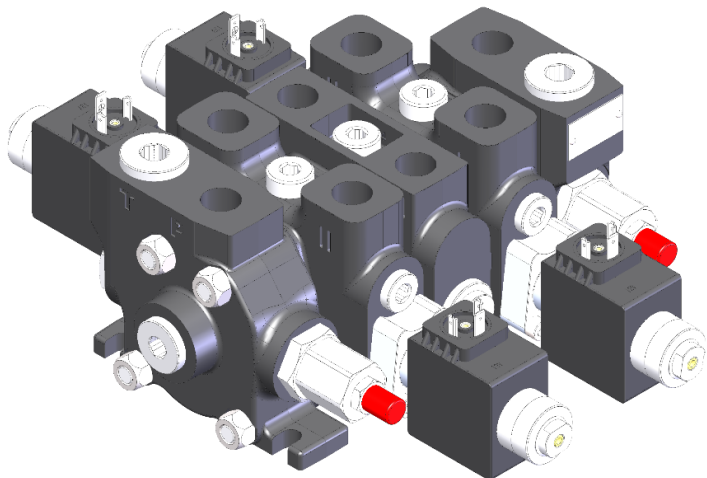
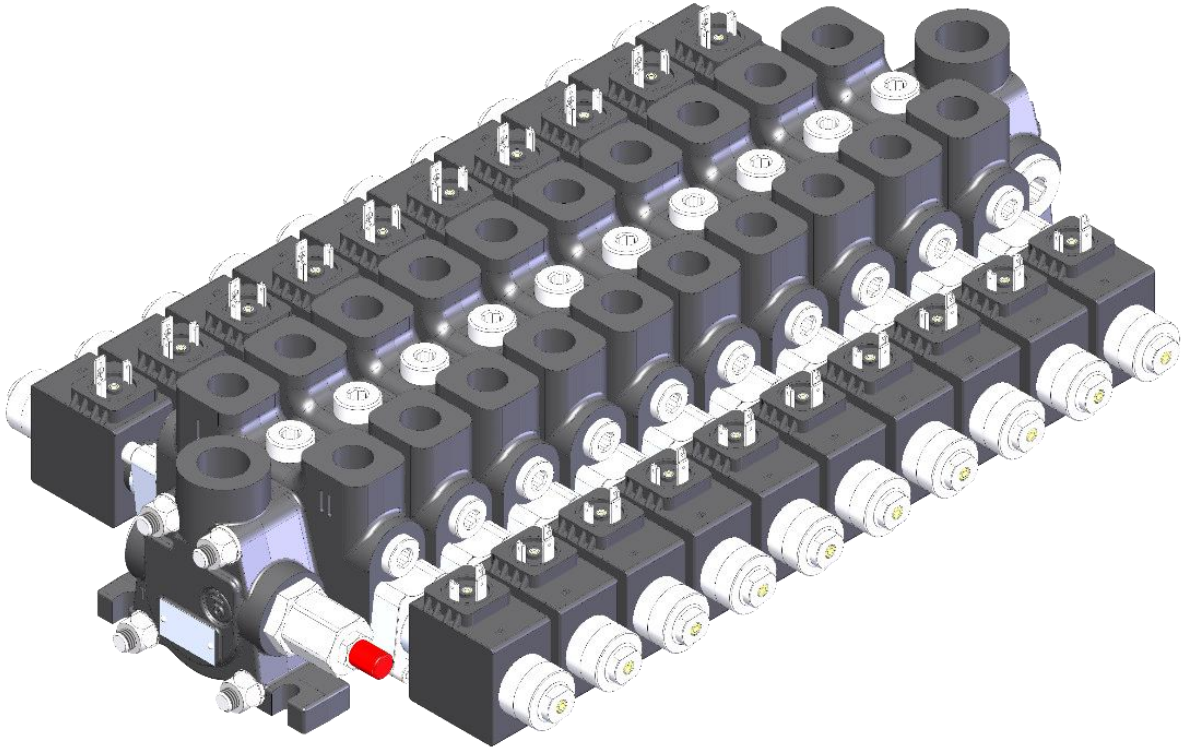


# ZC100

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## **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	$\Delta p = 100 \text{ bar (1450 psi)}$ fluid and valve at 40 °C (104 °F)	15 cm <sup>3</sup> /min	1.05 in <sup>3</sup> /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 <sup>2</sup> /s	from 15 to 75 cSt
	min.	12 mm <sup>2</sup> /s	12 cSt
	max.	400 mm <sup>2</sup> /s	400 cSt
Permissible 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

