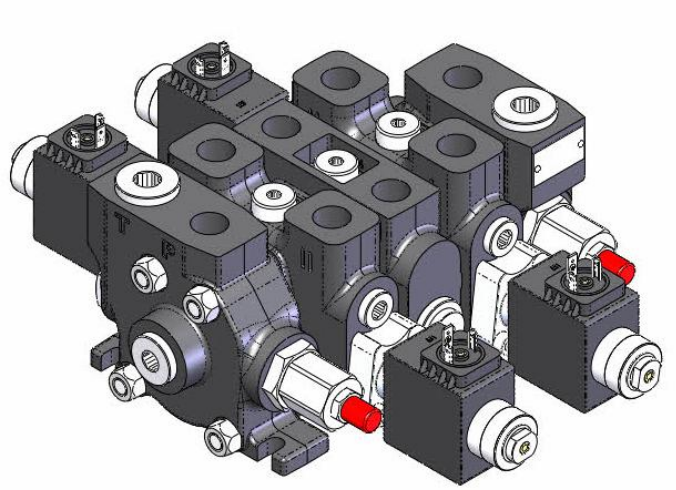
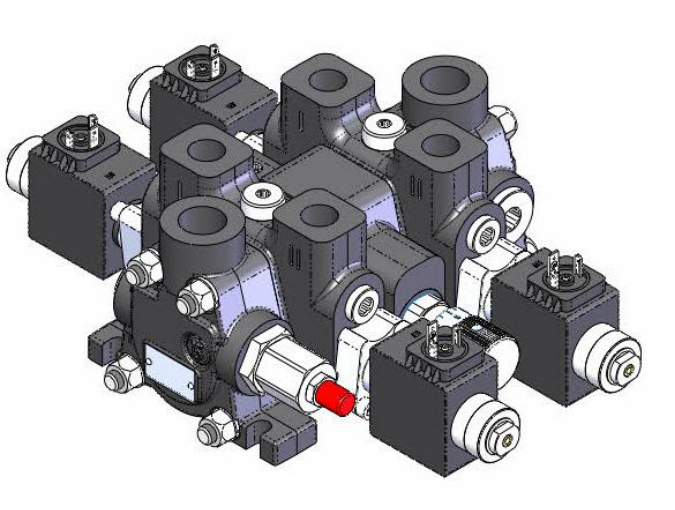
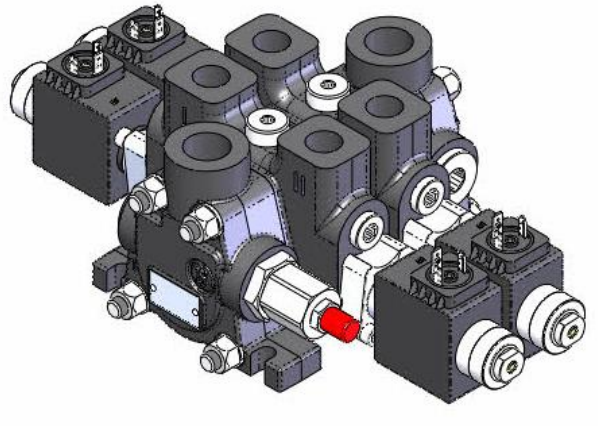
ZC100







Features

Simple compact and heavy duty designed sectional valve from 1 to 10 sections for open and closed centre hydraulic systems.

- Fitted with a main pressure relief valve and a load check valve on each section
- Available with parallel circuits
- Optional power beyond port for parallel and tandem circuit
- Diameter 18 mm *0.71 in* interchangeable spools.
- Specialized valve for direct solenoid control

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 05-2026

Working conditions

Nominal flow rating		100 l/min	*26.4 US gpm*
Operating pressure (max.)	*parallel*	315 bar	*4600 psi*
Back pressure (max.)	*outlet port T, static*	35 bar	*508 psi*
Internal leakage (min.) A(B) to T	*Δp = 100 bar (1450 psi) fluid and valve at 40 °C (104 °F)*	15 cm^3/min	*1.05 in^3/min*
Hydraulic 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*
Permisable degree of fluid contamination		-/19/16 - ISO 4406	*NAS 1683 - class 10*
Ambient temperature	*with electric devices*	from -20 °C to 50 °C	*from -4 °F to 140 °F*

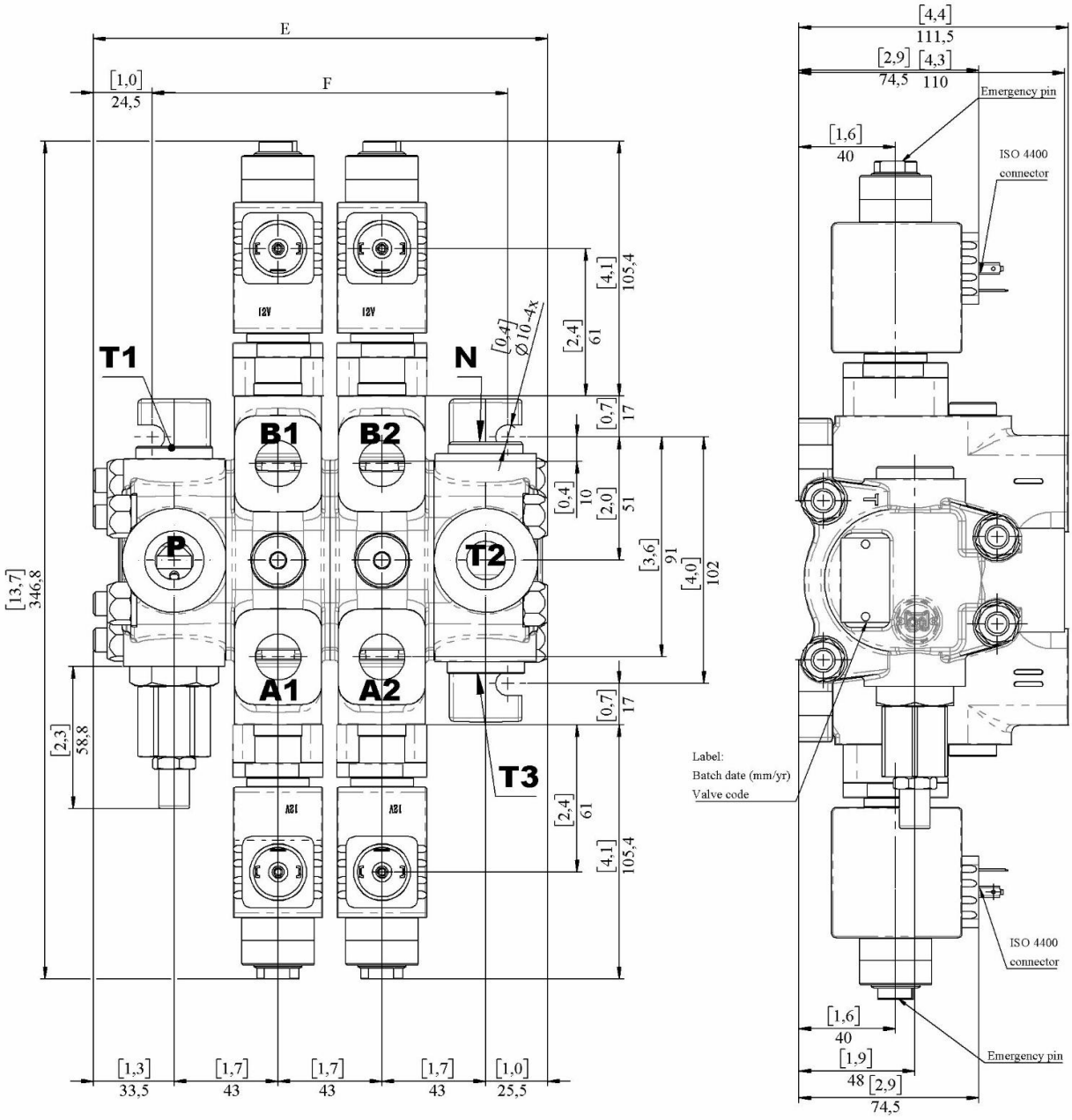
Standard threads

		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

Codes:	G12	G34	S10	S12
Main ports	BSP	BSP	UN-UNF	UN-UNF
Inlet P1, P2	G3/4-14	G3/4-14	1 1/16-12 (SAE12)	1 1/16-12 (SAE12)
Outlet port T1	G3/4-14	G3/4-14	1 1/16-12 (SAE12)	1 1/16-12 (SAE12)
Outlet port T2	G3/4-14	G3/4-14	1 1/16-12 (SAE12)	1 1/16-12 (SAE12)
Outlet port T3	G3/4-14	G3/4-14	1 1/16-12 (SAE12)	1 1/16-12 (SAE12)
Working ports, A and B	G1/2-14	G3/4-14	7/8-14 (SAE10)	1 1/16-12 (SAE12)

Dimensions



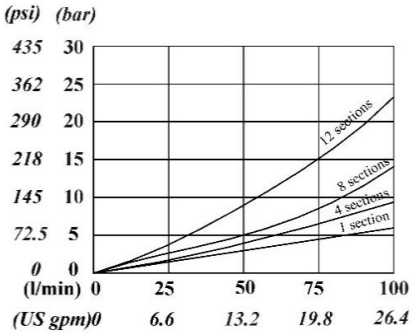
TYPE	E		F		Weight	
	mm	*in*	mm	*in*	kg	*lb*
ZC100	145	*5.71*	104	*4.09*	10.50	*23.1*
2ZC100	188	*7.40*	147	*5.79*	13.70	*30.2*
3ZC100	231	*9.09*	190	*7.48*	16.90	*37.2*
4ZC100	274	*10.79*	233	*9.2*	20.10	*44.3*
5ZC100	317	*12.5*	276	*10.9*	23.30	*51.4*
6ZC100	360	*14.2*	319	*12.6*	26.50	*58.4*

TYPE	E		F		Weight	
	mm	*in*	mm	*in*	kg	*lb*
7ZC100	403	*15.9*	362	*14.3*	29.70	*65.5*
8ZC100	446	*17.6*	405	*15.9*	32.90	*72.5*
9ZC100	489	*19.3*	448	*17.6*	36.10	*79.6*
10ZC100	532	*20.9*	491	*19.3*	39.30	*86.6*
11ZC100	575	*22.6*	534	*21.0*	42.50	*93.7*
12ZC100	618	*24.3*	577	*22.7*	45.70	*100.7*

