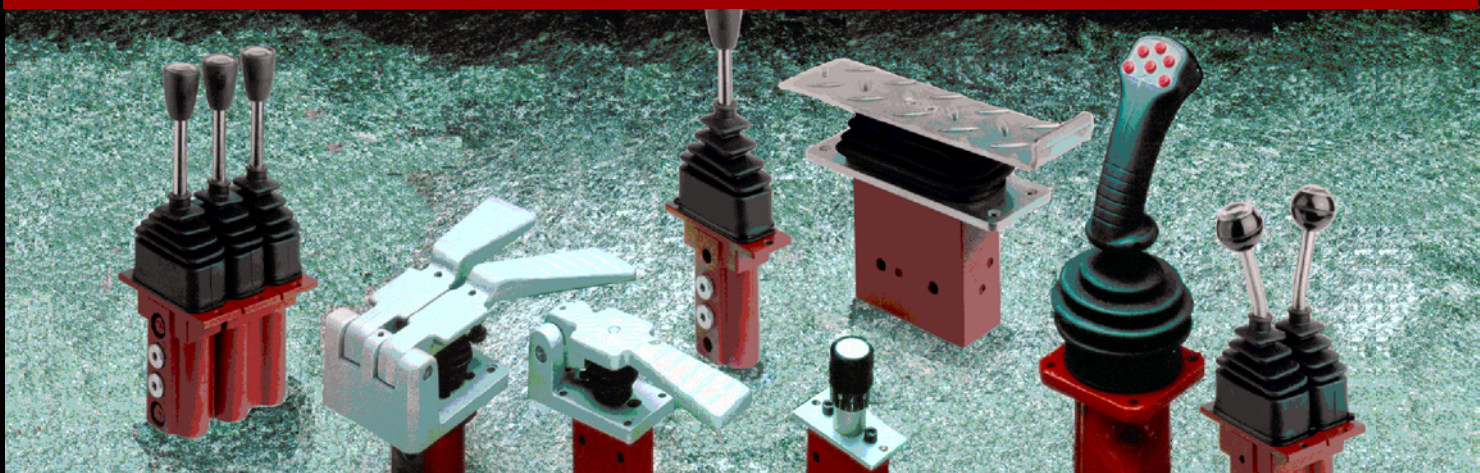




HYDRAULIC PILOT CONTROL VALVES

Sv

SvP



Hydraulic pilot device for the remote proportional control of directional control valves or pumps.

Made of a cast iron body, a kinematic control kit with spring return, friction or detent and various control systems such as ergonomic handles, levers, pedals, etc.

Each working section includes 2 off 3-way pressure reducing valves.

Reduced effort and high metering allow simple and precise operations.

Additional information

This catalogue shows the product in the most standard configurations.

Please contact Sales Dpt. for more detailed information or special request.

WARNING!

All specifications of this catalogue refer to the standard product at this date.

Walvoil, oriented to a continuous improvement, reserves the right to discontinue, modify or revise the specifications, without notice.

WALVOIL IS NOT RESPONSIBLE FOR ANY DAMAGE CAUSED BY AN
INCORRECT USE OF THE PRODUCT.

10th edition September 2003:

This edition supercedes all prior documents.

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Handlever operating pilot control valve	
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SV20	14
SV30	16
Foot pedal operating pilot control valve	
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Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm²/s - 46 cSt viscosity at 40°C temperature.

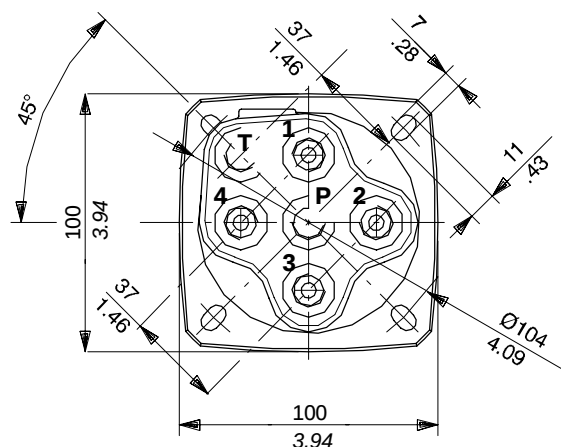
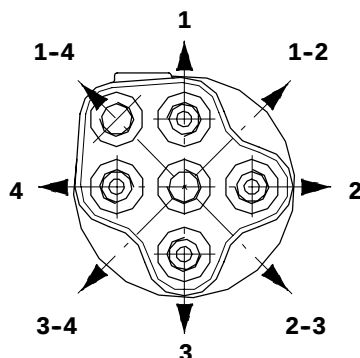
Minimum flow		5 l/min	
Maximum flow		15 l/min	
Maximum feeding pressure	on inlet port P	100 bar	1450 psi
Maximum controlled pressure		64 bar	930 psi
Maximum backpressure	on outlet port T	3 bar	43.5 psi
Maximum hysteresis		0,5 bar	7.25 psi
Internal leakage (each curves)	P=30bar, $\nu=46 \text{ mm}^2/\text{s}$, T=40 °C	from 1.5 to 3 cm ³ /min for each reducing valve	from 0.09 to 0.18 in ³ /min for each reducing valve
Fluid		Mineral oil	
Fluid temperature		-10° ÷ +80°C	
Ambient temperature		-40° ÷ +60°C	
Viscosity		12 ÷ 400 mm ² /s	12 ÷ 400 cSt
Max level of fluid contamination		15/12 - ISO 4406	
Tie rod tightening torque	SV30 only	30 Nm	22.2 lb ft
Standard threads and fitting tightening torque	BSP G1/4	30 Nm	22.1 lb/ft
	M14x1,5 (UNI ISO 6149)	35 Nm	25.8 lb ft
	9/16-18 UNF-2B (SAE6) (ISO 11926-1)	30 Nm	22.1 lb ft
Weight	SV01	3.8 kg	8.4 lb
	SV10 - SV11	2.1 kg - 3 kg	4.6 lb - 6.6 lb
	SV20	4.3 kg	9.5 lb
	SV30	see table on page 16	
	SV40 - SV41	2.8 kg - 3.6 kg	6.2 lb - 7.9 lb
	SV500 - SVP510	4.2 kg - 5.1 kg	9.3 lb - 11.2 lb
	SV60	1.7 kg	3.7 lb
	SV70	1.3 kg	2.9 lb
Surface finish	SV01 - SV10 - SV11 - SV20 SV30 - SV40 - SV41	Body painted as standard, with one coat of Primer black antirust paint	
	SV60 - SV70 - SV71	Phosphated body	
	SVP500 - SVP510	Phosphated body and galvanized pedal	

NOTE - For different conditions please contact Sales Dept.

Dimensional data and hydraulic circuit



Movements



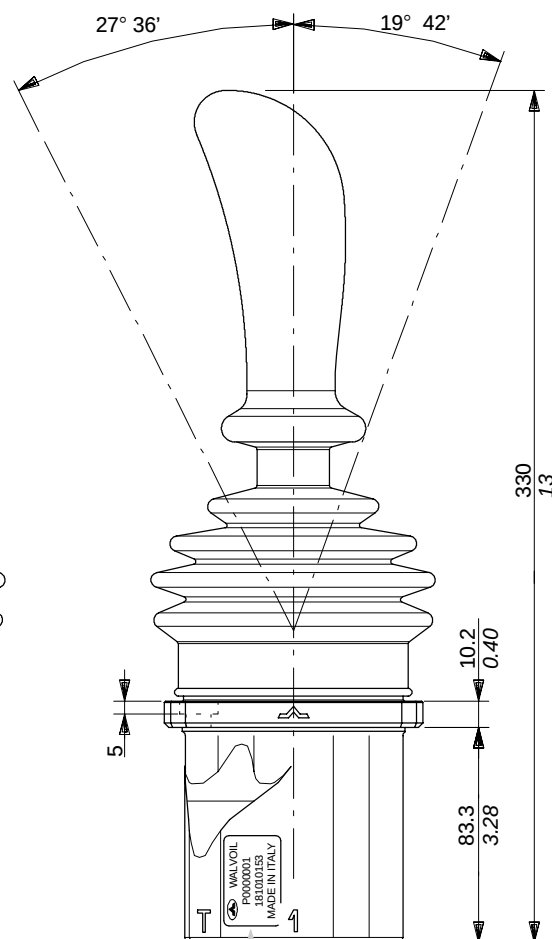
Monoblock joystick with 1 lever and 4 work ports, for simultaneous operation of 2 sections.

Bottom P and T ports.

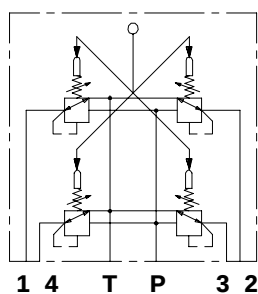
Handle is normally oriented toward port 4.

Two simultaneously work ports

Single work port



Hydraulic circuit



Marking



P0200001

181010153

MADE IN ITALY

Production batch :

P02

production year (2002)

00001

progressive number

Code

Description example:

SV 01 - B / 01 V001 - 001 A - - - - <CRVN>

1.

2.

3.

4.

Body is painted as standard, with one coat of Primer black antirust paint

1. Body kit

TYPE	CODE	DESCRIPTION
01-B	5CO3014200	G 1/4 body kit

2. Kinematic kits

page 8

TYPE	CODE	DESCRIPTION
01	5ART310100	Spring return to neutral
02	5CIN100	With detent in neutral position
09	5CIN107	With cross movement selector
16	5POR361220	With microswitch for operation detection: needs handle with type D joint

3. Handle series V with joint

Here below are listed some different configurations with mounting joint (type 1): for other configurations contact Sales Dept. or ask catalogue code DHR001E.

Handle type V

TYPE	CODE	DESCRIPTION
V001	5IMP030010	Without switches (standard)
V101-045	5IMP031110	With nr.1 protected push-button and "horn" symbol
V201-045	5IMP032011	With nr.1 protected push-button
V501-045	5IMP035000	With upper 3 positions (ON)/OFF/(ON) spring return rocker switch
V041-045	5IMP030411	With front 3 positions ON/OFF/ON detent rocker switch
V051-045	5IMP030510	With front 3 positions (ON)/OFF/(ON) spring return rocker switch

Handles type VT

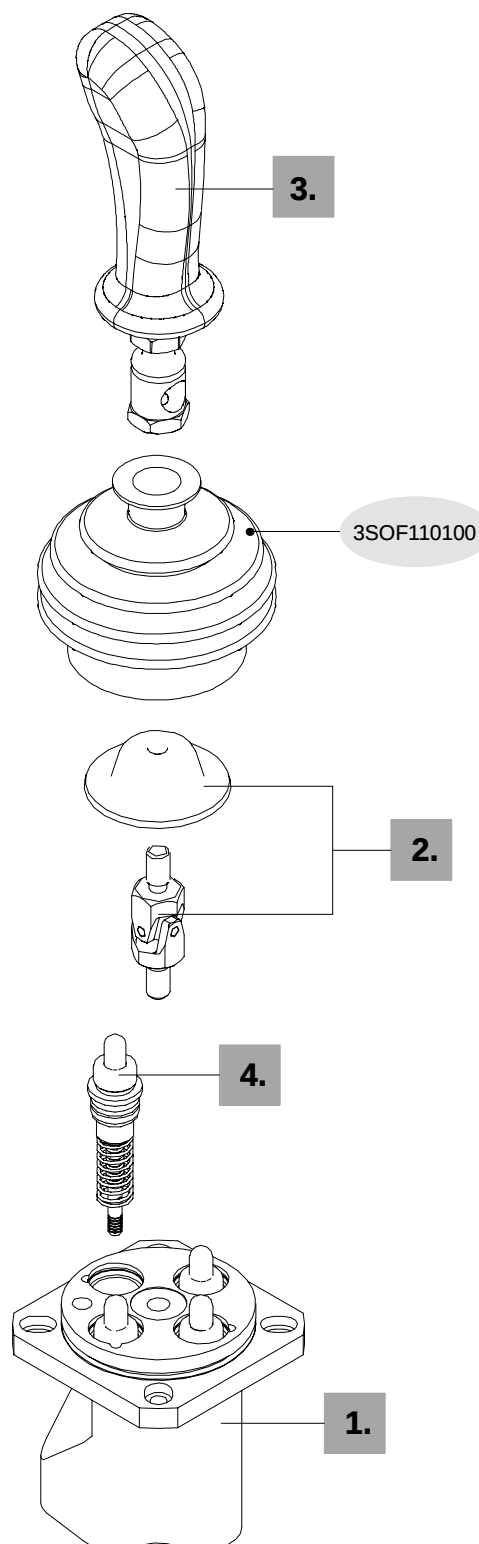
TYPE	CODE	DESCRIPTION
VT021-3R2045-4R2045	5IMP030701	Nr.2 front 5A push-buttons (L and R), red colour

4. Pressure control valve

page 27

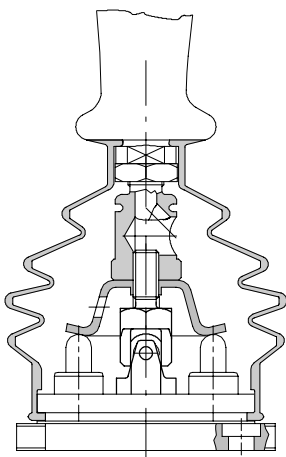
Below are listed some types of available curves, for complete list see pages from 27 to 30.