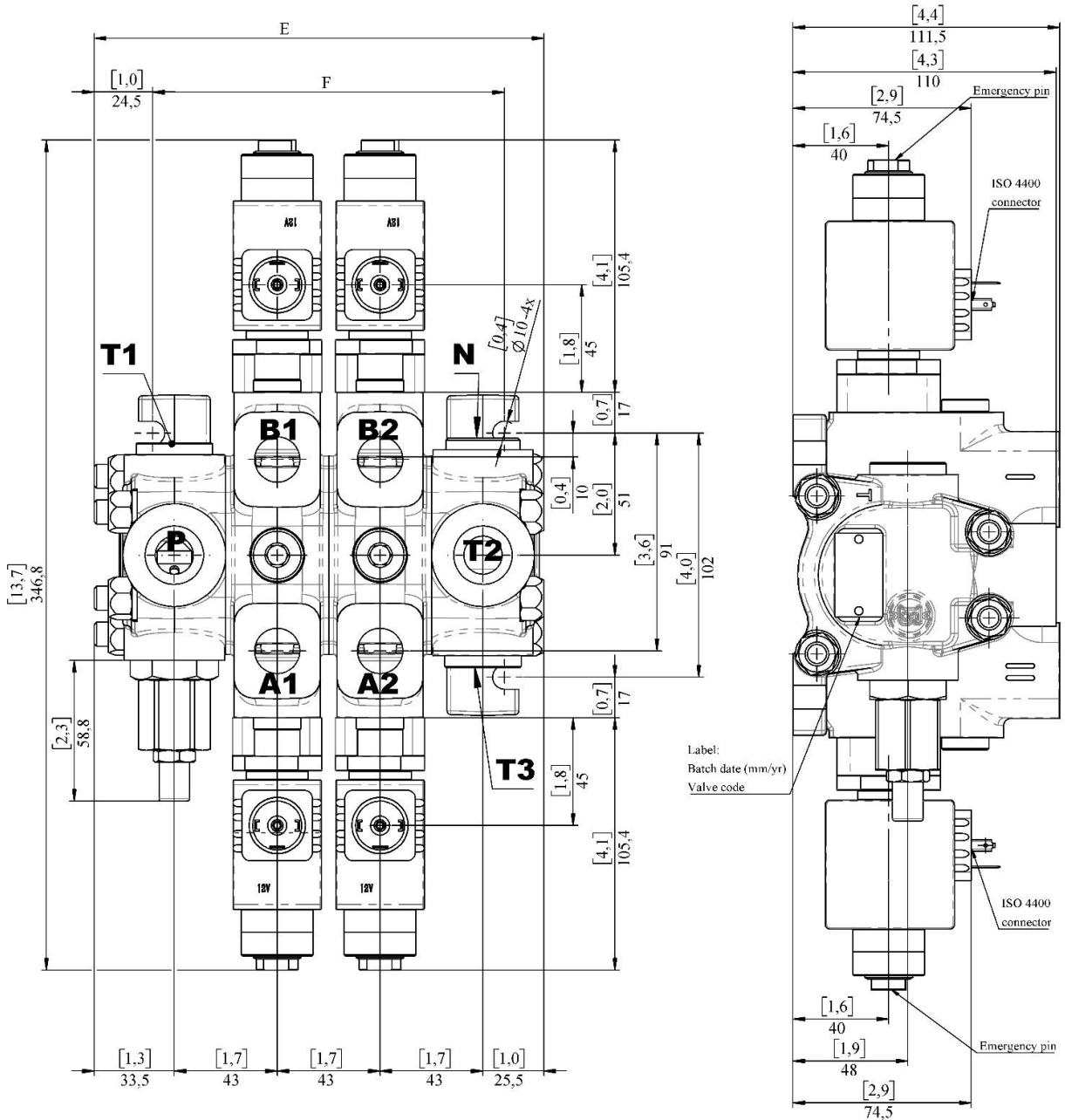
### Standard threads

	Reference standard			
	BSP	UN-UNF	Metric	NPTF
Thread	ISO 228/1	ISO 263	ISO 262	Ansi B1.20.3
according to	BS 2779	ANSI B1.1 unified		
Cavity dimension	ISO 1179	11926	9974-1	
according to	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

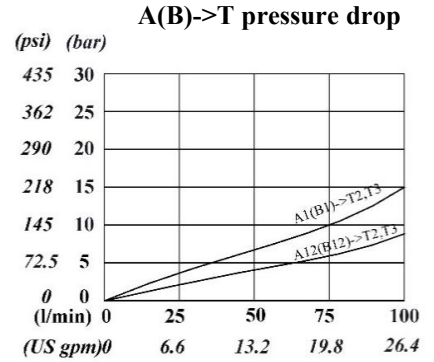
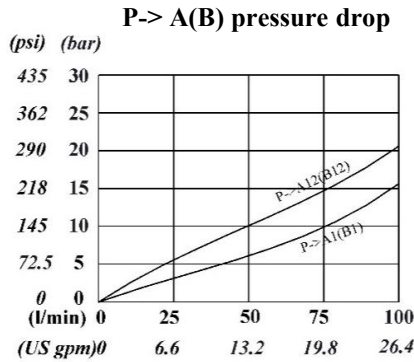
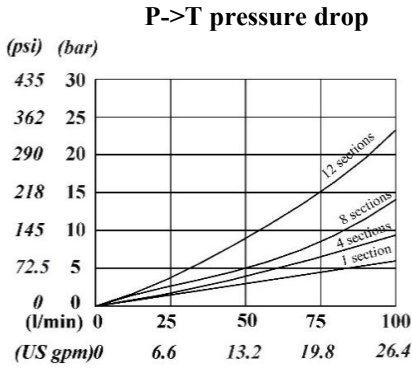


TYPE	E		F		Weight	
	mm	in	mm	in	kg	lb
ZC100	145	5.71	104	4.09	10.50	23.1
2ZC100	188	7.40	147	5.79	13.70	30.2
3ZC100	231	9.09	190	7.48	16.90	37.2
4ZC100	274	10.79	233	9.2	20.10	44.3
5ZC100	317	12.5	276	10.9	23.30	51.4
6ZC100	360	14.2	319	12.6	26.50	58.4

