Features

Simple, compact designed, this valves is only one section for open centre and closed centre hydraulic systems.

- Fitted with a main pressure relief valve.
- Diameter 20 mm - *0.79 in* interchangeable spools.
- Available manual, pneumatic, electro-hydraulic and remote with flexible cable spool control kits.

Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm^2/s - *46 cSt* viscosity at 40°C temperature.

Nominal flow rating		120 l/min	
Operating pressure (maximum)		250 bar	*3600 psi*
Back pressure (maximum)	*on outlet port T*	25 bar	*360 psi*
Internal leakage A(B)→T	*Δp=100 bar - 1450 psi* *fluid and valve at 40°C - 104°F*	3 cm^3/min	*0.18 in^3/min*
Fluid		Mineral base oil	
Fluid temperature	*with NBR (BUNA-N) seals*	from -20° to 80°C	
	with FPM (VITON) seals	from -20° to 100°C	
Viscosity	*operating range*	from 15 to 75 mm^2/s	*from 15 to 75 cSt*
	min	12 mm^2/s	*12 cSt*
	max	400 mm^2/s	*400 cSt*
Max level of contamination		19/16 - ISO 4406	
Ambient temperature		from -40° to 60°C	

NOTE - *For different conditions please contact Sales Dept.*

Additional information

This catalogue shows the product in the most usual configurations.
Please contact Sales Dpt. for more detailled information or special request.

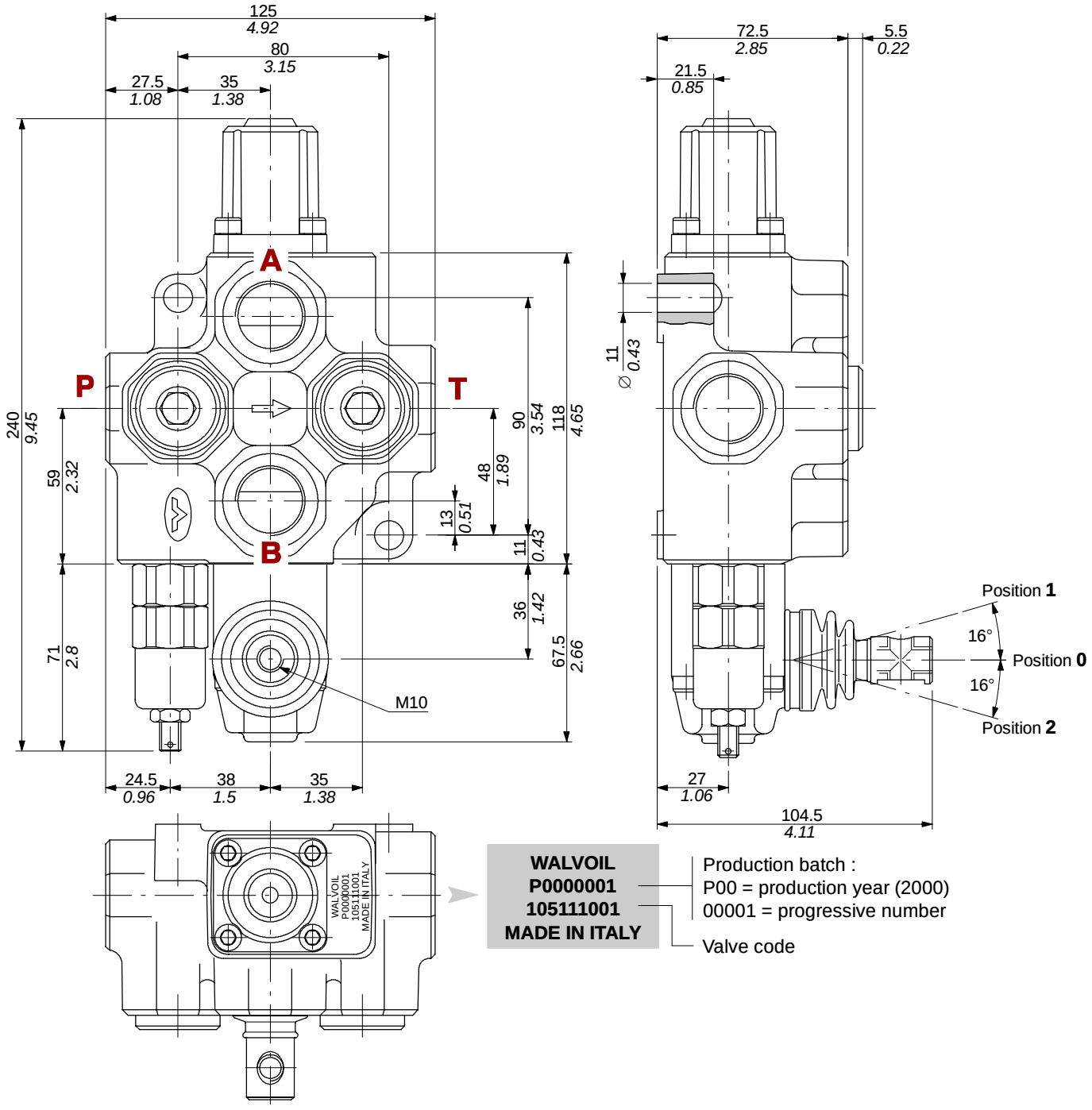
WARNING!