TYPE	CODE	DESCRIPTION
001A	5CUR001MA	With step, from 5.8 to 22 bar (84 to 319 psi)
010A	5CUR010MA	With step, from 3.25 to 15.4 bar (47 to 223 psi)
024A	5CUR024MA	With step, from 5.8 to 19 bar (84 to 276 psi)
070A	5CUR070MA	With step, from 5.8 to 22.4 bar (84 to 325 psi)
075A	5CUR075MA	With step, from 5 to 15 bar (73 to 218 psi)
085A	5CUR085MA	With step, from 6 to 25 bar (87 to 363 psi)
103A	5CUR103MA	Without step, from 6 to 30 bar (87 to 435 psi)
106A	5CUR106MA	Without step, from 6 to 40 bar (87 to 580 psi)
211A	5CUR211MA	Piecewise with step, from 2 to 7 bar (29 to 102 psi)
301A	5CUR301MA	Piecewise without step, from 1.5 to 17.3 bar (22 to 251 psi)
000	5CUR000	BSP replacing curves kit

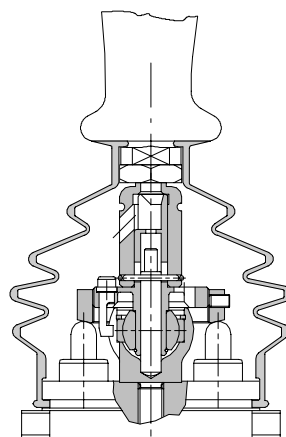


Kinematic kits**Type 01**

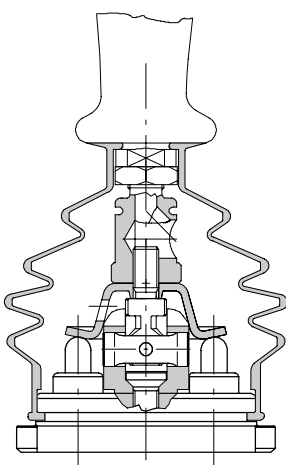
Spring return in neutral position.

**Type 02**

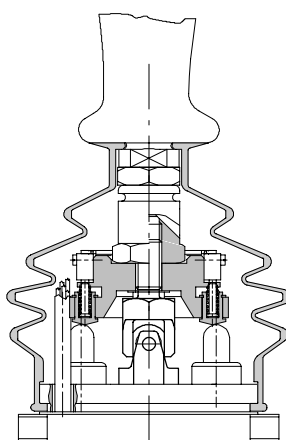
With lock in neutral position; unlock moving up handle.

**Type 09**

Cross movement selector (to prevent contemporary movements).

**Type 16**

With micro for movements detection.



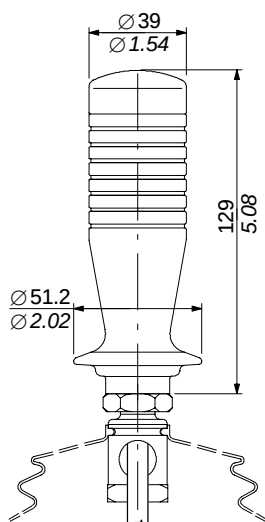
Optional handles

For SV01 remote control, series **10** and **H** handles are available on request.

They are supplied with mounting joint or already assembled on joystick.

For informations, configurations and complete descriptions contact Sales Dept. or ask **DHR001E** catalogue.

Series 10



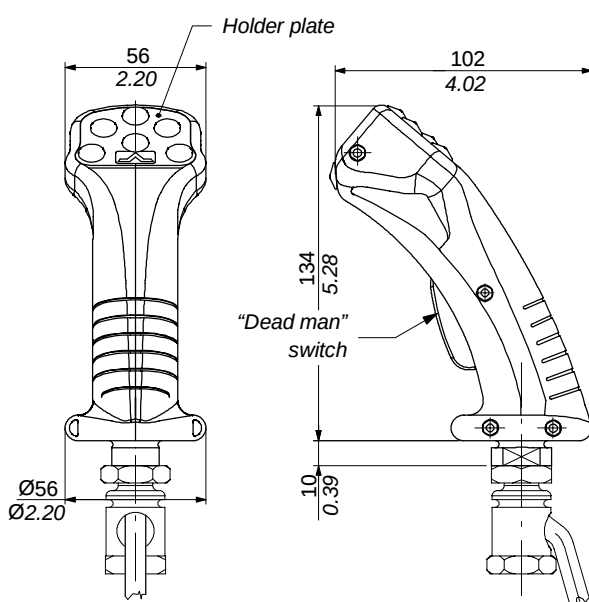
Available types

- Type **W**: without switches
- Type **X**: with upper spring return push-button
- Type **Z**: with upper detent push-button
- Type **Y**: with 3 positions spring return rocker switch
- Type **K**: with upper protected spring return push-button
- Type **T**: with 3 positions detent rocker switch

ATTENTION!

This handle needs code **3SOF1A6820** rubber bellow type as a replacement of standard type code **3SOF110100** (see page 7).

Series H



Available types

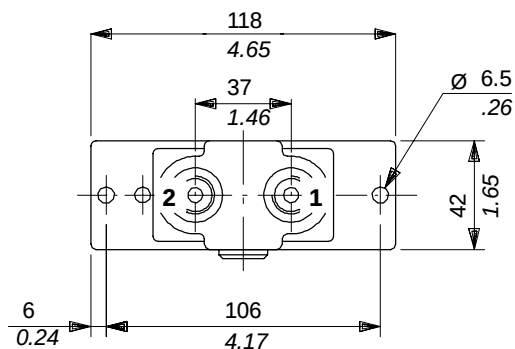
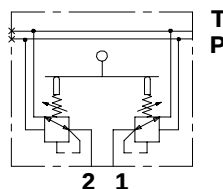
- Type **H**: fitted up to 8 microswitch push-button, with rocker switch and "dead man" switch
- Type **HM**: fitted up to 4 push-buttons (100/200mA types), with "dead man" and ON/OFF switches
- Type **HT**: fitted up to 4 push-buttons (5A types), with rocker switch, "dead man" and ON/OFF switches
- Type **HZ**: with potentiometer, fitted up to 2 microswitch push-button, "dead man" and ON/OFF switches

Dimensional data and hydraulic circuit



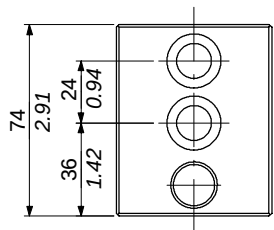
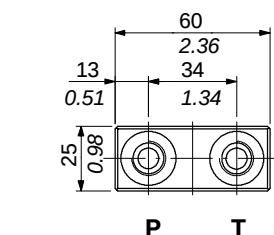
Monoblock with 1 lever and
2 work ports.
Side P and T ports.

Hydraulic circuit

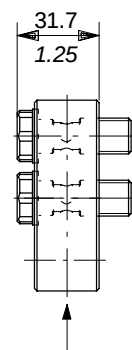


SV11

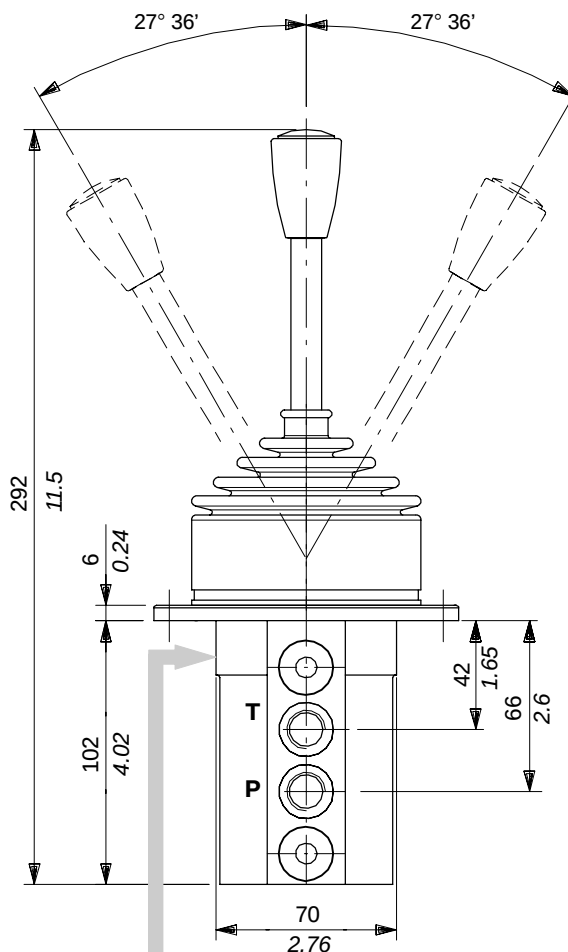
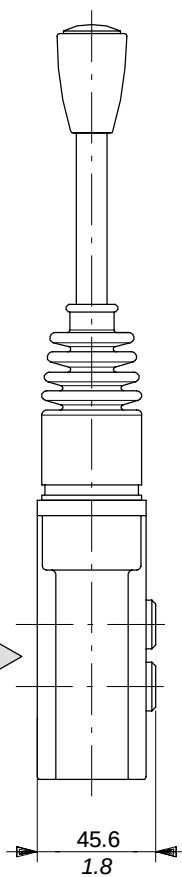
In this type, feeding and
tank lines are bottomed by
means of a proper block.



P-T bottomed block



SV11
complete block



Marking

WALVOIL
P0200001
181100042
MADE IN ITALY

Production batch :
P02 = production year (2002)
00001 = progressive number

Valve code

Description example:

SV 10 - B / 01 G3 - 001 A - - <CRVN>

1.

2.

3.

4.

Body is painted as standard, with one coat of Primer black antirust paint

1. Body kit

TYPE	CODE	DESCRIPTION
10-B	5CO3102200	G 1/4 body kit
11-B	5CO3112200	Body kit with collector with bottom G 1/4 P and T ports

2. Kinematic kits

page 12

TYPE	CODE	DESCRIPTION
01	5CIN200000	Spring return to neutral
05	5CIN201000	With detent in position 1
06	5CIN202000	With detent in position 2
07	5CIN203000	With detent in position 1 and 2

3. Handles with handlever

TYPE	CODE	DESCRIPTION
G3	5AST271216G	Ogival with portlight (STANDARD)
D3	5AST271215D	Spherical with portlight (Ø35)
JJ3	5AST271217J	With spring return push-button switch (ON)/OFF
JL3	5AST271217L	With 2 positions detent rocker switch ON/OFF
JM3	5AST271217M	With 3 pos. detent rocker switch ON/OFF/ON
JN3	5AST271217N	With 2 pos. spring return rocker switch (OFF)/ON
JP3	5AST271217P	With 3 pos. rocker switch, spring return in one direction and detent in the other direction (ON)/OFF/ON
JQ3	5AST271217Q	With 3 pos. spring return rocker switch (ON)/OFF/(ON)

2.+3. Kinematic kits with handlever page 12

For assembling reasons, the under listed kinematic kits must be supplied complete with handle. Please contact our Sales Department for use with different handles.