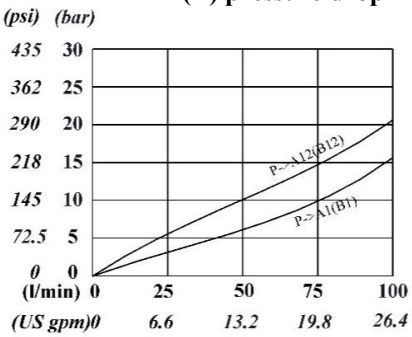
Hydraulic circuits

Performance data

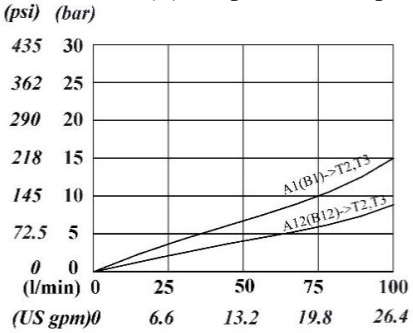
P->T pressure drop



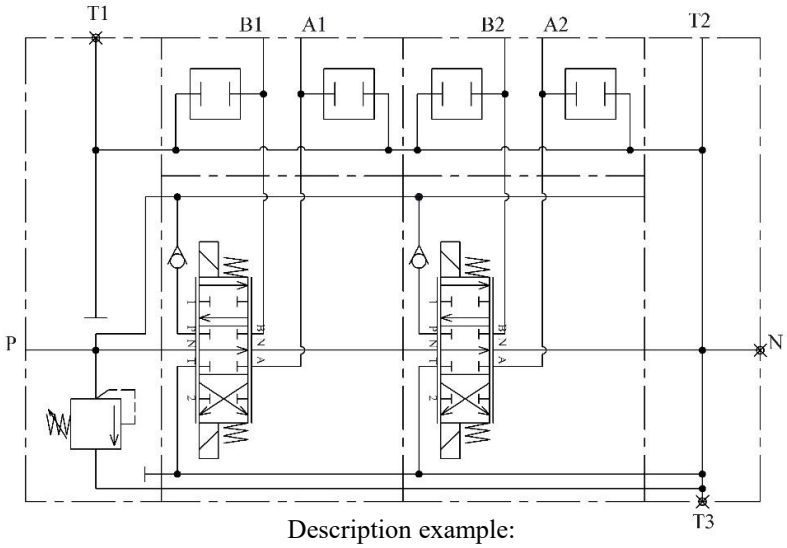
P-> A(B) pressure drop



A(B)->T pressure drop



Parallel circuit



Description example:
2ZC100/N2/**P**AES3(AoBo)/**P**AES3(AoBo)/T2-G34

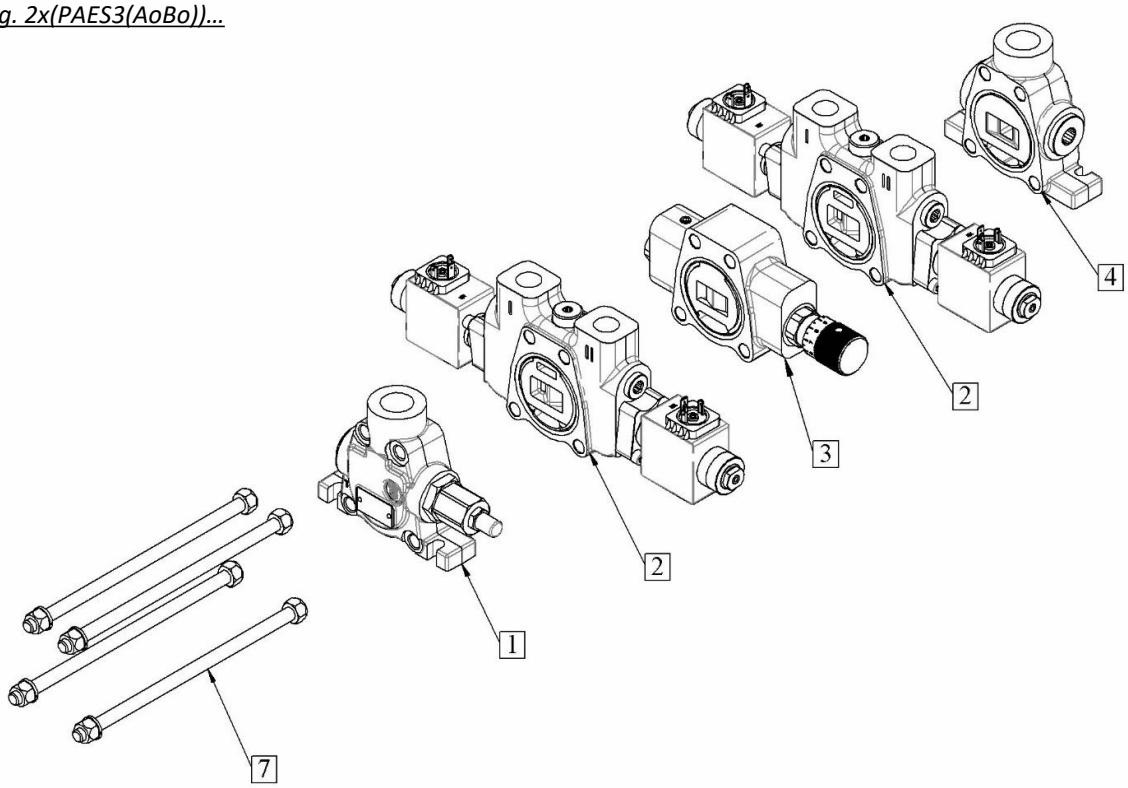
Order code, complete

First section *Following sections*

2ZC100/N2/PAES3(AoBo)/DF/PDES3(AoBo)/T2- G- BP

1 2 3 4 5 6

For identical sections use quantity of sections x (code of section), e.g. 2x(PAES3(AoBo))...



1	Complete inlet covers
Type	*Description*
N1	*Top inlet P and backside outlet port T1 with relief valve*
N2	*Top inlet P and backside outlet port T1 plugged with relief valve*
L1	*Side inlet P1 with relief valve for left inlet valves (standard)*
L2	*Top inlet with relief valve for left inlet valves (standard)*
L3	*Side inlet with relief valve for right inlet valves*
L4	*Top inlet with relief valve for right inlet valves*

2	Complete working sections
PAES3(AzBz)	*Parallel circuit, double acting spool with spring return and lever control*

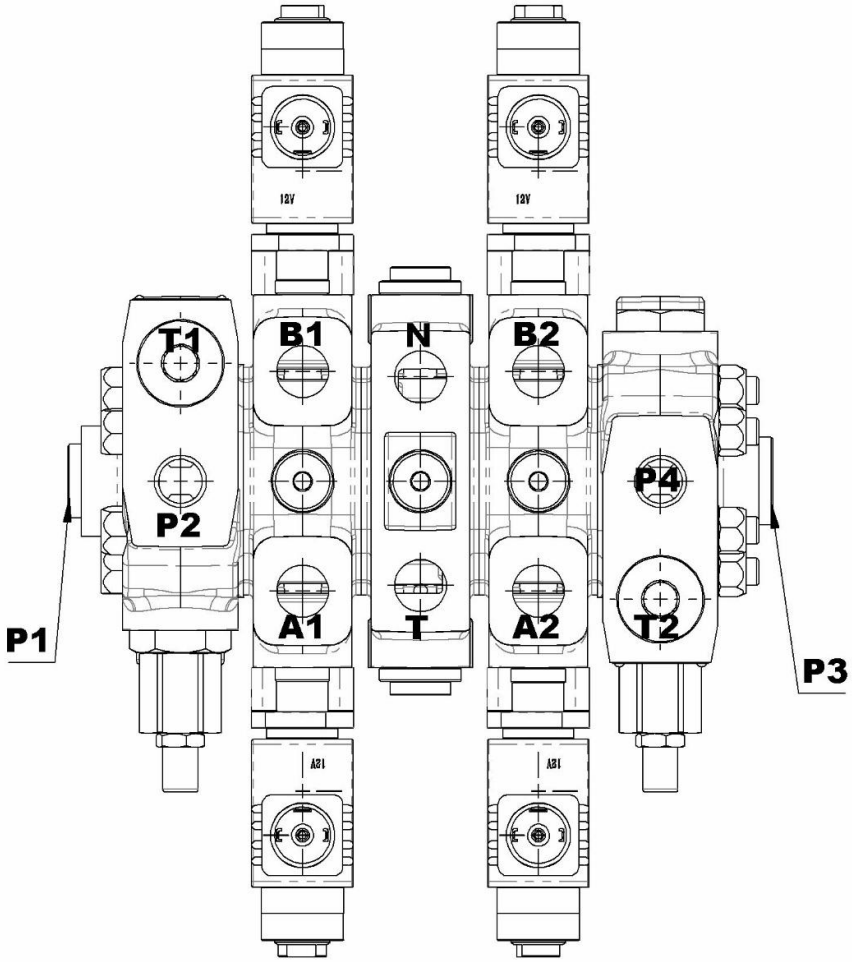
Order code, complete

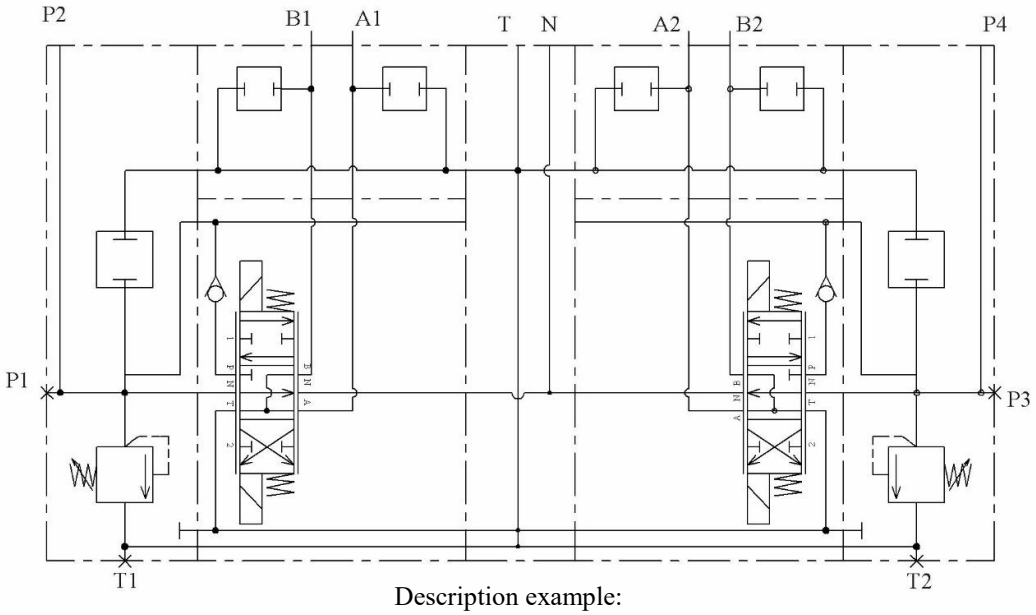
3	Intermediate sections
DF	*Pressure cmpensated flow divider section, excess flow goes to tank*
IM.C	*Intermediate inlet with relief valve, which combines the flow from the by-pass line of previous sections*
IM.S	*Intermediate inlet with relief valve, which separates the flow from the by-pass line to tank.*
CS1	*Intermediate outlet cover*
OM-C2T	*Intermediate outlet cover with high pressure carry over and outlet, to be used in combination with two inlet covers on both sides of the valve (N or L)*
OM-C2LC2R	*Intermediate outlet cover with two separate high pressure carry over lines, to be used in combination with two inlet covers N*

