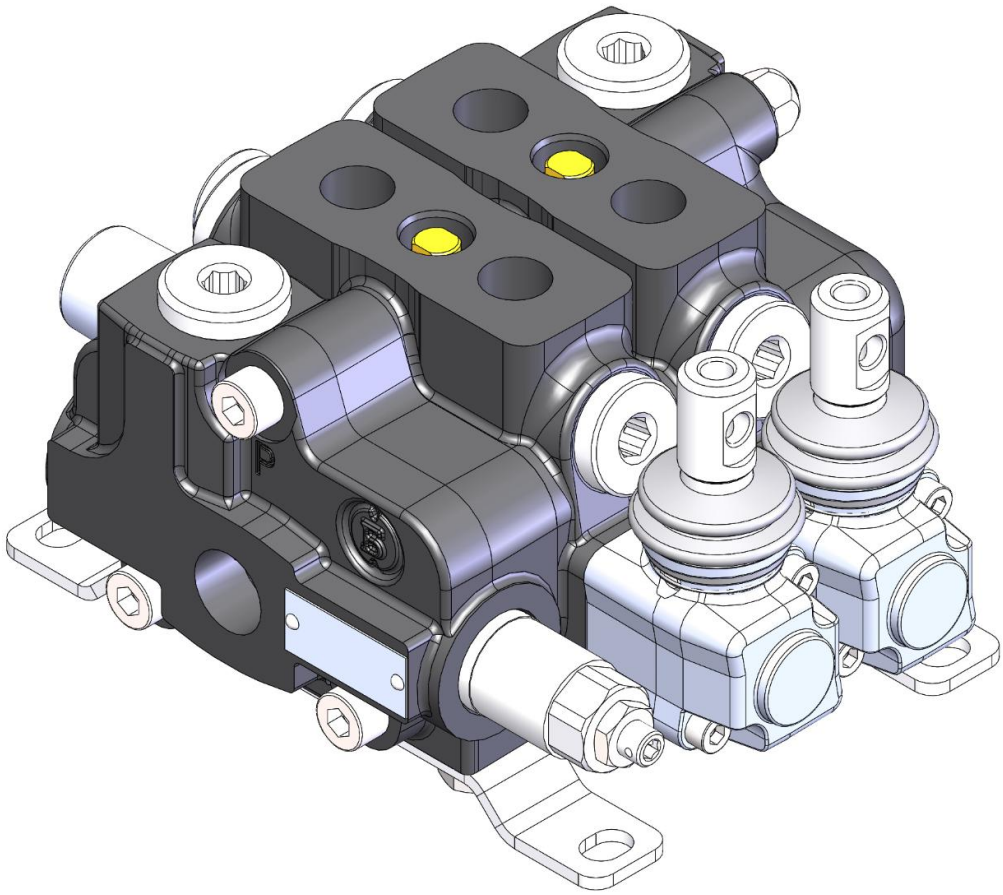
PC45



PC45:

Simple compact and heavy duty design 1 to 12 sections for open and closed hydraulic systems.

- Fitted with main relief valve and load check valve on each section
- Available in parallel, tandem, and series circuit
- Optional power beyond port
- Wide variety of port valves
- Available manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic, solenoid, and cable control kits.
- Interchangeable 16 mm spools.

Additional information

This catalogue shows the product in the most standard configuration. For special requests please contact sales.

WARNING!

All specifications of this catalogue refer to the standard product at this date. Badestnost, oriented in continuous improvement, reserves the right to discontinue, modify or revise specifications, without notice.