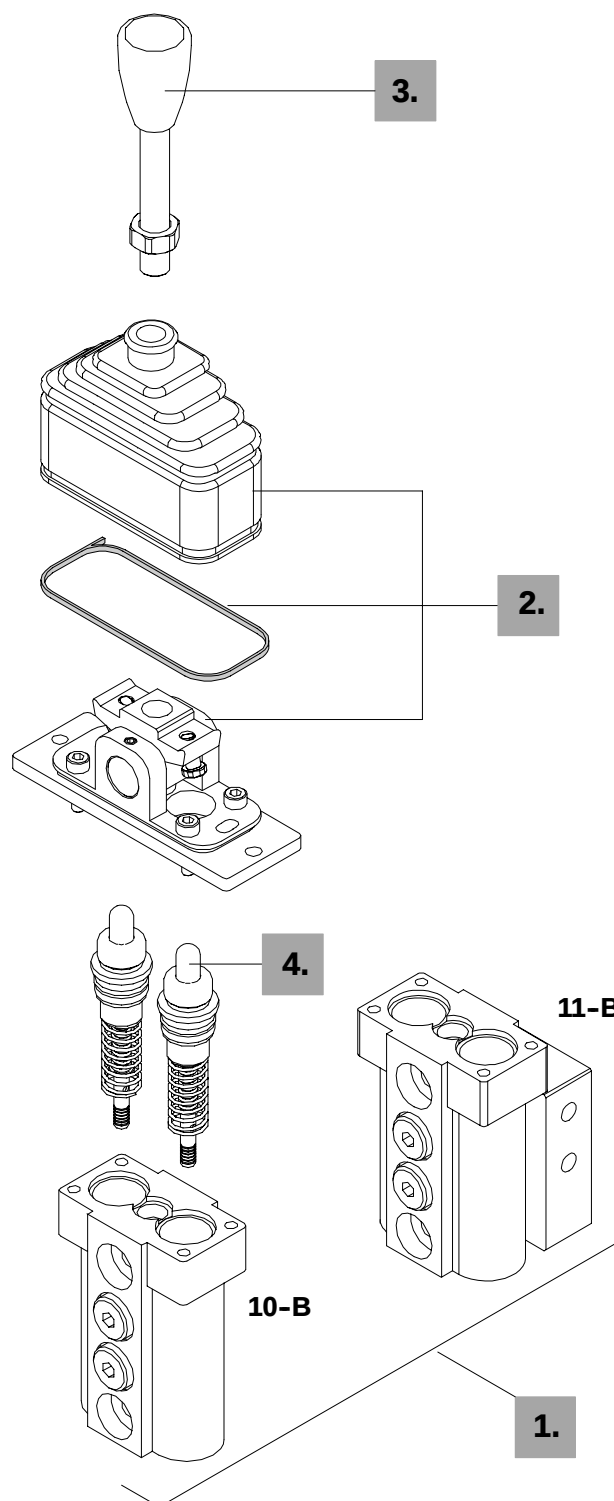
TYPE	CODE	DESCRIPTION
02G3	5CIN204000	With detent in neutral and type G knob
03G3	5CIN208000	With friction and neutral sensing, G knob
03JJ3	5CIN210000	With friction and neutral sensing, J knob
03JQ3	5CIN215000	With friction and neutral sensing, Q knob
03JZ3	5CIN217000	With friction and neutral sensing, Z knob
10G3	5CIN218000	With friction and detent in neutral, G knob
11G3	5CIN219000	With detent in 3 positions, G knob

4. Pressure control curve

page 27

Below are listed some types of available curves, for complete list see pages from 27 to 30.

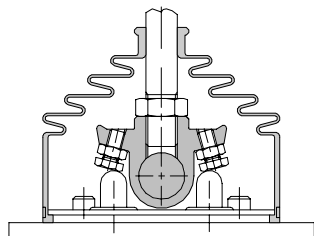
TYPE	CODE	DESCRIPTION
001A	5CUR001MA	With step, from 5.8 to 22 bar (84 to 319 psi)
103A	5CUR103MA	Without step, from 6 to 30 bar (87 to 435 psi)
211A	5CUR211MA	Piecewise with step, from 2 to 7 bar (29 to 102 psi)
301A	5CUR301MA	Piecewise without step, from 1.5 to 17.3 bar (22 to 251 psi)
000	5CUR000	BSP replacing curves kit



Kinematic kits

With spring return

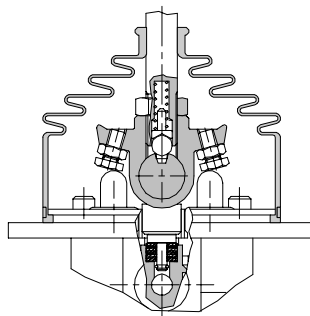
Type 01



Spring centered to neutral position.

With friction

Type 03

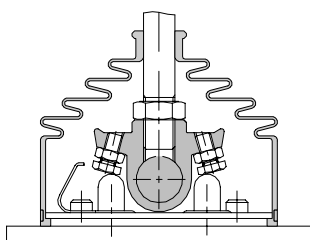


Stop in any position and neutral sensing.
Available only complete with handlever.

With detent

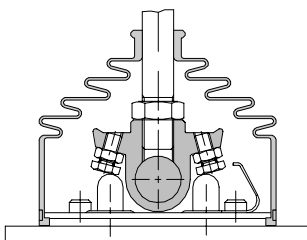
Type 05

Detent in position 1, spring centered to neutral position.



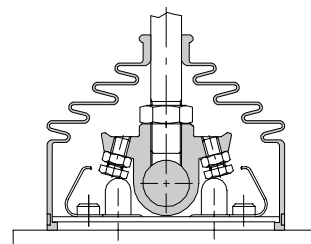
Type 06

Detent in position 2, spring centered to neutral position



Type 07

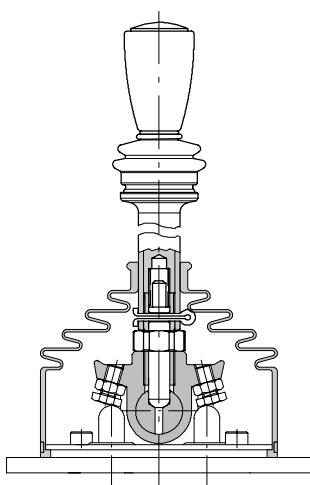
Detent in position 1 and 2, spring centered to neutral position



With detent in neutral position

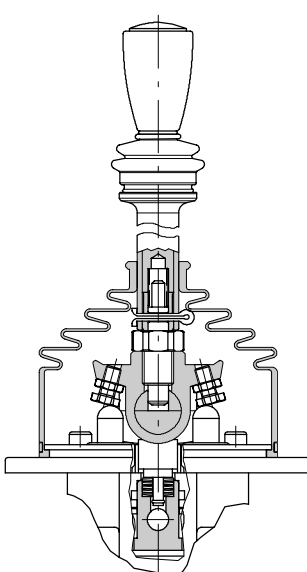
Available only complete with handlever.

Type 02



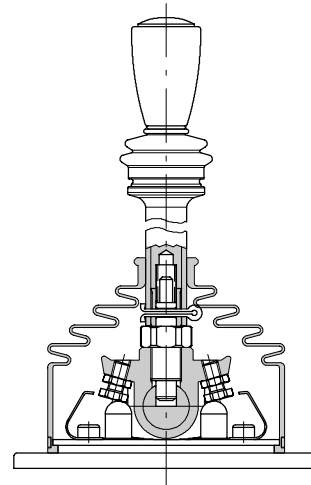
Type 10

With friction (stop in any position).



Type 11

Detent in positions 1 and 2.



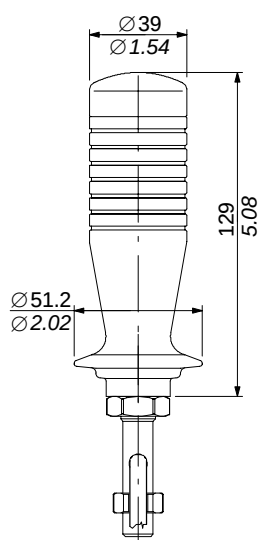
Optional handles

For SV10 remote control, series **10**, **V** and **H** handles are available on request; they are supplied with mounting joint or already assembled on joystick.

The non-symmetrical handles (V and H series) are normally oriented toward **1** port; oil goes out from **1** port when the handle is pushed forward (plugged ports are on the left-hand side).

For informations, configurations and complete descriptions contact Sales Dept. or ask **DHR001E** catalogue.

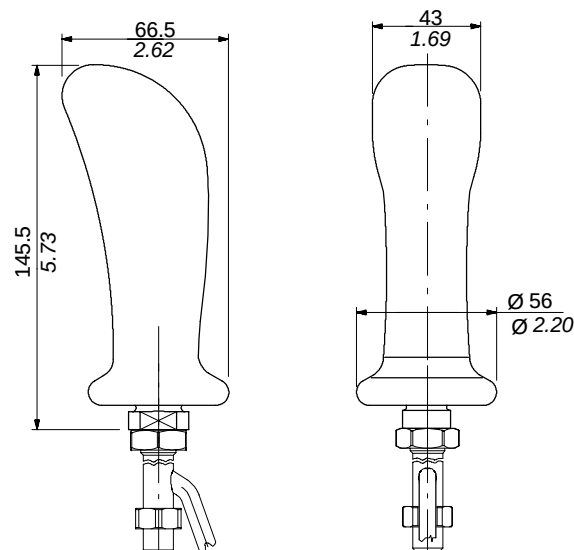
Series 10



Available types

- Type **W**: without switches
- Type **X**: with upper spring return push-button
- Type **Z**: with upper detent push-button
- Type **Y**: with 3 positions spring return rocker switch
- Type **K**: with upper protected spring return push-button
- Type **T**: with 3 positions detent rocker switch

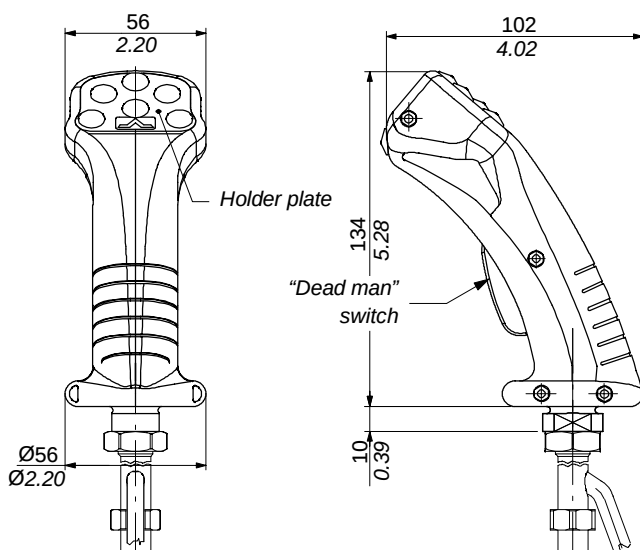
Series V



Available types

- Type **V**: available without switches or fitted with push-button or rocker switch (front of upper position)
- Type **VM**: fitted up to 4 (nr.1 upper and nr.3 front) push-buttons with 100/200mA current capability.
- Type **VT**: fitted up to 4 (nr.1 upper and nr.3 front) push-buttons with 5A current capability

Series H



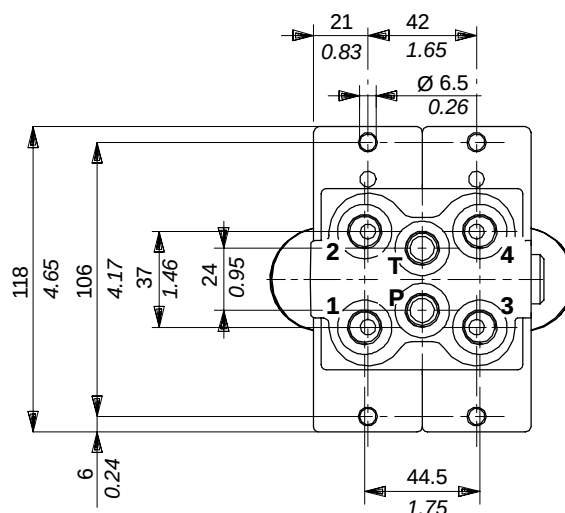
Available types

- Type **H**: fitted up to 8 microswitch push-button, with rocker switch and "dead man" switch
- Type **HM**: fitted up to 4 push-buttons (100/200mA types), with "dead man" and ON/OFF switches
- Type **HT**: fitted up to 4 push-buttons (5A types), with rocker switch, "dead man" and ON/OFF switches
- Type **HZ**: with potentiometer, fitted up to 2 microswitch push-button, "dead man" and ON/OFF switches

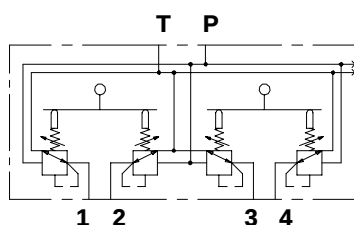
Dimensional data and hydraulic circuit



Monoblock with 2 lever and
4 work ports.
Bottom P and T ports.