4	Complete outlet cover
T1	*Outlet cover ports (T2, T3) plugged, in use only inlet cover low pressure port T1, to be used in combination N1 only*
T2	*Outlet cover with top outlet T2*
T3	*Outlet cover with front outlet T3*
T3C2	*Back carry over port C2 with top port high pressure T2 (plugged) and front port low pressure T3*
T1C2	*Back carry over port C2 with top port high pressure T2 (plugged) and front port low pressure T3 (plugged), outlet port T1, to be used in combination with N1 only*

5	Valve Threading - refer to page 3
6	Coating and plating
	Valve body is phoshpated, steel parts Zn plated, spools either Ni, or Cr plating (omit in valve description)
BP	Painting
7	Assembly 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*

Directional control valve with two inlets





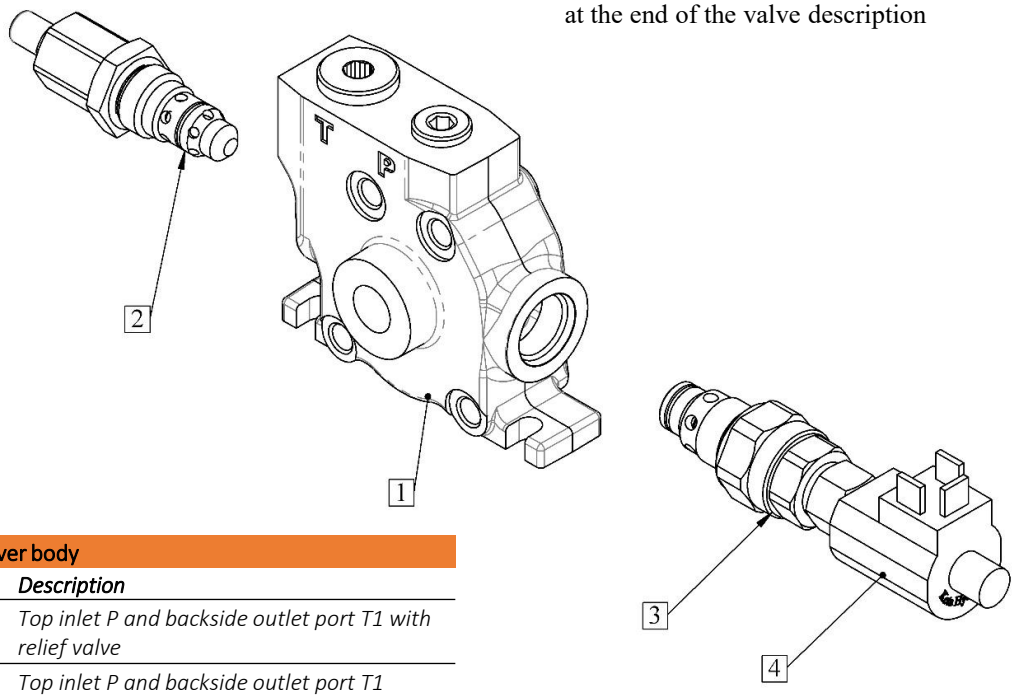
Description example:
2ZC100/L2/PDES3(AoBo)/OM.C2T/PRDES3(AoBo)/L4-G34

Inlet cover, order code

L3 (250) (ELP) - 24V - G - BP

1 2 3 4 5 6

When inlet cover is part of a valve, the voltage (4), threading (5) and plating (6) go at the end of the valve description



1	Inlet cover body
Type	*Description*
N1	*Top inlet P and backside outlet port T1 with relief valve*
N2	*Top inlet P and backside outlet port T1 plugged with relief valve*
L1	*Side inlet P1 with relief valve for left inlet valves (standard)*
L2	*Top inlet with relief valve for left inlet valves (standard)*
L3	*Side inlet with relief valve for right inlet valves*
L4	*Top inlet with relief valve for right inlet valves*

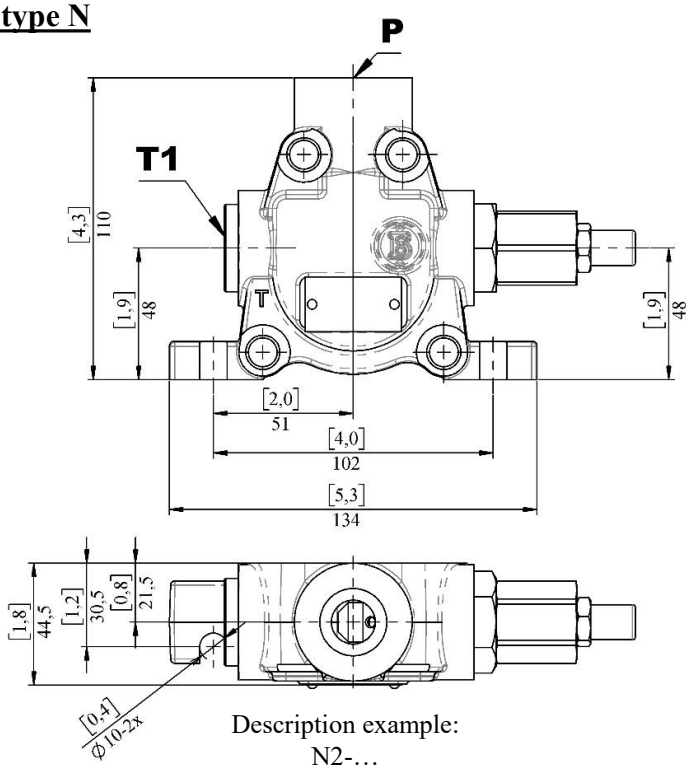
2	Relief valve option
omit	*Range 50-315 bar / 725 to 4270 psi* standard setting at 180 bar / 2610 *psi*
svp	*Relief valve blanking plug*

Standard setting is referred to 12 l/min flow, example for relief valve with a preset valve at 250 bar with cap nut for fixed setting (250-FV)

3	Unloader valve option
ELP	*With screw emergency*

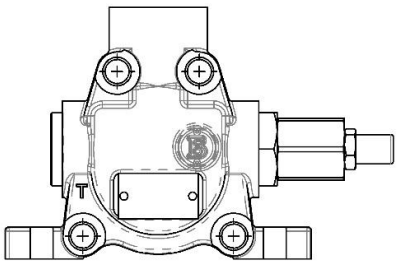
4	Coil for unloader valve
12V	*12V coil*
24V	*24V coil*
12V(DT)	*12V DT coil*
24V(DT)	*24V DT coil*
5	Valve Threading - refer to page 3
6	Coating and plating
	Valve body is phoshpated, steel parts Zn plated, spools either Ni, or Cr plating (omit in valve description)
BP	Painting

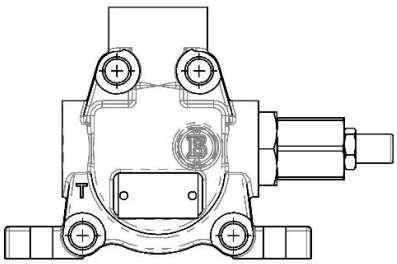
Inlet cover – type N

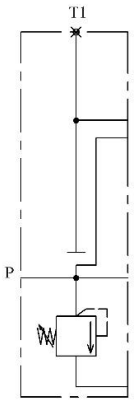


Description example:
N2-…

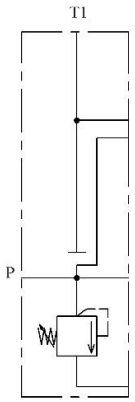
Inlet cover open tank port, to be used in combination with T1