All specifications of this catalogue refers 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.

7th edition October 2000:
This edition supercedes all prior documents.

Dimensional data

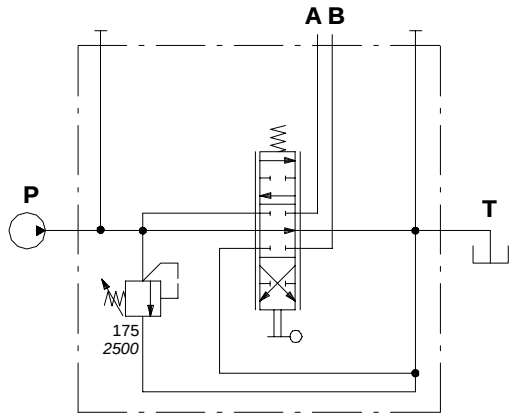


Standard threads

PORT	BSP (ISO 228/1)	UN-UNF (ISO 11926-1)
Inlet **P**	G 3/4	1 1/16-12 UN-2B (SAE 12)
A and **B** ports		
Outlet **T**		
PILOT PORTS		
Pneumatic	NPTF 1/8-27	NPTF 1/8-27

Hydraulic circuit

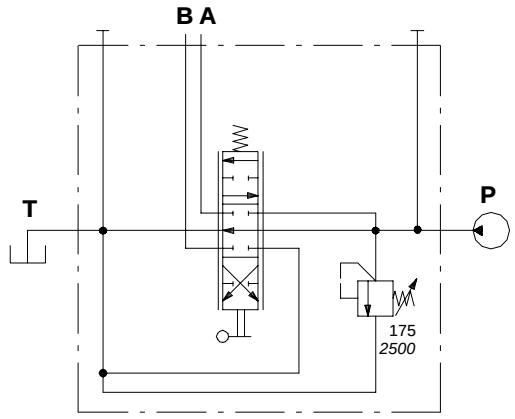
Standard valve is supplied with positive overlap spool (1CP).



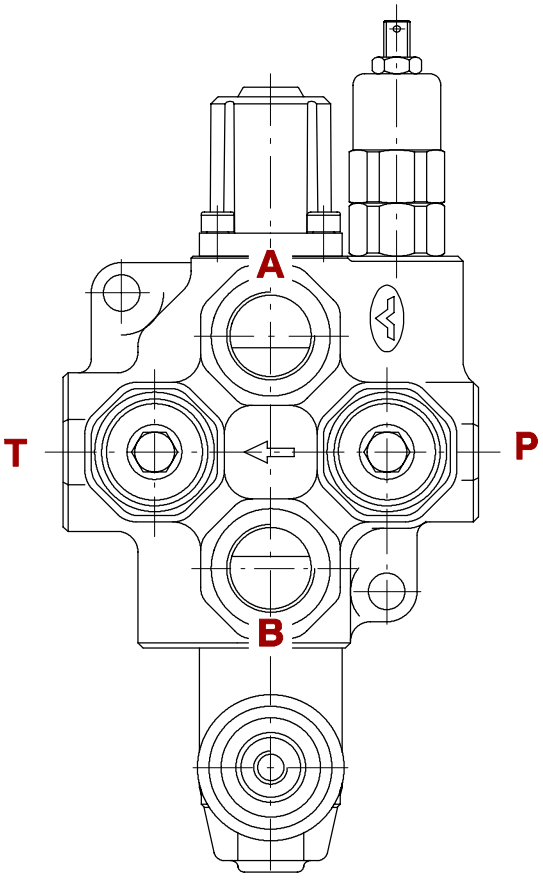
Ex.: SD14/1(YG3-175)/**1CP**8L

Right inlet

A simmetrical body allows the reverse assembly of spool and relative control kit and lever (**ED** configuration).