Hydraulic circuit

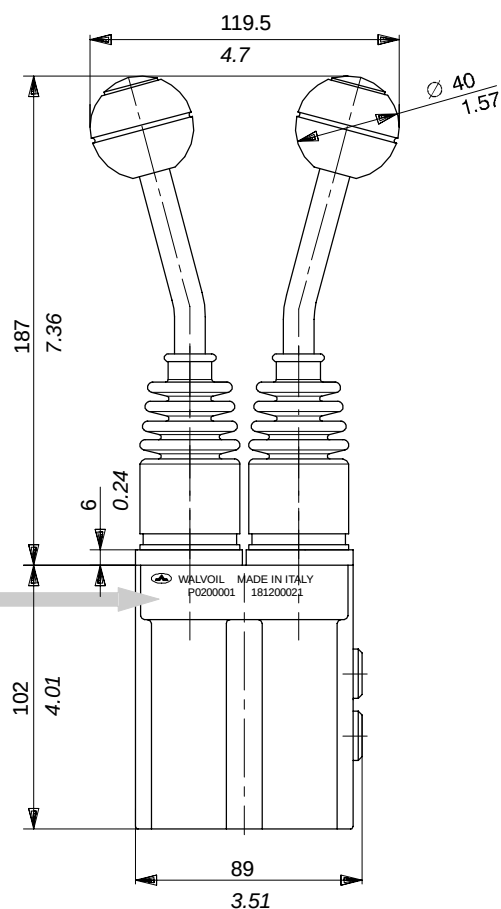


Marking

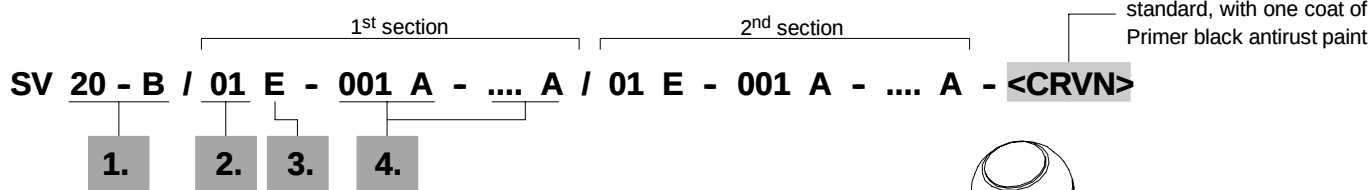
WALVOIL MADE IN ITALY
P0200001 181200021

Production batch :
P02 = production year (2002)
00001 = progressive number

Valve code



Description example:



1. Body kit

TYPE	CODE	DESCRIPTION
20-B	5CO3104200	G 1/4 body kit

2. Kinematic kits

page 12

TYPE	CODE	DESCRIPTION
01	5CIN200000	Spring return to neutral
05	5CIN201000	With detent in position 1
06	5CIN202000	With detent in position 2
07	5CIN203000	With detent in position 1 and 2

3. Handle with handlever

TYPE	CODE	DESCRIPTION
E	5AST371215E	Spherical with portlight (STANDARD)
D	5AST371216D	Spherical Ø 35 mm / 1.38 in with portlight
G	5AST371217G	Ogival with portlight
JJ	5AST371218J	With spring return push-button switch (ON)/OFF

2.+3. Kinematic kits with handlever page 12

For assembling reasons, the under listed kinematic kits must be supplied complete with handle. Please contact our Sales Department for use with different handles.

TYPE	CODE	DESCRIPTION
03E	5CIN225000	With friction and neutral sensing, E knob
03G	5CIN226000	With friction and neutral sensing, G knob

4. Pressure control curve

page 27

Below are listed some types of available curves, for complete list see pages from 27 to 30

TYPE	CODE	DESCRIPTION
001A	5CUR001MA	With step, from 5.8 to 22 bar (84 to 319 psi)
103A	5CUR103MA	Without step, from 6 to 30 bar (87 to 435 psi)
211A	5CUR211MA	Piecewise with step, from 2 to 7 bar (29 to 102 psi)
301A	5CUR301MA	Piecewise without step, from 1.5 to 17.3 bar (22 to 251 psi)
000	5CUR000	BSP replacing curves kit

Dimensional data and hydraulic circuit



It's made by a monoblock 2 levers, 4 ports and a variable number of single sections with 2 ports.

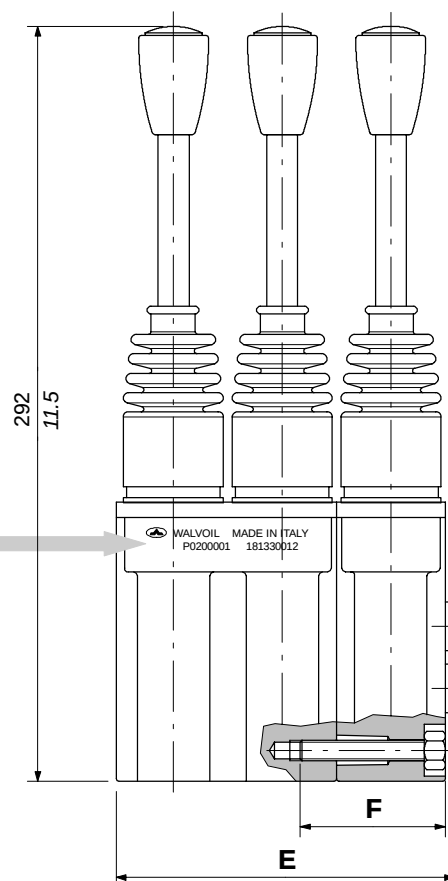
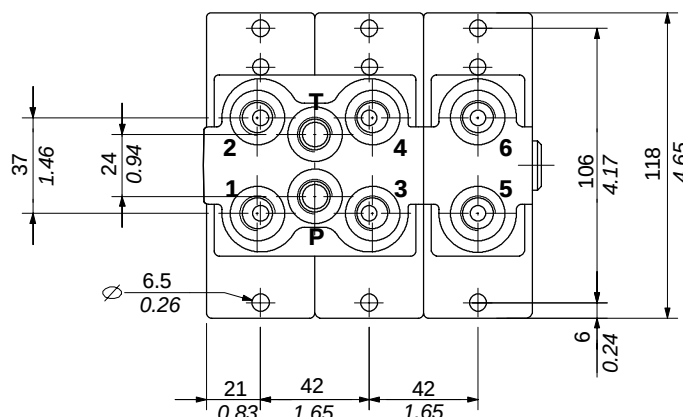
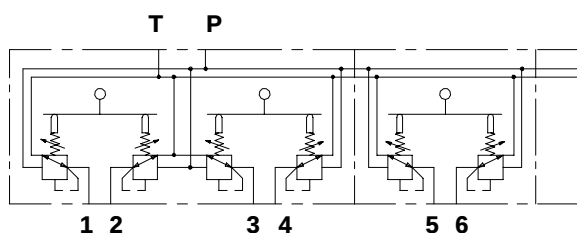
Marking

WALVOIL MADE IN ITALY
P0200001 181330012

Production batch :
P02 = production year (2002)
00001 = progressive number

Valve code

Hydraulic circuit



Hydraulic pilot control valve dimensions

TYPE	E		F		Weight	
	mm	in	mm	in	kg	lb
SV30/2	89	3.5	-	-	4,2	9.3
SV30/3	131	5.16	56	2.2	6,3	13.9
SV30/4	173	6.81	98	3.86	8,4	18.5

TYPE	E		F		Weight	
	mm	in	mm	in	kg	lb
SV30/5	215	8.46	140	5.51	10,4	22.9
SV30/6	257	10.12	182	7.17	12,5	27.6
SV30/7	299	11.77	224	8.82	14,6	32.2

Description example:

SV 30 / n - B / 01 G3 - 001 A - A / / / / - <CRVN>

1 (Repeat for each section) 2 10 (max)

n 1. 2. 3. 4.

number of sections

Body is painted as standard, with one coat of Primer black antirust paint

1. Body kit

TYPE CODE DESCRIPTION

1 Section (1.a)

30/1-B 5CO3102201 G 1/4 body kit

2 Sections (1.b)

30/2-B 5CO3104200 G 1/4 ports body kit with plug

From 3 to 10 sections

It's made by a monoblock 4 ports and a variable number of single sections with 2 ports.

2. Kinematic kits

page 12

TYPE CODE DESCRIPTION

01 5CIN200000 Spring return to neutral

05 5CIN201000 With detent in position 1

06 5CIN202000 With detent in position 2

07 5CIN203000 With detent in position 1 and 2

3. Handle with handlever

For complete list, refer to SV10 control valve at page 11

G3 5AST271216G Ogival with portlight (STANDARD)

D3 5AST271215D Spherical with portlight (Ø35)

2.+3. Kinematic kits with handlever page 27

For assembling reasons, the under listed kinematic kits must be supplied complete with handle. Please contact our Sales Department for use with different handles.

TYPE CODE DESCRIPTION

02G3 5CIN204000 With detent in neutral and type G knob

03G3 5CIN208000 With friction and neutral sensing, G knob

03J3 5CIN210000 With friction and neutral sensing, J knob

03JQ3 5CIN215000 With friction and neutral sensing, Q knob

03JZ3 5CIN217000 With friction and neutral sensing, Z knob

10G3 5CIN218000 With friction and detent in neutral, G knob

11G3 5CIN219000 With detent in 3 positions, G knob

4. Pressure control curve

page 27

For complete list see pages from 27 to 30.

5. Assembling kits

CODE DESCRIPTION

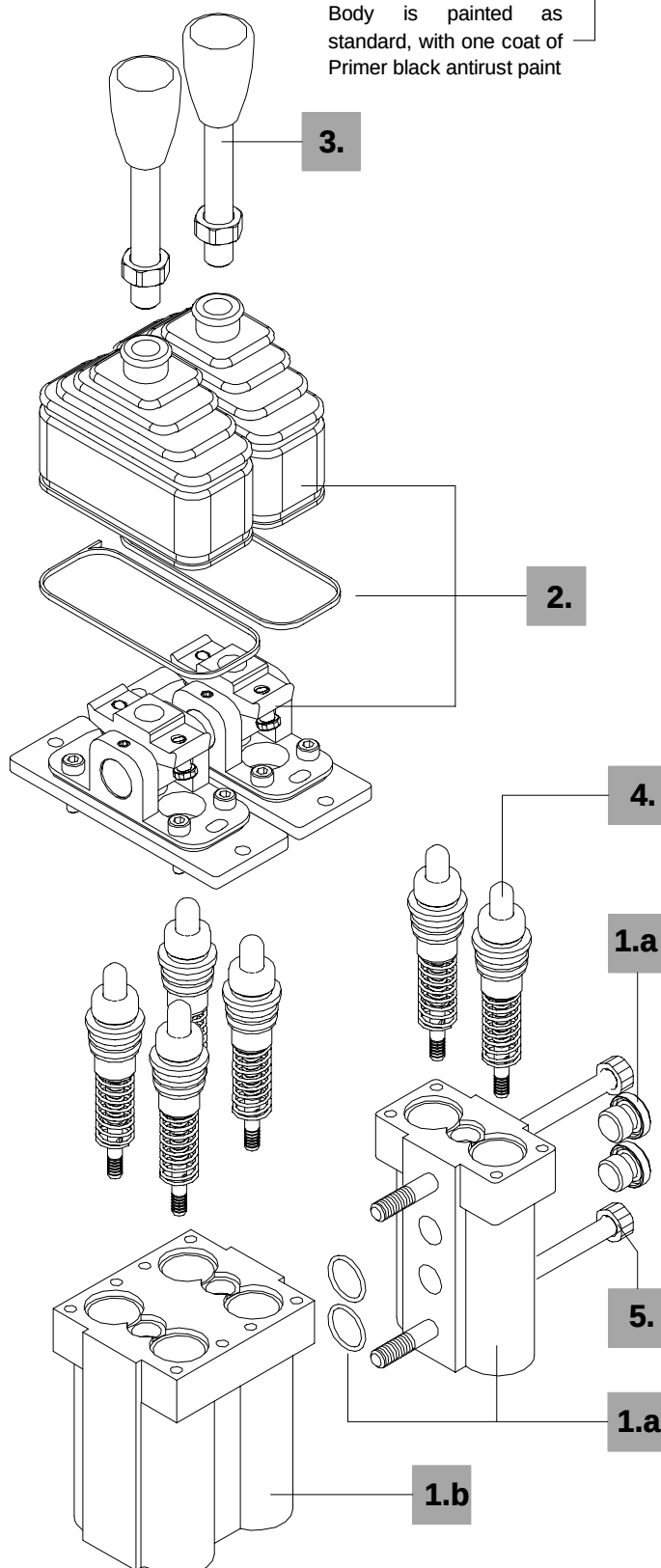
5TIR108056 Tie rod with nut for 3 sections

5TIR108098 Tie rod with nut for 4 sections

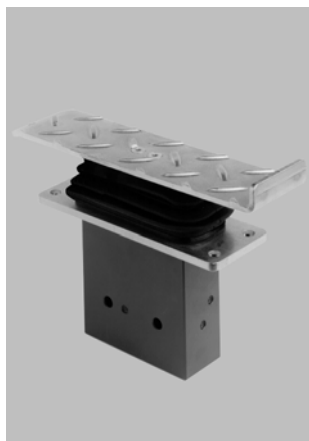
5TIR108140 Tie rod with nut for 5 sections

