelite, Plastics, Wood, Brass...
YG-1 D-Power has also excellent results in Non-ferrous metals.

2 FLUTE, MINIATURE, BALL NOSE with NECK



BALL

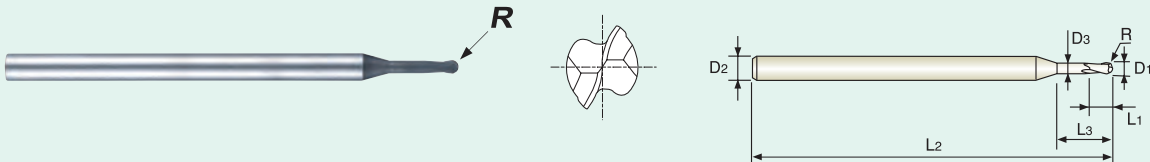


SERIES **EI997** PLAIN SHANK

Unit : mm

EDP No.	R ±0.01	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
		D1	D2	L1	L3	L2	D3
EI997002000040	R0.1	0.2	3	0.2	-	40	-
EI997003000040	R0.15	0.3	3	0.3	-	40	-
EI997004000040	R0.2	0.4	3	0.4	-	40	-
EI997005025040	R0.25	0.5	3	0.5	2.5	40	0.45
EI997006	R0.3	0.6	3	0.6	3	40	0.55
EI997006050040	R0.3	0.6	3	0.6	5	40	0.55
EI997008	R0.4	0.8	3	0.8	4	40	0.75
EI997008070040	R0.4	0.8	3	0.8	7	40	0.75
EI997010	R0.5	1.0	3	1	5	40	0.95
EI997903	R0.5	1.0	3	1	8.5	40	0.95
EI997010120040	R0.5	1.0	3	1	12	40	0.95
EI997012	R0.6	1.2	3	1.2	6	50	1.15
EI997012100050	R0.6	1.2	3	1.2	10	50	1.15
EI997015	R0.75	1.5	3	1.5	7.5	50	1.4
EI997906	R0.75	1.5	3	1.5	12	50	1.4
EI997015180050	R0.75	1.5	3	1.5	18	50	1.4
EI997020	R1.0	2.0	3	2.2	10	60	1.9
EI997908	R1.0	2.0	3	2.2	16	60	1.9
EI997020250060	R1.0	2.0	3	2.2	25	60	1.9
EI997030100065	R1.5	3.0	4	3	10	65	2.9
EI997030150065	R1.5	3.0	4	3	15	65	2.9
EI997030200065	R1.5	3.0	4	3	20	65	2.9
EI997030250075	R1.5	3.0	4	3	25	75	2.9
EI997030300075	R1.5	3.0	4	3	30	75	2.9
EI997040200065	R2.0	4.0	6	4	20	65	3.9
EI997040300075	R2.0	4.0	6	4	30	75	3.9
EI997040400090	R2.0	4.0	6	4	40	90	3.9

2 FLUTE, MINIATURE, BALL NOSE with NECK



BALL



SERIES **EI997** PLAIN SHANK

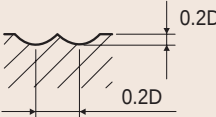
Unit : mm

EDP No.	R ±0.01	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
		D1	D2	L1	L3	L2	D3
EI997050200065	R2.5	5.0	6	5	20	65	4.9
EI997050300075	R2.5	5.0	6	5	30	75	4.9
EI997050400090	R2.5	5.0	6	5	40	90	4.9
EI997050500090	R2.5	5.0	6	5	50	90	4.9
EI997060300075	R3.0	6.0	6	6	30	75	5.9
EI997060400090	R3.0	6.0	6	6	40	90	5.9
EI997060500090	R3.0	6.0	6	6	50	90	5.9
EI997060600100	R3.0	6.0	6	6	60	100	5.9

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.02	h6

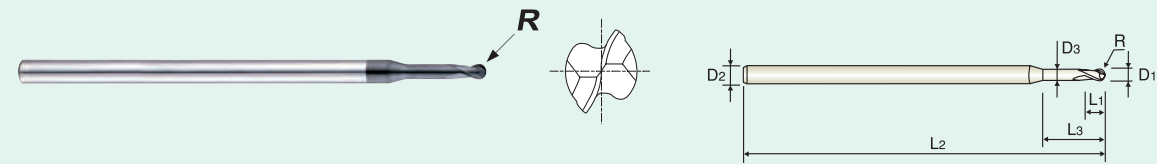
EI997 **CUTTING
CONDITIONS**

MATERIAL	GRAPHITE			
DIAMETER	RPM	FEED	Vc	fz
R0.2 × 0.4	40000	600	50	0.008
R0.3 × 0.6	40000	800	75	0.010
R0.4 × 0.8	40000	960	100	0.012
R0.5 × 1.0	40000	1200	125	0.015
R0.6 × 1.2	40000	1440	150	0.018
R0.75 × 1.5	40000	1600	190	0.020
R1.0 × 2.0	40000	2000	250	0.025
R1.5 × 3.0	27000	2200	255	0.041
R2.0 × 4.0	20000	2900	250	0.073
R2.5 × 5.0	16000	2900	250	0.091
R3.0 × 6.0	14000	2900	265	0.104