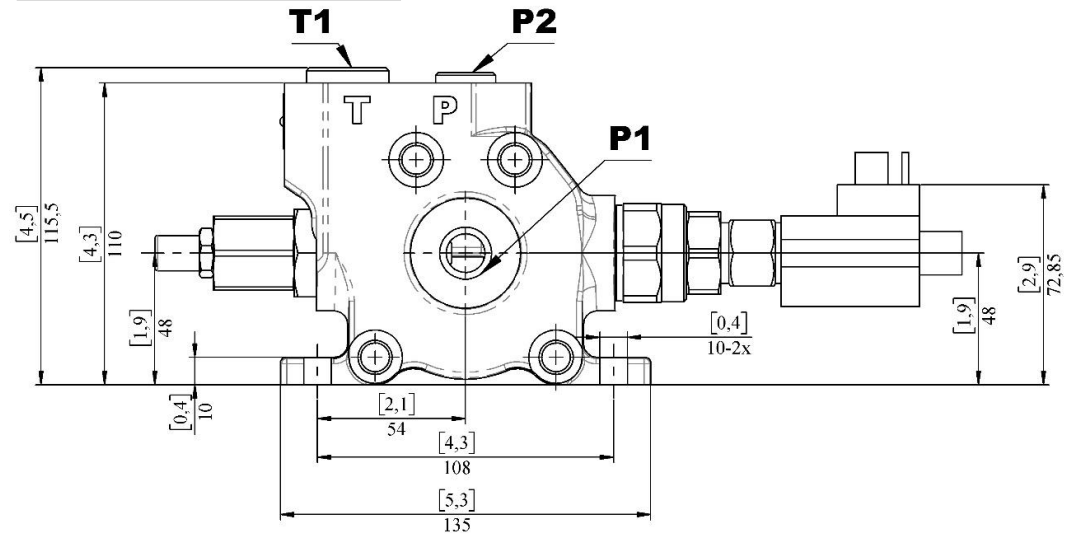


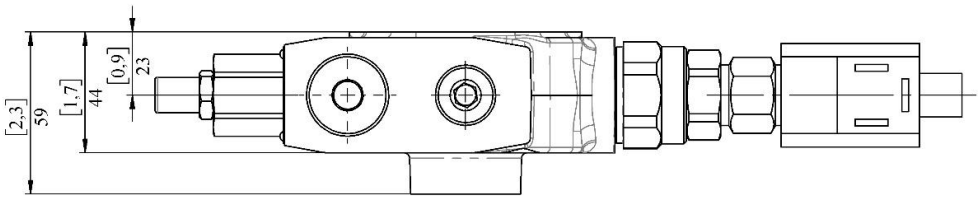
Description example:
N2-…



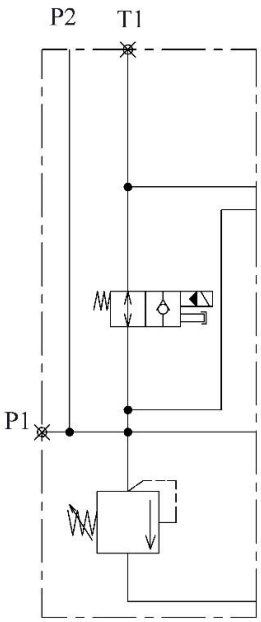
Description example:
N1-…

Order code for inlet cover L



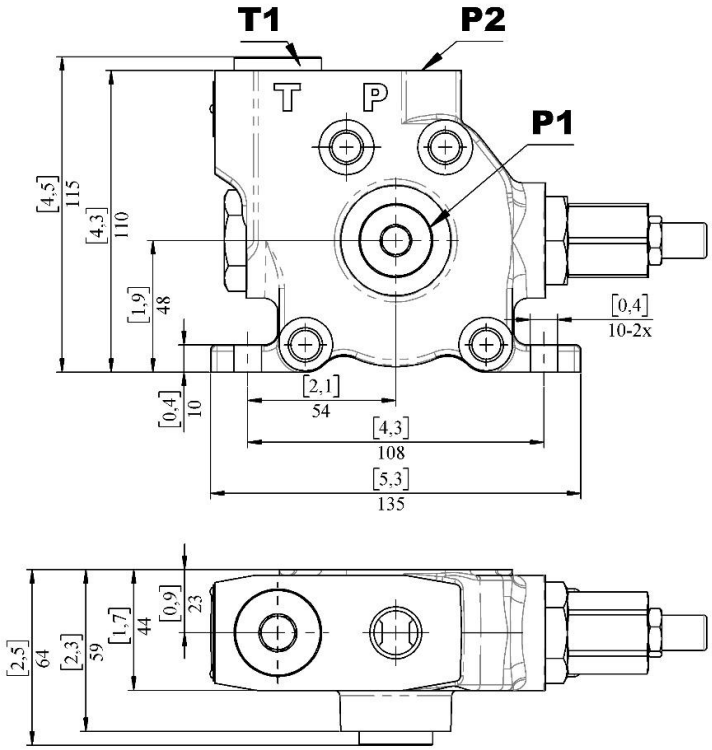


Inlet cover with unloader valve option and side inlet; Main relief valve set at 220 bar and does not have cap nut (FV).

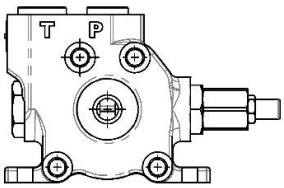


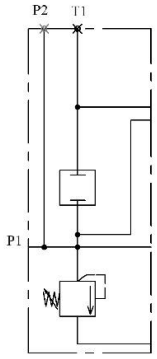
Description example:
L3(220)(ELP)-24V-…

Order code for inlet cover L



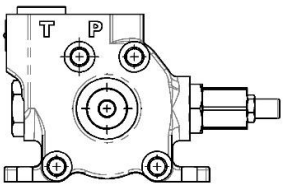
Inlet cover with top inlet and relief for left hand side configuration

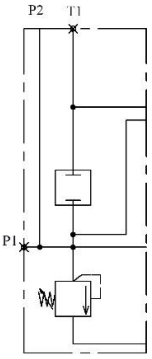




Description example: L1-…

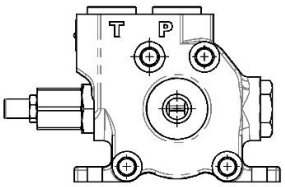
Inlet cover with side inlet and relief for left hand side configuration

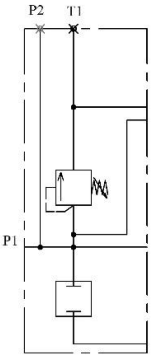




Description example: L2-…

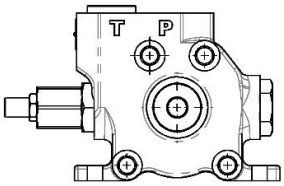
Inlet cover with top inlet and relief for right hand side configuration

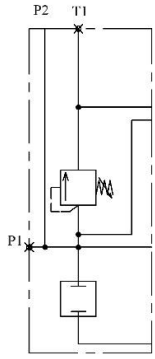




Description example: L3-…

Inlet cover with side inlet and relief for right hand side configuration





Description example: L4-…

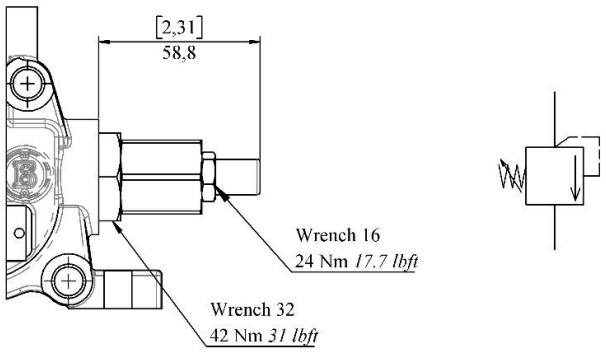
Inlet relief valve

(280 – FV)

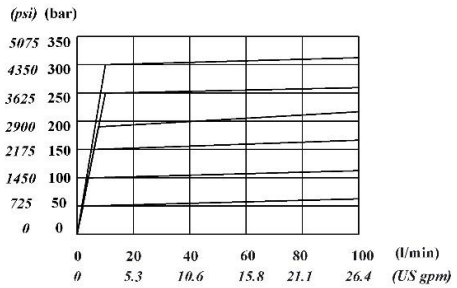
Steel cap nut for pre-set pressure

Pressure setting, if not specified – standard pressure setting 180 bar / 2610 psi

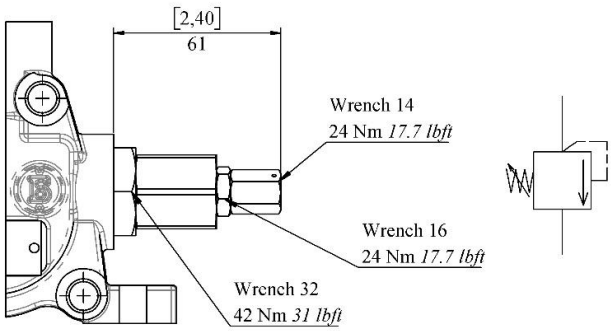
Standard main relief valve configuration



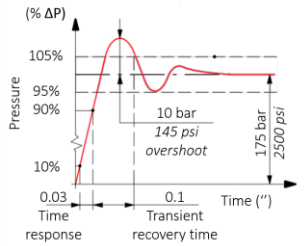
Valve setting range, with only one spring type



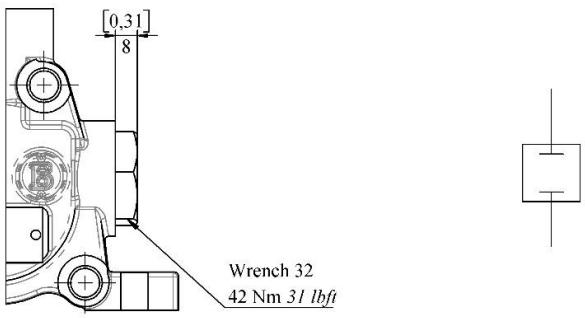
Main relief valve configuration with cap nut **(FV)**



Time response

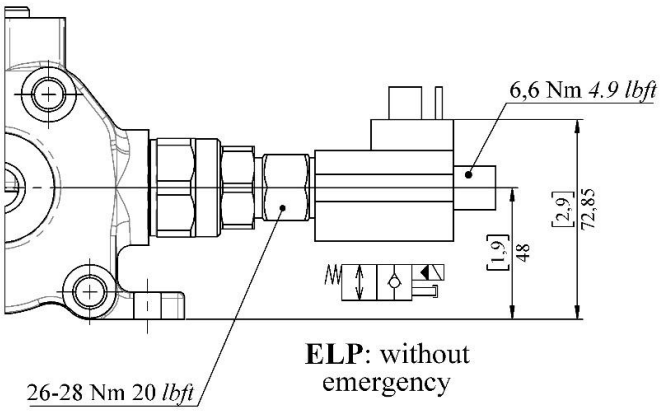


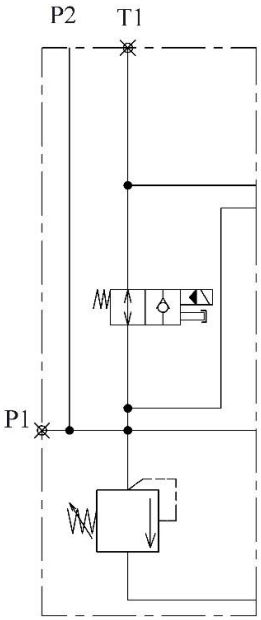
Without main relief valve – blanking plug only **(svp)**



Unloader valve - ELP

Unloader valve can be used only with inlet cover type L

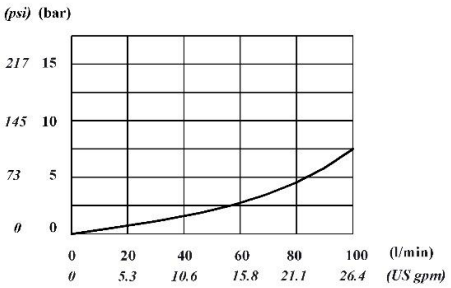




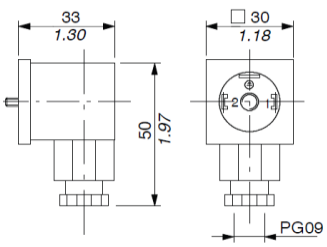
Features

Nominal flow.....100 l/min *26.4 US gpm*
Max. pressure.....315 bar *4600 psi*
Internal leakage.....3 ccm/min @ 100 bar *0.18 cin/min @1450 psi*

Pressure drop valve



Connector specifications 2P+T according to ISO 4400 / EN175301-803

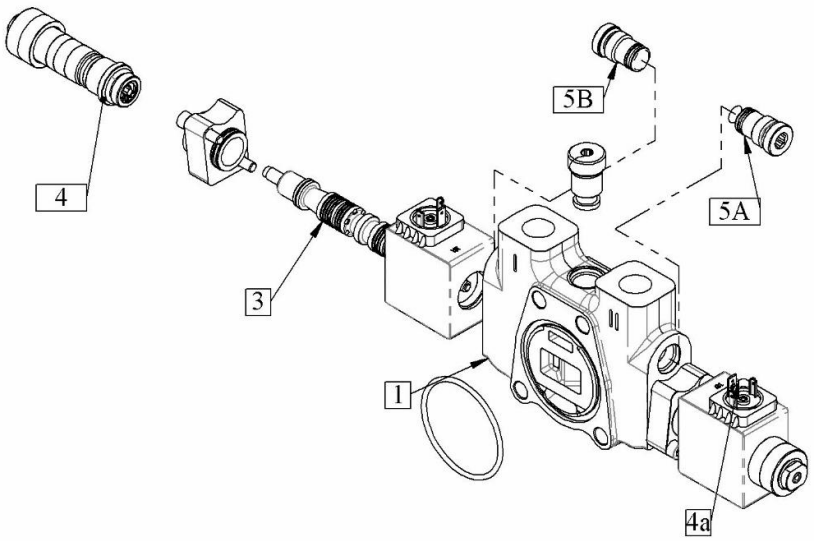


Sections, order code

P A ES3 (Ao Bo) – 12V(DT) - G /ZC100

1	3	4	5A	5B	4a

Threading options page 3



Sections, order code

1	Body type
Type	*Description*
P	*Parallel body circuit, available only with pre-bores for auxiliary valves.*

2	Position with respect to pump inlet
Type	*Description*
omit	*Left hand configuraton, pump port is on the left-hand side with respect to the control*
R	*Right hand configuration, pump port is on the right-hand side with respect to the control*

