



HYDRAULIC PILOT CONTROL VALVES


Sv

SvP



## SV - SVP

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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, handlevers, 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.

10<sup>th</sup> edition September 2003:

**This edition supercedes all prior documents.**

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## Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of  $46 \text{ mm}^2/\text{s}$  -  $46 \text{ cSt}$  viscosity at  $40^\circ\text{C}$  temperature.

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

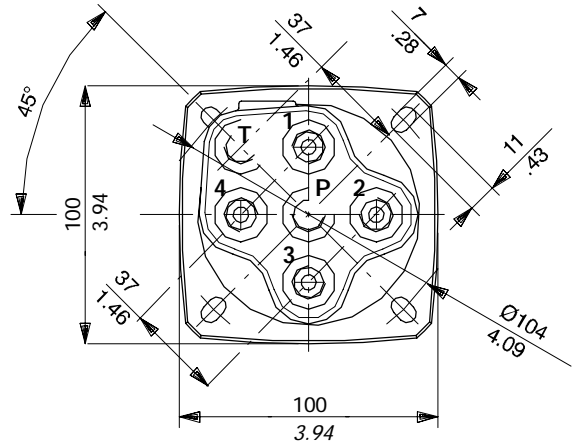
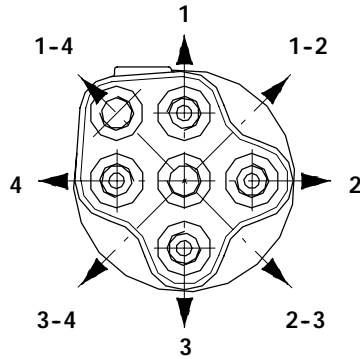
NOTE - For different conditions please contact Sales Dept.

Dimensional data and hydraulic circuit

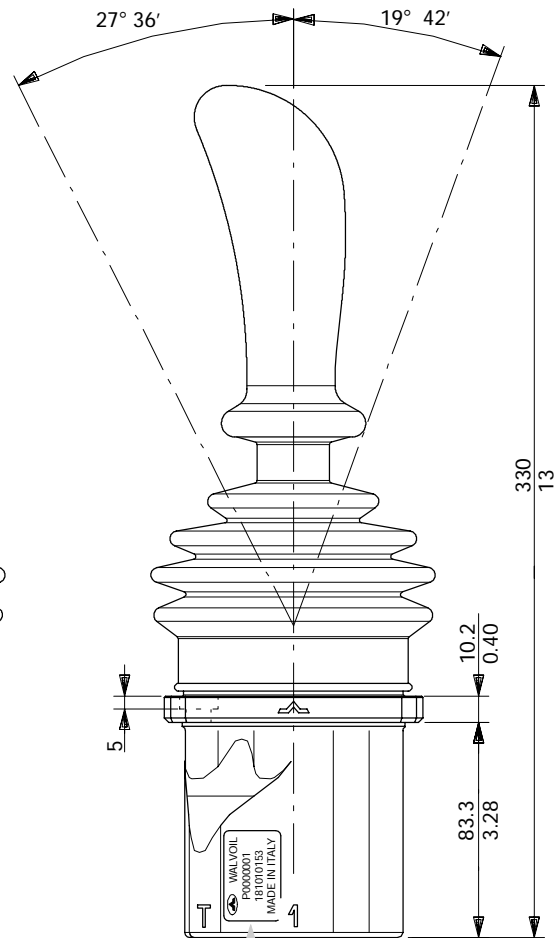


Monoblock joystick with 1 lever and 4 work ports, for simultaneous operation of 2 sections.  
 Bottom P and T ports.  
 Handle is normally oriented toward port 4.

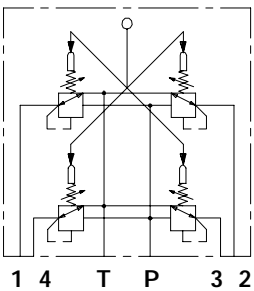
Movements



Two simultaneously work ports      Single work port



Hydraulic circuit



Marking

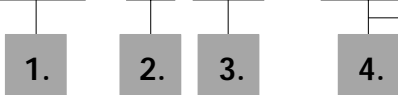
**WALVOIL**  
**P0200001**  
**181010153**  
**MADE IN ITALY**

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

Code

Description example:

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



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

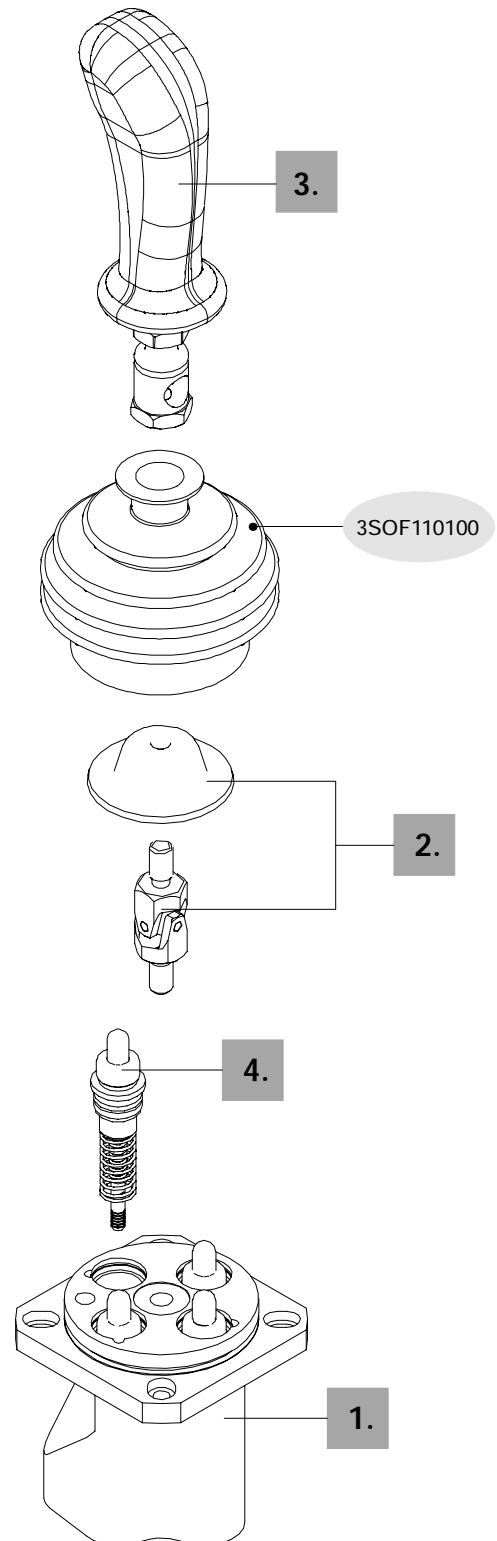
Handles type VT

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.

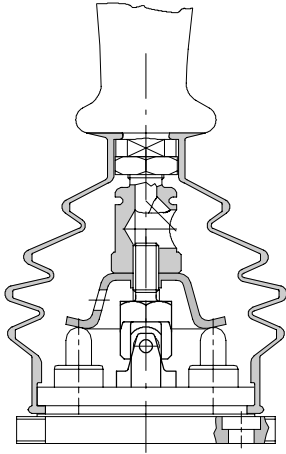
TYPE	CODE	DESCRIPTION
001 A	5CUR001MA	With step, from 5.8 to 22 bar (84 to 319 psi)
010 A	5CUR010MA	With step, from 3.25 to 15.4 bar (47 to 223 psi)
024 A	5CUR024MA	With step, from 5.8 to 19 bar (84 to 276 psi)
070 A	5CUR070MA	With step, from 5.8 to 22.4 bar (84 to 325 psi)
075 A	5CUR075MA	With step,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



## Kinematic kits

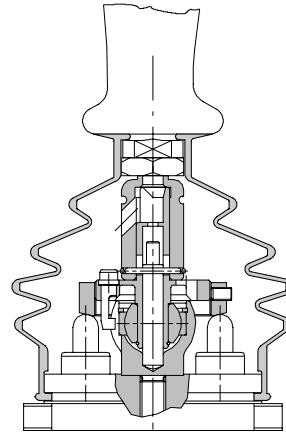
## Type 01

Sprin return in neutral position.



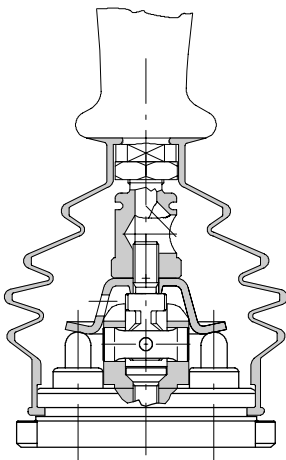
## Type 02

With lock in neutral position; unlock moving up handle.



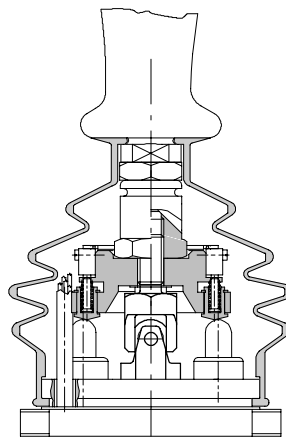
## Type 09

Cross movement selector (to prevent contemporary movements).



## Type 16

With micro for movements detection.