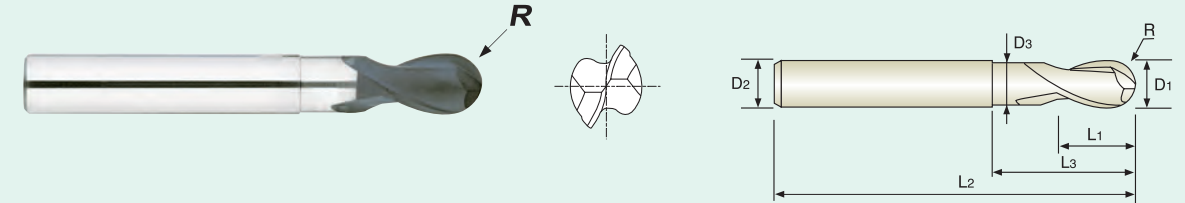
RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

2 FLUTE, MINIATURE, BALL NOSE with NECK



BALL

2 FLUTE, SHORT LENGTH, BALL NOSE with NECK



BALL



SERIES **EIB93** PLAIN SHANK



SERIES **EI880** PLAIN SHANK

Unit : mm

EDP No.	R ±0.01	MILL DIAMETER	SHANK DIAMETER D2	LENGTH OF CUT L1	LENGTH BELOW SHANK L3	OVERALL LENGTH L2	NECK DIAMETER
		D1					D3
EIB93004040	R0.2	0.4	4	0.6	4	45	0.36
EIB93004060	R0.2	0.4	4	0.6	6	45	0.36
EIB93006040	R0.3	0.6	4	1	4	45	0.56
EIB93006060	R0.3	0.6	4	1	6	45	0.56
EIB93006080	R0.3	0.6	4	1	8	45	0.56
EIB93010060	R0.5	1.0	4	1.5	6	45	0.95
EIB93010080	R0.5	1.0	4	1.5	8	45	0.95
EIB93010120	R0.5	1.0	4	1.5	12	45	0.95
EIB93015120	R0.75	1.5	4	1.75	12	45	1.45
EIB93020080	R1.0	2.0	4	3	8	60	1.95
EIB93020120	R1.0	2.0	4	3	12	60	1.95
EIB93020160	R1.0	2.0	4	3	16	60	1.95
EIB93040160	R2.0	4.0	4	6	16	60	3.9

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.02	h6

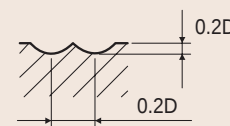
Unit : mm

EDP No.	R ±0.01	MILL DIAMETER	SHANK DIAMETER D2	LENGTH OF CUT L1	LENGTH BELOW SHANK L3	OVERALL LENGTH L2	NECK DIAMETER
		D1					D3
EI880020	R1.0	2.0	6	3	5	60	1.9
EI880025	R1.25	2.5	6	4	6	60	2.4
EI880030	R1.5	3.0	6	4.5	6.5	60	2.8
EI880035	R1.75	3.5	6	5	7	65	3.2
EI880040	R2.0	4.0	6	6	8	65	3.7
EI880050	R2.5	5.0	6	7.5	10	65	4.6
EI880060	R3.0	6.0	6	9	12	75	5.6
EI880080	R4.0	8.0	8	12	25	75	7.4
EI880100	R5.0	10.0	10	15	30	80	9.4
EI880120	R6.0	12.0	12	18	36	90	11.4

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

EIB93 CUTTING CONDITIONS

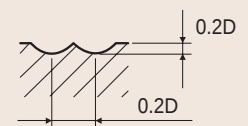
MATERIAL DIAMETER	GRAPHITE			
	RPM	FEED	Vc	fz
R0.2 × 0.4	40000	600	50	0.008
R0.3 × 0.6	40000	800	75	0.010
R0.5 × 1.0	40000	1200	125	0.015
R0.75 × 1.5	40000	1600	190	0.020
R1.0 × 2.0	40000	2000	250	0.025
R2.0 × 4.0	20000	2900	250	0.073



RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

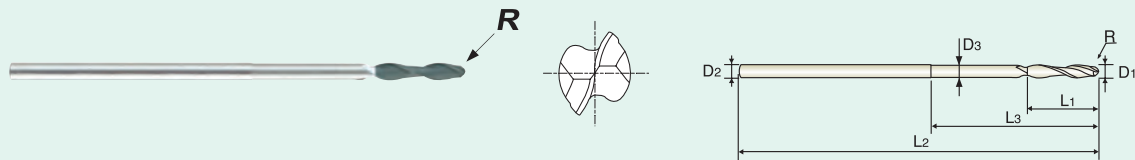
EI880 CUTTING CONDITIONS

MATERIAL DIAMETER	GRAPHITE			
	RPM	FEED	Vc	fz
R1.0 × 2.0	16000	800	100	0.025
R1.25 × 2.5	16000	1120	125	0.035
R1.5 × 3.0	16000	1450	150	0.045
R1.75 × 3.5	16000	1750	175	0.055
R2.0 × 4.0	16000	2100	200	0.066
R2.5 × 5.0	15500	2550	245	0.082
R3.0 × 6.0	15000	2950	285	0.098
R4.0 × 8.0	13000	3000	325	0.115
R5.0 × 10.0	11500	3050	360	0.133
R6.0 × 12.0	10500	3150	395	0.150



RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

2 FLUTE, LONG LENGTH, BALL NOSE with NECK



BALL



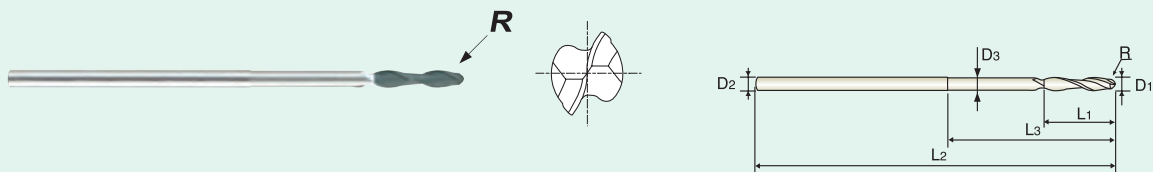
SERIES **EI451** PLAIN SHANK

Unit : mm

EDP No.	R ±0.01	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
		D1	D2	L1	L3	L2	D3
EI451020	R1.0	2.0	4	10	20	80	1.95
EI451030	R1.5	3.0	4	15	25	80	2.9
EI451040	R2.0	4.0	4	20	30	80	3.9
EI451050	R2.5	5.0	6	30	50	100	4.9
EI451060	R3.0	6.0	6	30	50	100	5.5
EI451070	R3.5	7.0	6	30	-	100	5.5
EI451080	R4.0	8.0	8	40	60	110	7.5
EI451090	R4.5	9.0	8	40	-	110	-
EI451100	R5.0	10.0	10	50	70	120	9.5
EI451120	R6.0	12.0	12	55	75	130	11.5

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

2 FLUTE, LONG REACH, BALL NOSE with NECK



BALL



SERIES **EI450** PLAIN SHANK

Unit : mm

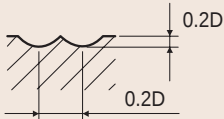
EDP No.	R ±0.01	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
		D1	D2	L1	L3	L2	D3
EI450020	R1.0	2.0	4	10	20	100	1.95
EI450030	R1.5	3.0	4	15	25	100	2.9
EI450040	R2.0	4.0	4	20	30	100	3.9
EI450050	R2.5	5.0	6	30	50	120	4.9
EI450060	R3.0	6.0	6	30	50	150	5.5
EI450070	R3.5	7.0	6	30	-	150	-
EI450080	R4.0	8.0	8	40	60	150	7.5
EI450090	R4.5	9.0	8	40	-	150	-
EI450100	R5.0	10.0	10	50	70	180	9.5
EI450120	R6.0	12.0	12	55	75	200	11.5

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

EI451 **CUTTING
CONDITIONS**

※ The FEED for Long & Long Reach types
should be reduced by around 50%

MATERIAL	GRAPHITE				
	DIAMETER	RPM	FEED	Vc	fz
R1.0 × 2.0		16000	800	100	0.025
R1.5 × 3.0		16000	1450	150	0.045
R2.0 × 4.0		16000	2100	200	0.066
R2.5 × 5.0		15500	2550	245	0.082
R3.0 × 6.0		15000	2950	285	0.098
R4.0 × 8.0		13000	3000	325	0.115
R5.0 × 10.0		11500	3050	360	0.133
R6.0 × 12.0		10500	3150	395	0.150

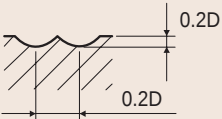


RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

EI450 **CUTTING
CONDITIONS**

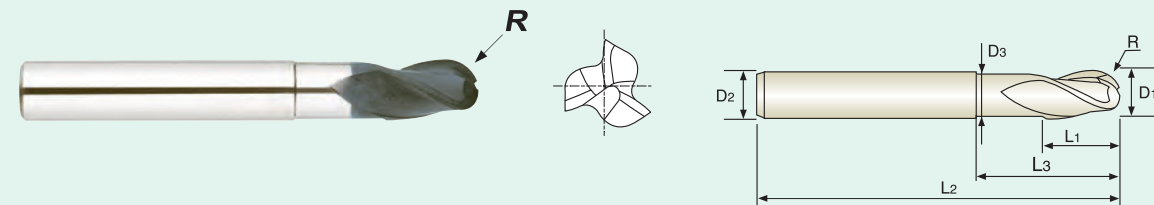
※ The FEED for Long & Long Reach types
should be reduced by around 50%

MATERIAL	GRAPHITE				
	DIAMETER	RPM	FEED	Vc	fz
R1.0 × 2.0		16000	800	100	0.025
R1.5 × 3.0		16000	1450	150	0.045
R2.0 × 4.0		16000	2100	200	0.066
R2.5 × 5.0		15500	2550	245	0.082
R3.0 × 6.0		15000	2950	285	0.098
R4.0 × 8.0		13000	3000	325	0.115
R5.0 × 10.0		11500	3050	360	0.133
R6.0 × 12.0		10500	3150	395	0.150



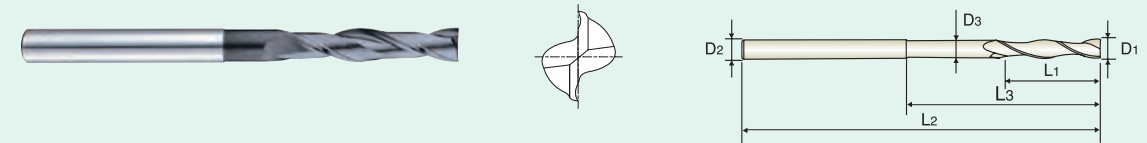
RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