3	Spool options
Type	*Description*
A	*Double acting, 3 position, with A and B closed in pos. 0*
B	*Single acting on A, 3 positions, B plugged, requires a plug.*
C	*Single acting on B, 3 positions, A plugged, requires a plug.*
D	*Double acting, 3 position, with A and B opened to tank in pos. 0*
E	*Double acting, 3 position, B opened to tank in pos. 0*
F	*Double acting, 3 position, A opened to tank in pos. 0*

4	Complete controls
ES	*Single acting solenoid kit*

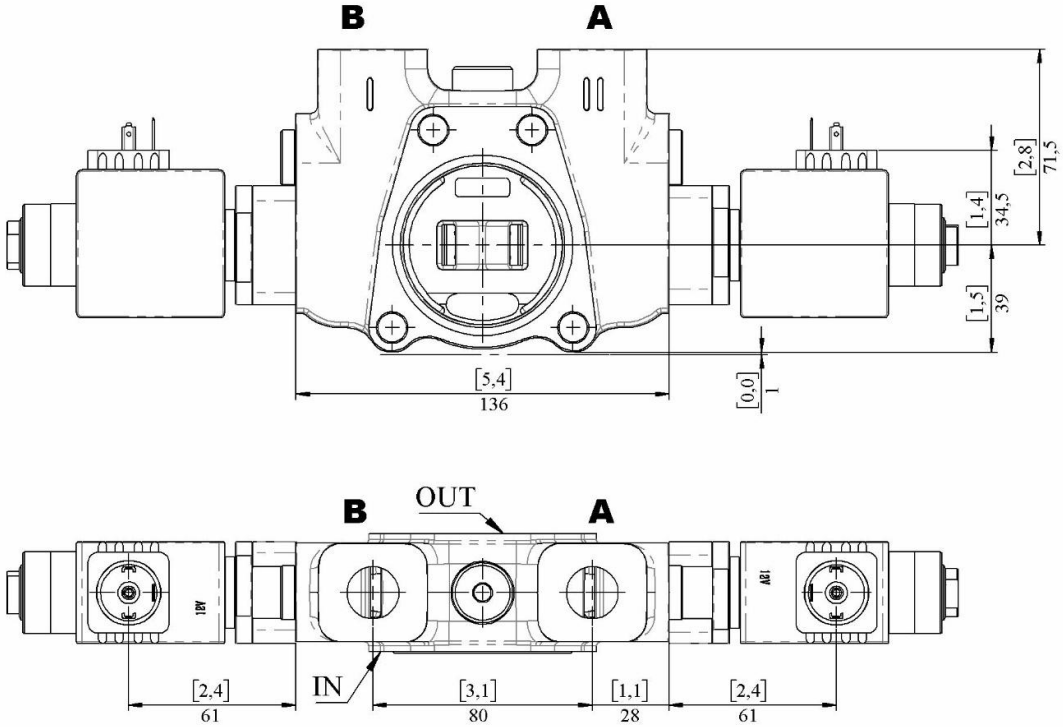
4a	Coil specifications
12V	*12V coil*
24V	*24V coil*
12V	*12V DT coil*
24V	*24V DT coil*

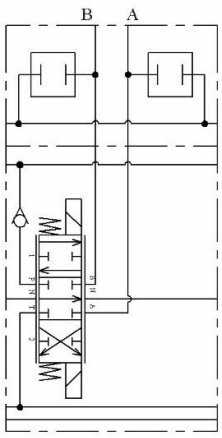
4b	Connectors
	By default, connectors are not included
(C)	*Connector for the particular coil is included*

5	Auxiliary (Port) relief valves
o	*Relief valve blanking plug*
x	*Anti-cavitational valve*
Anti-shock valve	
y(D2-120)	*Range 50-120 bar / 725 to 1740 psi* standard setting at 120 bar / *1740 psi*
y(120-250)	*Range 120-250 bar / 1740 to 3625 psi* setting other than 180 bar / 2610 *psi*
y(D4-220)	*Range 220-315 bar / 3190 to 4570 psi* standard setting at 220 bar / *3190 psi*
Anti-shock and anti-cavitational valve	
z(D2-120)	*Range 50-120 bar / 725 to 1740 psi* standard setting at 120 bar / *1740 psi*
z(120-250)	*Range 120-250 bar / 1740 to 3625 psi* setting other than 180 bar / 2610 *psi*
z(D4-220)	*Range 220-315 bar / 3190 to 4570 psi* standard setting at 220 bar / *3190 psi*
(FV)	*Fixed valve setting and sealing*

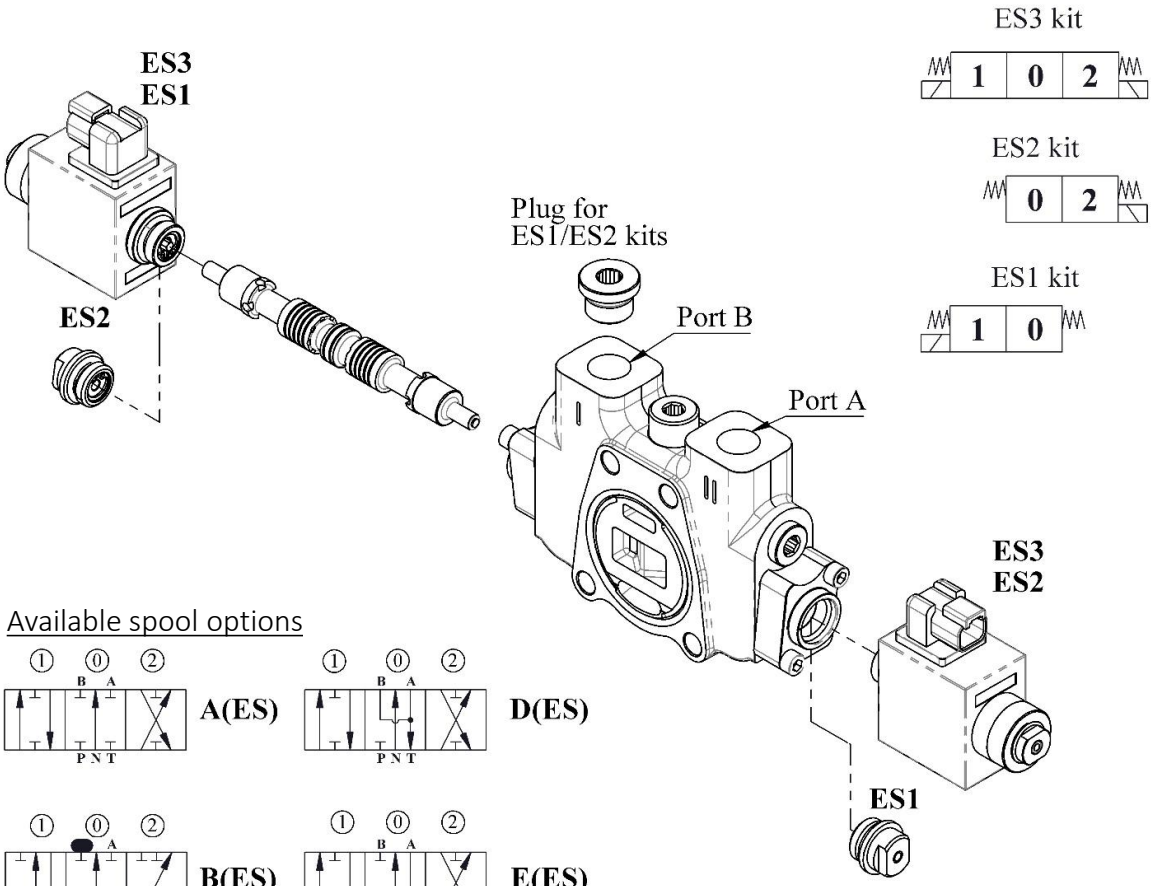
Sections, dimension data and circuit

P-type section (parallel)
Section with port valve arrangement



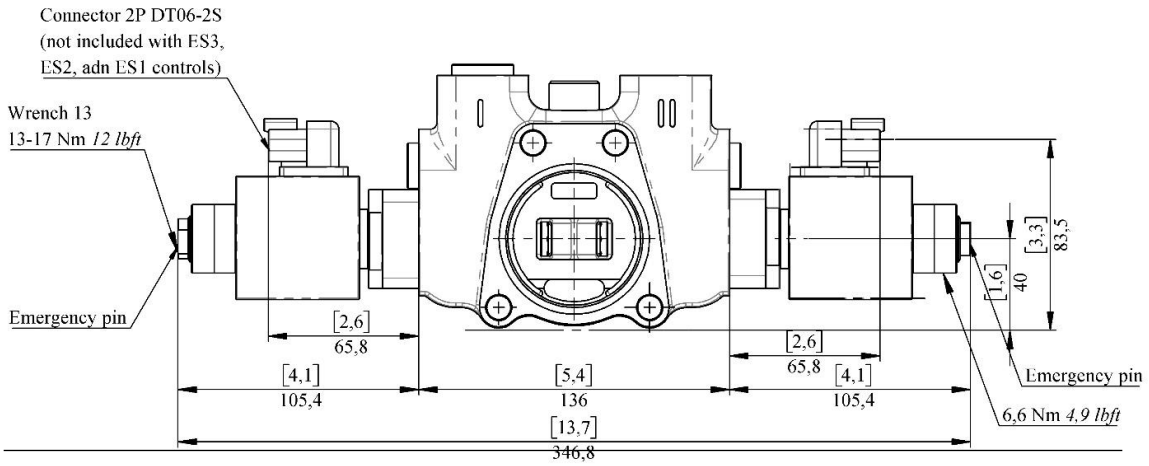


Complete control – single acting ON/OFF solenoid control

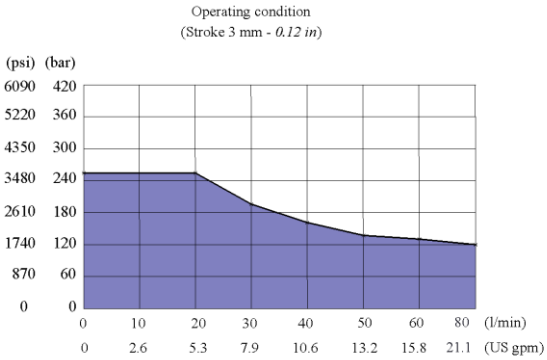


Available spool options

Example description: 3ZC100/N2/3x(PAES3(AoBz))/T2-G34



Complete control – single acting ON/OFF solenoid control



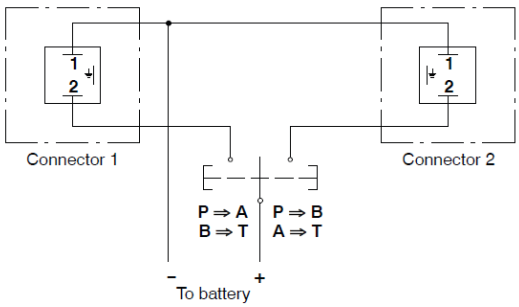
Operating features

Internal leakage (min.) A(B) to T Δp = 100 bar (1450 psi) fluid and valve at 40 oC (104 oF)	min. 15 cm^3/min *0.91 in^3/min*