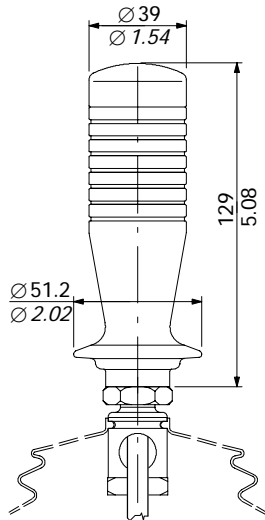
**Optional handles**

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**



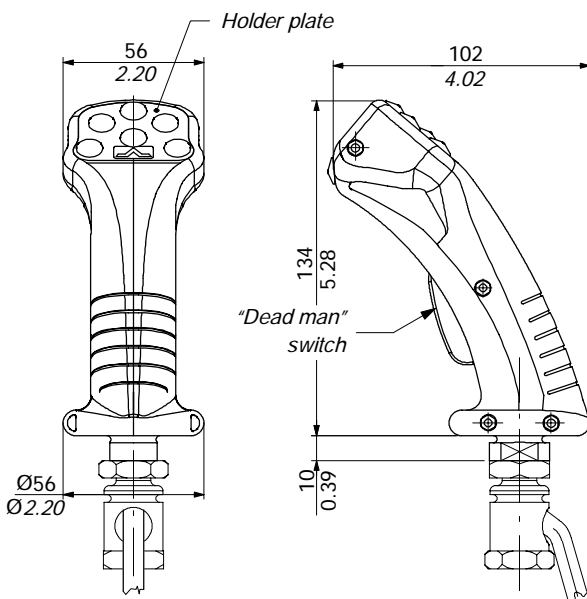
**Available types**

- 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**

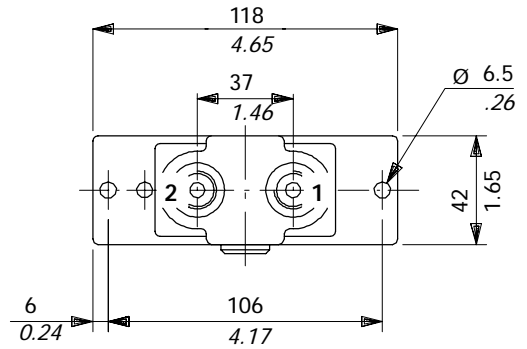
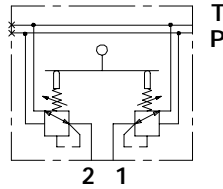
- Type H: fitted up to 8 microswitch push-button, with rocker switch and "dead man" switch
- Type HM: fitted up to 4 push-buttons (100/200mA types), with "dead man" and ON/OFF switches
- Type HT: fitted up to 4 push-buttons (5A types), with rocker switch, "dead man" and ON/OFF switches
- Type HZ: with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

## Dimensional data and hydraulic circuit



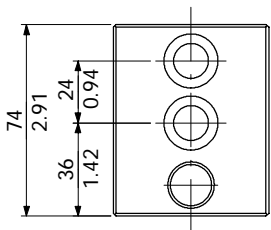
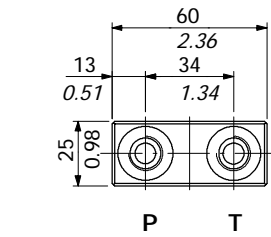
Monoblock with 1 lever and 2 work ports.  
Side P and T ports.

Hydraulic circuit

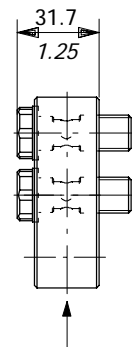


## SV11

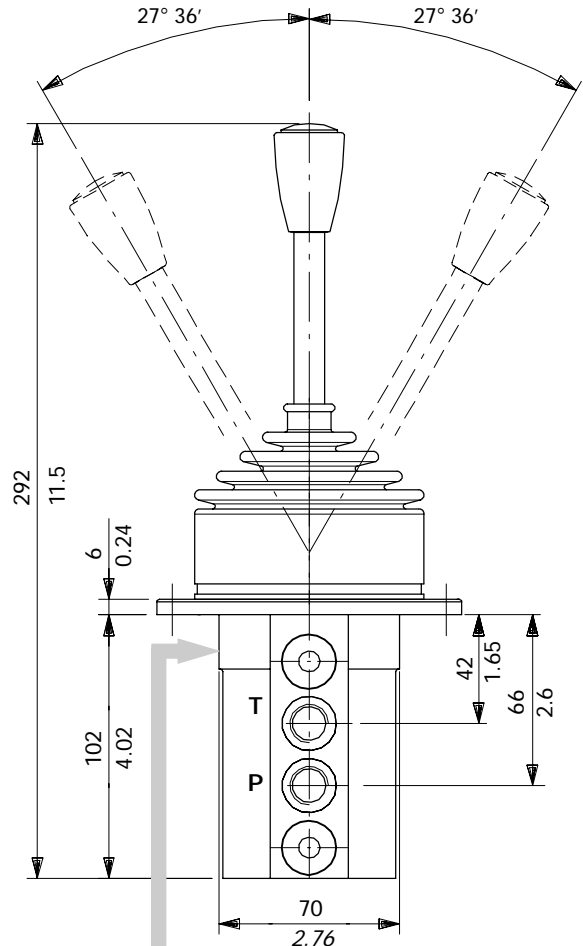
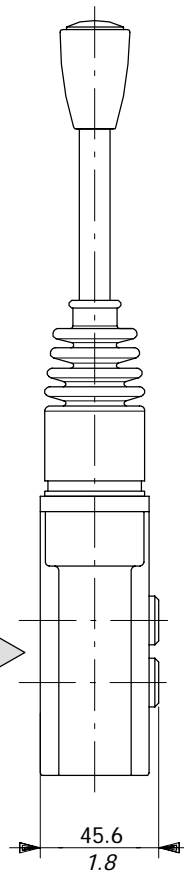
In this type, feeding and tank lines are bottomed by means of a proper block.



P-T bottomed block



SV11 complete block



### Marking



P0200001

181100042

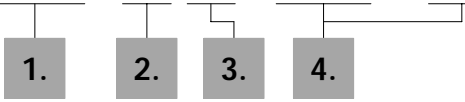
MADE IN ITALY

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

Valve code

Description example:

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



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.

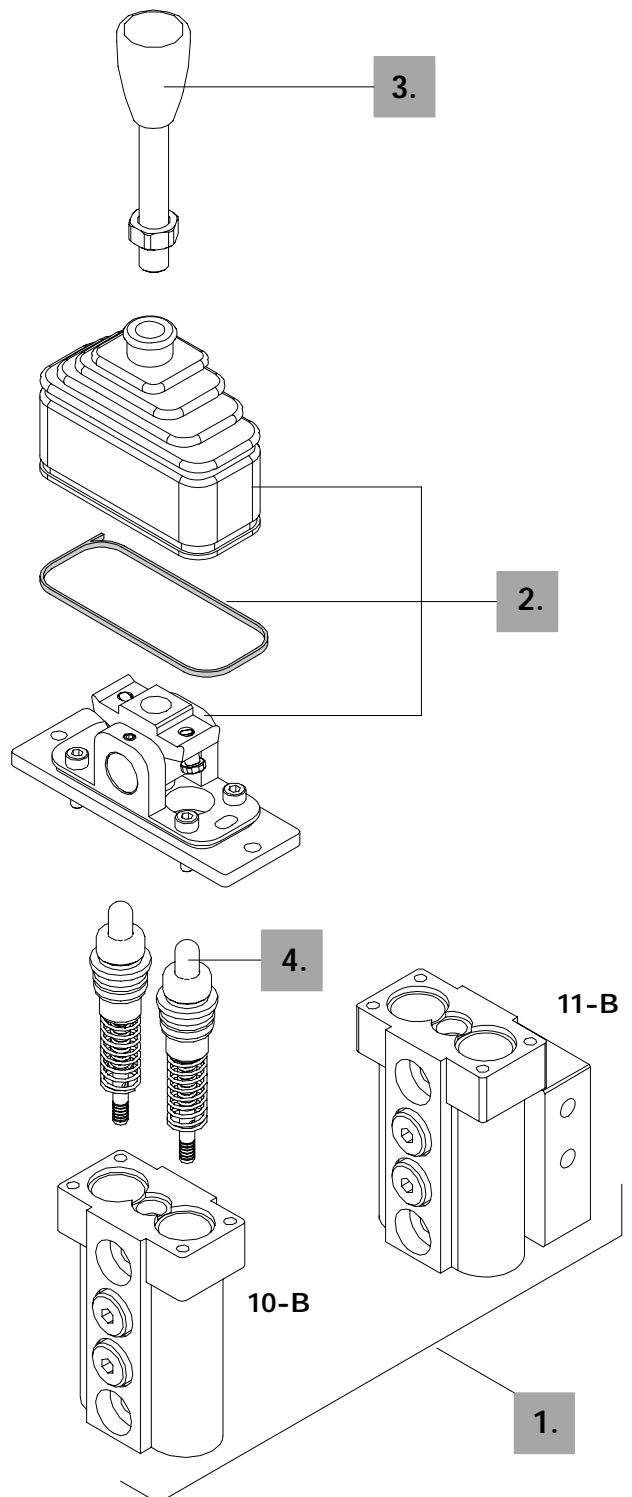
TYPE	CODE	DESCRIPTION
02G3	5CIN204000	With detent in neutral and type G knob
03G3	5CIN208000	With friction and neutral sensing, G knob
03JJ3	5CIN210000	With friction and neutral sensing, J knob
03JQ3	5CIN215000	With friction and neutral sensing, Q knob
03JZ3	5CIN217000	With friction and neutral sensing, 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.