Ex.: SD14/1(YG3-175)/**ED-**1CP8L



Ordering codes

Description example:

SD14 / 1 (YG3-175) / 1CP 8 L *

1. 2. (YG3-175) 3. 4. 5. *

Pressure relief valve setting in bar

1. Body kits *

TYPE	CODE	DESCRIPTION
1	5KC1603040	1 section

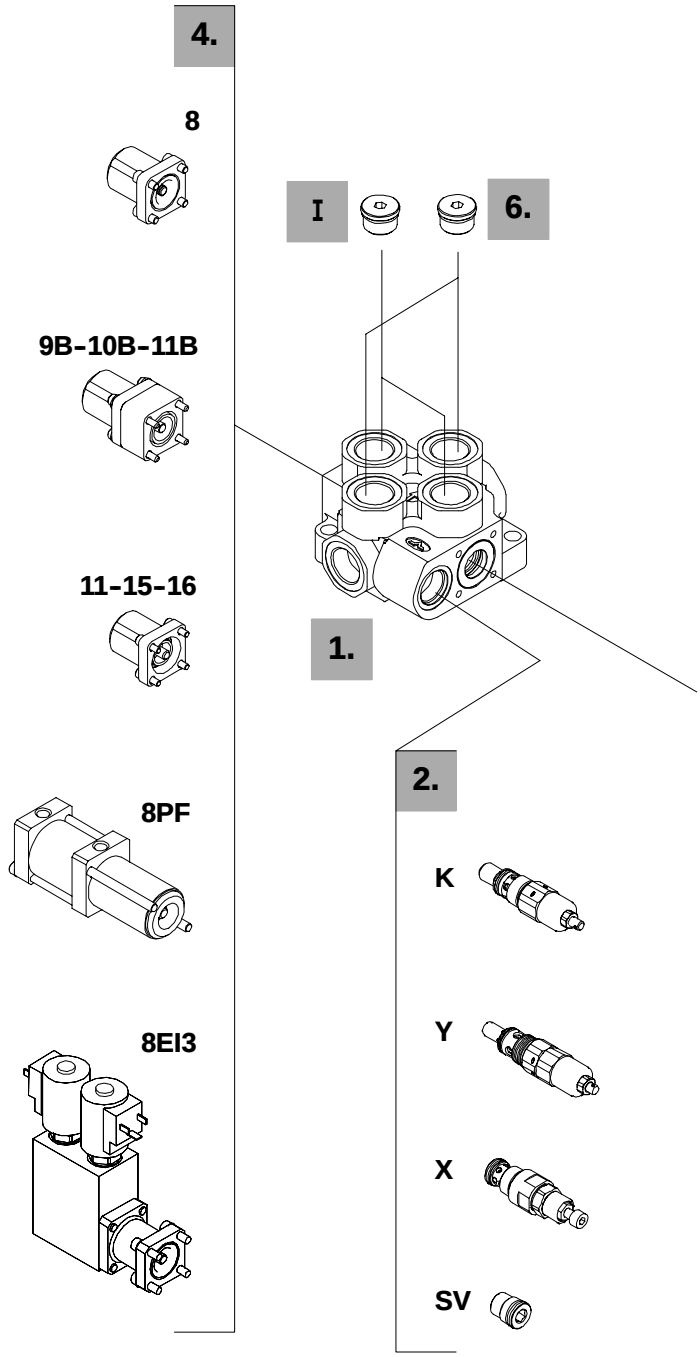
Include boby, seals and rings.

2. Inlet relief options

TYPE	CODE	DESCRIPTION
VMD10/1 direct pressure relief valve type Y		
(YG2-125)	3XCAR110212	Range 80 to 160 bar / *1150 to 2300 psi* standard setting 125 bar / *1800 psi*
(YG3-175)	3XCAR110213	Range 125 to 250 bar / *1800 to 3600 psi* standard setting 175 bar / *2500 psi*
(YG4-220)	3XCAR110214	Range 200 to 315 bar / *2900 to 4600 psi* standard setting 220 bar / *3200 psi*
VMP10/1 pilot operated pressure relief valve type X		
(XG-125)	X006211120	Range 25 to 315 bar / *360 to 4600 psi* standard setting 125 bar / *1800 psi*
Standard setting is referred to 10 l/min flow.		
SV	XTAP526340	Relief valve blanking plug