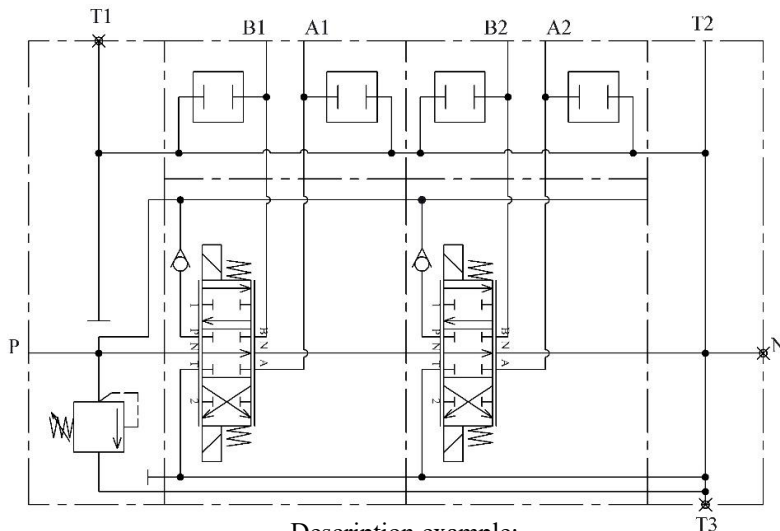
TYPE	E		F		Weight	
	mm	in	mm	in	kg	lb
7ZC100	403	15.9	362	14.3	29.70	65.5
8ZC100	446	17.6	405	15.9	32.90	72.5
9ZC100	489	19.3	448	17.6	36.10	79.6
10ZC100	532	20.9	491	19.3	39.30	86.6
11ZC100	575	22.6	534	21.0	42.50	93.7
12ZC100	618	24.3	577	22.7	45.70	100.7