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

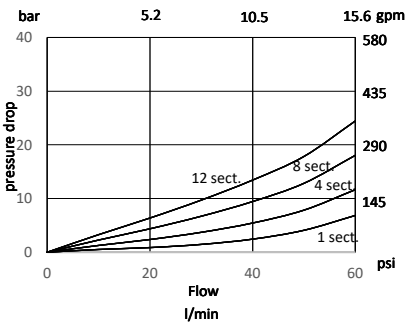
First edition 01-2021

Working conditions

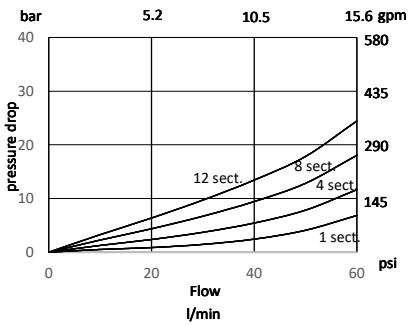
Nominal flow rating		45 l/min	*12 US gpm*
Operating pressure (max.)	parallel or tandem	315 bar	*46000 psi*
	series circuit	210 bar	*3050 psi*
Back pressure (max	*outlet port T*	25 bar	*360 psi*
Internal leakage (max.) A(B) to T	*Δp = 100 bar (1450 psi) fluid and valve at 40 °C (104 °F)*	5 cm^3/min	*0.30 in^3/min*
Fluid		Mineral based oil	
Fluid temperature	*with NBR seals*	from -20 °C to 80 °C	*from -4 °F to 176 °F*
	with FPM (Viton) seals	from -20 °C to 100 °C	*from -4 °F to 212 °F*
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 contamination level		-/19/16 - ISO 4406	*NAS 1683 - class 10*
Ambient temperature	with mechanical devices	from -40 °C to 60 °C	*from -40 °F to 140 °F*
	with pneumatic and hydraulic devices devices	from -30 °C to 60 °C	*from -22 °F to 140 °F*
	with electric devices	from -20 °C to 50 °C	*from -4 °F to 140 °F*
Tie rods tightening torque (wrench 13)		30 Nm	*22 lbft*