COIL specifications

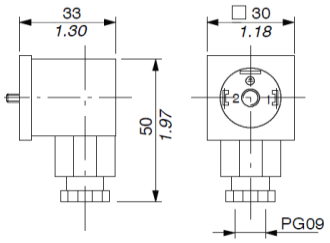
Nominal voltage tolerance	±10 %
Power rating	60 W
Current	5 A - 12 VDC
	2.5 A - 24 VDC
Weather protection	IP65
Coil insulation	Class H
Duty cycle	100%

Electric wiring example

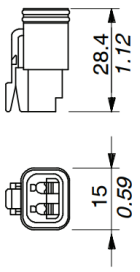


Connector specifications per type of coils available

2P+T according to ISO 4400 / EN175301-803

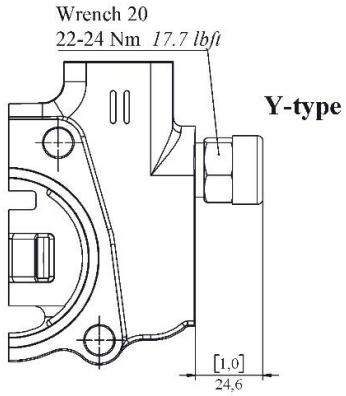


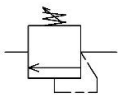
Connector specifications 2 poles, type Deutsch DT06-2S Male housing with female ends

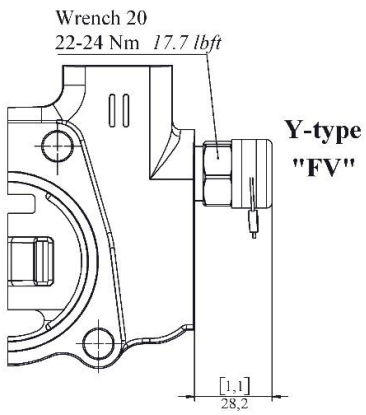


Port valves

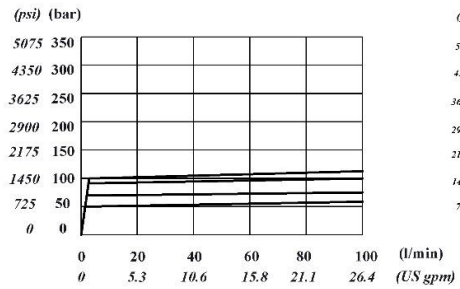
Y-type anti-shock valves



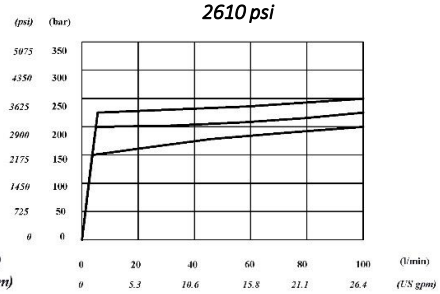




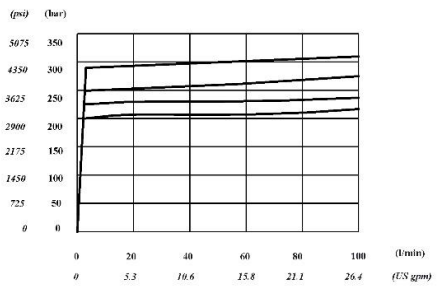
Spring D2: Range 50 - 120 bar / 725 psi to 1740 psi, standard setting at 125 bar / 1740 psi



Standard spring (no name): Range 120 - 250 bar / 1740 psi to 3625 psi, standard setting at 180 bar / 2610 psi

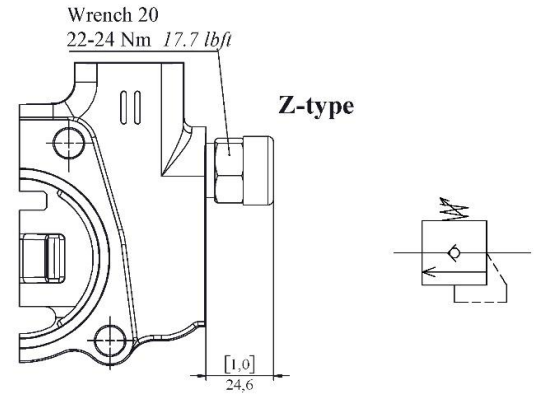


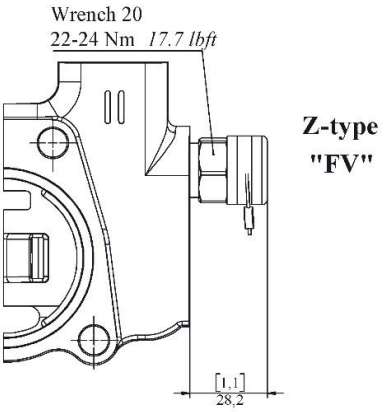
Spring D4: Range 220-315 bar / 3190 psi to 4570 psi, standard setting at 220 bar / 3190 psi



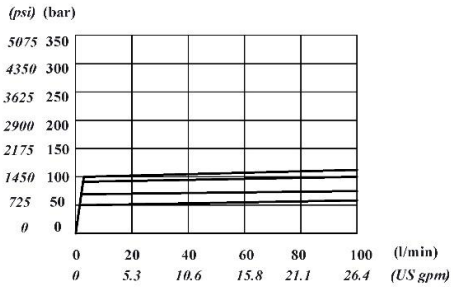
Port valves

Z-type anti-shock and anti-cavitation valves

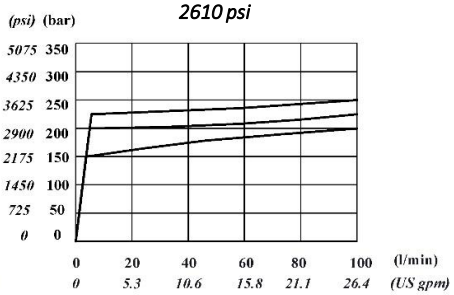




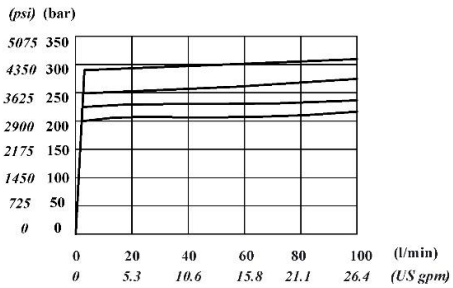
Spring D2: Range 50 - 120 bar / 725 psi to 1740 psi, standard setting at 125 bar / 1740 psi



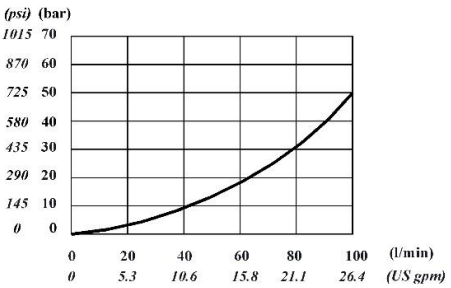
Standard spring (no name): Range 120 - 250 bar / 1740 psi to 3625 psi, standard setting at 180 bar / 2610 psi



Spring D4: Range 220-315 bar / 3190 psi to 4570 psi, standard setting at 220 bar / 3190 psi