**Hydraulic circuits**

**Performance data**



**Parallel circuit**



Description example:  
2ZC100/N2/PAES3(AoBo)/PAES3(AoBo)/T2-G34

### Order code, complete

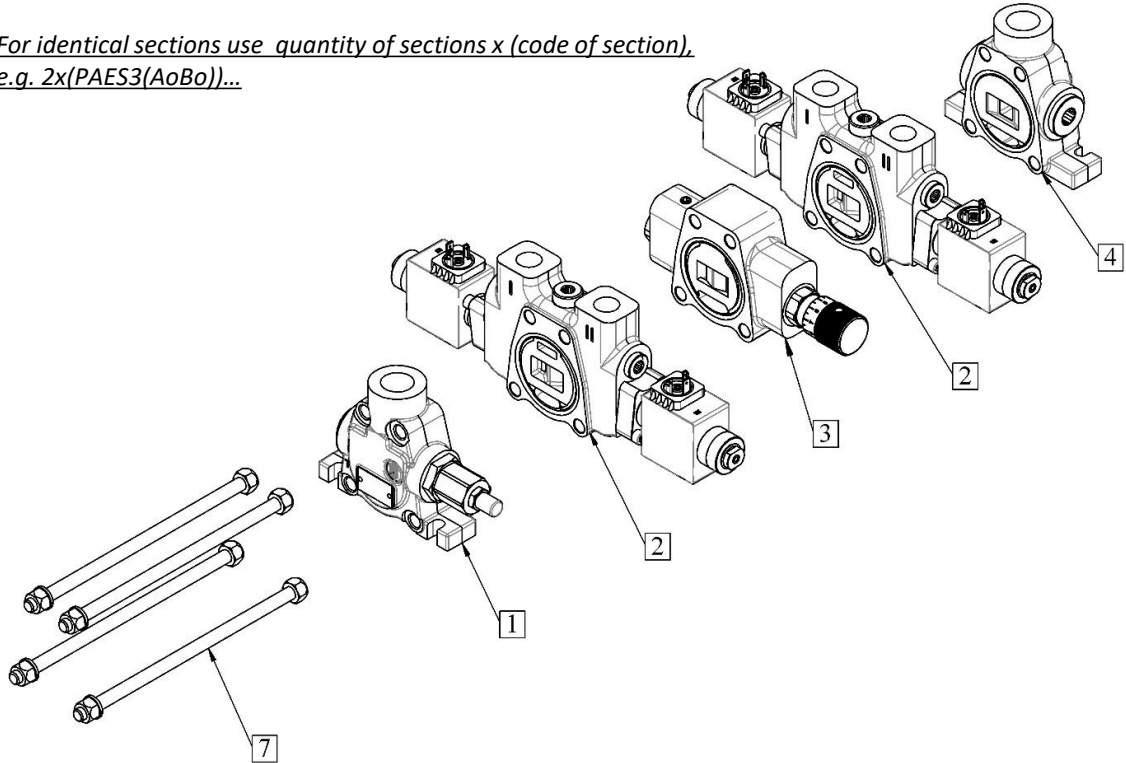
*Following  
sections*

*First section*

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



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



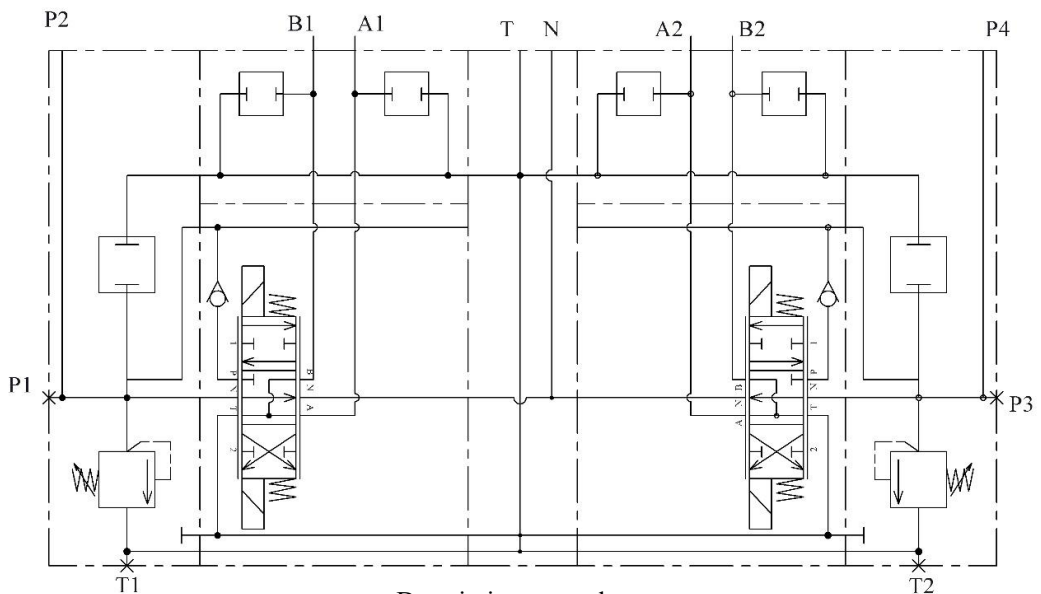
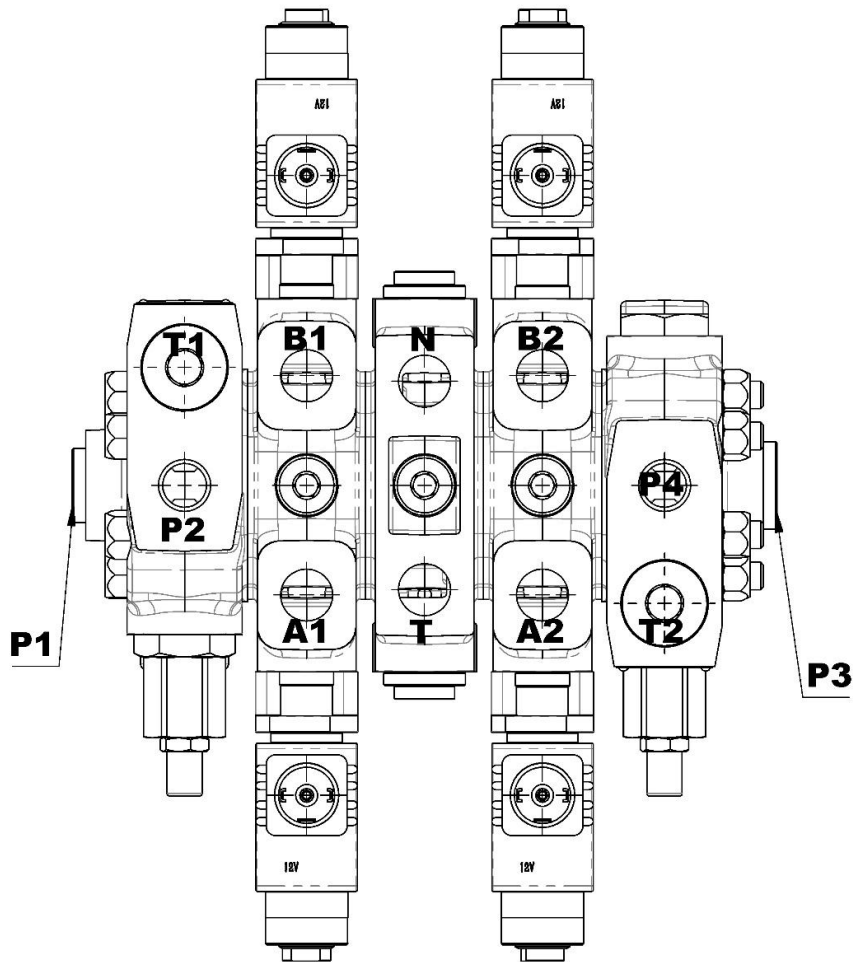
1 Complete inlet covers	
Type	Description
N1	Top inlet P and backside outlet port T1 with relief valve
N2	Top inlet P and backside outlet port T1 plugged with relief valve
L1	Side inlet P1 with relief valve for left inlet valves (standard)
L2	Top inlet with relief valve for left inlet valves (standard)
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)	Description
	Parallel circuit, double acting spool with spring return and lever control

**Order code, complete**

<b>3 Intermediate sections</b>		<b>5 Valve Threading - refer to page 3</b>	
DF	<i>Pressure compensated flow divider section, excess flow goes to tank</i>	<b>6 Coating and plating</b>	
IM.C	<i>Intermediate inlet with relief valve, which combines the flow from the by-pass line of previous sections</i>	<i>Valve body is phosphated, steel parts Zn plated, spools either Ni, or Cr plating (omit in valve description)</i>	
IM.S	<i>Intermediate inlet with relief valve, which separates the flow from the by-pass line to tank.</i>	BP	Painting
CS1	<i>Intermediate outlet cover</i>	<b>7 Assembly kit (tie rod kit)</b>	
OM-C2T	<i>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)</i>	1S	<i>Tie rod kit for 1 section</i>
OM-C2LC2R	<i>Intermediate outlet cover with two separate high pressure carry over lines, to be used in combination with two inlet covers N</i>	2S	<i>Tie rod kit for 2 section</i>
<b>4 Complete outlet cover</b>		3S	<i>Tie rod kit for 3 section</i>
T1	<i>Outlet cover ports (T2, T3) plugged, in use only inlet cover low pressure port T1, to be used in combination N1 only</i>	4S	<i>Tie rod kit for 4 section</i>
T2	<i>Outlet cover with top outlet T2</i>	5S	<i>Tie rod kit for 5 section</i>
T3	<i>Outlet cover with front outlet T3</i>	6S	<i>Tie rod kit for 6 section</i>
T3C2	<i>Back carry over port C2 with top port high pressure T2 (plugged) and front port low pressure T3</i>	7S	<i>Tie rod kit for 7 section</i>
T1C2	<i>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</i>	8S	<i>Tie rod kit for 8 section</i>
		9S	<i>Tie rod kit for 9 section</i>
		10S	<i>Tie rod kit for 10 section</i>