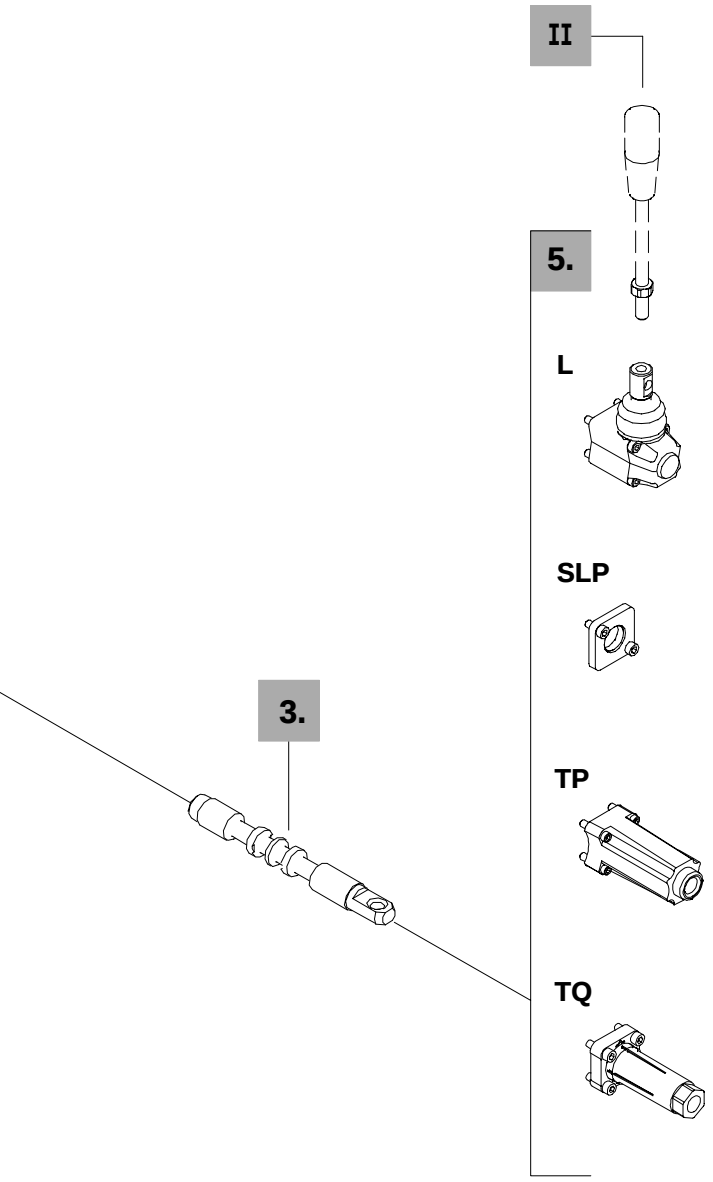
3. Spool options

TYPE	CODE	CIRCUIT DESCRIPTION
1CP	3CU1510140	Double acting with positive overlap, 3 positions, A and B closed in neutral position
1N	3CU1510100	Double acting, 3 positions, A and B closed in neutral position
2	3CU1525600	Double acting, 3 positions, with A and B open to tank in neutral position
3CP	3CU1531140	Single acting on A, 3 positions, B plugged requires G3/4 plug (see part I)
4CP	3CU1535140	Single acting on B, 3 positions, A plugged requires G3/4 plug (see part I)
6	3CU1550100	Double acting, 3 positions, closed center
7	3CU1555100	Double acting, 3 positions, closed center with A and B to tank in neutral position



NOTE (*) - *Items are referred to **BSP** thread.*

Ordering codes



4. "A" side spool positioners

TYPE	CODE	DESCRIPTION
8	5V08110000	With spring return in neutral position
9B	5V09110000	With detent in position 1 and spring return in neutral position
10B	5V09110000	With detent in position 2 and spring return in neutral position
11	5V11110000	With detent in position 1, neutral and 2
11B	5V11210000	With detent in position 1 and 2, spring return in neutral position
15	5V15110000	With detent in position 1 and neutral
16	5V16110000	With detent in position 2 and neutral
8PF	5V08110705	Proportional pneumatic kit
8EI3	5V08110350	12 VDC ON/OFF electro-hydraulic kit
	5V08110351	24 VDC ON/OFF electro-hydraulic kit

5. "B" side handle options

TYPE	CODE	DESCRIPTION
L	5LEV110000	Standard lever box
SLP	5COP110000	Without lever, with dust proof plate
TP	5TEL110005	CG cable connection
TQ	5TEL110110	CD cable connection

6. Inlet and outlet selection *

TYPE	CODE	DESCRIPTION
PSL	3XTAP732200	G3/4 plug for side inlet and outlet (nr.2 plugs required). Standard configuration; "PSL" must be omitted
PSA	3XTAP732200	G3/4 plug for upper inlet and outlet (nr.2 plug required)

I Port plug *

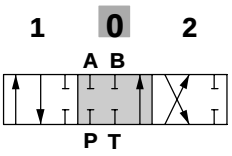
TYPE	CODE	DESCRIPTION
G3/4	3XTAP732200	Plug for single acting spool

II Optional handlevers

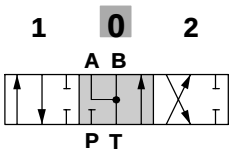
TYPE	CODE	DESCRIPTION
AL01/M10x200	170012020	Lenght L = 200mm / *7.87in*

For special configurations see pages 9 and 10

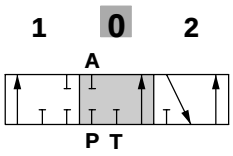
Spools options



1CP

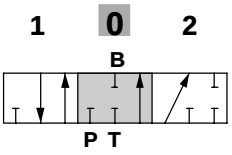


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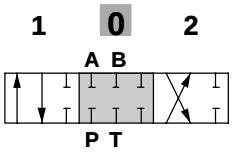
3