5TIR108182 Tie rod with nut for 6 sections

5TIR108224 Tie rod with nut for 7 sections

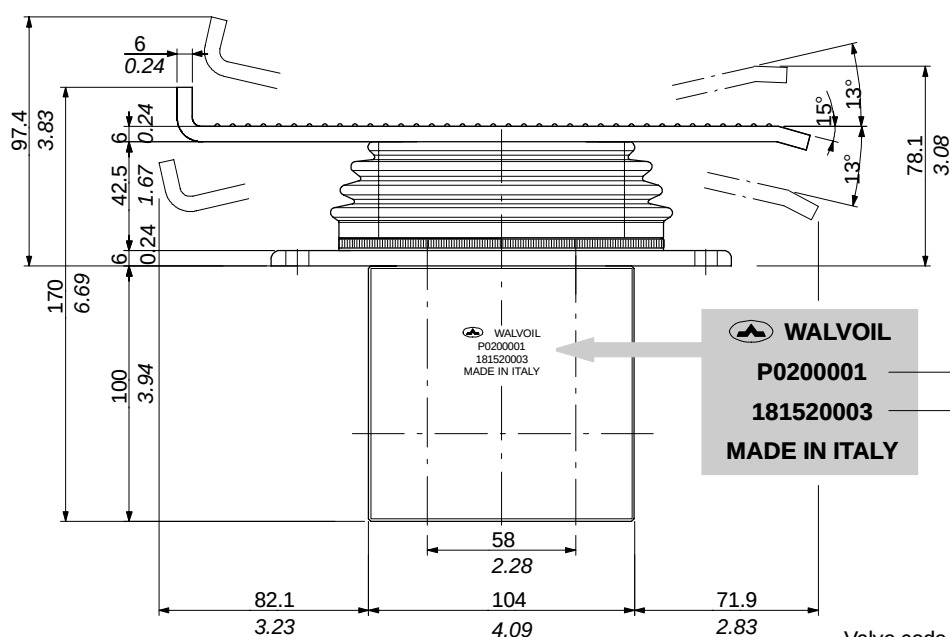
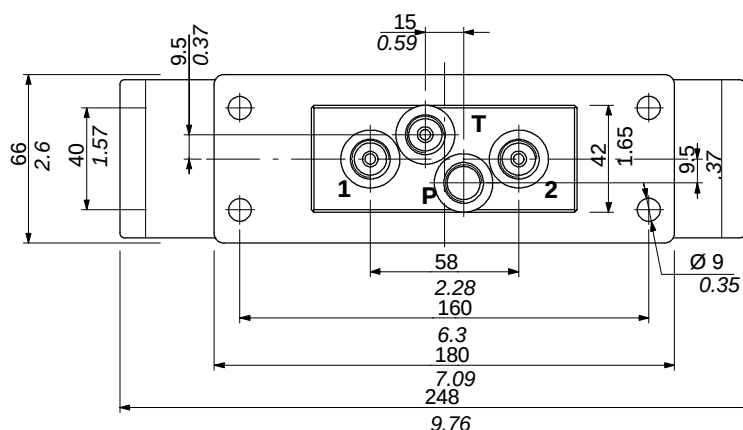
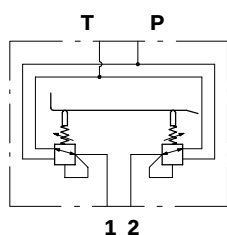


Dimensional data and hydraulic circuit



Monoblock flat rocker pedal with bottom P and T ports.

Hydraulic circuit



Valve code
Production batch :
P02 = production year (2002)
00001 = progressive number

Description example:

SVP 500 - B / 01 - P130B x 2

1.

2.

1. Body kit

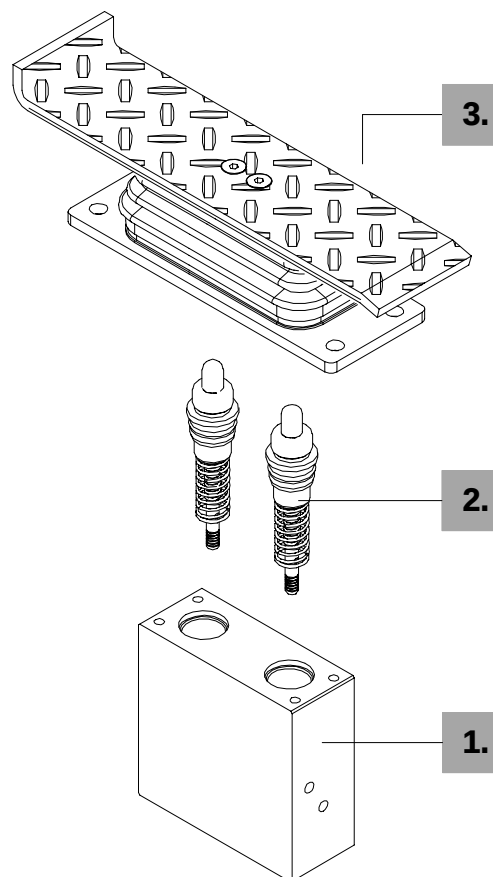
TYPE	CODE	DESCRIPTION
500-B	3CO3503200	G 1/4 body kit

2. Pressure control curves *page 31*

TYPE	CODE	DESCRIPTION
P030B	5CUR50030B	Whithout step from 0 a 11.5 bar / 0 to 167 psi
P130B	5CUR50130B	Whithout step from 5.8 to 23 bar / 84 to 334 psi
P117B	5CUR50117B	Whithout step from 4 to 20 bar / 58 to 290 psi
P051B	5CUR50051B	With step from 5 to 21 bar / 73 to 305 psi
P006B	5CUR50006B	With step from 5 to 16 bar / 73 to 232 psi

3. Kinematic kit

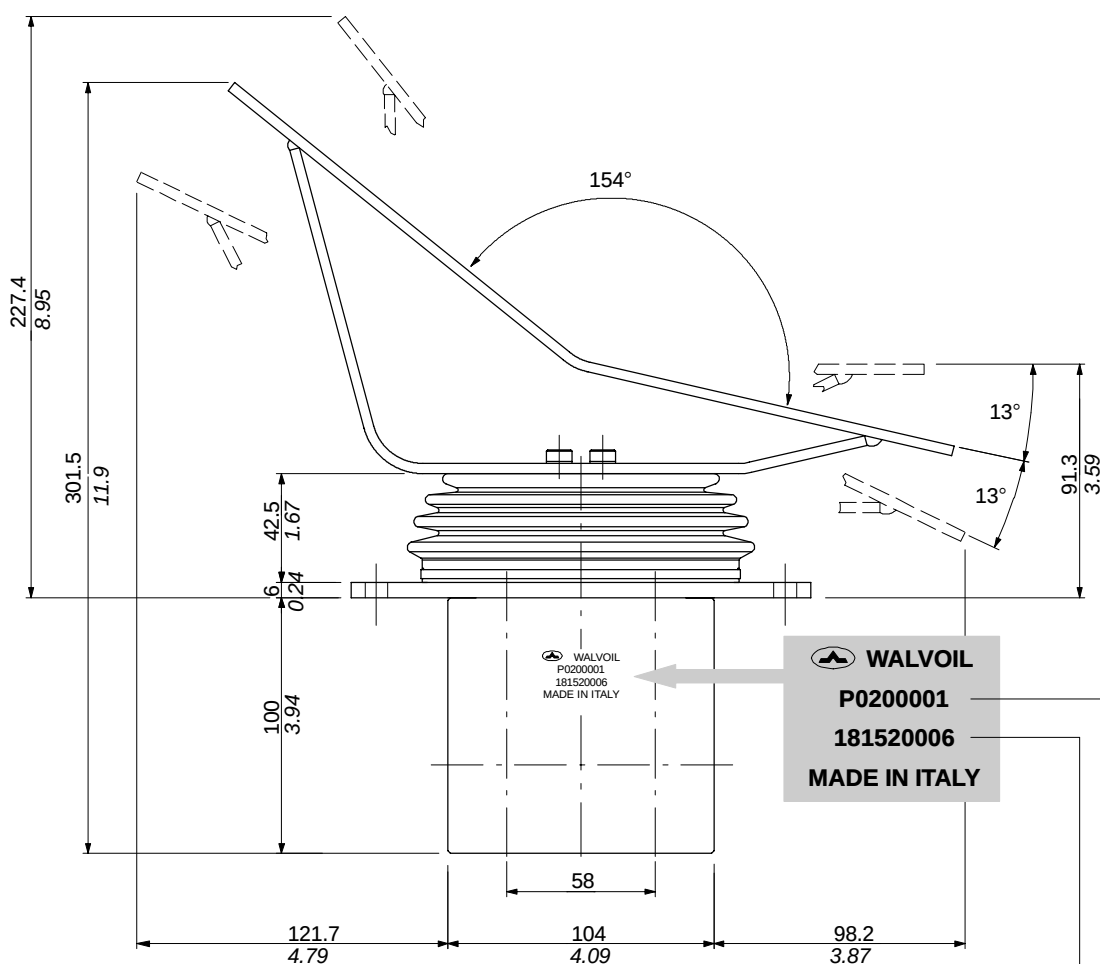
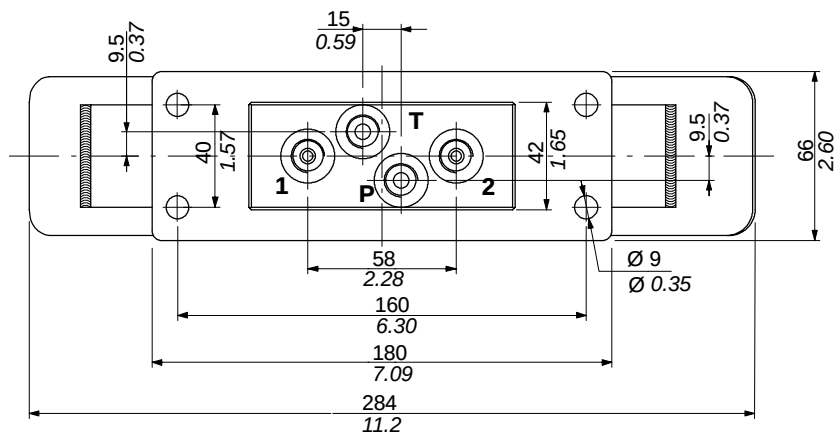
FOR	CODE	DESCRIPTION
SVP500	5CIN510	Flat rocker pedal



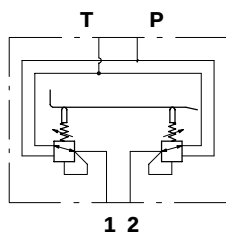
Dimensional data and hydraulic circuit



Monoblock angled rocker pedal with bottom P and T ports.



Hydraulic circuit



WALVOIL
P0200001
181520006
MADE IN ITALY

Production batch :
P02 = production year (2002)
00001 = progressive number

Description example:

SVP 510 - B / 01 - P130B x 2

1.

2.

1. Body kit

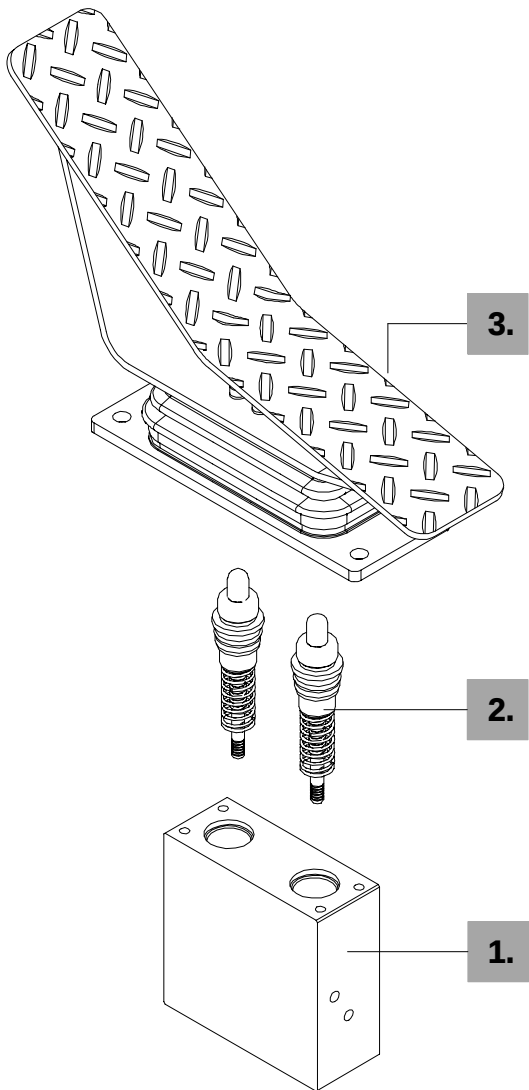
TYPE	CODE	DESCRIPTION
510-B	3CO3503200	G 1/4 body kit

2. Pressure control curve *page 31*

TYPE	CODE	DESCRIPTION
P030B	5CUR50030B	Whithout step from 0 a 11.5 bar / 0 to 167 psi
P130B	5CUR50130B	Whithout step from 5.8 to 23 bar / 84 to 334 psi
P117B	5CUR50117B	Whithout step from 4 to 20 bar / 58 to 290 psi
P051B	5CUR50051B	With step from 5 to 21 bar / 73 to 305 psi
P006B	5CUR50006B	With step from 5 to 16 bar / 73 to 232 psi