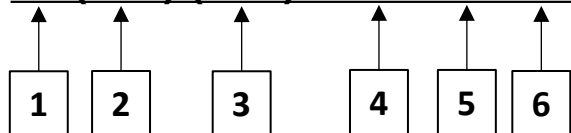
**Directional control valve with two inlets**



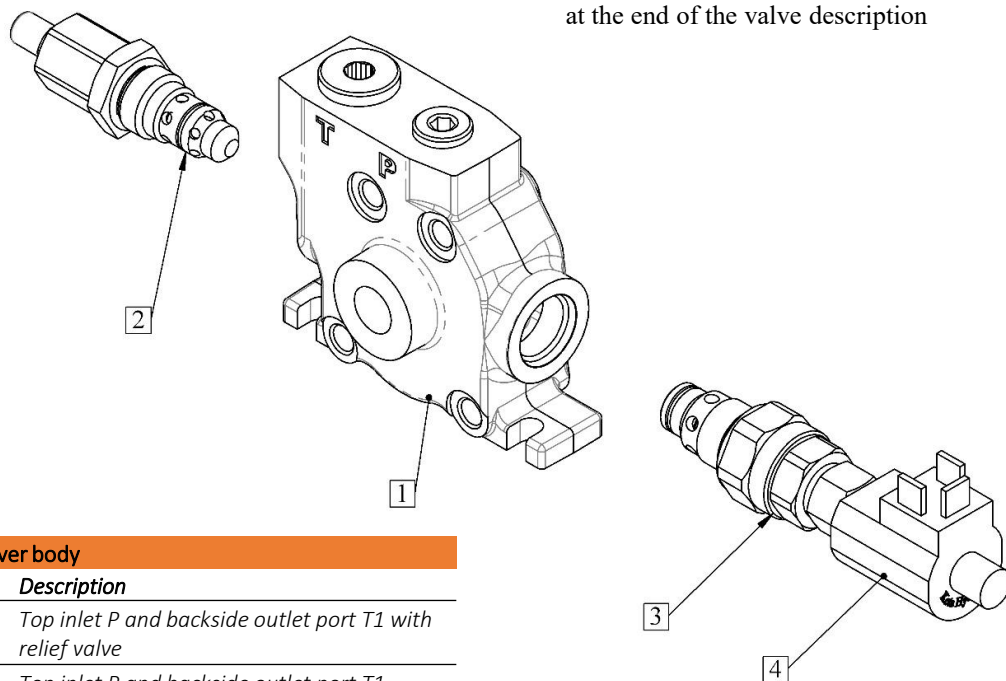
Description example:  
2ZC100/L2/PDES3(AoBo)/OM.C2T/PRDES3(AoBo)/L4-G34

**Inlet cover, order code**

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



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**

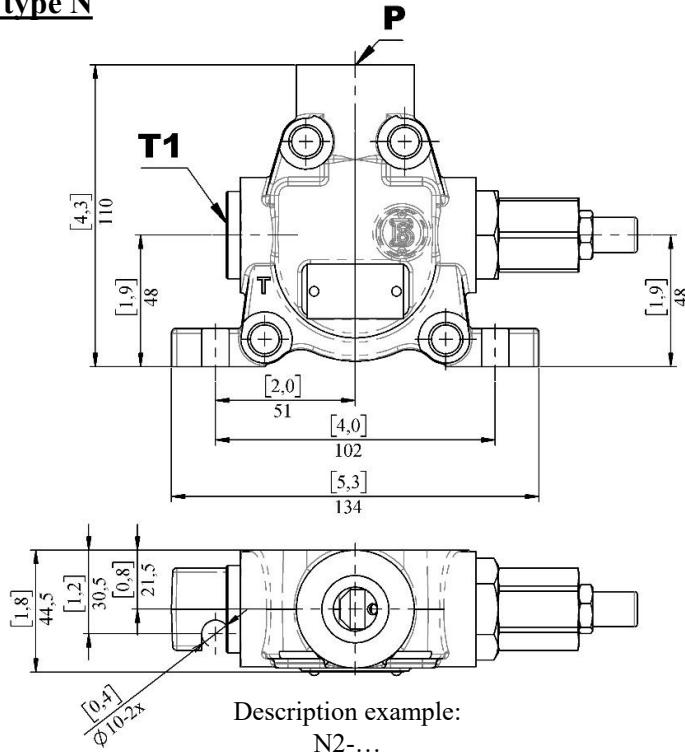
12V	12V coil
24V	24V coil
12V(DT)	12V DT coil
24V(DT)	24V DT coil

**5 Valve Threading - refer to page 3**

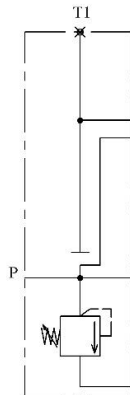
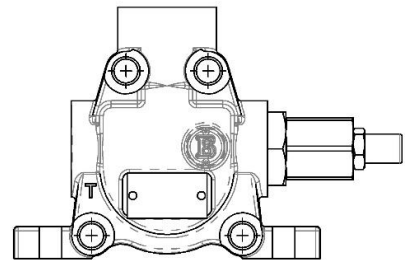
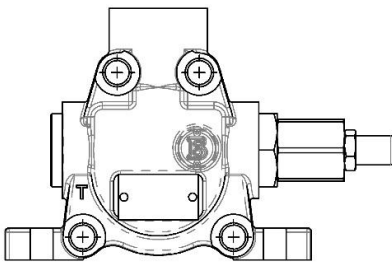
**6 Coating and plating**