3 FLUTE, SHORT LENGTH, BALL NOSE with NECK



BALL

2 FLUTE, LONG LENGTH with NECK



SQUARE



SERIES **EI881** PLAIN SHANK



SERIES **EIB04** PLAIN SHANK

Unit : mm

EDP No.	R ±0.01	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
		D1	D2	L1	L3	L2	D3
EI881020	R1.0	2.0	6	3	5	60	1.9
EI881025	R1.25	2.5	6	4	6	60	2.4
EI881030	R1.5	3.0	6	4.5	6.5	60	2.8
EI881035	R1.75	3.5	6	5	7	65	3.2
EI881040	R2.0	4.0	6	6	8	65	3.7
EI881050	R2.5	5.0	6	7.5	10	65	4.6
EI881060	R3.0	6.0	6	9	12	75	5.6
EI881080	R4.0	8.0	8	12	25	75	7.4
EI881100	R5.0	10.0	10	15	30	80	9.4
EI881120	R6.0	12.0	12	18	36	90	11.4

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

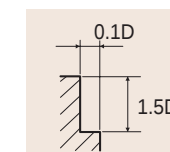
Unit : mm

EDP No.	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
	D1	D2	L1	L3	L2	D3
EIB0400502040	0.5	3	1	2	40	0.45
EIB0400603040	0.6	3	2	3	40	0.55
EIB0400704040	0.7	3	2	4	40	0.65
EIB0400805040	0.8	3	2	5	40	0.75
EIB0400906040	0.9	3	2	6	40	0.85
EIB0401008075	1.0	4	3	8	75	0.95
EIB0401510075	1.5	4	4	10	75	1.45
EIB0402016100	2.0	4	6	16	100	1.9
EIB0402520100	2.5	4	8	20	100	2.4
EIB0403030100	3.0	6	8	30	100	2.8
EIB0403535100	3.5	6	10	35	100	3.2
EIB0404040100	4.0	6	20	40	100	3.7
EIB0405050125	5.0	6	25	50	125	4.6
EIB0406060140	6.0	6	30	60	140	5.6
EIB0407000140	7.0	6	35	-	140	-
EIB0408080150	8.0	8	40	80	150	7.4
EIB0409000150	9.0	8	45	-	150	-
EIB0410080150	10.0	10	50	80	150	9.4
EIB0411000150	11.0	10	50	-	150	-
EIB0412080150	12.0	12	55	80	150	11.4

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

EIB04 CUTTING CONDITIONS

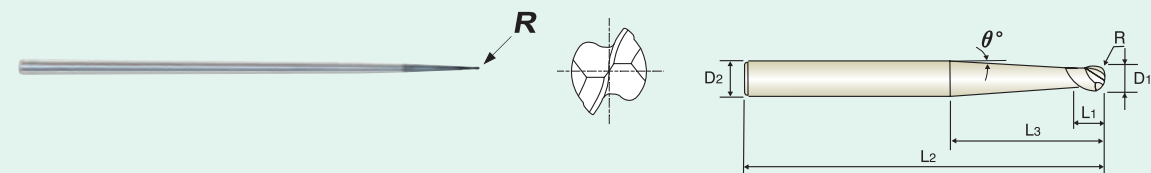
※ The FEED for Long & Long Reach types should be reduced by around 50%



DIAMETER	GRAPHITE				
	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	
1.0	40000	700	125	0.009	
1.5	40000	800	190	0.010	
2.0	25000	800	155	0.016	
3.0	20000	800	190	0.020	
4.0	18000	950	225	0.026	
5.0	14000	1200	220	0.043	
6.0	11000	1400	205	0.064	
8.0	8000	1300	200	0.081	
10.0	6500	1200	205	0.092	
12.0	5500	1200	205	0.109	

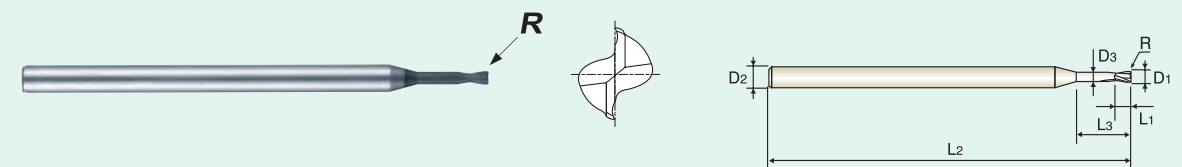
RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

2 FLUTE, BALL NOSE with TAPER NECK



BALL

2 FLUTE, MINIATURE, CORNER RADIUS with NECK



RADIUS



SERIES **EIB87** PLAIN SHANK



SERIES **EI996** PLAIN SHANK



Unit : mm

EDP No.	R ±0.01	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK TAPER ANGLE
		D1	D2	L1	L3	L2	θ °
EIB87010	R0.5	1.0	3	2	-	40	8° 30
EIB87901	R0.5	1.0	3	2	30	60	2°
EIB87902	R0.5	1.0	3	2	70	100	1°
EIB87015	R0.75	1.5	3	3	-	40	6° 15
EIB87903	R0.75	1.5	3	3	30	60	1° 30
EIB87904	R0.75	1.5	3	3	58	100	45
EIB87020	R1.0	2.0	3	4	-	40	4° 15
EIB87905	R1.0	2.0	3	4	30	60	1°
EIB87906	R1.0	2.0	4	4	70	100	1°