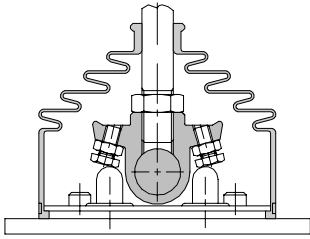
TYPE	CODE	DESCRIPTION
001 A	5CUR001MA	With step, from 5.8 to 22 bar (84 to 319 psi)
103A	5CUR103MA	Without step, from 6 to 30 bar (87 to 435 psi)
211A	5CUR211MA	Piecewise with step, from 2 to 7 bar (29 to 102 psi)
301A	5CUR301MA	Piecewise without step, from 1.5 to 17.3 bar (22 to 251 psi)
000	5CUR000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



**Kinematic kits**

**With spring return**

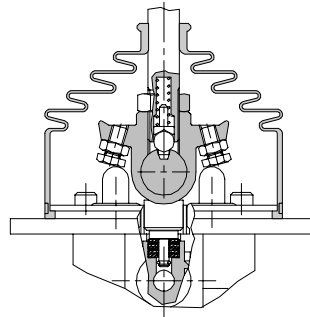
**Type 01**



Spring centered to neutral position.

**With friction**

**Type 03**

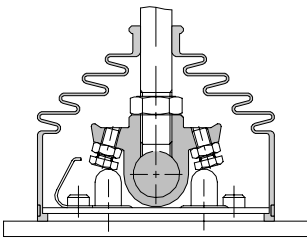


Stop in any position and neutral sensing. Available only complete with handlever.

**With detent**

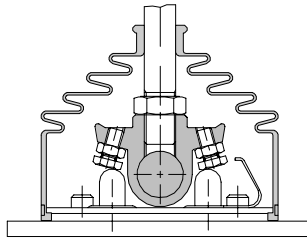
**Type 05**

Detent in position 1, spring centered to neutral position.



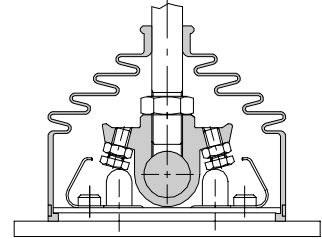
**Type 06**

Detent in position 2, spring centered to neutral position



**Type 07**

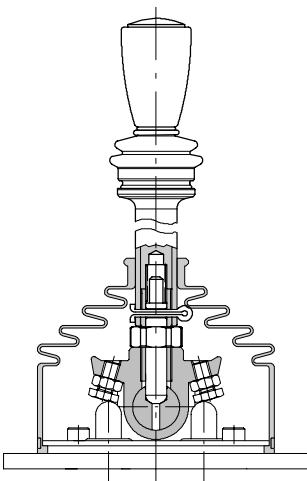
Detent in position 1 and 2, spring centered to neutral position



**With detent in neutral position**

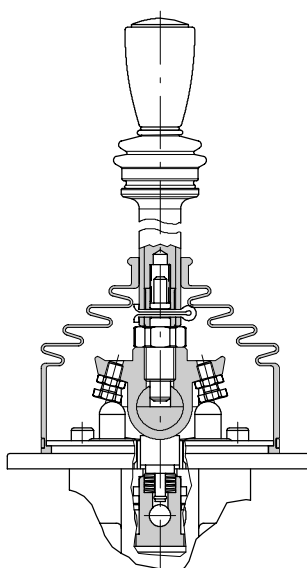
Available only complete with handlever.

**Type 02**



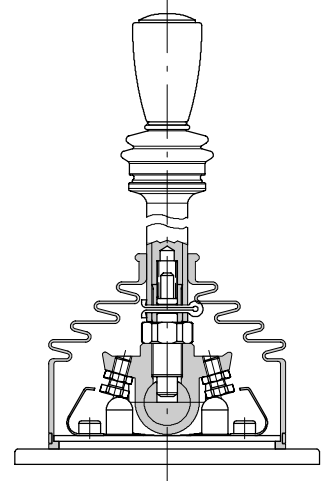
**Type 10**

With friction (stop in any position).



**Type 11**

Detent in positions 1 and 2.



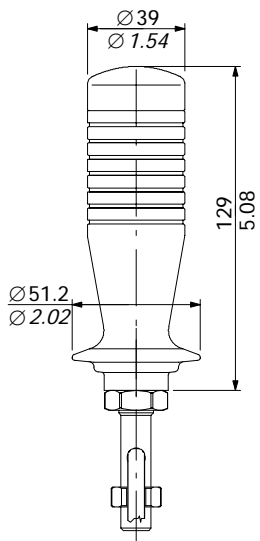
**Optional handles**

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.

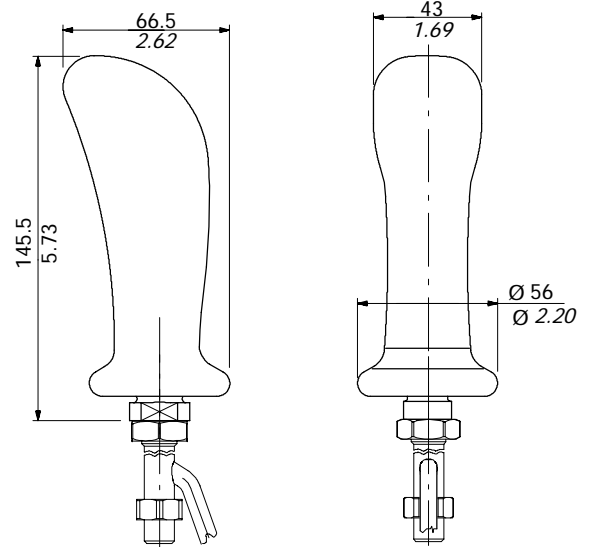
**Series 10**



**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

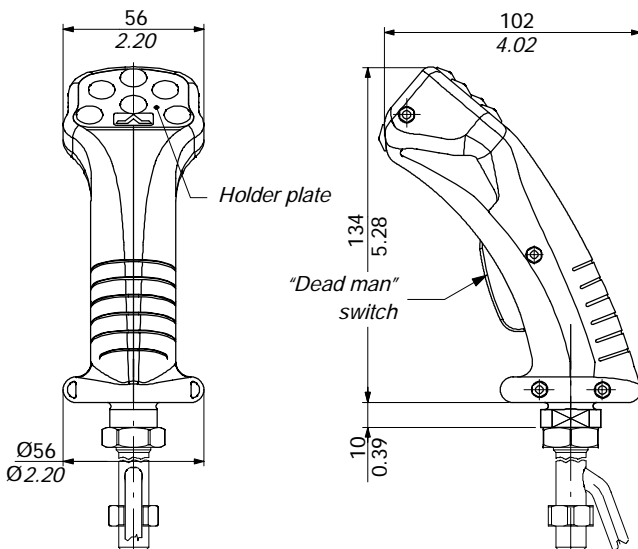
**Series V**



**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**



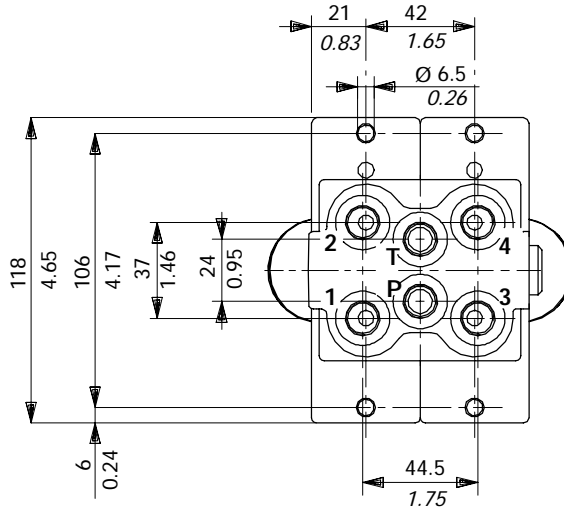
**Available types**

- 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

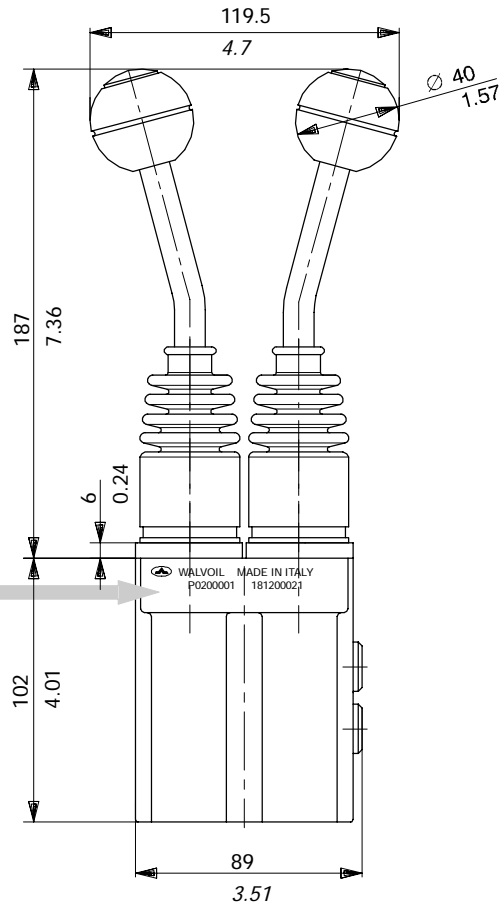
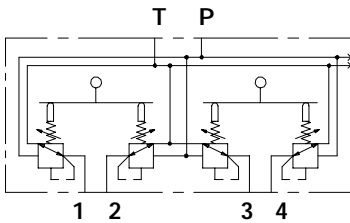
## Dimensional data and hydraulic circuit



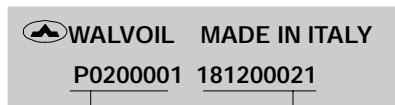
Monoblock with 2 lever and 4 work ports.  
Bottom P and T ports.