	Valve body is phosphated, steel parts Zn plated, spools either Ni, or Cr plating (omit in valve description)
BP	Painting

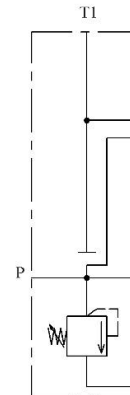
**Inlet cover – type N**



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

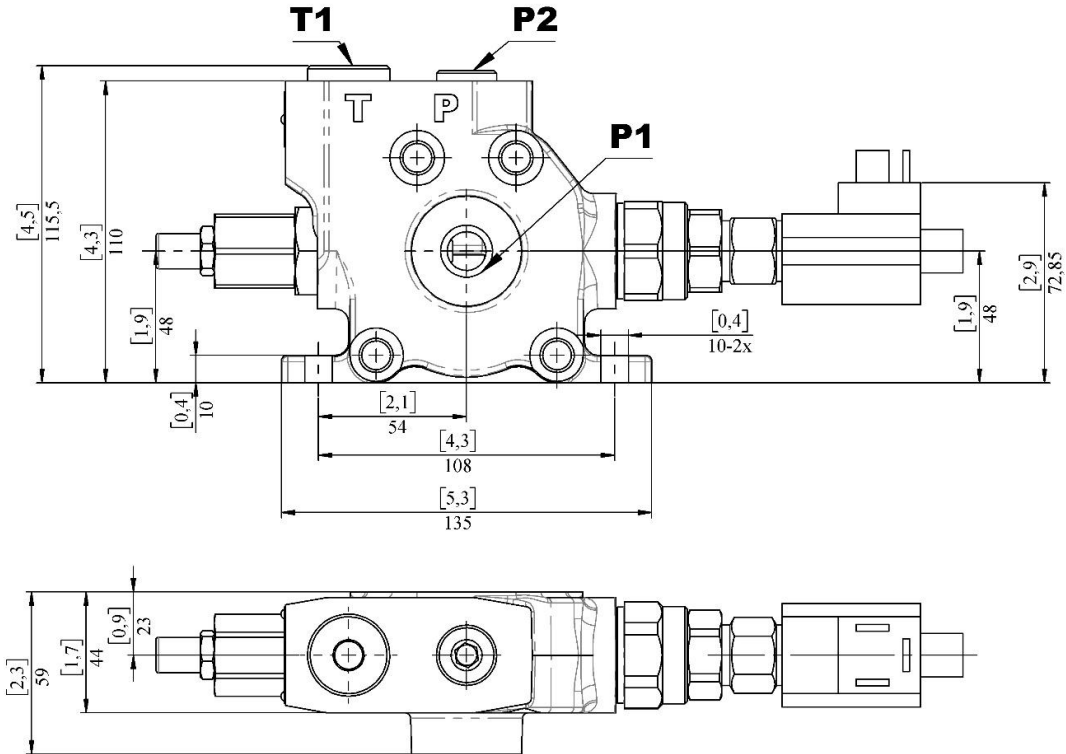


Description example:  
N2-...

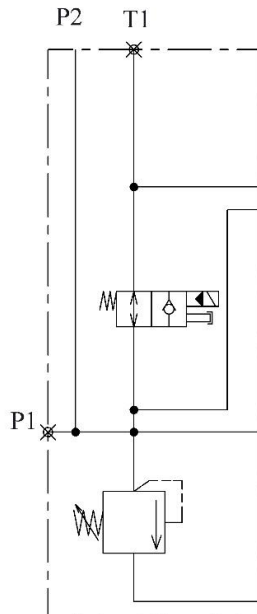


Description example:  
N1-...

**Order code for inlet cover L**

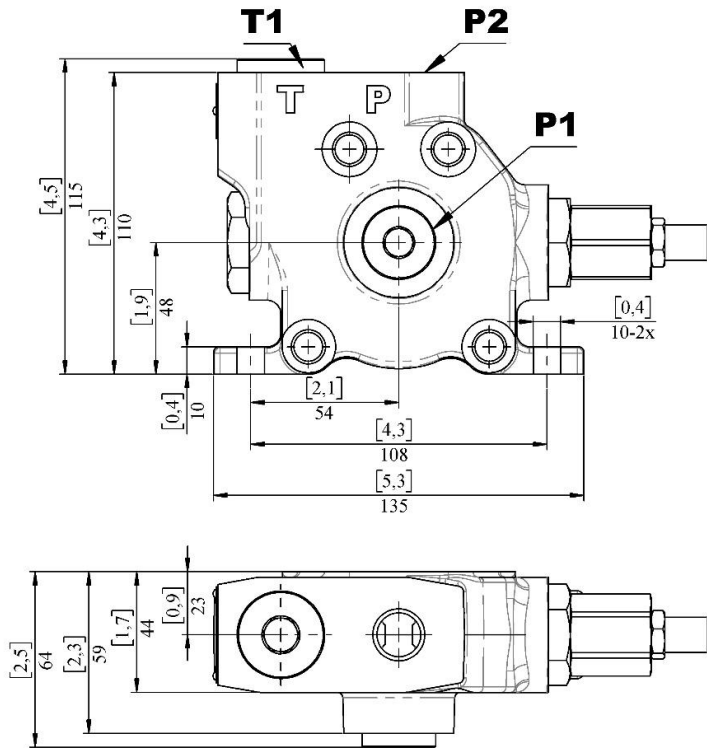


Inlet cover with unloader valve option and side inlet; Main relief valve set at 220 bar and does not have cap nut (FV).