3. Kinematic kit

FOR	CODE	DESCRIPTION
SVP510	5CIN512	Angled rocker pedal



SV40

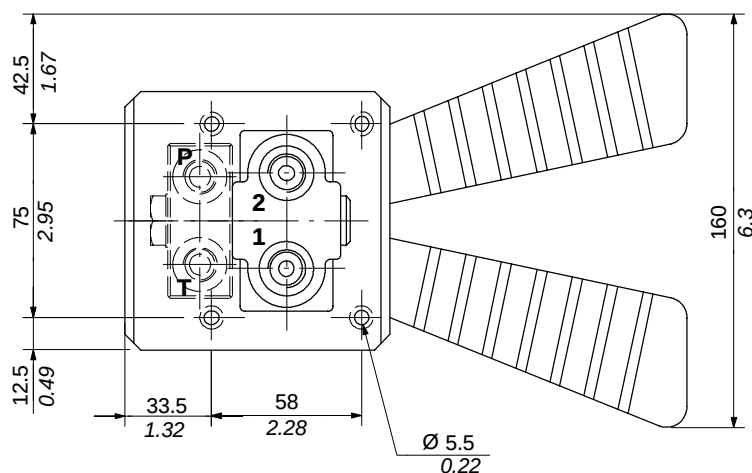
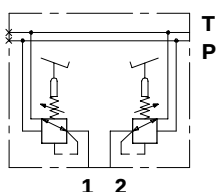
foot pedal operating pilot control valve

Dimensional data and hydraulic circuit



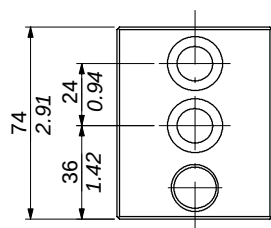
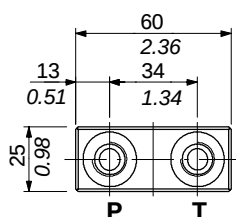
Monoblock, 2 pedals and 2 work ports.
Side P and T ports.

Hydraulic circuit

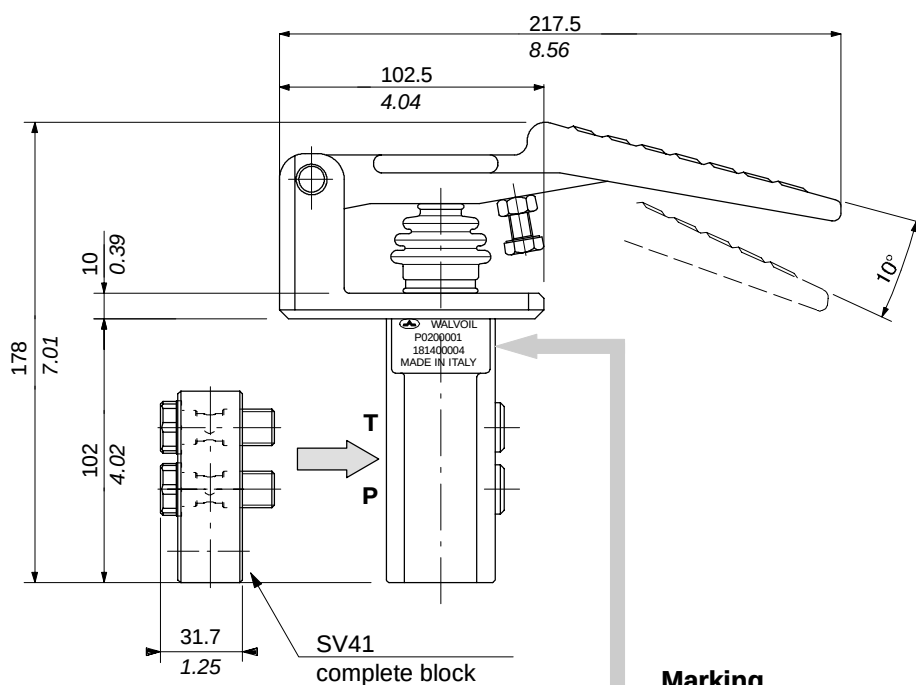


SV41

Monoblock, 2 pedals and 2 work ports.
Side P and T ports.



P-T bottomed block



Marking

WALVOIL
P0200001
181400004
MADE IN ITALY

Production batch :
P02 = production year (2002)
00001 = progressive number

Valve code

Description example:

SV 40 - B / 001 C - - <CRVN>

1.

2.

Body is painted as standard, with one coat of Primer black antirust paint

1. Body kits

TYPE	CODE	DESCRIPTION
40-B	5CO3102200	G 1/4 body kit
41-B	5CO3112200	Body kit with collector with bottom G 1/4 P and T ports

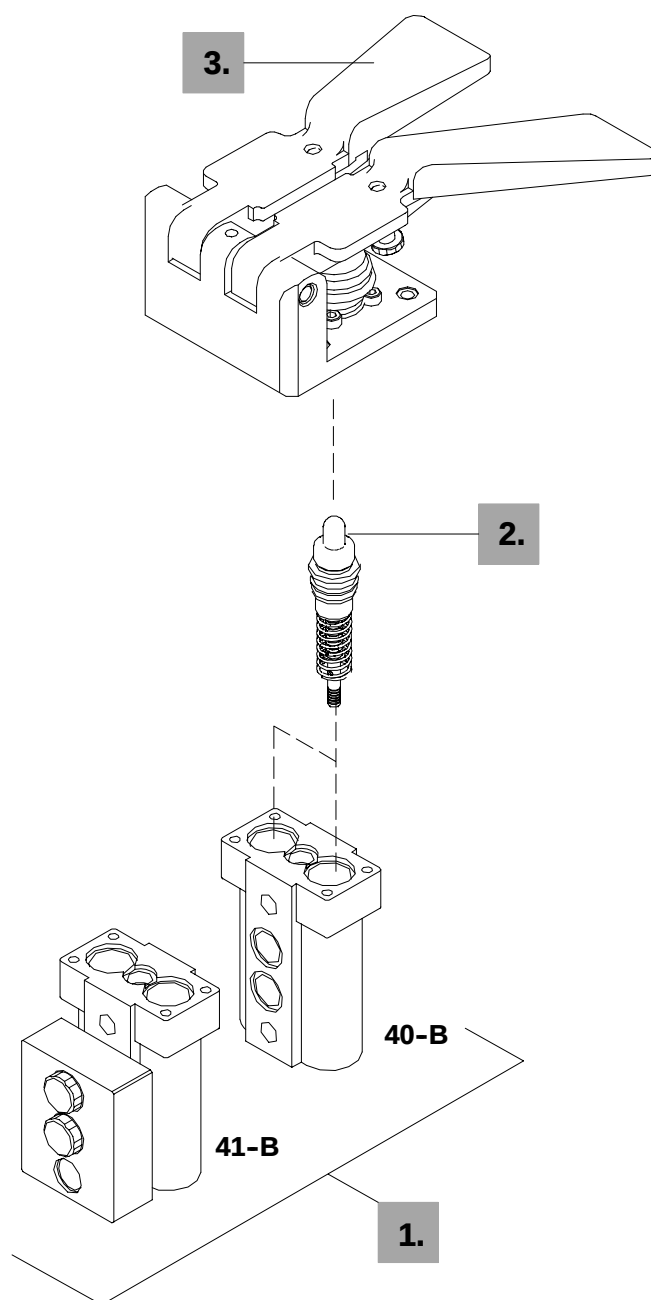
2. Pressure control curve *page 27*

Below are listed some types of available curves, for complete list see pages from 27 to 30.

TYPE	CODE	DESCRIPTION
001C	5CUR001MC	With step, from 5.8 to 22 bar (84 to 319 psi)
016C	5CUR016MC	With step, from 6 to 21.7 bar (87 to 315 psi)
022C	5CUR022MC	With step, from 1 to 8 bar (15 to 116 psi)
056C	5CUR056MC	With step, from 3.2 to 17.2 bar (46 to 249 psi)
068C	5CUR068MC	With step, from 2 to 27.5 bar (29 to 399 psi)
103C	5CUR103MC	Without step, from 6 to 30 bar (87 to 435 psi)
000	5CUR000	BSP replacing curves kit

3. Kinematic kit

FOR	CODE	DESCRIPTION
SV40-SV41	5CIN400	Pedal kit

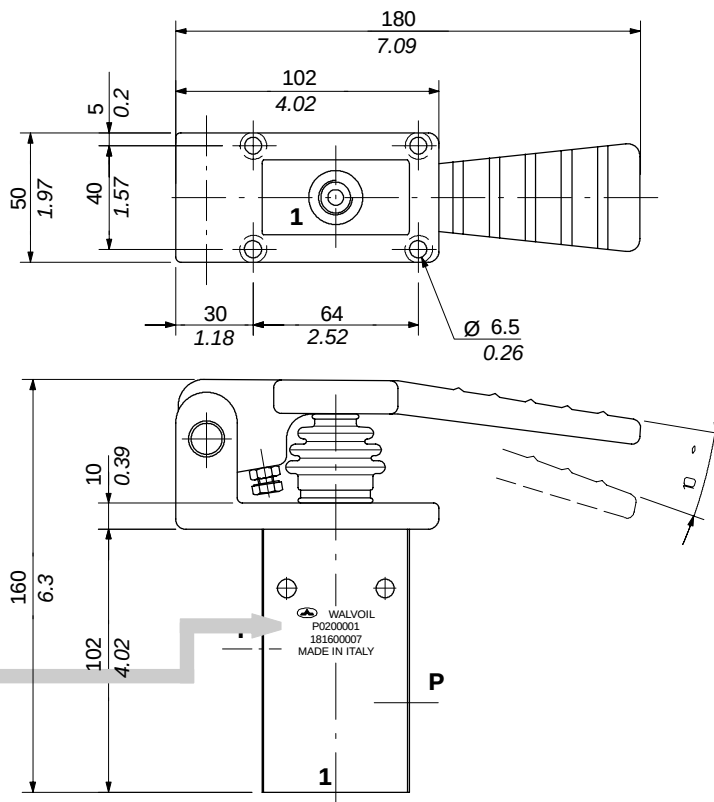
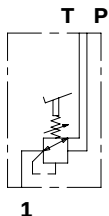


Dimensional data and hydraulic circuit



Monoblock, 1 pedal, 1 work port with side P and T ports

Hydraulic circuit



Marking

Production batch :
P02 = production year (2002)
000001 = progressive number

Valve code

WALVOIL
P0200001
181600007
MADE IN ITALY

Ordering codes

Description example: SV 60 - B / 001 C

1.

2.

1. Body kit

TYPE	CODE	DESCRIPTION
60-B	3CO3701201	G 1/4 body kit

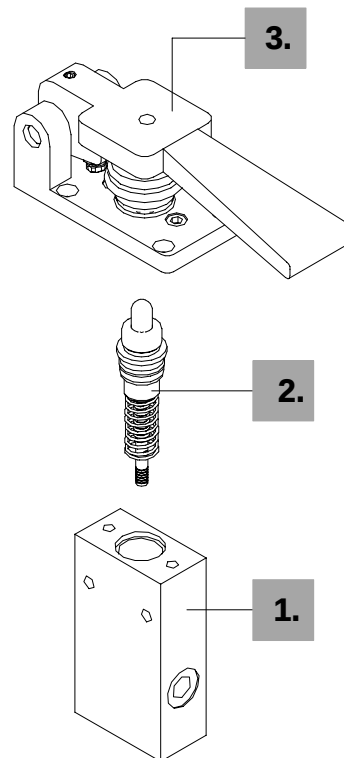
3. Kinematic kit

FOR	CODE	DESCRIPTION
SV60	5CIN600	Pedal kit

2. Pressure control curve *page 27*

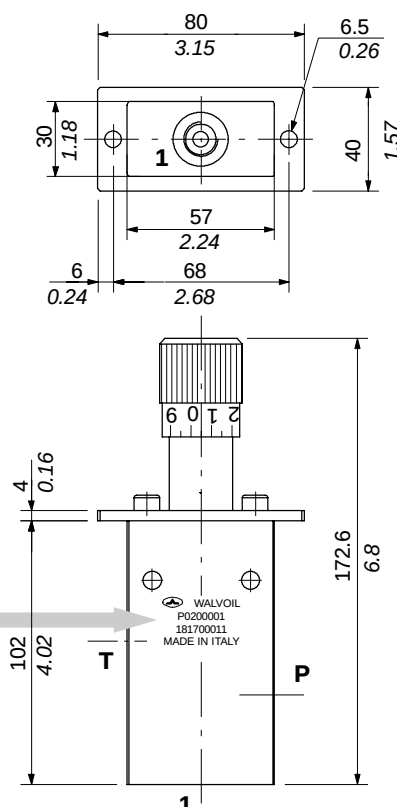
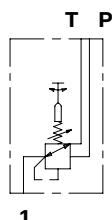
Below are listed some types of available curves, for complete list see pages 22-23-24.