Pressure drops

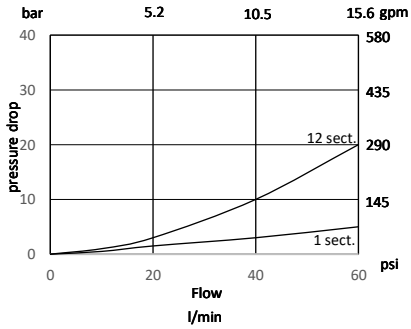
From inlet to outlet



Pump to work port



Work port to outlet

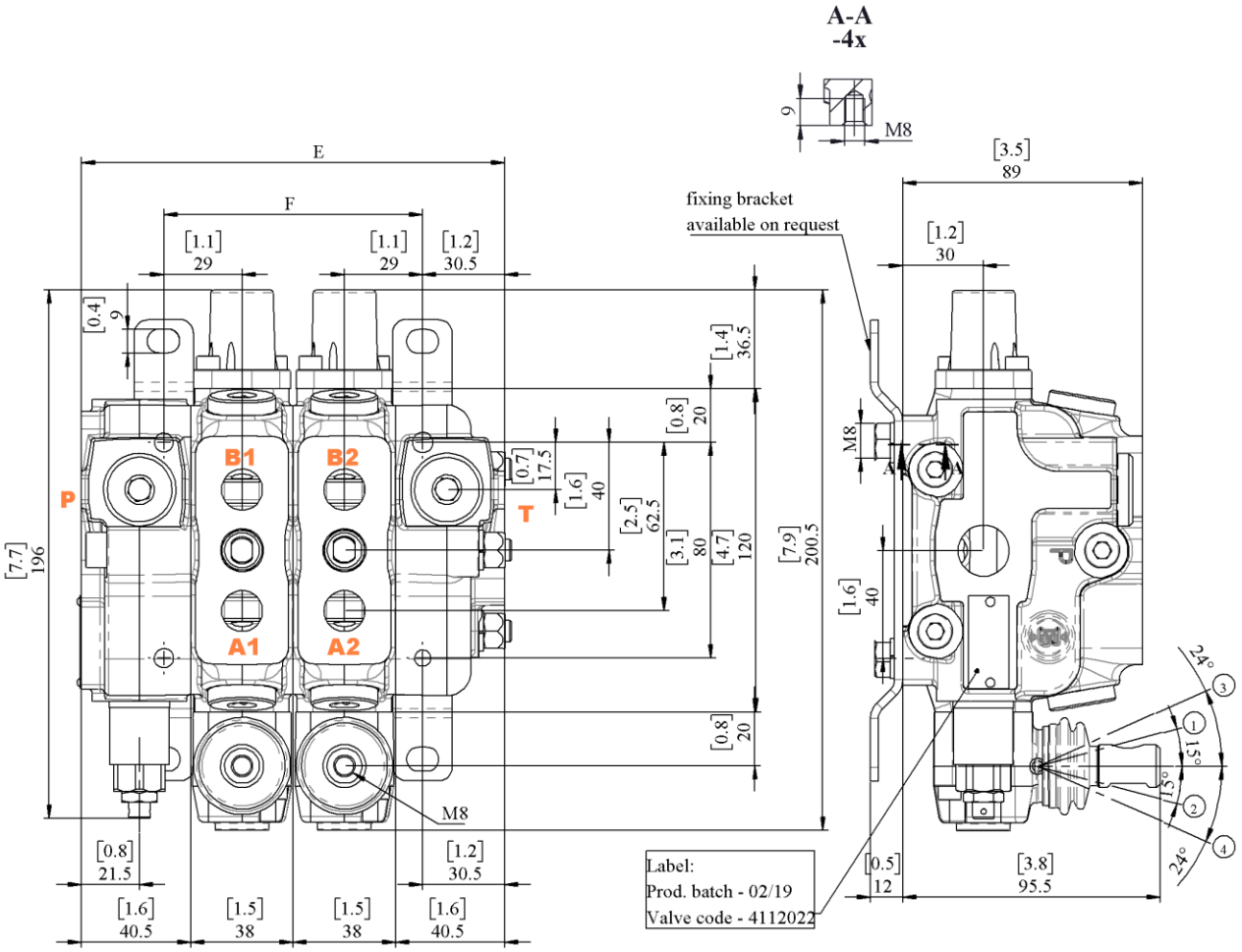


Standard threads

Refernce standard					
		BSP	UN-UNF	Metric	NPTF
Thread according to		ISO 228/1	ISO 263	ISO 262	Ansi B1.20.3
		BS 2779	ANSI B1.1 unified		
Cavity dimension according to	ISO	1179	11926	9974-1	
	SAE		J1926	J2244	J476a
	DIN 3852-2 (Shape X or Y)			3852-1 (Shape X or Y)	

Port threadings and codes				
Ports "codes"	BSP "G"	BSP "G12"	UN-UNF "S"	Metric "M"
Inlet P	G1/2	G1/2	3/4-16 (SAE8)	M22x1,5
Working ports A and B	G3/8	G1/2	9/16-18 (SAE6)	M18x1,5
Outlet port T and carry-over C2	G1/2	G1/2	3/4-16 (SAE8)	M22x1,5
PILOT PORTS				
Hydraulic port	G1/4	G1/4	9/16-18 (SAE6)	G1/4
Pneumatic port	NPTF 1/8-27	NPTF 1/8-27	NPTF 1/8-27	NPTF 1/8-27

Dimensional data:



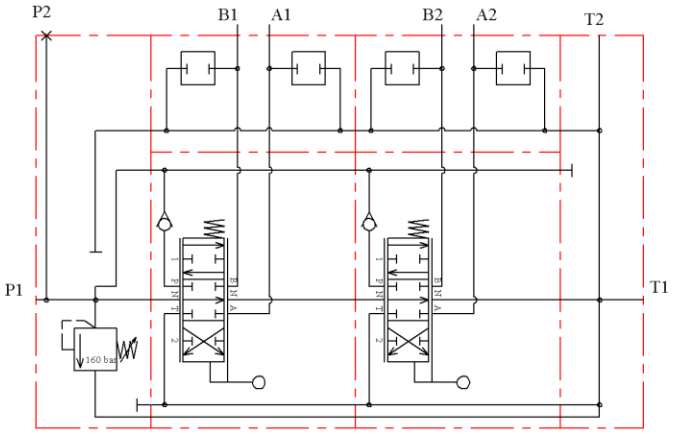
TYPE	E		F		Weight	
	mm	*in*	mm	*in*	kg	*lb*
PC45	119	*4.7*	58	*2.3*	5.3	*11.7*
2PC45	157	*6.2*	96	*3.8*	7.6	*16.8*
3PC45	195	*7.7*	134	*5.3*	9.9	*21.8*
4PC45	233	*9.2*	172	*6.8*	12.2	*26.9*
5PC45	271	*10.7*	210	*8.3*	14.5	*32.0*
6PC45	309	*12.2*	248	*9.8*	16.8	*37.0*

TYPE	E		F		Weight	
	mm	*in*	mm	*in*	kg	*lb*
7PC45	347	*13.7*	286	*11.3*	19.1	*42.1*
8PC45	385	*15.2*	324	*12.8*	21.4	*47.2*
9PC45	423	*16.7*	362	*14.3*	23.7	*52.2*
10PC45	461	*18.1*	400	*15.7*	26	*57.3*
11PC45	499	*19.6*	438	*17.2*	28.3	*62.4*
12PC45	537	*21.1*	476	*18.7*	30.6	*67.4*

Hydraulic circuits

Parallel circuit

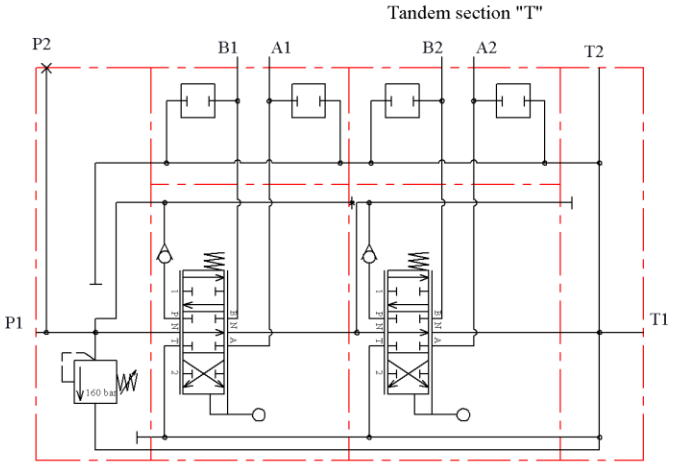
All working sections are connected to the pressure line.



2PC45/L1(JG3-160)/2x(PA1KZ1(AoBo))/T1-G

Tandem circuit

Needs special working section. Tandem section is fed from the free flow pressure line (N), it is exclude when a section up stream is operated

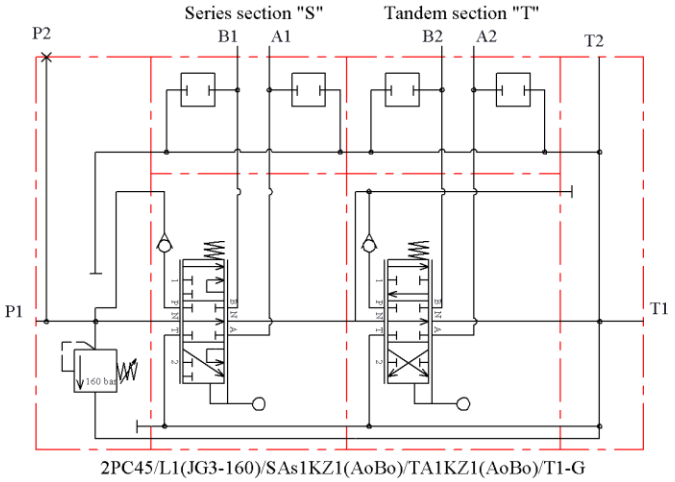


2PC45/L1(JG3-160)/PA1KZ1(AoBo)/TA1KZ1(AoBo)/T1-G

Series circuit

The return oil from work ports feed the remaining down stream sections.