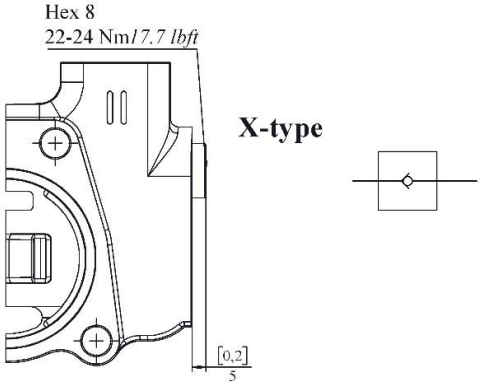


Pressure drop through anti-cavitation valve

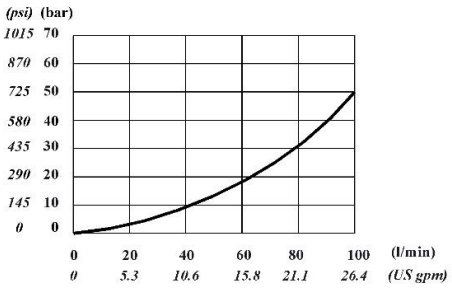


Port valves

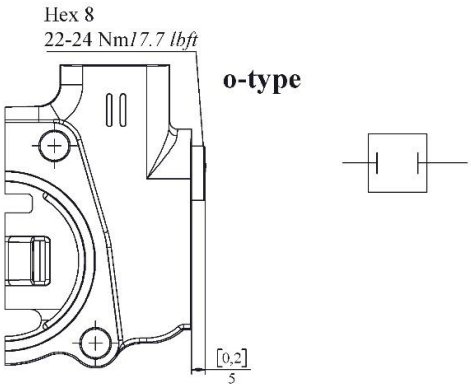
Anti-cavitation valve



Pressure drop through anti-cavitation valve



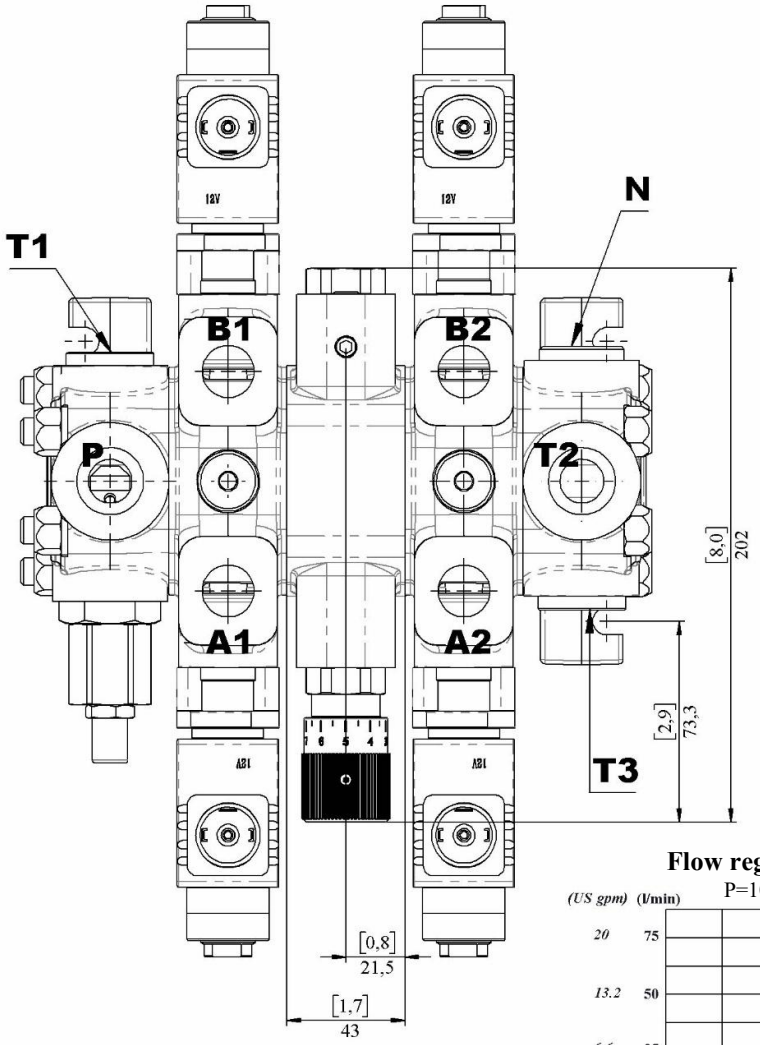
Valve blanking plug



Middle covers

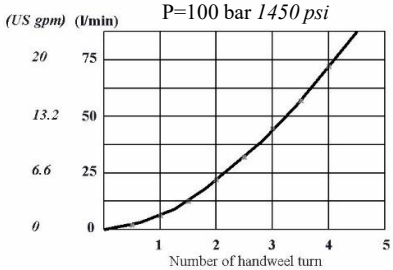
DF pressure compensate flow divider section

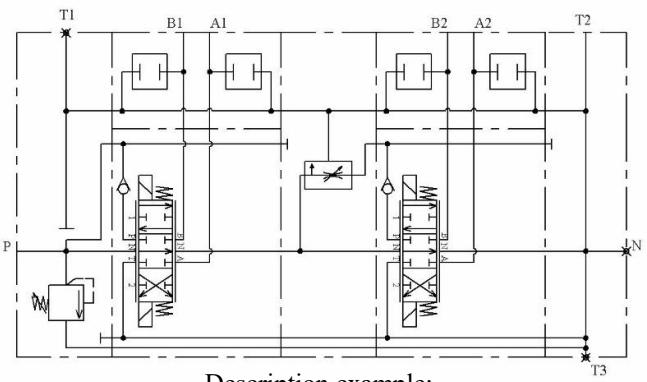
The flow on the downstream sections can be adjusted from 0 to 80 l/min *21 US gpm* by means of graduated handwheel; exceeding flow goes to tank.



Flow regulation diagram

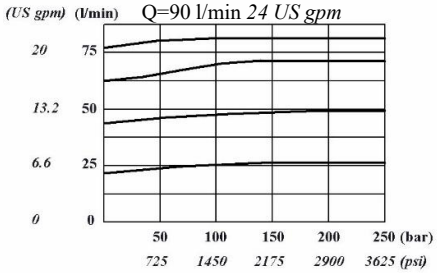
P=100 bar *1450 psi*





Pressure-flow diagram

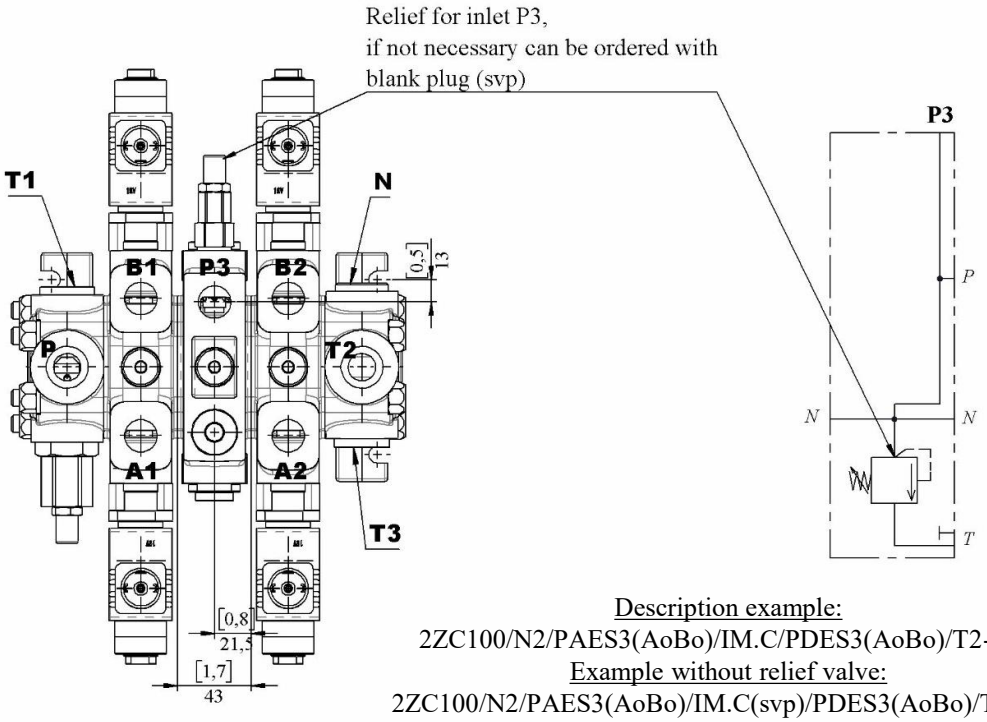
Q=90 l/min *24 US gpm*



Description example:
2ZC100/N2/PA1KZ1/DF/PA1KZ1(AoBo)/T2-G34

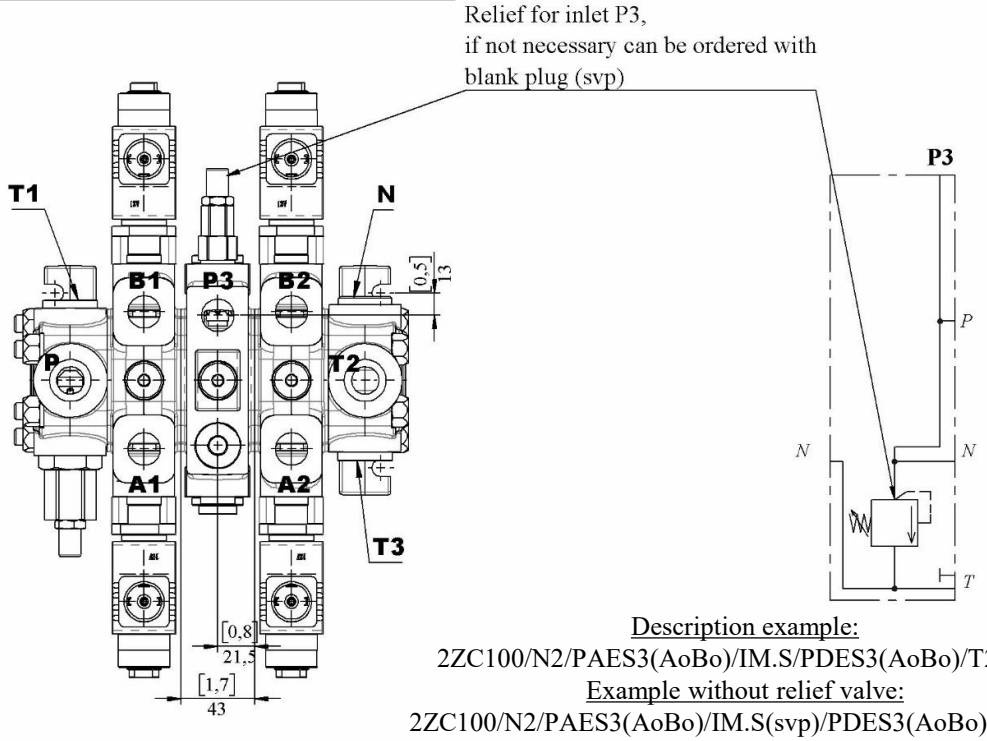
Middle covers

IM.C Middle inlet section adding a second flow to the sections downstream



Description example:
2ZC100/N2/PAES3(AoBo)/IM.C/PDES3(AoBo)/T2-G34
Example without relief valve:
2ZC100/N2/PAES3(AoBo)/IM.C(svp)/PDES3(AoBo)/T2-G34

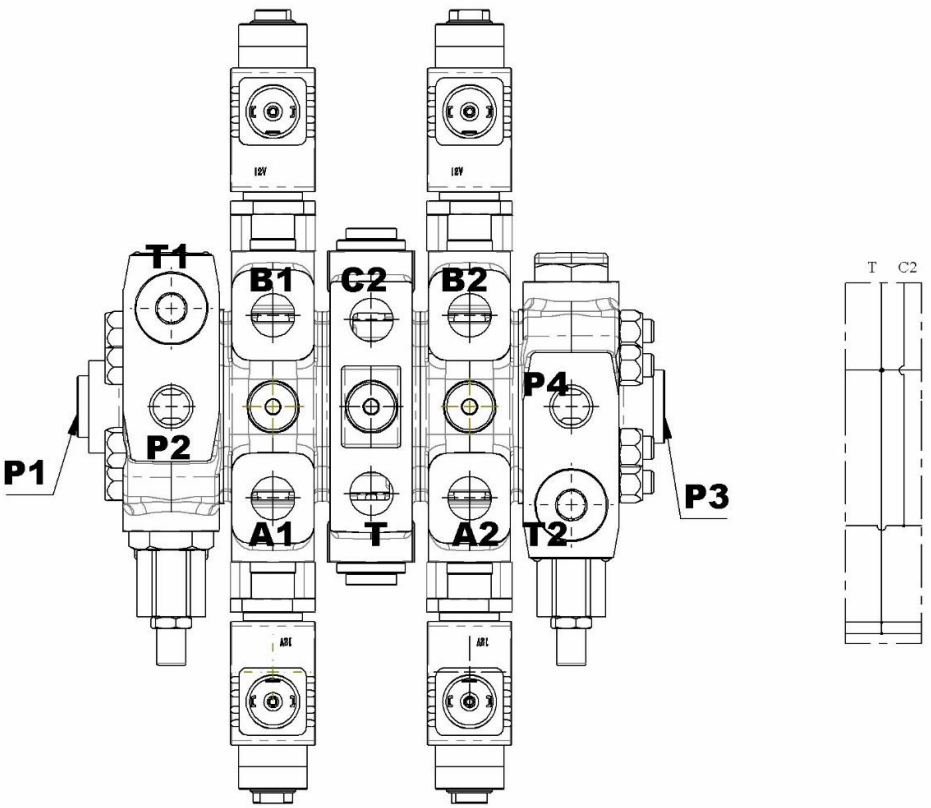
IM.S Middle inlet section interrupting the flow from inlet cover and providing a separate flow to the sections downstream