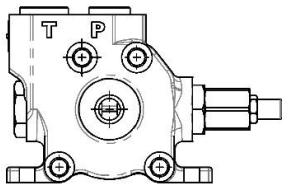


Description example:  
L3(220)(ELP)-24V-...

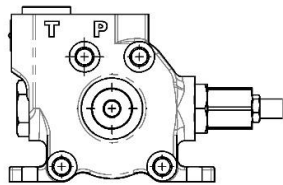
## Order code for inlet cover L



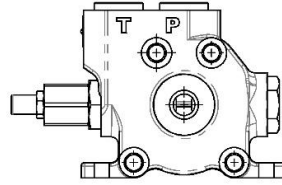
Inlet cover with top inlet and relief for left hand side configuration



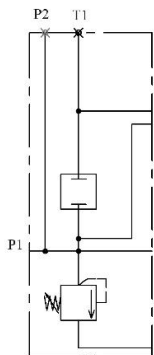
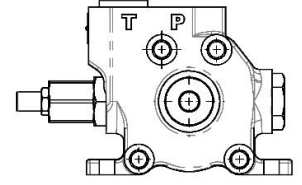
Inlet cover with side inlet and relief for left hand side configuration



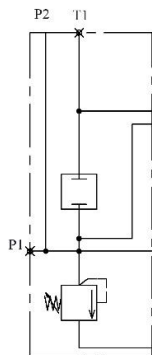
Inlet cover with top inlet and relief for right hand side configuration



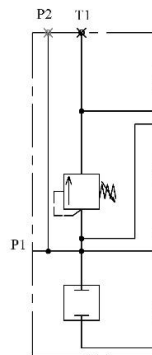
Inlet cover with side inlet and relief for right hand side configuration



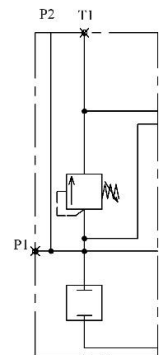
Description example:  
L1-...



Description example:  
L2-...



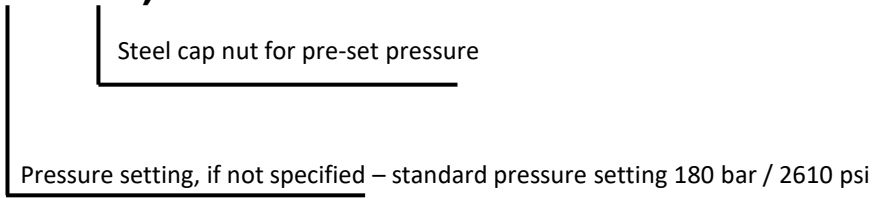
Description example:  
L3-...



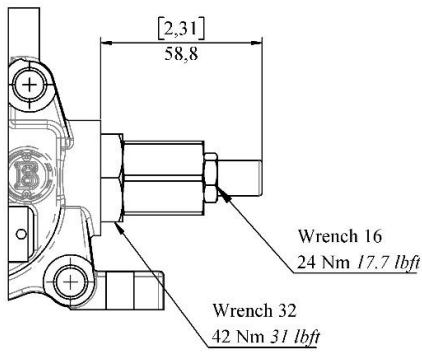
Description example:  
L4-...

**Inlet relief valve**

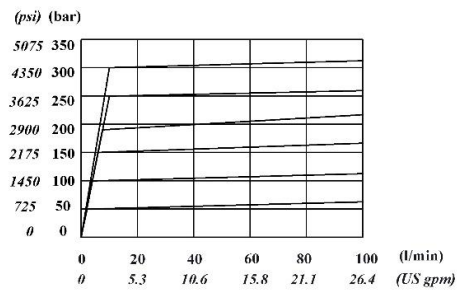
**(280 – FV)**



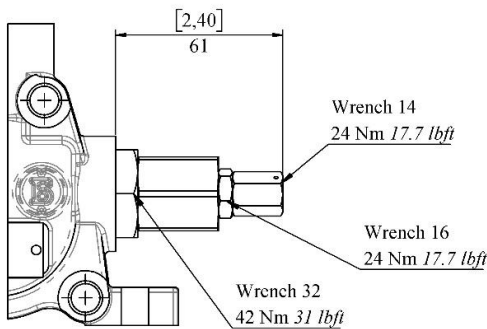
**Standard main relief valve configuration**



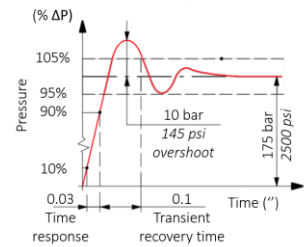
**Valve setting range, with only one spring type**



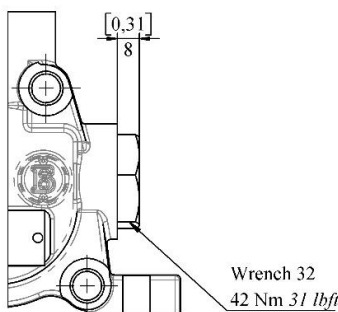
**Main relief valve configuration with cap nut (FV)**