### Hydraulic circuit



### Marking



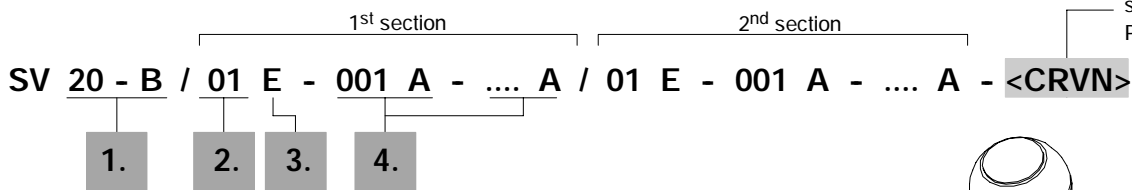
Production batch :  
P02 = production year (2002)  
00001 = progressive number

Valve code

Codici di ordinazione

Description example:

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



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 $\varnothing$ 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

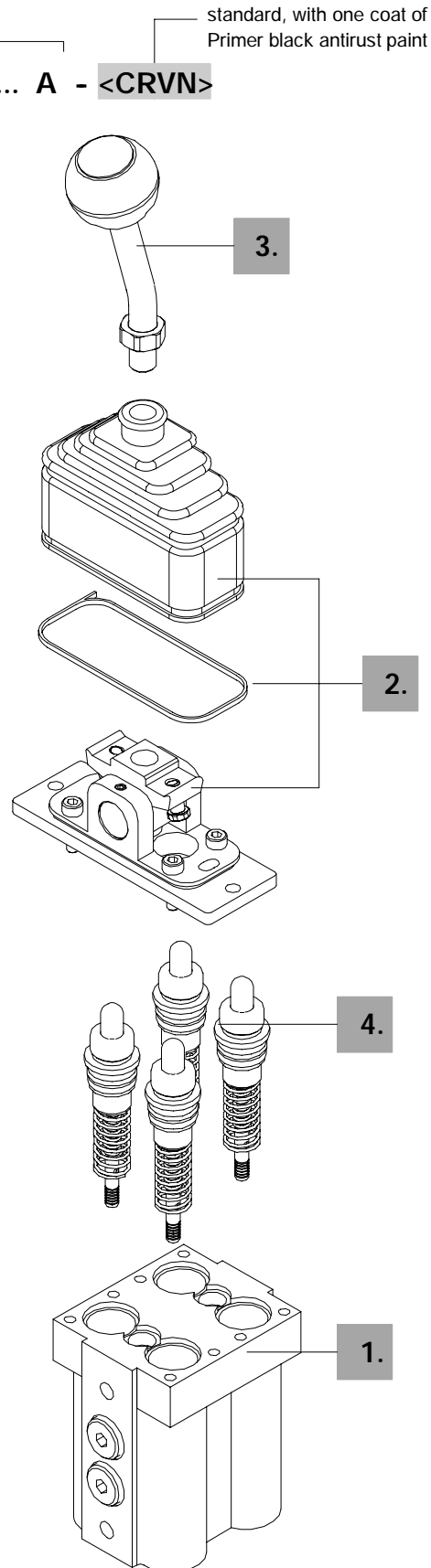
For assembling reasons, the under listed kinematic kits must be supplied complete with handle. Please contact our Sales Department for use with different handles.

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

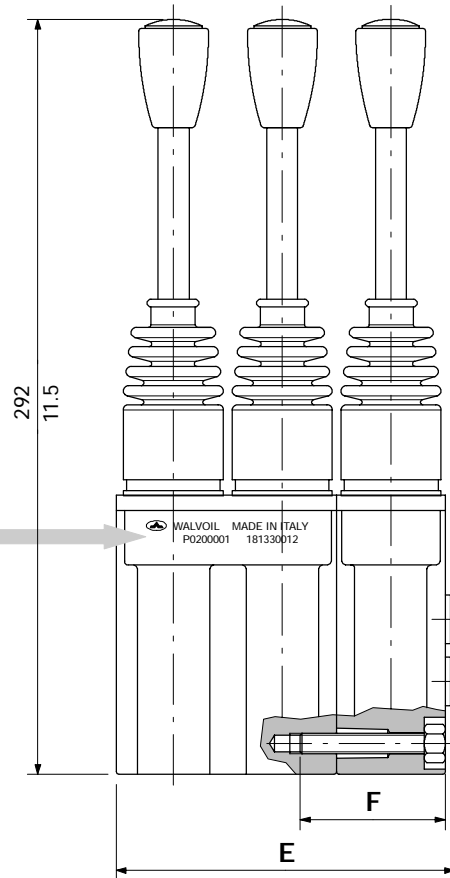
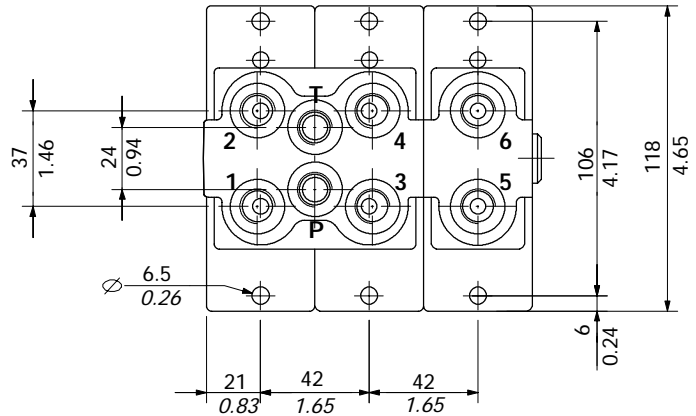
TYPE	CODE	DESCRIPTION
001 A	5CUR001MA	With step, from 5.8 to 22 bar (84 to 319 psi)
103A	5CUR103MA	Without step, from 6 to 30 bar (87 to 435 psi)
211A	5CUR211MA	Piecewise with step, from 2 to 7 bar (29 to 102 psi)
301A	5CUR301MA	Piecewise without step, from 1.5 to 17.3 bar (22 to 251 psi)
000	5CUR000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



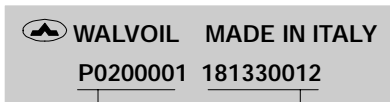
## Dimensional data and hydraulic circuit



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

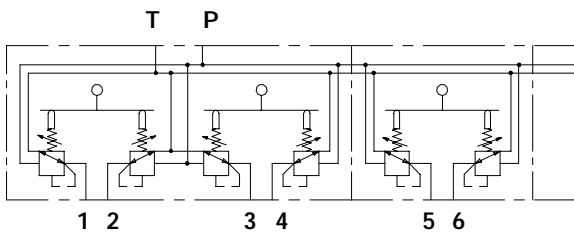


### Marking



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

### 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  
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   |
| 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          |

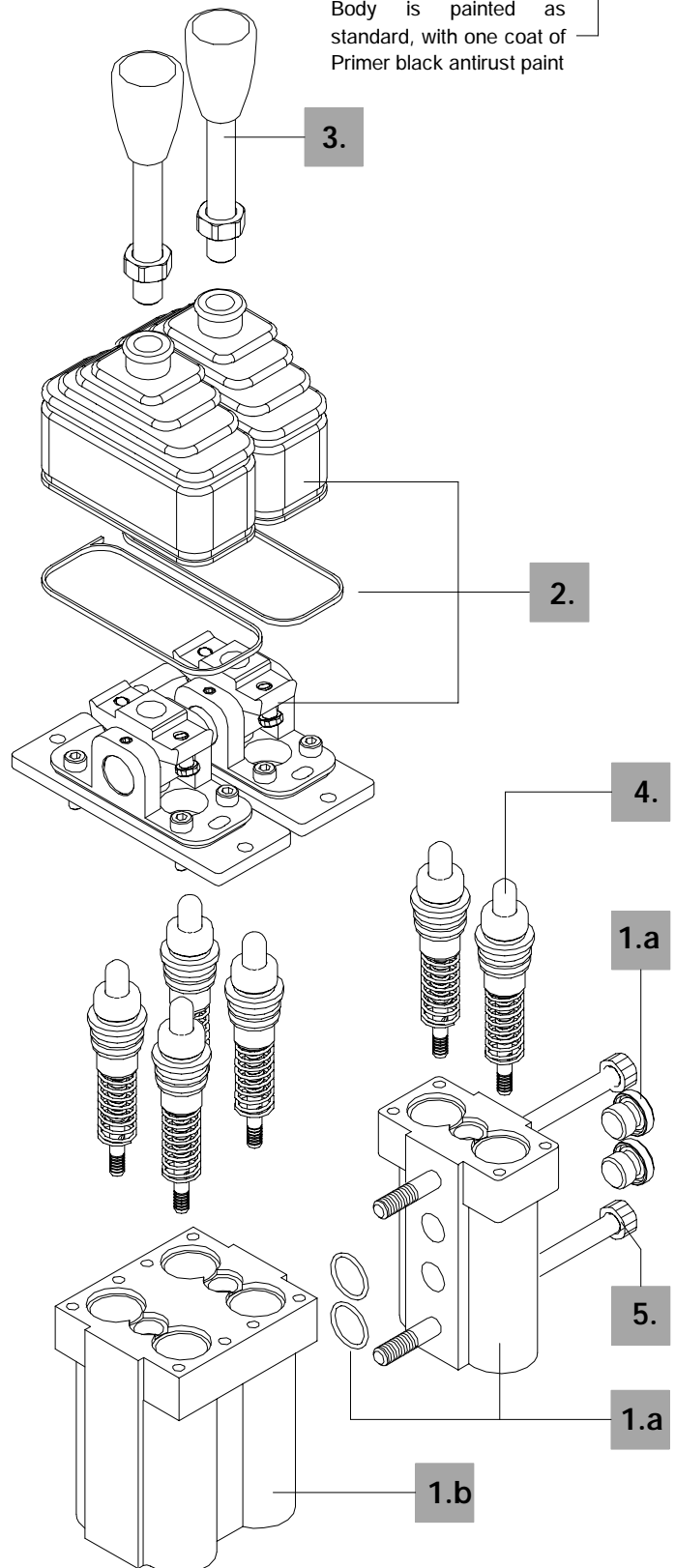
**4. Pressure control curve**

page 27

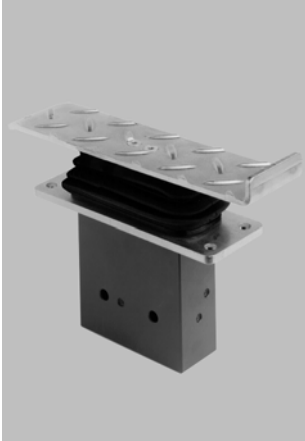
For complete list see pages from 27 to 30.