Description example:
2ZC100/N2/PAES3(AoBo)/IM.S/PDES3(AoBo)/T2-G34
Example without relief valve:
2ZC100/N2/PAES3(AoBo)/IM.S(svp)/PDES3(AoBo)/T2-G34

Middle covers

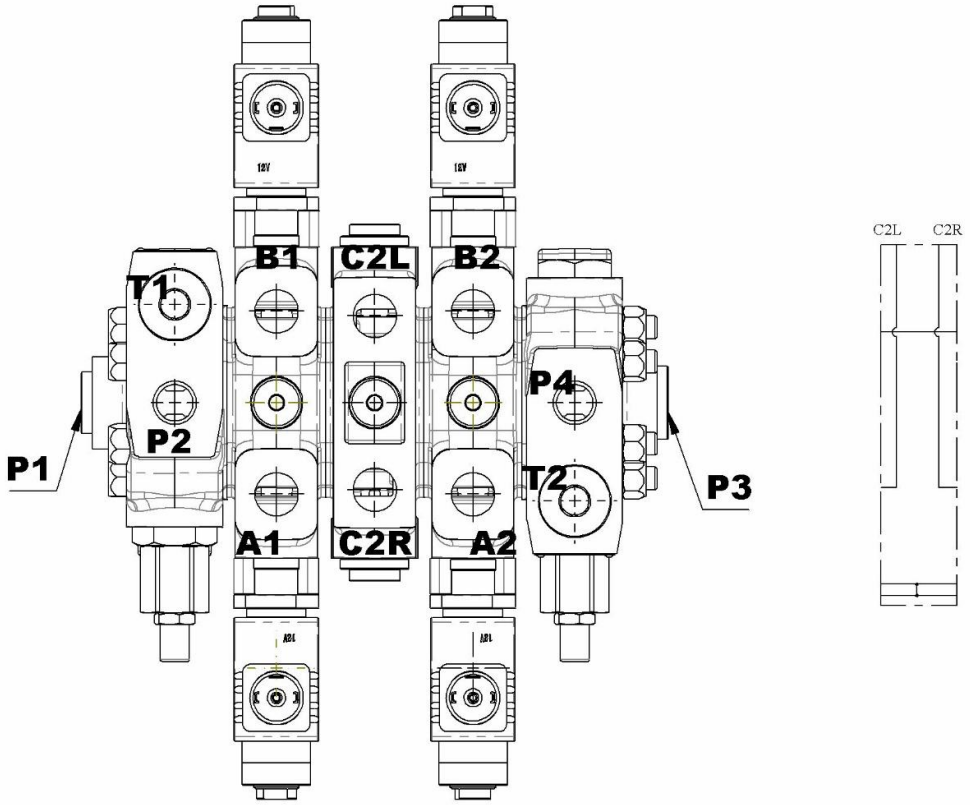
OM.C2T Middle outlet section with high pressure line and tank line for dual inlet cover schematic



Description example:
2ZC100/L2/PD1KZ1/OM.C2T/PRD1KZ1/L4-G34

Middle covers

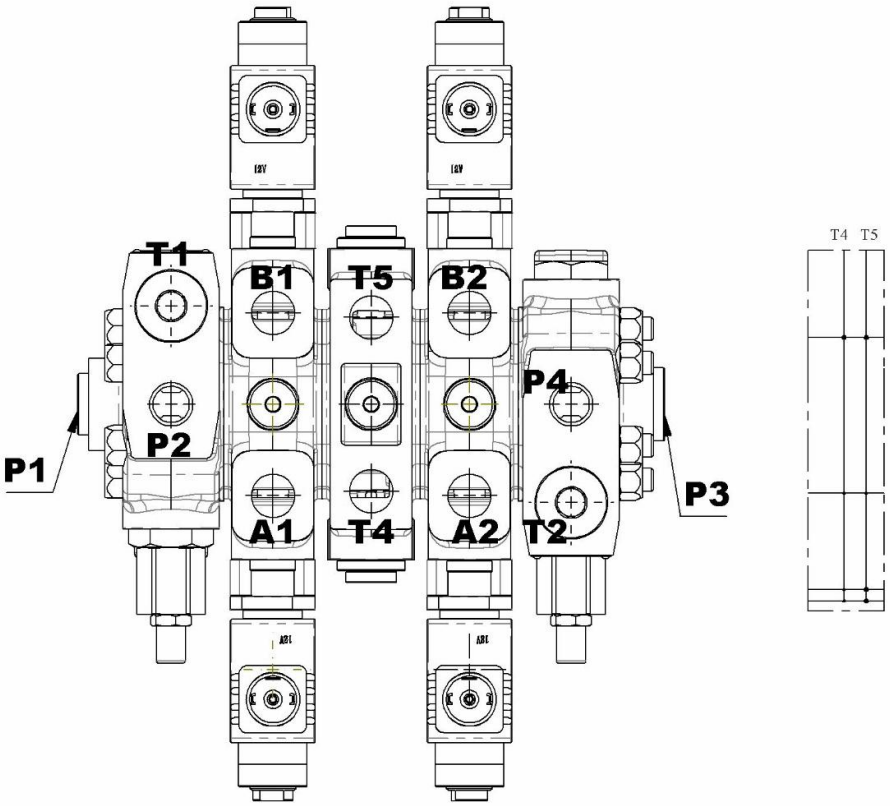
OM.C2TC2R Middle outlet section with dual high-pressure lines for dual inlet cover schematic and use of T1



Description example:
2ZC100/L2/PD1KZ1/OM.C2L.C2R/PRD1KZ1/L4-G34

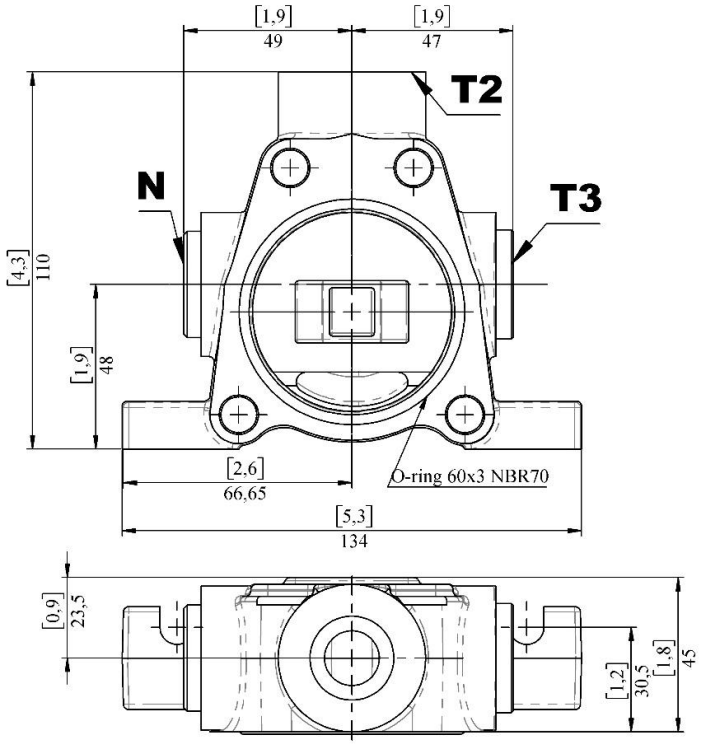
Middle covers

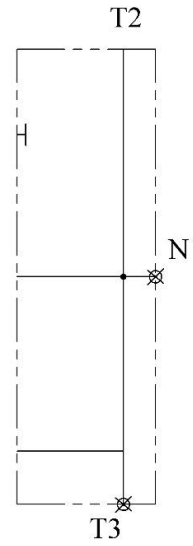
CS Middle outlet section with two additional outlet ports T4, and T5



Description example:
2ZC100/L2/PD1KZ1/CS/PRD1KZ1/L4-G34

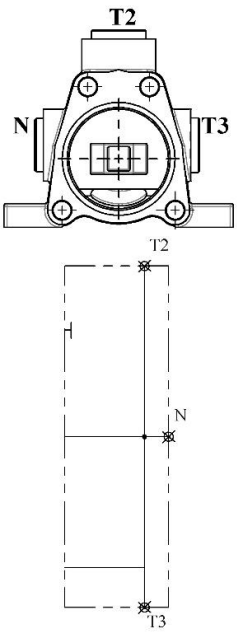
Outlet cover





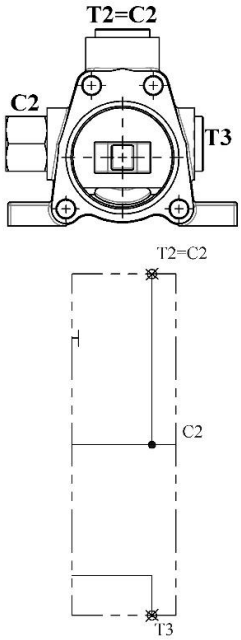
Description example:
T2-G34

Outlet cover with tank port on the inlet cover (T1)



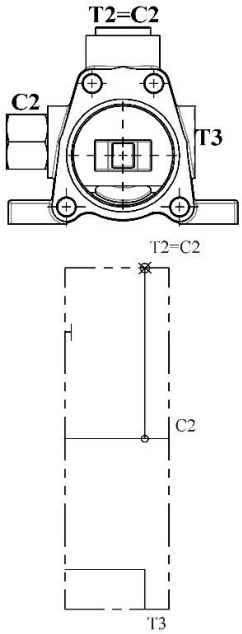
Description example:
T1-G34

Outlet cover with HPCO C2 and tank port on the inlet cover (T1)



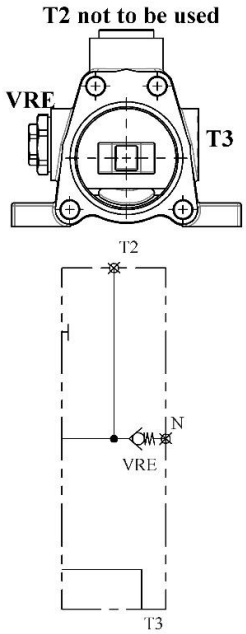
Description example:
T1-C2-G34

Outlet cover with HPCO C2 and tank port T3



Description example:
T3-C2-G34

Outlet cover with VRE (back pressure valve for ED3 control) and tank port T3



Description example:
T3(VRE)-G34

Note: Closed centre system can be achieved by plugging C2 port with standard plug