B port plugged

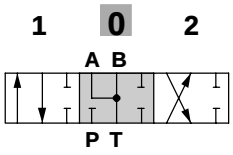


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A port plugged

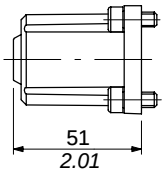


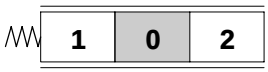
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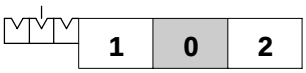
7

"A" side spool positioners

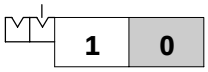




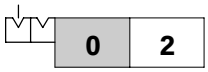
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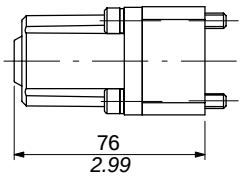
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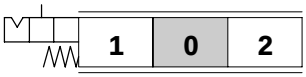


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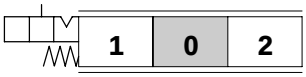


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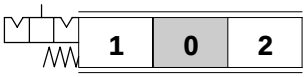




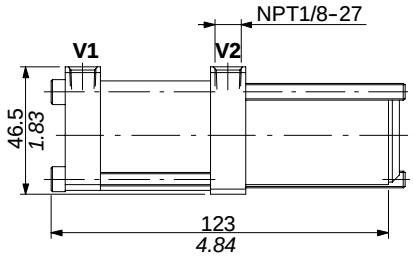
9B



10B

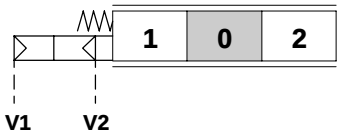


11B



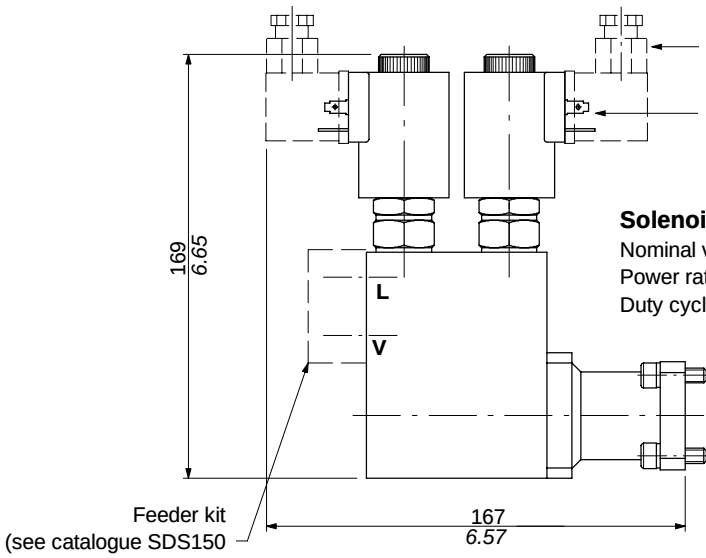
Operating features

Adjustment range : from 2 to 6.5 bar
(29 to 94 psi)
diagram 501A
Max.pilot pressure : 10 bar *(145 psi)*



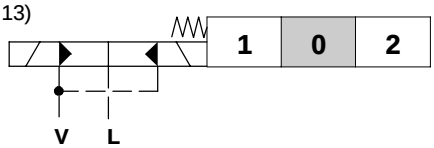
8PF

Proportional pneumatic kit



Solenoid operating features

Nominal voltage : 12 VDC / 24 VDC
Power rating . . : 21 W
Duty cycle . . . . : 100%



8EI3

ON/OFF electro-hydraulic kit

Ordering codes

3. Spool options *page 13*

TYPE	CODE	DESCRIPTION
1	3CU1410130	Double acting, 3 positions, with A and B closed in neutral position
1A	3CU1421130	Double acting, 3 positions, with A open to tank in neutral position
1B	3CU1422130	Double acting, 3 positions, with B open to tank in neutral position
2	3CU1425130	Double acting, 3 positions, with A and B open to tank in neutral position
3	3CU1431130	Single acting on A, 3 positions, B plugged requires G3/8 plug (see part **I**)
4	3CU1435130	Single acting on B, 3 positions, A plugged requires G3/8 plug (see part **I**)
Special spools for particular positioner kits ..... *page 16*		
5	3CU1442100	Double acting, 4 positions, floating circuit in 4th position with spool in
5VR	3CU1443610	Double acting, 4 positions, floating circuit in 4th position with spool out, with check valve
8	3CU1462110	Doppio effetto, 4 pos., rigenerativo in 4a posizione con cursore a entrare
8F	3CU1461100	Double acting, 4 positions, regenerative circuit in 4th position with spool in
Special spools for standard positioner kits ..... *page 33*		
1(9A)	3CU1410300	Double acting, 3 positions, with A and B closed in neutral pos: **for 9A positioner**
1(11A)	3CU1410320	Double acting, 3 positions, with A and B closed in neutral pos: **for 11A positioner**