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.02	h6

Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
	R	D1	D2	L1	L3	L2	D3
EI99600200000	-	0.2	3	0.3	-	40	-
EI99600300000	-	0.3	3	0.5	-	40	-
EI99600400000	-	0.4	3	0.6	-	40	-
EI99600505025	R0.05	0.5	3	0.7	2.5	40	0.45
EI99600505040	R0.05	0.5	3	0.7	4	40	0.45
EI996006	R0.05	0.6	3	0.9	3	40	0.55
EI99600605050	R0.05	0.6	3	0.9	5	40	0.55
EI996008	R0.05	0.8	3	1.2	4	40	0.75
EI99600805070	R0.05	0.8	3	1.2	7	40	0.75
EI996010	R0.1	1.0	3	1.5	5	40	0.95
EI996904	R0.1	1.0	3	1.5	8.5	40	0.95
EI99601010120	R0.1	1.0	3	1.5	12	40	0.95
EI996012	R0.1	1.2	3	1.8	6	50	1.15
EI99601210100	R0.1	1.2	3	1.8	10	50	1.15
EI996015	R0.15	1.5	3	2.2	7.5	50	1.4
EI996907	R0.15	1.5	3	2.2	12	50	1.4
EI99601515180	R0.15	1.5	3	2.2	18	50	1.4
EI996020	R0.15	2.0	3	2.2	10	60	1.9
EI996909	R0.15	2.0	3	2.2	16	60	1.9
EI99602015250	R0.15	2.0	3	2.2	25	60	1.9
EI99603020100	R0.2	3.0	4	3	10	65	2.9
EI99603020150	R0.2	3.0	4	3	15	65	2.9
EI99603020200	R0.2	3.0	4	3	20	65	2.9
EI99603020250	R0.2	3.0	4	3	25	75	2.9
EI99603020300	R0.2	3.0	4	3	30	75	2.9
EI99604020200	R0.2	4.0	6	4	20	65	3.9
EI99604020300	R0.2	4.0	6	4	30	75	3.9
EI99604020400	R0.2	4.0	6	4	40	90	3.9

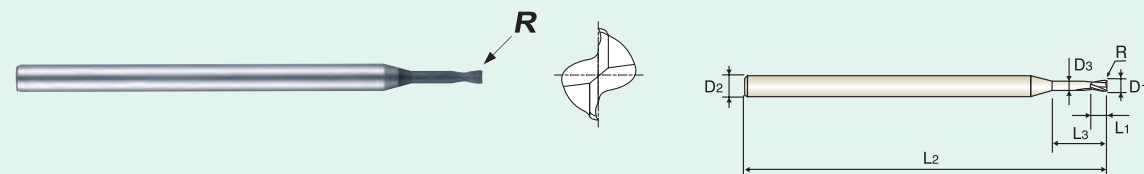
EIB87

CUTTING
CONDITIONS

MATERIAL	GRAPHITE			
DIAMETER	RPM	FEED	Vc	fz
R0.5 × 1.0	40000	1200	125	0.015
R0.75 × 1.5	40000	1600	190	0.020
R1.0 × 2.0	40000	2000	250	0.025

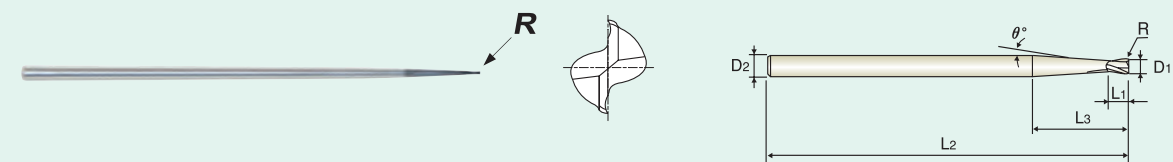
RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

2 FLUTE, MINIATURE, CORNER RADIUS with NECK



RADIUS

2 FLUTE, CORNER RADIUS with TAPER NECK



RADIUS



SERIES **EI996** PLAIN SHANK



SERIES **EIB86** PLAIN SHANK

Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
	R	D ₁	D ₂	L ₁	L ₃	L ₂	D ₃
EI99605030200	RO.3	5.0	6	5	20	75	4.9
EI99605030300	RO.3	5.0	6	5	30	75	4.9
EI99605030400	RO.3	5.0	6	5	40	90	4.9
EI99605030500	RO.3	5.0	6	5	50	90	4.9
EI99606030300	RO.3	6.0	6	6	30	75	5.9
EI99606030400	RO.3	6.0	6	6	40	90	5.9
EI99606030500	RO.3	6.0	6	6	50	90	5.9
EI99606030600	RO.3	6.0	6	6	60	100	5.9

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.02	h6

Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK TAPER ANGLE
	R	D ₁	D ₂	L ₁	L ₃	L ₂	θ °
EIB86010	RO.1	1.0	3	2	30	60	2°
EIB86901	RO.1	1.0	3	2	70	100	1°
EIB86015	RO.15	1.5	3	3	30	60	1° 30
EIB86902	RO.15	1.5	3	3	50	100	1°
EIB86020	RO.15	2.0	3	4	30	60	1°
EIB86903	RO.15	2.0	4	4	70	100	1°