After series section it is necessary to have a tandem section.



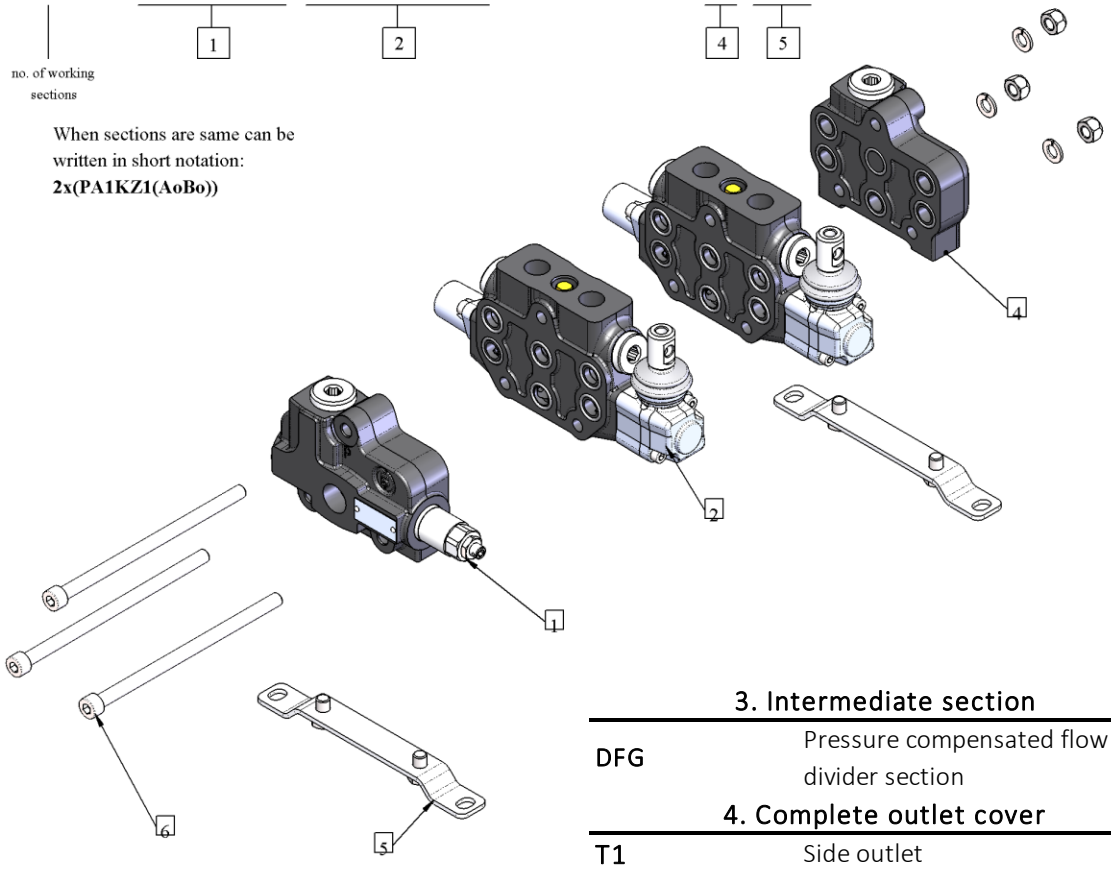
2PC45/L1(JG3-160)/SAs1KZ1(AoBo)/TA1KZ1(AoBo)/T1-G

Order codes, complete:

2PC45/L1(JG3-160)/PA1KZ1(AoBo)/PA1KZ1(AoBo)/T2-STAF-G

1 – no. of working sections; 2; 4; 5

When sections are same can be written in short notation:
2x(PA1KZ1(AoBo))