5. "B" side options *page 36*

TYPE	CODE	DESCRIPTION
L	5LEV110000	Standard lever box
LF1	5LEV110101	Lever box with adjustable flow limiter
LS	5LEV110020	Waterproof lever box
LB	5LEV310000	Steel lever
LEB	5LEV610000	Safety lever box
SLP	5COP110000	Without lever box, with dust-proof plate
TQ	5TEL110110	CD flexible cable connection
LCB	5CLO211100	Joystick lever for 2 sections operation

7. Outlet port options *page 45*

TYPE	CODE	DESCRIPTION
AET	3XTAP732201	Open center plug
AEK	3XTAP532450	Closed center plug
AE	XGIU532470*	G 1/2 carry-over sleeve
AET-EL	5CAR411312	With 12VDC electric control unloader valve; normally open circuit
	5CAR411314	As previous 24VDC

8. Inlet and outlet selection * *page 6*

TYPE	CODE	DESCRIPTION
PSL	3XTAP727180	G1/2 plug for upper inlet (nr.1 request)
	3XTAP732200	G3/4 plug for upper outlet (nr.1 request)
PSA	3XTAP727180	G1/2 plug for side inlet (nr.1 request)
	3XTAP732200	G3/4 plug for side outlet (nr.1 request)

9. Complete controls *page 41*

Proportional hydraulic control type **8IM** and rotative control type **R**.

4. "A" side spool positioners *page 20*

TYPE	CODE	DESCRIPTION
7FC	5V07310000	With friction and neutral position sensor
8	5V08110000	With spring return in neutral position
8D	5V08110200	With spring return in neutral position and pin with M6 female thread for dual control
8D1	5V08110210	With spring return in neutral position and pin with ∅ 8mm (*0.32in*) radial hole
8D2	5V08110220	With spring return in neutral position and pin with M8 male thread for dual control
8TL	5V08110310	Come tipo 8, per comando a cavo flessibile
8F2	5V08110101	Come tipo 8 con limitatore di corsa regolabile
8M3	5V08110400	Come tipo 8 con perno uscente per comando microinterruttore in posizione 1 e 2
19	5V19110000	2 positions, with spring return in neutral position from position 1
20	5V19110000	2 positions, with spring return in neutral position from position 2
11	5V11110000	Detent in positions neutral, 1 and 2
12	5V12110000	Detent in positions 1 and 2
15	5V15110000	2 positions, detent in positions 1 and neutral
16	5V16110000	2 positions, detent in positions 2 and neutral
21	5V21110000	Aggancio in pos. 2 e ritorno a molla in pos. 1
9B	5V09110000	With detent in position 1 and spring return in neutral position
10B	5V09110000	With detent in position 2 and spring return in neutral position
11B	5V11210000	Detent in positions 1 and 2 and spring return in neutral position
8MG3	5V08110050	As type 8 and microswitch in positions 1 and 2
8K	5V08710112	As type 8 and 12 VDC solenoid lock device
	5V08710124	As previous, 24 VDC
8P	5V08110701	ON/OFF pneumatic kit
8PG	5V08111706	Proportional pneumatic kit
8EPG3	5V08111825	12 VDC ON/OFF electropneumatic kit
	5V08111726	24 VDC ON/OFF electropneumatic kit
8ID3	5V08111800	Proportional hydraulic kit
8EI3	5V08110350	12 VDC ON/OFF electrohydraulic kit
	5V08110351	24 VDC ON/OFF electrohydraulic kit
Special positioners for particular spools ..... *page 27*		
9A	5V09511000	With detent in position 1, automatic release in neutral position
11A	5V11511000	With detent in position 1 and 2, automatic release in neutral position
Particular positioner kits for special spools ..... *pag. 33*		
13B	5V13111000	4 pos. with spring return in neutral pos. and detent in 4th pos.**: for spool 5**
13C	5V13211000	4 pos. with spring return in neutral pos. and detent in 4th pos.**: for spool 5VR**
8MCCR	5V08210021	Spring return in neutral position, with reduced spool stroke: **for spool 8F**
13FZ1	5V13611100	4 pos. with spring return in neutral pos. and detent in 2nd pos.**: for spool 8**

I "A" and "B" ports plugs *

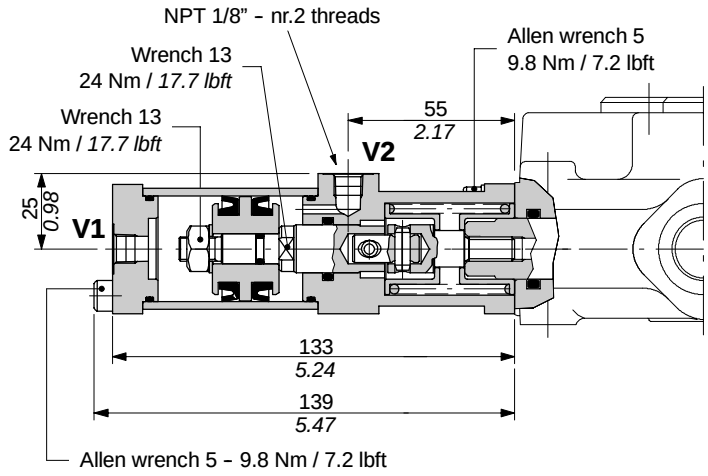
TYPE	CODE	DESCRIPTION
G1/2	3XTAP727180	For single acting spools type 3 and 4