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.02	h6

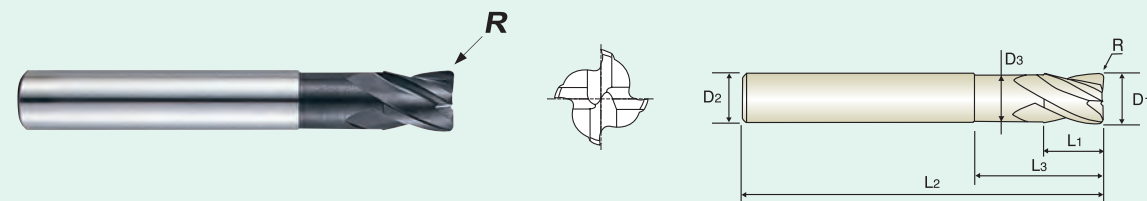
EI996	CUTTING CONDITIONS	MATERIAL	GRAPHITE			
		DIAMETER	RPM	FEED	Vc	fz
		0.4	40000	640	50	0.008
		0.6	40000	640	75	0.008
		0.8	40000	800	100	0.010
		1.0	40000	960	125	0.012
		1.2	40000	1200	150	0.015
		1.5	40000	1440	190	0.018
		2.0	40000	1600	250	0.020
		3.0	27000	1900	255	0.035
		4.0	20000	2300	250	0.058
		5.0	16000	2300	250	0.072
		6.0	14000	2300	265	0.082

RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

EIB86	CUTTING CONDITIONS	MATERIAL	GRAPHITE			
		DIAMETER	RPM	FEED	Vc	fz
		1.0	40000	960	125	0.012
		1.5	40000	1440	190	0.018
		2.0	40000	1600	250	0.020

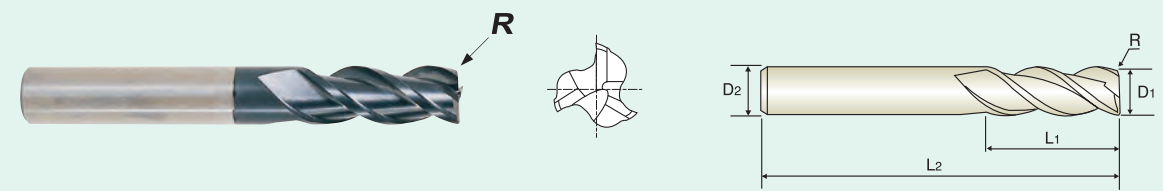
RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

4 FLUTE, CORNER RADIUS with NECK



RADIUS

3 FLUTE, 40° HELIX, SHORT LENGTH, CORNER RADIUS



RADIUS



SERIES **EIB88** PLAIN SHANK



SERIES **EIA13** PLAIN SHANK

Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	LENGTH BELOW SHANK	OVERALL LENGTH	NECK DIAMETER
	R	D ₁	D ₂	L ₁	L ₃	L ₂	D ₃
EIB88060	R0.5	6.0	6	10	40	80	5.9
EIB88080	R0.5	8.0	8	10	40	80	7.8
EIB88901	R1.0	8.0	8	10	60	100	7.8
EIB88100	R0.5	10.0	10	25	-	75	-
EIB88902	R0.5	10.0	10	12	40	80	9.8
EIB88903	R1.0	10.0	10	12	40	80	9.8
EIB88904	R0.5	10.0	10	12	80	125	9.8
EIB88120	R0.5	12.0	12	25	-	80	-
EIB88905	R0.5	12.0	12	15	40	80	11.8
EIB88906	R1.0	12.0	12	15	40	80	11.8
EIB88907	R1.0	12.0	12	15	80	125	11.8

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH
	R	D ₁	D ₂	L ₁	L ₂
EIA13020	R0.15	2.0	3	6	40
EIA13030	R0.15	3.0	3	12	40
EIA13040	R0.2	4.0	4	14	50
EIA13050	R0.3	5.0	5	16	50
EIA13060	R0.3	6.0	6	20	65
EIA13080	R0.5	8.0	8	20	65
EIA13100	R0.5	10.0	10	25	75
EIA13120	R0.5	12.0	12	25	75

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

EIB88 CUTTING CONDITIONS		MATERIAL GRAPHITE				
		DIAMETER	RPM	FEED	V _c	f _z
		6.0	40000	5600	755	0.035
		8.0	32000	5600	805	0.044
		10.0	26000	5700	815	0.055
		12.0	21000	5450	790	0.065

RPM = rev./min. V_c = m/min.
Feed = mm/min. f_z = mm/tooth

EIA13

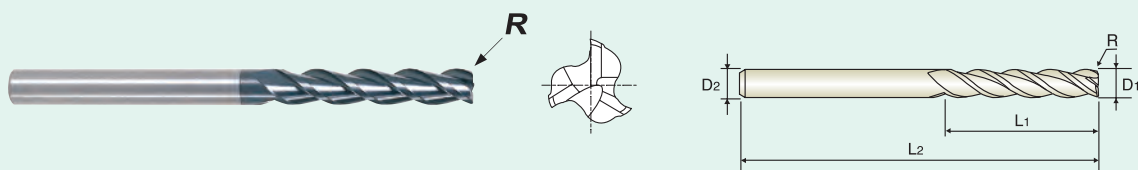
CUTTING CONDITIONS

MATERIAL	GRAPHITE			
DIAMETER	RPM	FEED	Vc	fz
2.0	40000	3000	250	0.025
3.0	40000	4200	375	0.035
4.0	40000	6000	505	0.050
5.0	40000	7200	630	0.060
6.0	40000	8400	755	0.070
8.0	32000	8400	805	0.088
10.0	26000	8600	815	0.110
12.0	21000	8200	790	0.130

The diagram illustrates the geometry of a drill bit tip. It shows a cross-section of the tip with a corner radius. The radius is labeled as 0.3D, where D is the diameter of the drill bit. The diagram shows the two cutting edges meeting at a rounded corner, with the radius dimensioned as 0.3D.

RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

3 FLUTE, 40° HELIX, LONG LENGTH, CORNER RADIUS



RADIUS



SERIES **EIA14** PLAIN SHANK

Unit : mm

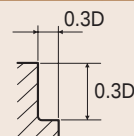
EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH
	R	D1	D2	L1	L2
EIA14020	R0.15	2.0	3	9	60
EIA14030	R0.15	3.0	3	30	60
EIA14040	R0.2	4.0	4	30	60
EIA14050	R0.3	5.0	5	35	70
EIA14060	R0.3	6.0	6	40	100
EIA14080	R0.5	8.0	8	40	100
EIA14100	R0.5	10.0	10	40	100
EIA14120	R0.5	12.0	12	45	100

MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

EIA14 CUTTING CONDITIONS

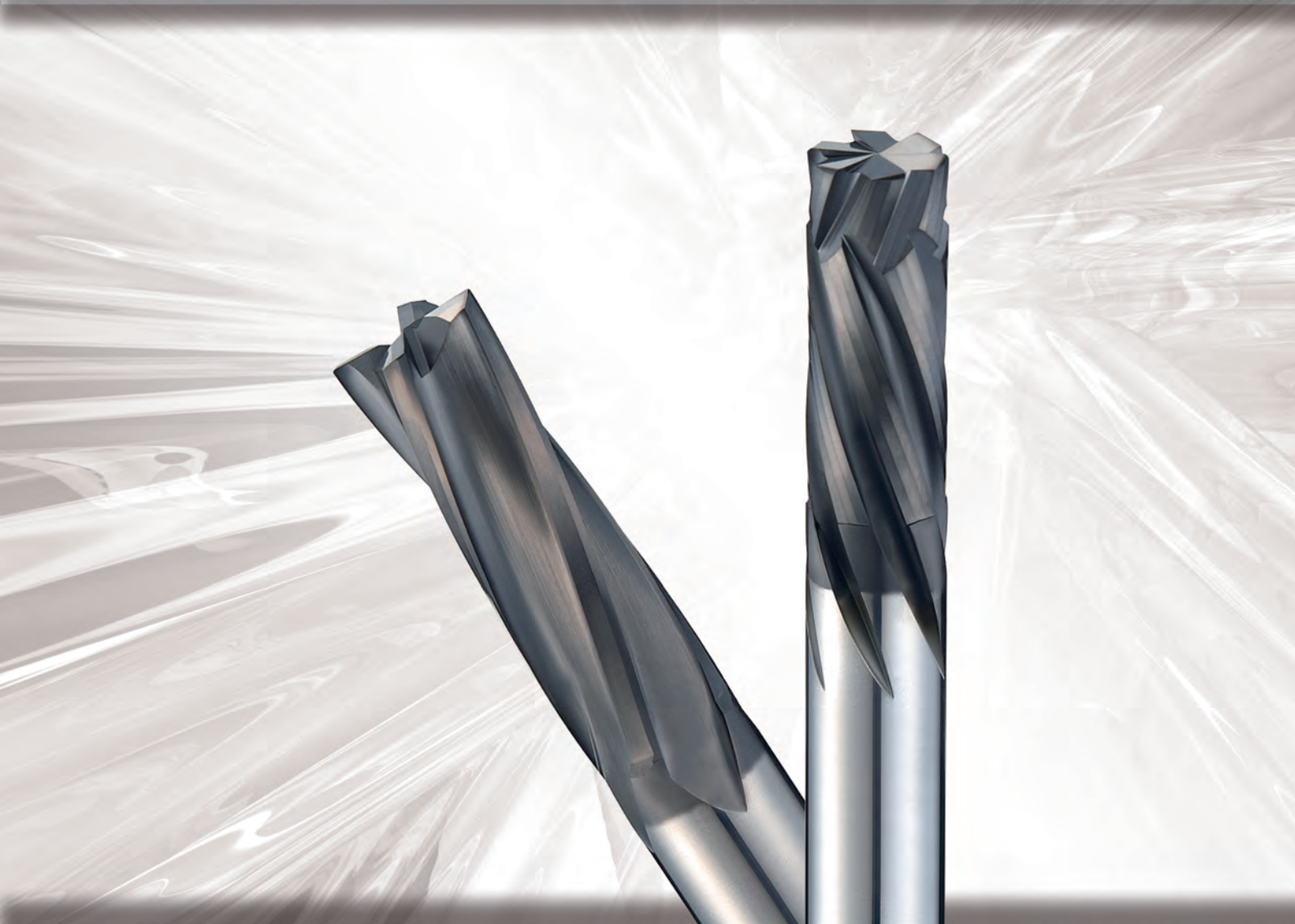
※ The FEED for Long & Long Reach types should be reduced by around 50%

MATERIAL	GRAPHITE			
DIAMETER	RPM	FEED	Vc	fz
2.0	40000	3000	250	0.025
3.0	40000	4200	375	0.035
4.0	40000	6000	505	0.050
5.0	40000	7200	630	0.060
6.0	40000	8400	755	0.070
8.0	32000	8400	805	0.088
10.0	26000	8600	815	0.110
12.0	21000	8200	790	0.130