**5. Assembling kits**

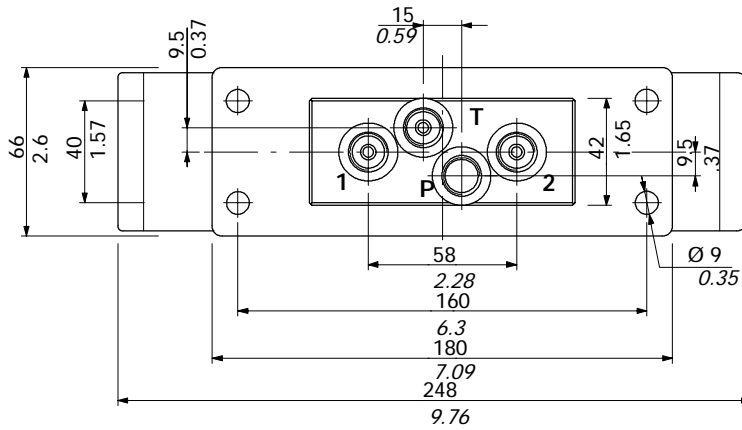
- | CODE       | DESCRIPTION                     |
|------------|---------------------------------|
| 5TIR108056 | Tie rod with nut for 3 sections |
| 5TIR108098 | Tie rod with nut for 4 sections |
| 5TIR108140 | Tie rod with nut for 5 sections |
| 5TIR108182 | Tie rod with nut for 6 sections |
| 5TIR108224 | Tie rod with nut for 7 sections |



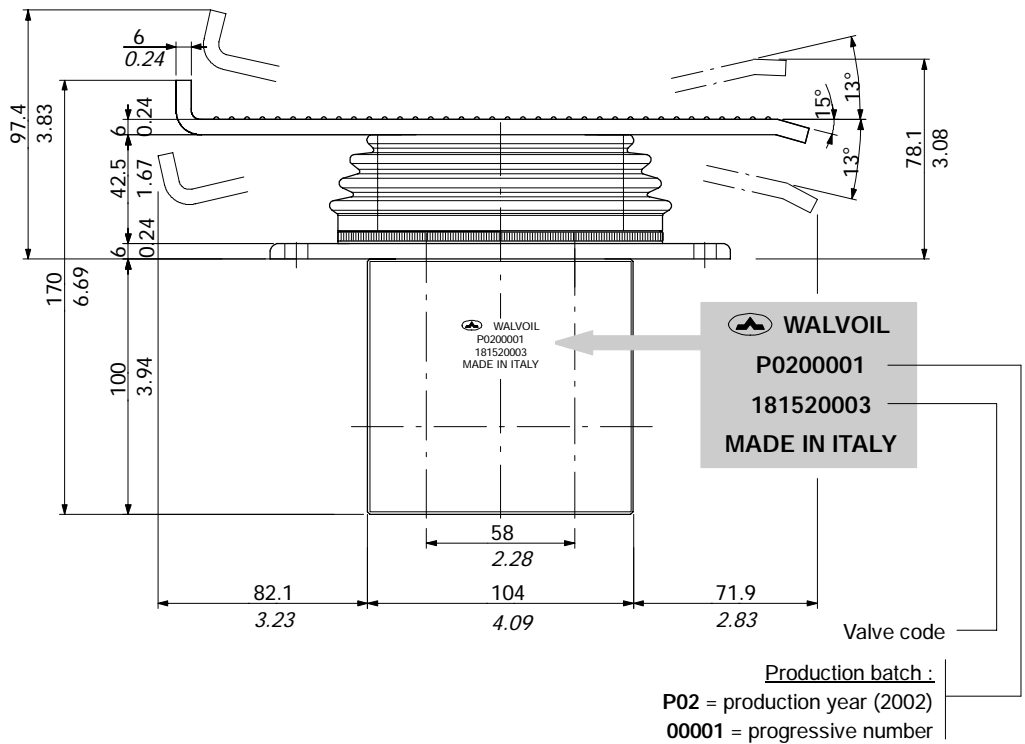
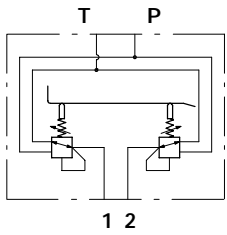
Dimensional data and hydraulic circuit



Monoblock flat rocker pedal with bottom P and T ports.



Hydraulic circuit



Description example:

SVP 500 - B / 01 - P130B x 2

1.

2.

**1. Body kit**

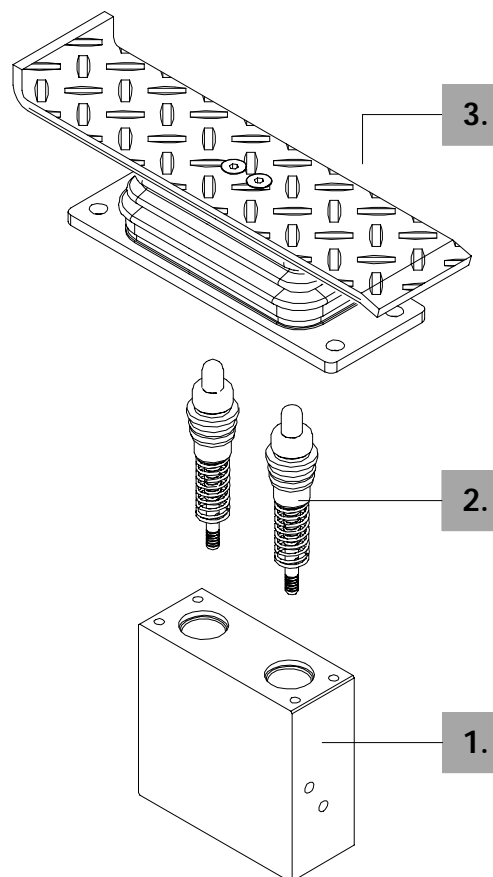
TYPE	CODE	DESCRIPTION
500-B	3CO3503200	G 1/4 body kit

**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**

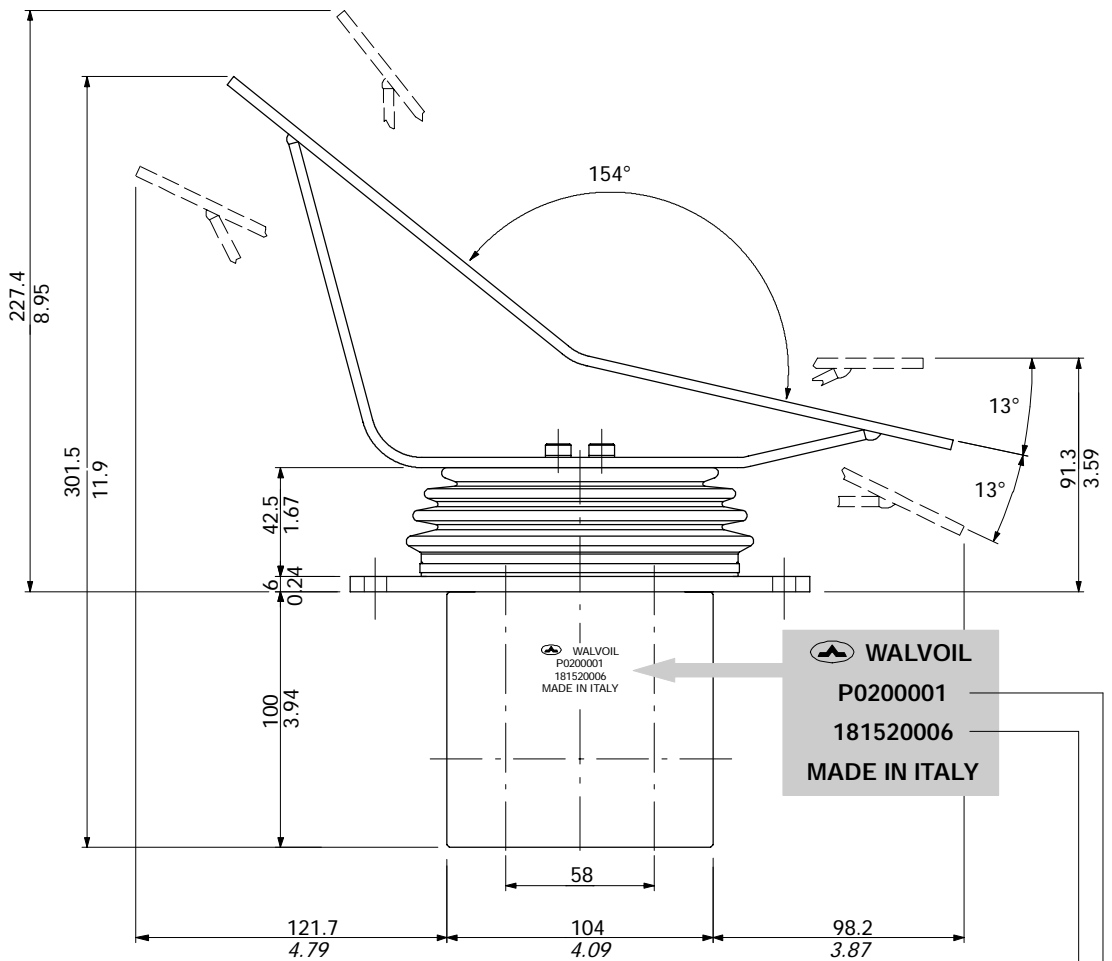
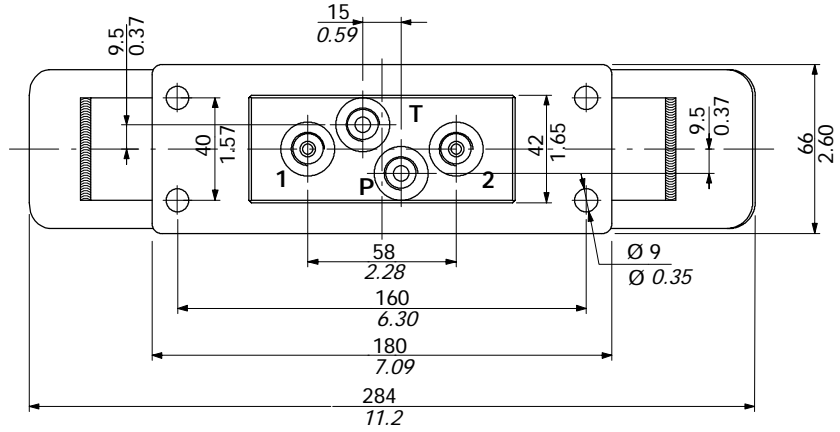
FOR	CODE	DESCRIPTION
SVP500	5CIN510	Flat rocker pedal