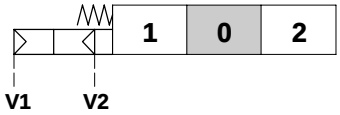
II Optional handlevers

TYPE	CODE	DESCRIPTION
AL01/M10x200	170012020	For lever L: height 200 mm / *7.87 in*
AL08/M12x250	170013125	For joystick LCB: height 250 mm / *9.84 in*

"A" side spool positioners

ON/OFF pneumatic kit type 8P

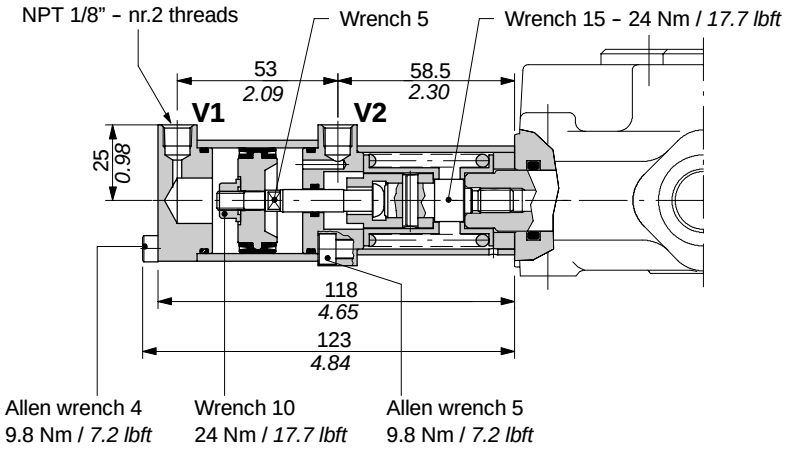


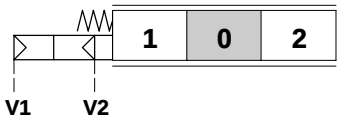


Operating features

Pilot pressure . . . . . : min 5.5 bar / *80 psi*
max 10 bar / *145 psi*

Proportional pneumatic kit type 8PG



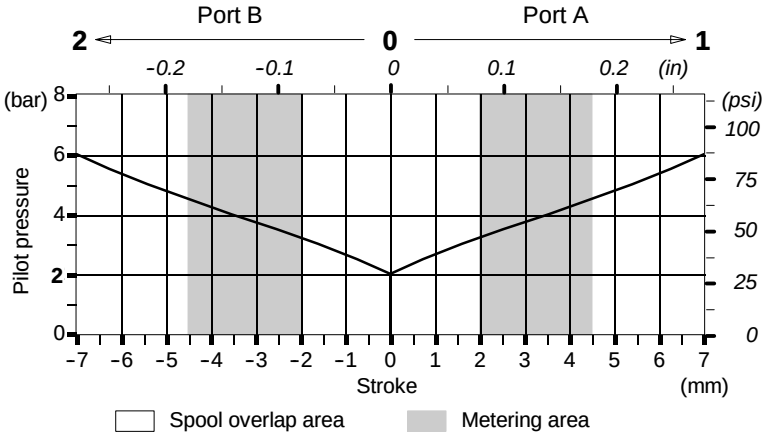


Operating features

Pilot pressure . . . . . : min 6 bar / *87 psi*
max 12 bar / *174 psi*

Pilot pressure - stroke diagram

(with spool type 1)



Part ordering codes

1 Inlet section body kit* page 12

TYPE: **SDS140/C-D** CODE: 5FIA113300
DESCRIPTION: With side and upper inlet ports, V pilot and L drain ports, arranged for pressure relief valve, unloading valve, pressure reducing valve
TYPE: **SDS140/DT** CODE: 5FIA113301
DESCRIPTION: As previous one, with upper inlet and side outlet ports
TYPE: **SDS140/P** CODE: 5FIA113302
DESCRIPTION: With upper inlet port, V pilot, L drain and LS ports, arranged for priority valve, pressure relief valve, unloading valve, pressure reducing valve
TYPE: **SDS140/M-N** CODE: 5FIA1133A0
DESCRIPTION: With upper inlet and outlet port, V pilot, L drain and LS ports, arranged for LS pressure relief valve, unloading valve, pressure reducing valve

2 Main pressure relief valve page 15

For C, D, DT inlet sections
Standard setting is referred to 10 l/min *(2.6 US gpm)*.