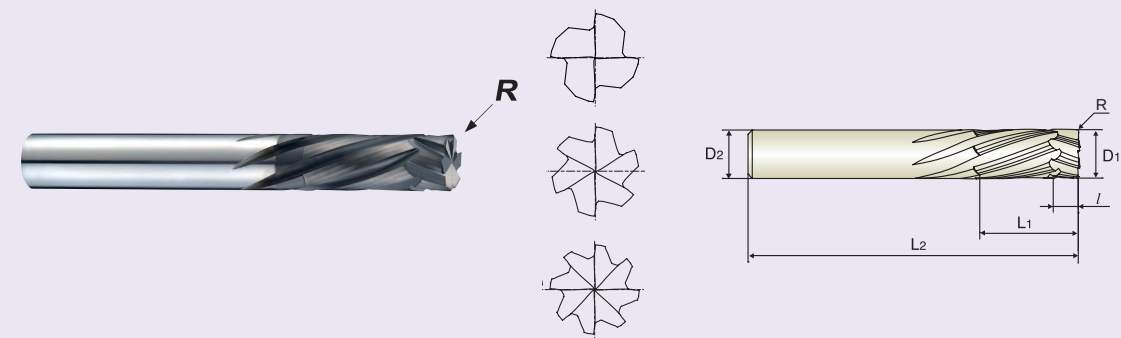
RPM = rev./min. Vc = m/min.
Feed = mm/min. fz = mm/tooth

D-POWER CFRP DIAMOND COATED CARBIDE END MILLS

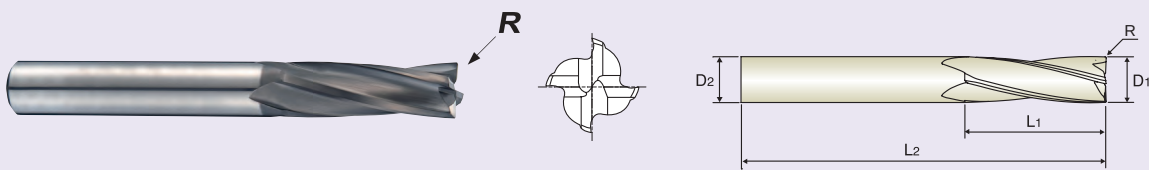


- Special design for Composite materials including CFRP (Carbon Fiber Reinforced Plastics) in Automotive, Power Generation and Aerospace industries.
- Reduces delamination and burrs during machining allowing excellent surface finishes.
- Excellent abrasion resistance and high thermal properties protect the cutting edge from excessive heat, allowing a longer tool life and improved performance in surface finishes.

MULTI FLUTE, DUAL HELIX



4 FLUTE, 15° HELIX



SERIES **GUF40** PLAIN SHANK



SERIES **GUF39** PLAIN SHANK



Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH	No. of Flute
	R	D1	D2	L1(l)	L2	
GUF40060	RO.5	6.0	6	12(3)	65	4
GUF40080	RO.5	8.0	8	16(4)	70	6
GUF40100	RO.5	10.0	10	20(5)	80	6
GUF40120	RO.5	12.0	12	24(6)	90	8

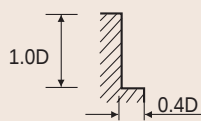
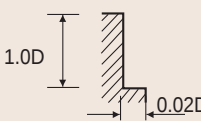
MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

Unit : mm

EDP No.	CORNER RADIUS	MILL DIAMETER	SHANK DIAMETER	LENGTH OF CUT	OVERALL LENGTH
	R	D1	D2	L1	L2
GUF39060	RO.2	6.0	6	18	65
GUF39080	RO.2	8.0	8	24	70
GUF39100	RO.3	10.0	10	30	80
GUF39120	RO.3	12.0	12	36	100

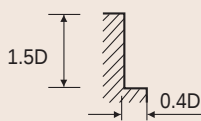
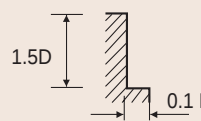
MILL DIA. TOLERANCE (mm)	SHANK DIA. TOLERANCE
0~-0.03	h6

GUF40 **CUTTING CONDITIONS**

MATERIAL	CFRP				GFRP				CFRP				GFRP			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
6.0	7950	1115	150	0.035	4240	425	80	0.025	10610	1995	200	0.047	5300	740	100	0.035
8.0	5960	1610	150	0.045	3180	590	80	0.031	7950	2955	200	0.062	3970	955	100	0.040
10.0	4770	1575	150	0.055	2540	565	80	0.037	6360	2940	200	0.077	3180	860	100	0.045
12.0	3970	2065	150	0.065	2120	730	80	0.043	5300	3900	200	0.092	2650	1060	100	0.050
																

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/tooth

GUF39 **CUTTING CONDITIONS**

MATERIAL	CFRP				GFRP				CFRP				GFRP			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
6.0	10610	1485	200	0.035	5300	530	100	0.025	10610	1190	200	0.028	5300	530	100	0.025
8.0	7950	1430	200	0.045	3970	490	100	0.031	7950	1145	200	0.036	3970	445	100	0.028
10.0	6360	1400	200	0.055	3180	470	100	0.037	6360	1120	200	0.044	3180	405	100	0.032
12.0	5300	1380	200	0.065	2650	455	100	0.043	5300	1100	200	0.052	2650	370	100	0.035
																

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/tooth

MEMO

D-POWER
CARBIDE END MILLS

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YG-1 Leading through Innovation



YG-1's extensive global network allows products to be delivered on time to customers anywhere in the world to maximize satisfaction.

As a global leader, YG-1 faces adversity, but thanks to its management philosophy, YG-1 will always rise above competition challenging the world and bringing innovation.