TYPE	CODE	DESCRIPTION
001C	5CUR001MC	With step, from 5.8 to 22 bar (84 to 319 psi)
016C	5CUR016MC	With step, from 6 to 21.7 bar (87 to 315 psi)
022C	5CUR022MC	With step, from 1 to 8 bar (15 to 116 psi)
056C	5CUR056MC	With step, from 3.2 to 17.2 bar (46 to 249 psi)
068C	5CUR068MC	With step, from 2 to 27.5 bar (29 to 399 psi)
103C	5CUR103MC	Without step, from 6 to 30 bar (87 to 435 psi)
000	5CUR000	BSP replacing curves kit



Dimensional data and hydraulic circuit

Hydraulic circuit



Marking

Production batch
P02 = production year (2002)
00001 = progressiva number

Code

WALVOIL
P0200001
181700011
MADE IN ITALY



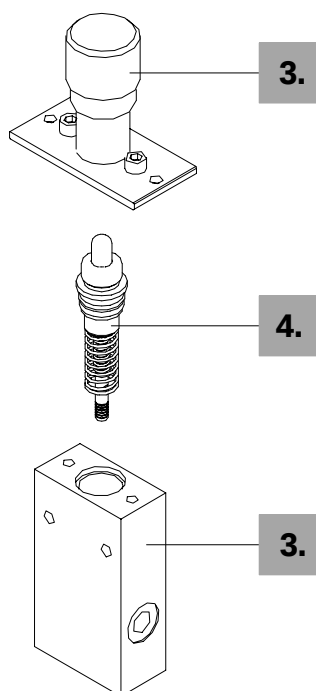
Monoblock, handwheel operated, 1 work port with side P and T ports.

Ordering codes

Description example: SV 70 - B / 001 C

3.

4.



3. Body kit

TYPE	CODE	DESCRIPTION
70-B	3CO3701201	G 1/4 body kit

4. Pressure control curve page 27

Below are listed some types of available curves, for complete list see pages 22-23-24.

TYPE	CODE	DESCRIPTION
001C	5CUR001MC	With step, from 5.8 to 22 bar (84 to 319 psi)
016C	5CUR016MC	With step, from 6 to 21.7 bar (87 to 315 psi)
022C	5CUR022MC	With step, from 1 to 8 bar (15 to 116 psi)
056C	5CUR056MC	With step, from 3.2 to 17.2 bar (46 to 249 psi)
068C	5CUR068MC	With step, from 2 to 27.5 bar (29 to 399 psi)
103C	5CUR103MC	Without step, from 6 to 30 bar (87 to 435 psi)
000	5CUR000	BSP replacing curves kitBSP

3. Kinematic kit

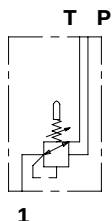
FOR	CODE	DESCRIPTION
SV70	5CIN700	Handwheel kit

Dimensional data and hydraulic circuit



Body kit with pressure control curves and protection plate.

Hydraulic circuit

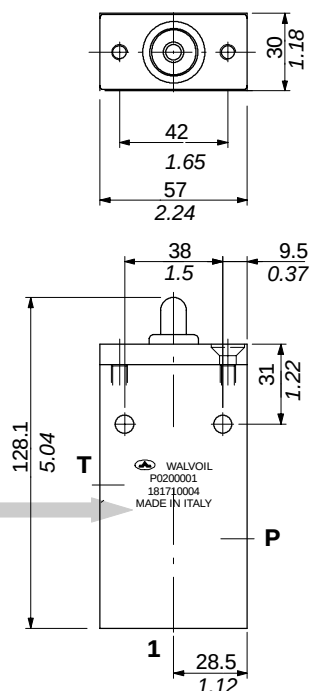


Production batch:
P02 = production year (2002)
00001 = progressive number

Code

Marcatura

WALVOIL
P0200001
181710004
MADE IN ITALY



Ordering codes

Description example: SV **71 - B** / **001 C**

5.

6.

5. Body kit

TYPE	CODE	DESCRIPTION
71-B	3CO3701201	G 1/4 body kit

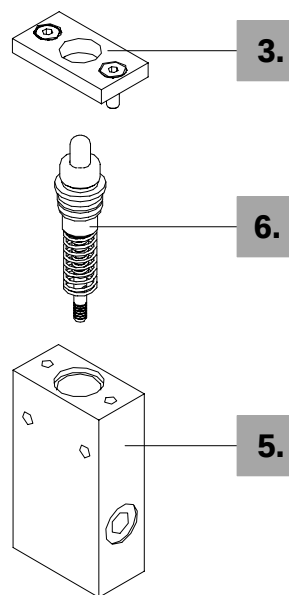
6. Pressure control curve *page 27*

Below are listed some types of available curves, for complete list see pages 22-23-24.

TYPE	CODE	DESCRIPTION
001C	5CUR001MC	With step, from 5.8 to 22 bar (84 to 319 psi)
016C	5CUR016MC	With step, from 6 to 21.7 bar (87 to 315 psi)
022C	5CUR022MC	With step, from 1 to 8 bar (15 to 116 psi)
056C	5CUR056MC	With step, from 3.2 to 17.2 bar (46 to 249 psi)
068C	5CUR068MC	With step, from 2 to 27.5 bar (29 to 399 psi)
103C	5CUR103MC	Without step, from 6 to 30 bar (87 to 435 psi)
000	5CUR000	BSP replacing curves kit

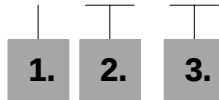
3. Kinematic kit

FOR	CODE	DESCRIPTION
SV71	5CIN701	Protection plat



Pressure control curve ordering codes

Description example: 5CUR 0 01 MA

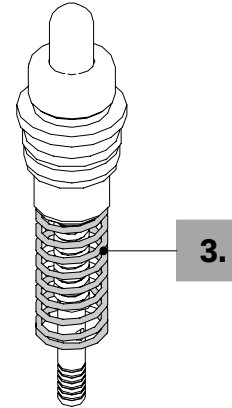


1. Curve types

TYPE	DESCRIPTION	TYPE	DESCRIPTION
0	With Step	2	Piecewise with Step
1	Without Step	3	Piecewise without Step

2. Progressive number

For complete list of available curves, refer to next pages.

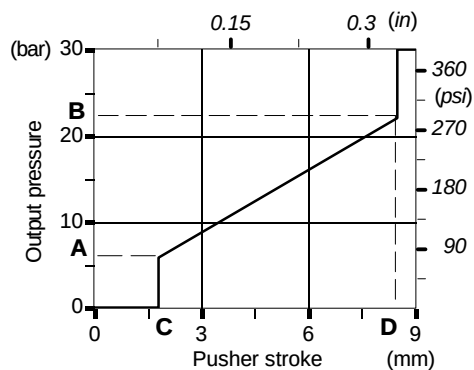


3. Return spring

TYPE	CODE	WORKING RANGE		STANDARD APPLICATION
		N	lb	
A	3MOL617420	from 13.7 to 27.4	from 3.08 to 6.16	SV01-SV10-SV11-SV20-SV30-SV70-SV71
B	3MOL617531	from 29.4 to 44.1	from 6.62 to 9.92	
C	3MOL617451	from 73.5 to 135.2	from 16.5 to 3.42	SV40-SV41-SV60

Pressure control curves with Step

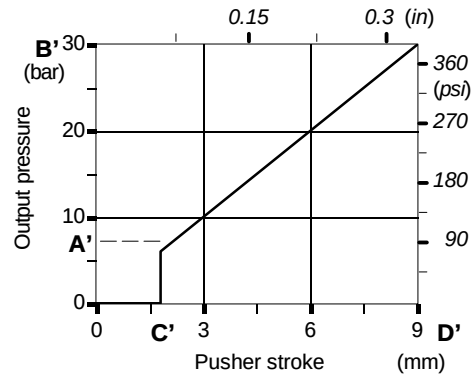
Step value is the inlet pressure.



TYPE	PRESSURE				STROKE			
	A		B		C		D	
	bar	psi	bar	psi	mm	in	mm	in
001	5.8	84	22	319	1.8	0.07	8.5	0.33
002	6	87	22.5	326	2	0.08	6.5	0.26
003	5.5	80	28.5	413	1	0.04	8.5	0.33
004	4.9	71	18.9	274	1	0.04	8.5	0.33
005	15.1	219	27.4	397	1.2	0.05	6.5	0.26
007	6	87	37	537	1	0.04	8.5	0.33
008	9.8	142	26	377	1.8	0.07	8.5	0.33
010	3.25	47	15.4	223	1	0.04	8.5	0.33
012	14	203	29	421	1	0.04	8.5	0.33
013	3	44	10	145	1	0.04	8.5	0.33
014	3.2	46	17.2	247	2	0.08	8.5	0.33
016	6	87	21.7	315	2	0.08	6.3	0.25
017	5	73	12	174	1	0.04	8.5	0.33
018	5.9	86	12.9	187	1	0.04	8.5	0.33
019	0.5	7	11.4	165	1.8	0.07	8.5	0.33
020	4.3	62	15.2	220	1	0.04	8.5	0.33
021	6	87	16.3	236	1.6	0.06	7.2	0.28
022	1	15	8	116	1	0.04	8.5	0.33
023	2	29	11.5	167	1	0.04	8.5	0.33
024	5.8	84	19	276	1.8	0.07	7.2	0.28
025	5.8	84	19	276	0.9	0.04	6.5	0.25
026	6.5	94	14	203	1	0.04	8.5	0.33
027	3	44	9	131	2	0.08	8.5	0.33
028	5	73	21	305	1.1	0.04	8.7	0.34
029	2	29	11.5	167	2	0.08	8.5	0.33
030	0	0	13	189	0.5	0.02	8.5	0.33
031	5.8	84	19	276	1.6	0.06	7.2	0.28
032	3.4	49	29.4	426	1	0.04	8.5	0.33
033	5.8	84	19	276	1	0.04	8.5	0.33
037	5	73	21	305	1.2	0.05	6.5	0.26

TYPE	PRESSURE				STROKE			
	A		B		C		D	
	bar	psi	bar	psi	mm	in	mm	in
038	22	319	37	537	1	0.04	8.5	0.33
039	2	29	8	116	0.8	0.03	6.8	0.27
040	6.6	96	20.7	300	1	0.04	8.5	0.33
041	8	116	20.7	300	1.8	0.07	8.5	0.33
042	2	29	13	189	1	0.04	8.5	0.33
043	3.2	47	11.7	170	1.8	0.07	8.5	0.33
044	5.8	84	22.5	326	1.6	0.06	7.2	0.28
048	7	102	22.1	321	1.2	0.05	7.5	0.29
049	6	87	21.6	313	1	0.04	7.5	0.29
053	8	116	20.7	300	1	0.04	8.5	0.33
056	3.2	47	17.2	250	1	0.04	8.5	0.33
057	1	15	13	189	1.8	0.07	8.5	0.33
061	1.5	22	8.5	124	1	0.04	8.5	0.33
064	0.5	7	18.4	267	1	0.04	8.5	0.33
065	2	29	20.5	297	1	0.04	8.5	0.33
068	2	29	27.5	399	1	0.04	8.5	0.33
069	3	44	10.5	152	0.5	0.02	8.5	0.33
070	5.8	84	22.4	325	1	0.04	8.5	0.33
073	4	58	18	261	1	0.04	8.5	0.33
074	5	73	25	363	2	0.08	7.8	0.31
075	5	73	15	218	1	0.04	8.5	0.33
077	5	73	26.9	390	1.2	0.05	8.5	0.33
080	4	58	11	160	1	0.04	8.5	0.33
081	8	116	14.5	210	1	0.04	7.5	0.29
082	8	116	22.2	322	1	0.04	8.5	0.33
083	0	0	64	928	1.5	0.06	8.5	0.33
084	5.7	83	24.2	351	1	0.04	8.5	0.33
085	6	87	25	363	0.9	0.04	8.5	0.33
086	4	58	16.5	239	0.8	0.03	7.5	0.29
088	5.8	84	17	247	1	0.04	8.5	0.33