TYPE	CODE	DESCRIPTION
SV	XTAP526340	Relief valve blanking plug
Y type direct operated		
(YG2-125)	3XCAR110212	Range 80-160 bar *(1160-2300 psi)* standard setting 125 bar *(1800 psi)*
(YG3-175)	3XCAR110213	Range 100-250 bar *(1450-3600 psi)* standard setting 175 bar *(2500)*
(YG4-250)	3XCAR110214	Range 200-315 bar *(2900-4600 psi)* standard setting 250 bar *(3600 psi)*
X type pilot operated		
(XGA-200)	X006211350	Range 20-315 bar *(290-4600 psi)* standard setting 200 bar *(2900 psi)*

For M, N inlet sections
Valves standard setting is referred to 5 l/min *(1.3 US gpm)* flow.

TYPE	CODE	DESCRIPTION
SV	XTAP526340	Relief valve blanking plug
Pilot operated type		
(TGW2-80)	0MC09002000	Range 10-120 bar *(145-1750 psi)* std setting 80 bar *(1160 psi)*
(TGW3-175)	0MC09002001	Range 40-220 bar *(580-3200 psi)* std setting 175 bar *(2550 psi)*
(TGW4-250)	0MC09002002	Range 200-350 bar *(2900-5100 psi)* std setting 250 bar *(3600 psi)*
(TGW5-300)	0MC09002003	Range 290-385 bar *(4200-5600 psi)* std setting 300 bar *(4350 psi)*

7 Plug*

CODE	DESCRIPTION
3XTAP732200	G3/4 plug for C, D and DT section

8 Plug*

CODE	DESCRIPTION
3XTAP719150	G1/4 plug for V, L and LS ports

For V pilot and L drain ports description are:

TYPE	DESCRIPTION
TAP(VL)	Plugs (2 pieces), standard: omitted in description
NOTAP(L)	Plug (1 piece)
NOTAP(V)	Plug (1 piece)
NOTAP(VL)	Without plugs

12 Circuit conversion kit

CODE	DESCRIPTION
5KIT530000	Circuit conversion from closed center to open center
5KIT530001	Circuit conversion from open center to closed center

3 Inlet valve options page 18

For C, D, DT inlet sections

TYPE	CODE	DESCRIPTION
LT	XTAP526340	Valve blanking plug
F	3XCAR410200	Inlet anti-cavitation valve
L	XCAR410311	Hydraulic operated unloader valve
Solenoid operated unloading valve		
ELNW	0EFW0062001	Without emergency
ELTW	0EFW0062000	Push & twist type with detent emergency
ELPW	0EFW0062002	Push-button emergency

For P inlet section

TYPE	CODE	DESCRIPTION
Solenoid operated unloading valve		
ELNW	0EFW0062001	Without emergency
ELTW	0EFW0062000	Push & twist type with detent emergency
ELPW	0EFW0062002	With push-button emergency

For N and M inlet section

TYPE	CODE	DESCRIPTION
LT	3XTAP826160	Valve blanking plug for M type with external pilot source or N type
Solenoid operated unloading valve (NC)		
ESFNW(NC)	0EF10002011	Without emergency
ESFTW(NC)	0EF10002013	Pull & twist with detent emergency
ESFVW(NC)	0EF10002012	With screw emergency
ESFPW(NC)	0EF10002010	With pull-button emergency

4 Pressure reducing valve page 17

TYPE	CODE	DESCRIPTION
R(32)	4AC9539900A	Valve with standard setting @ 32 bar *(464 psi)*. Type omitted in description; specify only if it different from standard
(RT)	XTAP324541	Valve blanking plug (SAE 8/3)

5 Priority valve kit

TYPE: **D(0.7)-SB8-Q40** CODE: 5KIT440370
DESCRIPTION: Stand-by 8 bar *(116 psi)*, regulated flow = 40 l/min *(10.5 US gpm)*

6 Compensator kit

TYPE	CODE	DESCRIPTION
SB4	5CAS318083	Standard 4 bar *(58 psi)* for M inlet section
SB25	5CAS318084	Standard 25 bar *(362 psi)*. for N inlet section

Specify in description when it is different from standard.

9 Section threading

Specify threading always when it is different from BSP standard (see page 4).

10 Coils page 40

TYPE	CODE	DESCRIPTION
12VDC	4SLE001200A	**BER type,** 12 VDC, ISO4400 connector

For complete available coil list please see page 33.

11 Metering hole

TYPE	CODE	DESCRIPTION
FC3.9	3VT2710108	Standard for N inlet section
FC5	3VT2710106	Standard for M inlet section

Specify in description when it is different from standard.

13 LS restrictor

TYPE	CODE	DESCRIPTION
NFC	-	Without restrictor (omitted in description)
LS(1)	3VT2700065	Restrictor 1 mm diameter on LS port

Specify in description when it is different from standard. Different diameter are available, please contact our Sales Dpt.
NOTE (*) – Codes are referred to **BSP** thread.