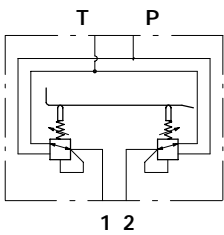
Dimensional data and hydraulic circuit



Monoblock angled rocker pedal with bottom P and T ports.



Hydraulic circuit



**WALVOIL**  
**P0200001**  
**181520006**  
**MADE IN ITALY**

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

Description example:

SVP 510 - B / 01 - P130B x 2



**1. Body kit**

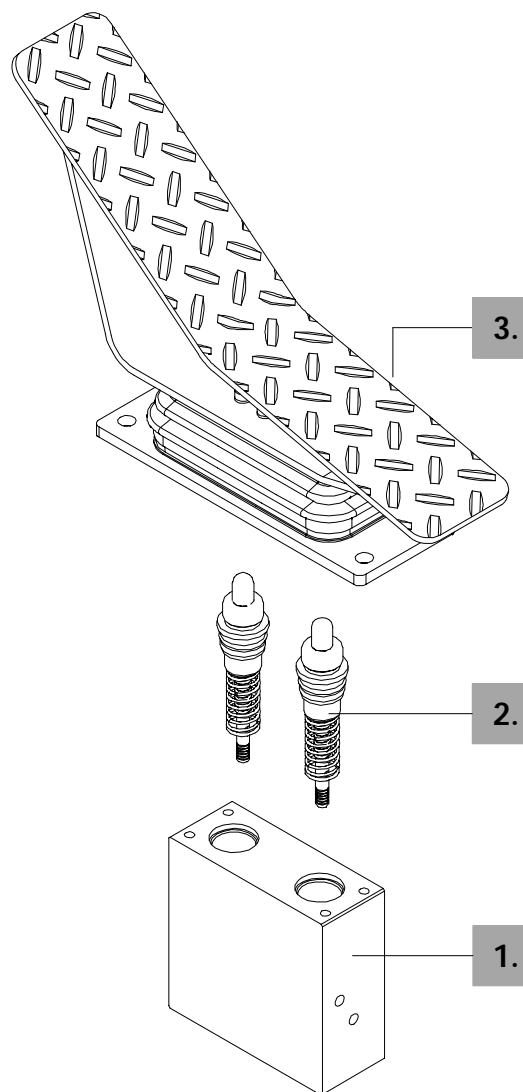
TYPE	CODE	DESCRIPTION
510-B	3CO3503200	G 1/4 body kit

**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

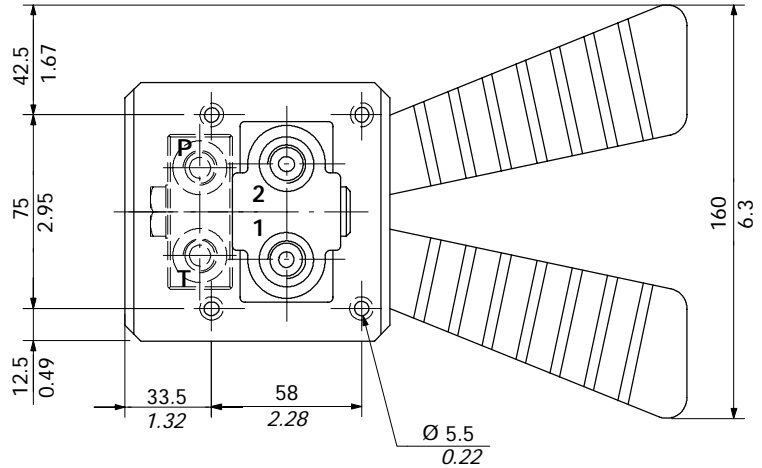
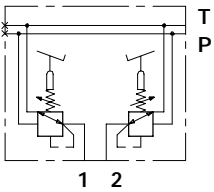
## foot pedal operating pilot control valve

### Dimensional data and hydraulic circuit



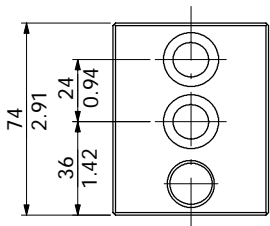
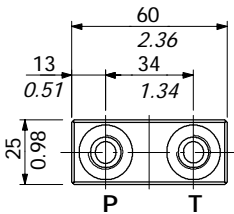
Monoblock, 2 pedals and 2 work ports.  
Side P and T ports.