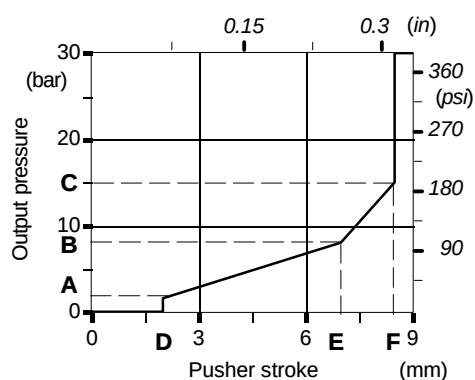
Pressure control curves without Step



TYPE	PRESSURE				STROKE			
	A		B		C		D	
	bar	psi	bar	psi	mm	in	mm	in
101	4.4	64	19.8	287	0.4	0.02	9	0.35
103	6	87	30	435	2	0.08	9	0.35
104	8.2	119	55	798	1	0.04	9	0.35
105	2	29	8	116	2	0.08	9	0.35
106	6	87	40	580	0.9	0.03	9	0.35
107	4	58	19.4	281	0.4	0.02	9	0.35
111	5.5	80	25.5	370	0.9	0.03	9	0.35
113	5	73	21.7	315	1.2	0.05	9	0.35
114	4	58	10	145	2	0.08	9	0.35
128	0	0	64	928	2	0.08	9	0.35
134	5.8	84	23	334	1.6	0.06	9	0.35
135	5.8	84	23	334	0.9	0.03	9	0.35

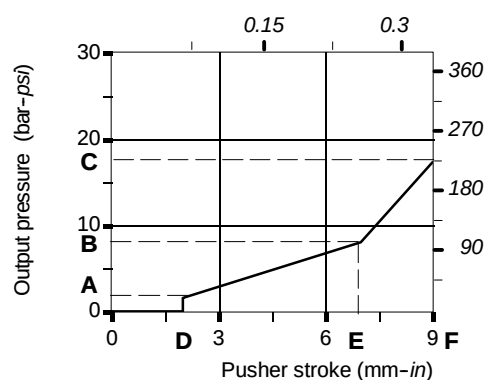
TYPE	PRESSURE				STROKE			
	A		B		C		D	
	bar	psi	bar	psi	mm	in	mm	in
136	5.8	84	23	334	1.8	0.07	9	0.35
150	8	116	15	217	2	0.08	9	0.35
151	0	0	40	580	1	0.04	5.4	0.21
152	3	44	23	334	0.9	0.03	9	0.35
154	2	29	15	217	0.9	0.03	9	0.35
162	0.7	10	30	435	1	0.04	9	0.35
163	1.4	20	11.5	167	1	0.04	9	0.35
166	4.3	62	15	217	1.6	0.06	9	0.35
167	5	73	18	261	2	0.08	9	0.35
169	9.8	142	21	305	1.1	0.05	7.4	0.29
175	5	73	16	232	1	0.04	9	0.35
178	6.5	94	17.8	258	1.1	0.05	7	0.27
179	6.5	94	17	246	1.1	0.05	9	0.35

Piecewise pressure control curves with Step



TYPE	PRESSURE						STROKE					
	A		B		C		D		E		F	
	bar	psi	bar	psi	bar	psi	mm	in	mm	in	mm	in
201	1.5	22	8	116	15	218	2	0.08	7	0.28	8.5	0.33
211	2	29	7	102	20	290	1	0.04	5	0.20	8.5	0.33
215	4	58	7	102	10	145	1	0.04	7	0.28	8.5	0.33

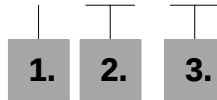
Piecewise pressure control curves without Step



TYPE	PRESSURE						STROKE					
	A		B		C		D		E		F	
	bar	psi	bar	psi	bar	psi	mm	in	mm	in	mm	in
301	1.5	22	8	116	17.3	251	2	0.08	7	0.28	9	0.35

Pressure control curve ordering codes

Description example: 5CUR50 0 06 MC

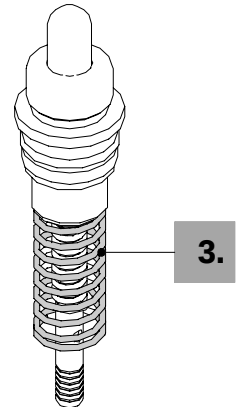


1. Curve types

TYPE	DESCRIPTION	TYPE	DESCRIPTION
0	With Step	1	Without Step

2. Progressive number

For complete list of available curves, refer to next page.

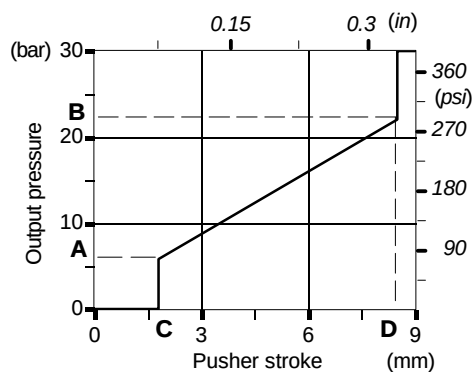


3. Return spring

TYPE	CODE	WORKING RANGE		STANDARD APPLICATION
		N	lb	
B	3MOL617531	from 29.4 to 44.1	from 6.62 to 9.92	
C	3MOL617451	from 73.5 to 135.2	from 16.5 to 3.42	SVP500-SVP510

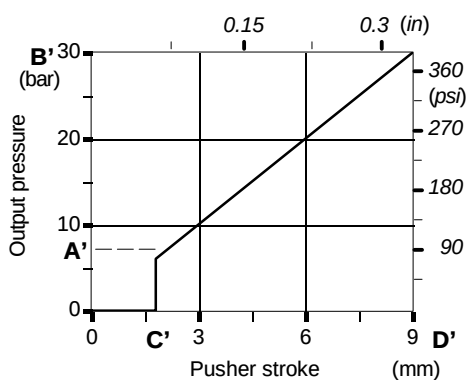
Pressure control curves with Step

Step value is the inlet pressure.



TYPE	PRESSURE				STROKE			
	A		B		C		D	
	bar	psi	bar	psi	mm	in	mm	in
006	5	72.5	21	305	1.1	0.043	6.1	0.24
035	5	72.5	21	305	1.1	0.043	6.4	0.25
051	5	72.5	21	305	1.1	0.043	6.1	0.24

Pressure control curves without Step



TYPE	PRESSURE				STROKE			
	A		B		C		D	
	bar	psi	bar	psi	mm	in	mm	in
117	4	58	20	290	0.5	0.020	6.5	0.26
130	5.8	84	23	334	0.9	0.035	6.4	0.25

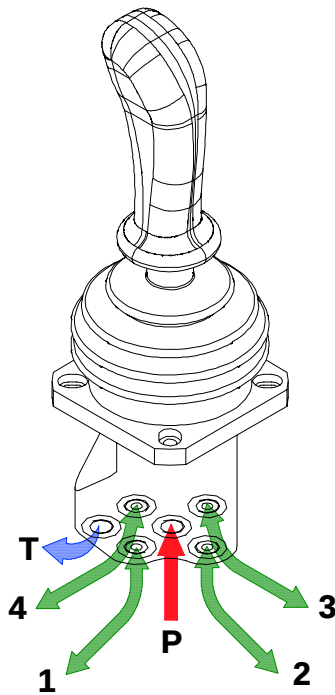
Installation and maintenance

SV and SVP pilot control valves assembled and tested as per the technical specification of this catalogue.

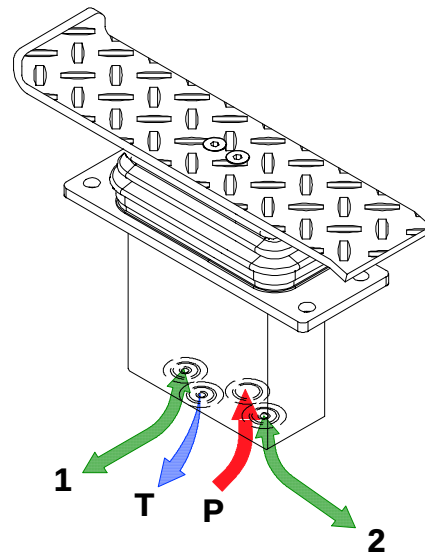
Before the final installation on your equipment, follow the below recommendations:

- the pilot valves must be assembled in horizontal position: in consideration of the mass of the kinematic and control kit, a max. angle of 20° is allowed.
- in order to prevent the possibility of water entering the rubber bellow, do not use high pressure wash down directly on the valve;
- prior to painting, ensure plastic port plugs are tightly in place.

SV01 pilot control valve



SVP500 pilot control valve



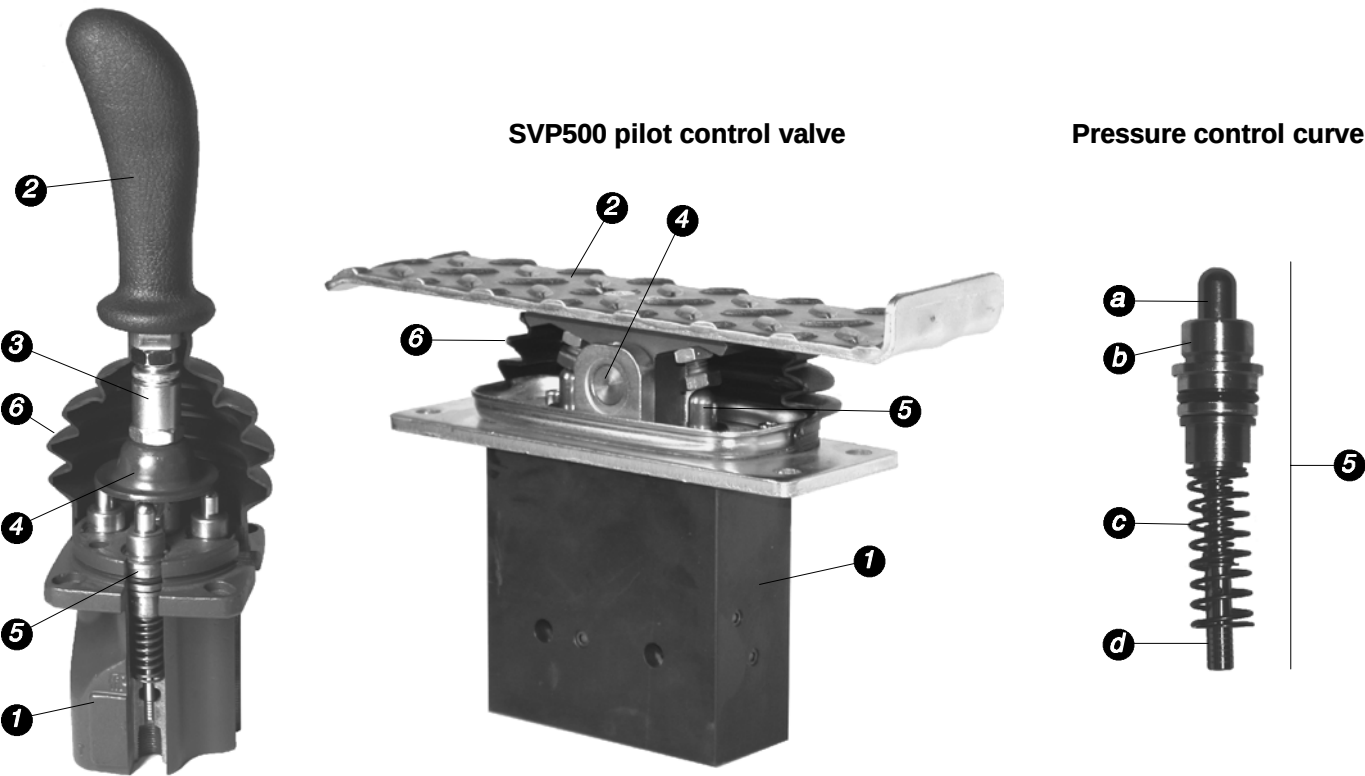
Fitting tightening torque - Nm / lbft

THREADS TYPE	All ports
BSP (ISO 228/1)	G 1/4
With O-Ring seal	20 / 14.7
With copper washer	25 / 18.4
With steel and rubber washer	16 / 11.8
UN-UNF (ISO 11926-1)	9/16-18 (SAE 6)
With O-Ring seal	30 / 22.1
METRICA (ISO 6149)	M14x1.5
With O-Ring seal	35 / 25.8

NOTE - These torque are recommended. Assembly tightening torque depends on many factors, including lubrication, coating and surface finish. The manufacturer shall be consulted.

Installation and maintenance

SV01 pilot control valve



Callout	
1) Valve body	a) Pusher
2) Handle or foot pedal	b) Pusher guide
3) Handle mounting joint	c) Return spring
4) Kinematic kit	d) Rod
5) Pressure control curve	
6) Protective rubber bellow	

NOTE - All kinematic kits are lubricated with synthetic base grease grade NLGI2

Malfunction	Cause	Remedy
Inability to build pressure on ports.	Low pump pressure and flow.	Check the pump and circuit.
	Wrong fittings connection or tightening	Check the correct fittings connections and tight them to proper value.
The actuator of the directional control valve doesn't reach the stroke end	Pressure control type is wrong.	Replace with a suitable type.
	High leakage on pressure control curve.	Remove the curve and replace; if malfunction persists replace the pilot control valve.
	Excessive backpressure on outlet.	Connect port T to another tank line.
Operation is difficult.		Remove the curve and clean.
	Curve rod is blocked.	Check the rod conditions; if rod is damaged replace it.



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