1. Complete inlet cover

L1(JG3-120)	Side inlet with JG type of valve for left inlet valve (standard)
L2(JG3-120)	Top inlet with JG type of valve for left inlet valve (standard)
L3(JG3-120)	Side inlet with JG type of valve for right inlet valve
L4(JG3-120)	Top inlet with JG type of valve for right inlet valve

2. Complete working section

PA1(AoBo)KZ1	Parallel circuit, prearranged for port valves, double acting spool with spring return, lever control
TA1(AoBo)KZ1	Tandem circuit, prearranged for port valves, double acting spool with spring return, lever control
SAs1(AoBo)KZ1	Series circuit, prearranged for port valves, double acting spool with spring return, lever control

3. Intermediate section

DFG	Pressure compensated flow divider section

4. Complete outlet cover

T1	Side outlet
T2	Top outlet
TC2	Upper outlet with side carry-over

5. Fixing bracket

STAF	Fixing braket kit

6. Assembling kit (tie rod kit)

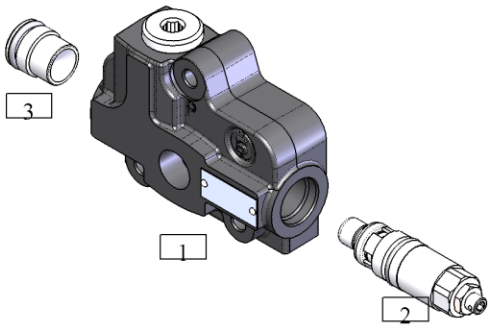
1S	Tie rod kit for 1 section
2S	Tie rod kit for 2 section
3S	Tie rod kit for 3 section
4S	Tie rod kit for 4 section
5S	Tie rod kit for 5 section
6S	Tie rod kit for 6 section
7S	Tie rod kit for 7 section
8S	Tie rod kit for 8 section
9S	Tie rod kit for 9 section
10S	Tie rod kit for 10 section
11S	Tie rod kit for 11 section
12S	Tie rod kit for 12 section

Inlet cover:

SP L1(JG4-250)-ELP-12V-G /PC45

1 2 3

pressure relief setting in [bar]



1. Inlet cover body	
L1	Inlet cover body with side inlet for left inlet (standard)
L2	Inlet cover body with top inlet for left inlet (standard)
L3	Inlet cover body with side inlet for right inlet
L4	Inlet cover body with top inlet for right inlet

2. Inlet relief option	
JG2	Range 40-80 bar / *580 to 1150 psi* standard setting at 80 bar / *1150 psi*
JG3	Range 63-200 bar / *900 to 2900 psi* standard setting at 120 bar /
JG4	Range 160-315 bar / *2300 to 4600 psi* standard setting at 220

Standard setting is referred to 12 l/min flow

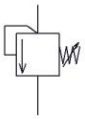
3. Inlet valve option	
ELP	Electromagnetic unloader valve 12/24V
SVP	Relief valve blank plug

4. Port for manometer	
MAN-18	Port for manometer G1/8

Inlet relief options:

SP MRV (JG 3 - 140)

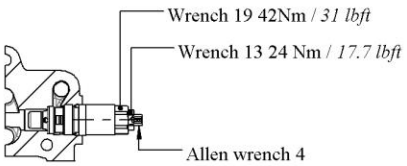
- Pressure setting in [bar]
- Adjustable spring **(2, 3, 4)**
- Adjustment type **(G, H)**



Adjustment type

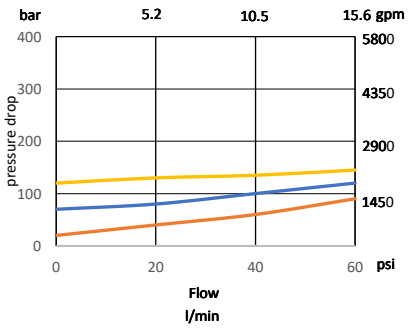
G: with screw

H: Valve set and locked

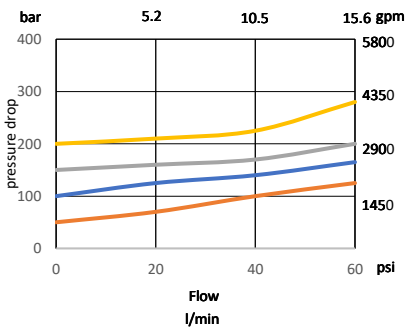


Performance data:

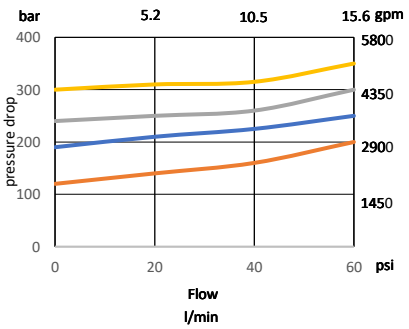
Spring nr2. (green)



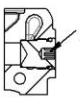
Spring nr3. (blue)



Spring nr.4 (red)

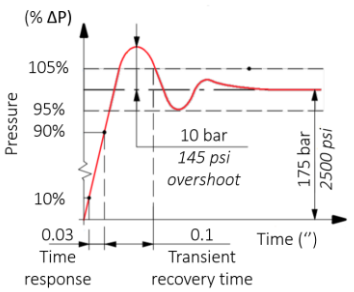


SVP: relief valve blanking plug



Allen wrench 10 31 Nm / *31 lbft*

Time response



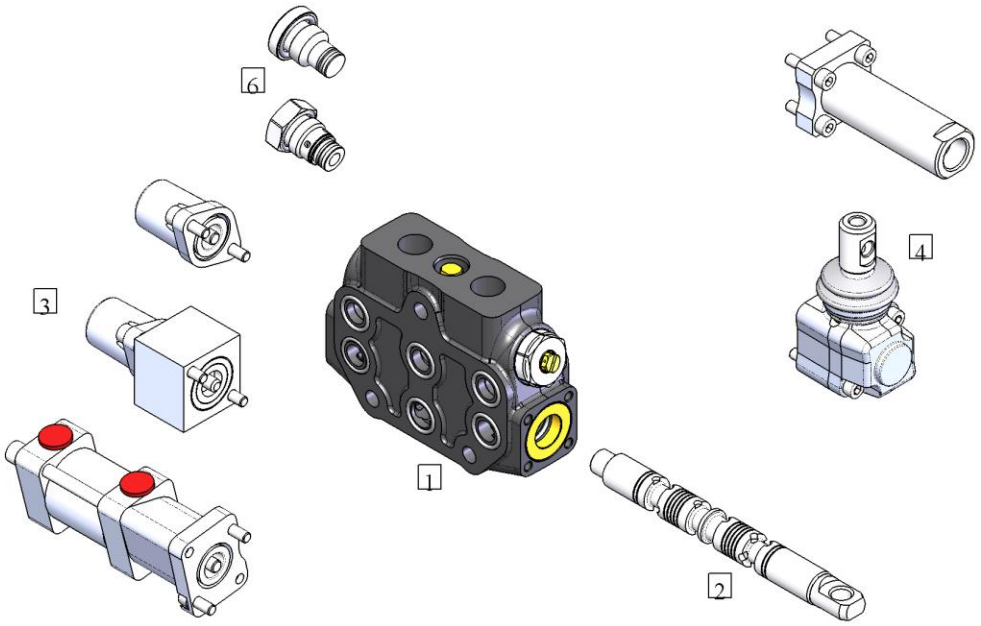
Working section:

SP P A 1 KZ 1 (AoBo) - G /PC45

1 2 3 4 5 6

SP P AES3 (AoBo)-12V-G /PC45

7



1. Working section kit

P	With parallel circuit
T	With tandem circuit
S	With series circuit

Include body seals, rings and check valve

2. Spools

A	Double acting, 3 position, with A and B closed in neutral position
Af	Double acting, 3 position, with A and B closed in neutral position,
B	Single acting on A, requires plug on B
C	Single acting on B, reguires plug on A
D	Double acting, 3 position, with A and B open to tank in neutral
E	Double acting, 3 position, with B open to tank in neutral position
F	Double acting, 3 position, with A open to tank in neutral position

Special spools for particular positioner kits

L	Double acting, 4 position, float in position 3 with spool in
K	Double acting, 4 position, float in position 4 with spool out

Working section:

3. Spool positioners and controls (Side B)

1	With spring return in neutral position
2	With detent in pos. 1 and spring to neutral position from pos. 2
3	With detent in pos. 2 and spring to neutral position from pos. 1
4	2 position with spring return from pos. 2
5	2 position with spring return from pos. 1
6	2 position with spring return from pos. 2 to pos. 1
7	2 position with spring return from pos. 1 to pos. 2
8	Detent in three positions
9	2 position detent in 1 and 0
10	2 position detent in 0 and 2
11	2 position detent in 1 and 2
1P	Pneumatic kit
1Pe	Electro-pneumatic kit 12/24V
ED3	Electro-hydraulic kit ON/OFF 12/24V
V2	Cable control for **spool positioner 1**

Particular positioner kits for special spools

12	4 position with spring return to neutral and detent in pos. 3: for
16	4 position with spring return to neutral and detent in pos. 4: for **spool K**

4. Lever controls (Side A)

KZ	Safety lever box, with lever M8
KZ0	Safety lever box, rotated 180° with lever M8
KZ(M10)	Safety lever box, with lever M10
KZ(M10)0	Safety lever box, rotated 180° with lever M10
V1	Cable control
Ju	Joystick lever for two section operation

5. Handles

1	Standard lever M8x150 mm Standard lever for M10 - M10x180 mm

6. Port valves

o	Relief blank plug

Anti-shock valve

y(G2)	From 50 to 125 bar / 725 to 1800 psi standard setting 63 bar / 900
y(G3)	From 100 to 200 bar / 1450 to 2900 psi standard setting 100 bar
y(G4)	From 160 to 315 bar / 2300 to 4600 psi standard setting 200 bar

Anti-shock and anti-cavitational valve

z(G2)	From 50 to 125 bar / 725 to 1800 psi standard setting 63 bar / 900
z(G3)	From 100 to 200 bar / 1450 to 2900 psi standard setting 100 bar
z(G4)	From 160 to 315 bar / 2300 to 4600 psi standard setting 200 bar / 2900 psi

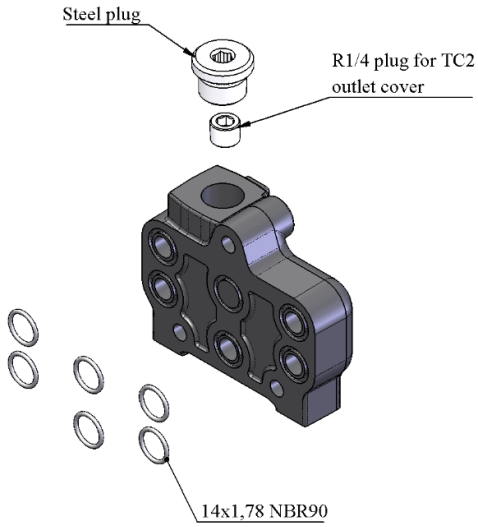
5. Complete controls

ES3	Solenoid control both sides 12/24V
ES1	Solenoid control side B 12/24V
ES2	Solenoid control side A 12/24V
H	Hydraulic proportional control
Ha	Hydraulic proportional control, with stroke adjustment

Outlet cover

SP T1 - G /PC45

1



1. Outlet cover body	
T1	Outlet cover body with side outlet
T2	Outlet cover body with top outlet
TC2	Outlet cover body with side carry-over and top outlet