#### Hydraulic circuit

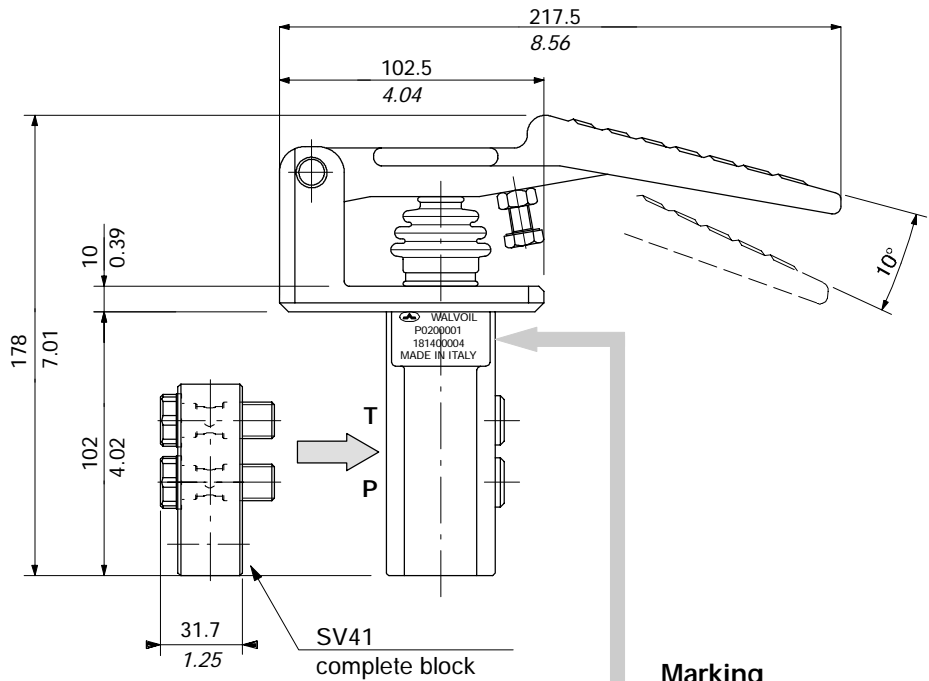


# SV41

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

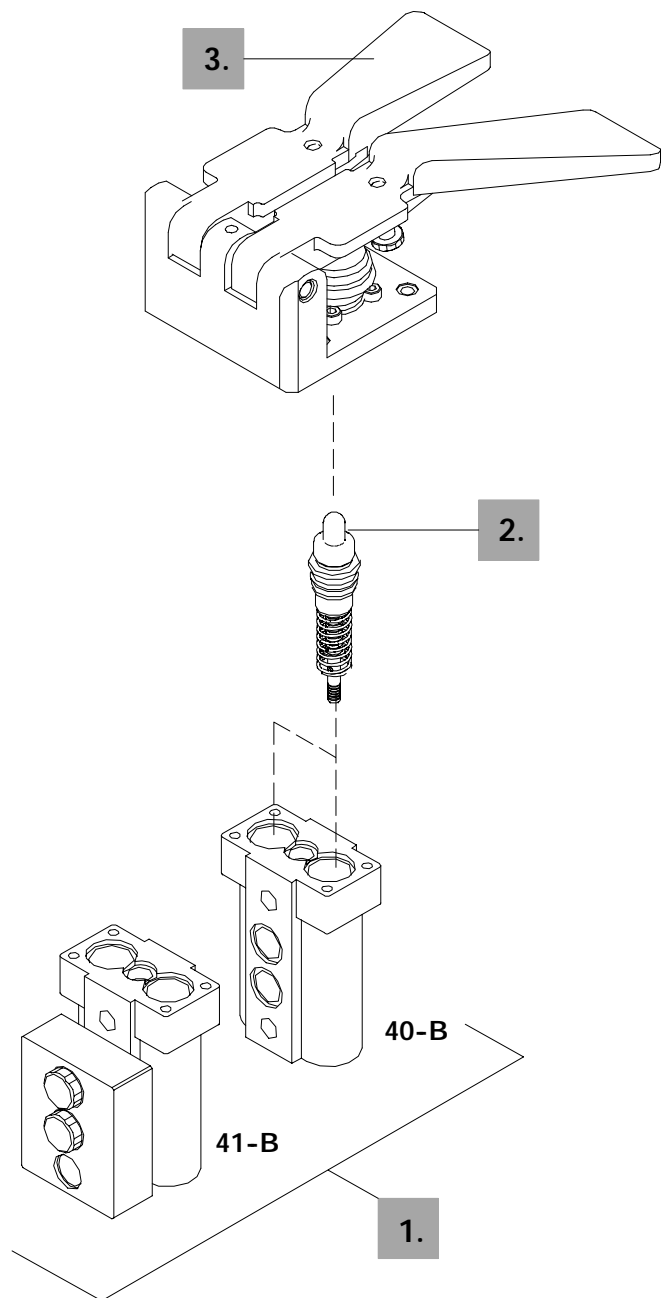
2. Pressure control curve page 27

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

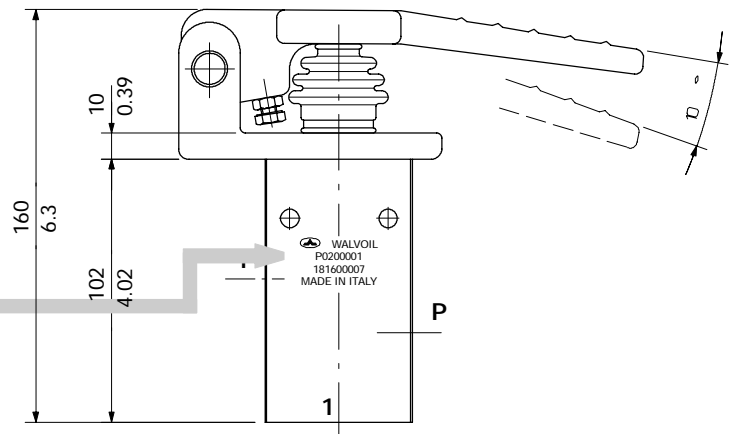
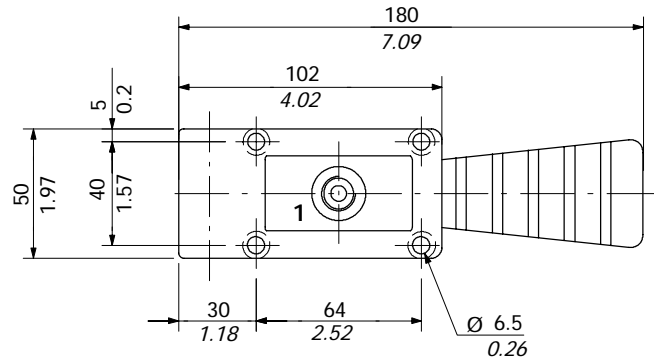
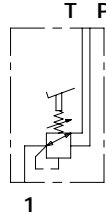


## Dimensional data and hydraulic circuit



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

### Hydraulic circuit



### Marking

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

Valve code



## 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

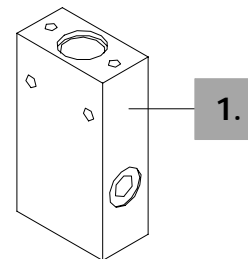
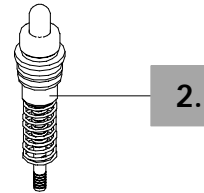
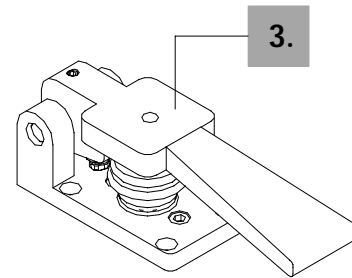
### 3. Kinematic kit

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.

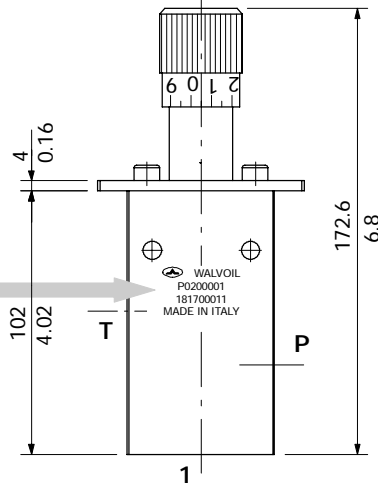
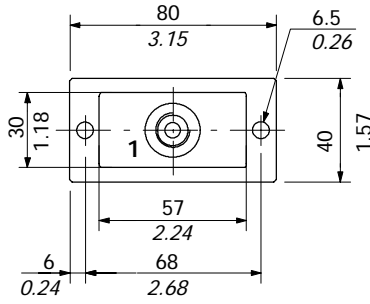
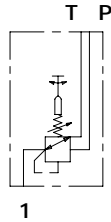
TYPE	CODE	DESCRIPTION
001C	5CUR001MC	With step, from 5.8 to 22 bar (84 to 319 psi)
016C	5CUR016MC	With step, from 6 to 21.7 bar (87 to 315 psi)
022C	5CUR022MC	With step, from 1 to 8 bar (15 to 116 psi)
056C	5CUR056MC	With step, from 3.2 to 17.2 bar (46 to 249 psi)
068C	5CUR068MC	With step, from 2 to 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



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

Marking

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

Code

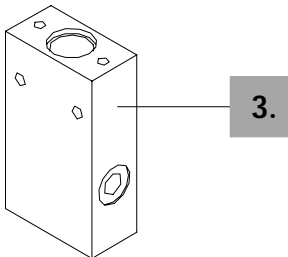
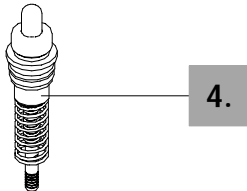
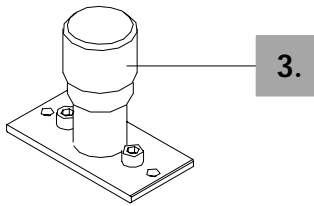


Ordering codes

Description example: SV 70 - B / 001 C

3.

4.



3. Body kit

TYPE	CODE	DESCRIPTION
70-B	3C03701201	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

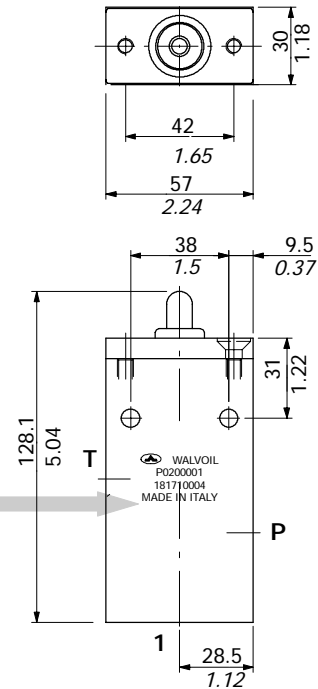
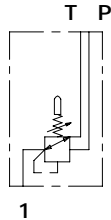
FOR	CODE	DESCRIPTION
SV70	5CIN700	Handwheel kit

## Dimensional data and hydraulic circuit



Body kit with pressure control curves and protection plate.

### Hydraulic circuit



**Marcatura**

WALVOIL

P0200001

181710004

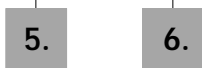
MADE IN ITALY

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

Code

## Ordering codes

Description example: SV 71 - B / 001 C



### 5. Body kit

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

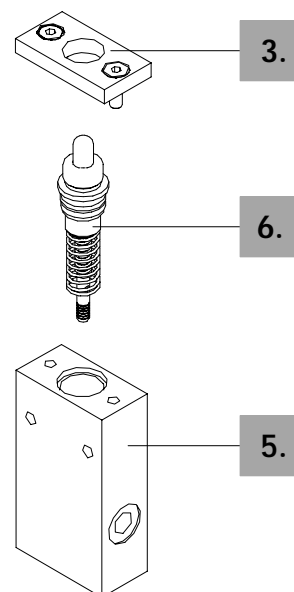
### 6. Pressure control curve *page 27*

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

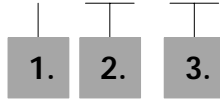
### 3. Kinematic kit

FOR	CODE	DESCRIPTION
SV71	5CIN701	Protection plat



Pressure control curve ordering codes

Description example: 5CUR 0 01 MA

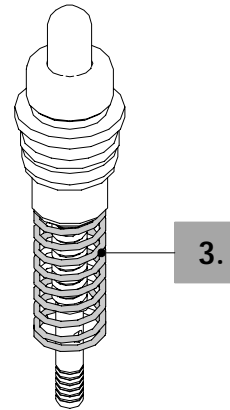


1. Curve types

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.

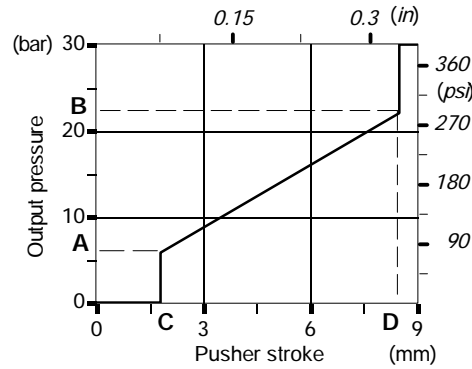


3. Return spring

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

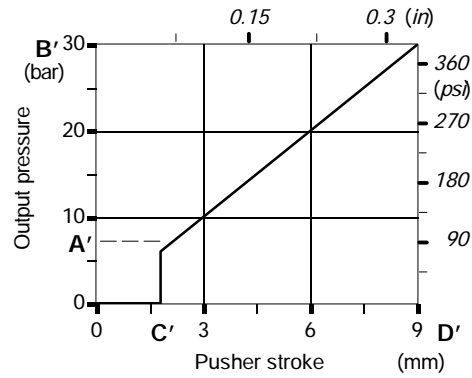
Step value is the inlet pressure.



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

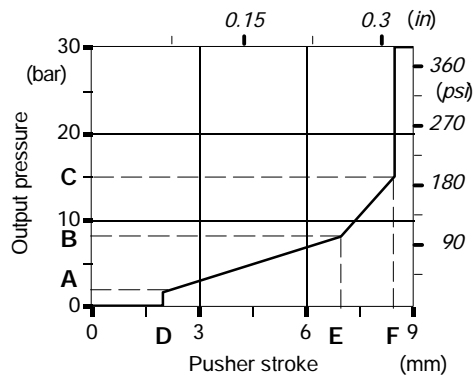
Pressure control curves without Step



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

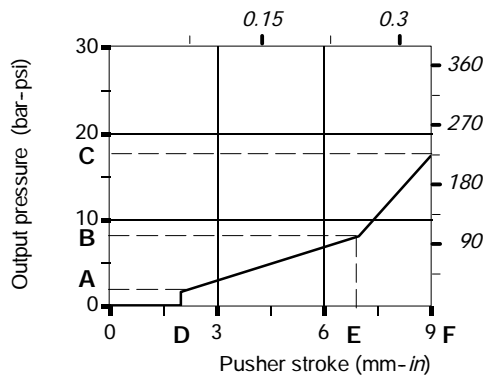
TYPE	PRESSURE				STROKE			
	A		B		C		D	
	bar	psi	bar	psi	mm	in	mm	in
136	5.8	84	23	334	1.8	0.07	9	0.35
150	8	116	15	217	2	0.08	9	0.35
151	0	0	40	580	1	0.04	5.4	0.21
152	3	44	23	334	0.9	0.03	9	0.35
154	2	29	15	217	0.9	0.03	9	0.35
162	0.7	10	30	435	1	0.04	9	0.35
163	1.4	20	11.5	167	1	0.04	9	0.35
166	4.3	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

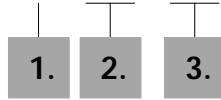
**Piecewise pressure control curves without Step**



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

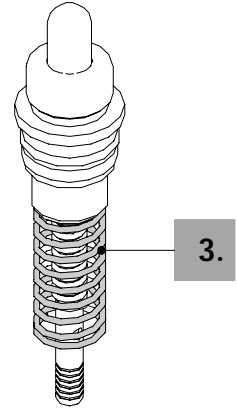


1. Curve types

TYPE	DESCRIPTION	TYPE	DESCRIPTION
0	With Step	1	Without Step

2. Progressive number

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

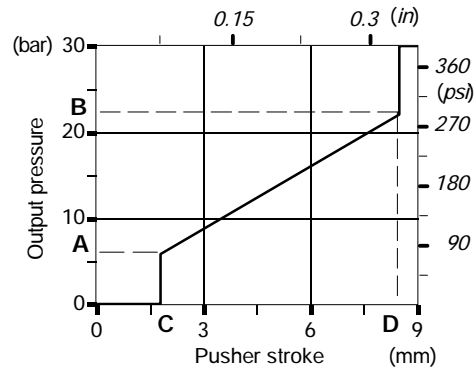


3. Return spring

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

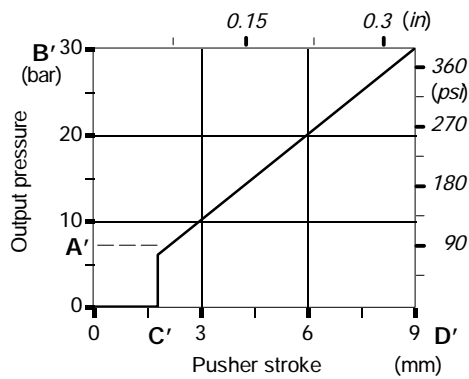
## Pressure control curves with Step

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



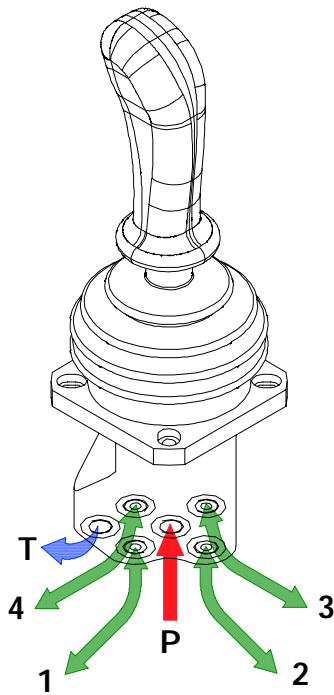
## Installation and maintenance

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

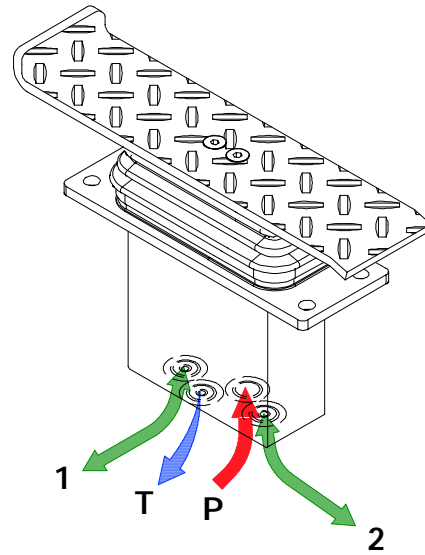
Before the final installation on your equipment, follow the below recommendations:

- 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

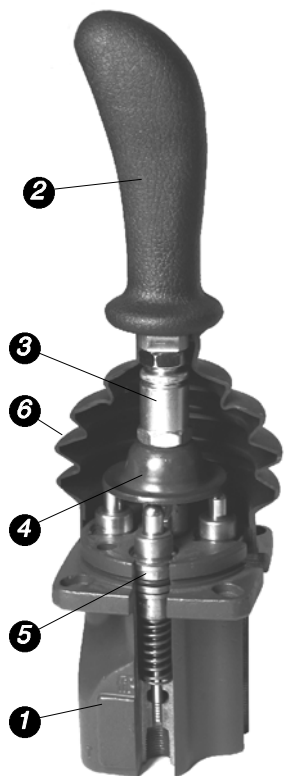


### Fitting tightening torque - Nm / lbf

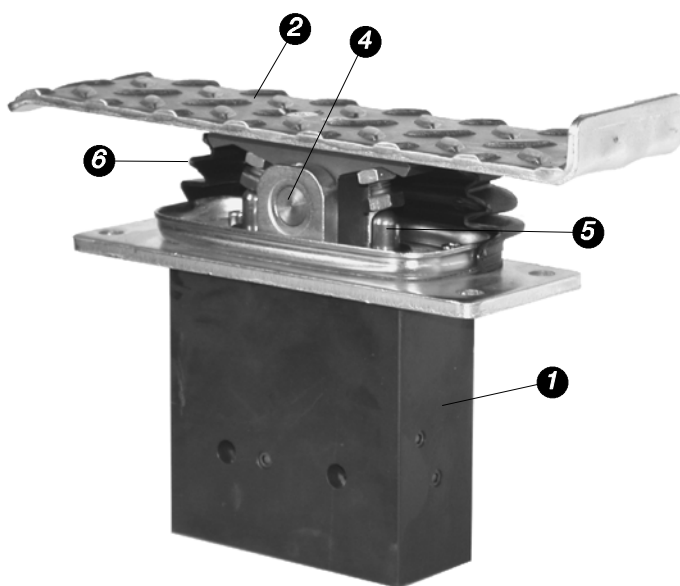
THREADS TYPE	All ports
BSP (ISO 228/1)	G 1/4
With O-Ring seal	20 / 14.7
With copper washer	25 / 18.4
With steel and rubber washer	16 / 11.8
UN-UNF (ISO 11926-1)	9/16-18 (SAE 6)
With O-Ring seal	30 / 22.1
METRICA (ISO 6149)	M14x1.5
With O-Ring seal	35 / 25.8

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

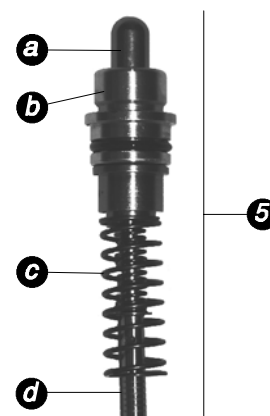
### SV01 pilot control valve



SVP500 pilot control valve



Pressure control curve



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.
Operation is difficult.	Excessive backpressure on outlet.	Connect port T to another tank line.
	Curve rod is blocked.	Remove the curve and clean. Check the rod conditions; if rod is damaged replace it.





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