**Time response**

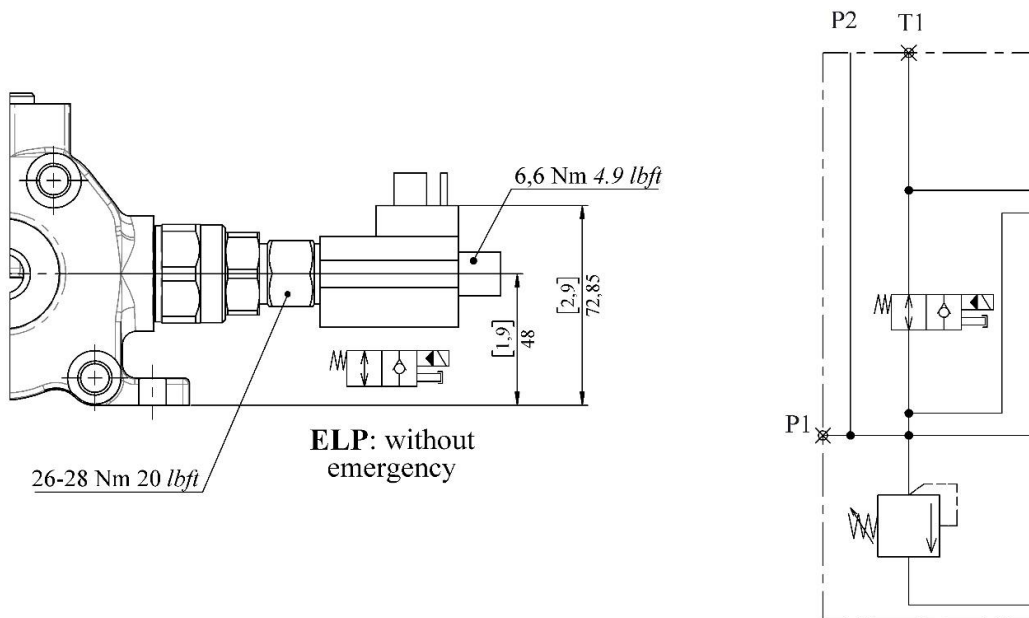


**Without main relief valve – blanking plug only (svp)**



## Unloader valve - ELP

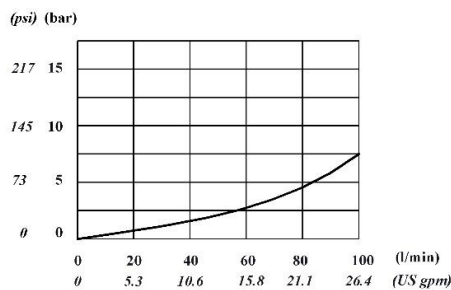
Unloader valve can be used only with inlet cover type L



## Features

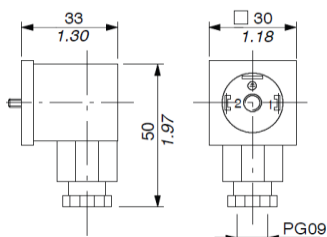
Nominal flow.....100 l/min 26.4 US gpm  
 Max. pressure.....315 bar 4600 psi  
 Internal leakage.....3 ccm/min @ 100 bar 0.18 cin/min @1450 psi

### Pressure drop valve



### Connector specifications

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



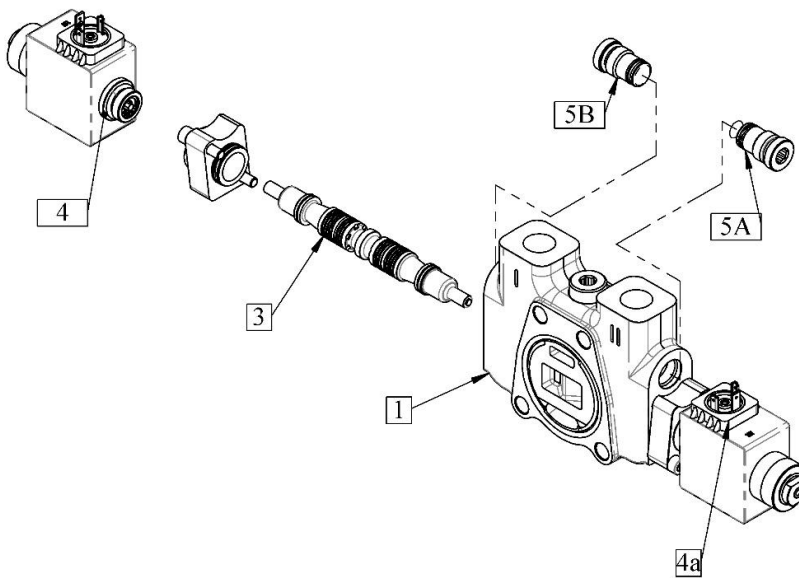
**Sections, order code**

**P    A    ES3 (Ao Bo) – 12V(DT) - G /ZC100**

↑    ↑    ↑    ↑    ↑    ↑

**1    3    4    5A    5B    4a**

*Threading options page 3*



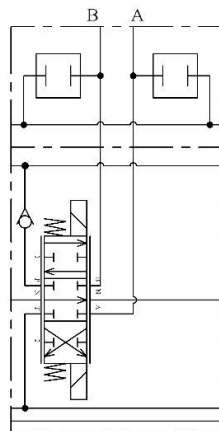
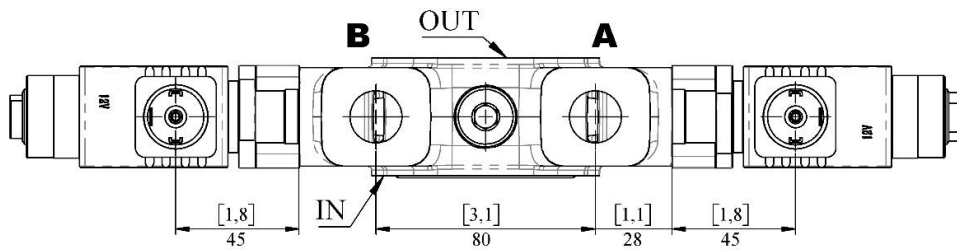
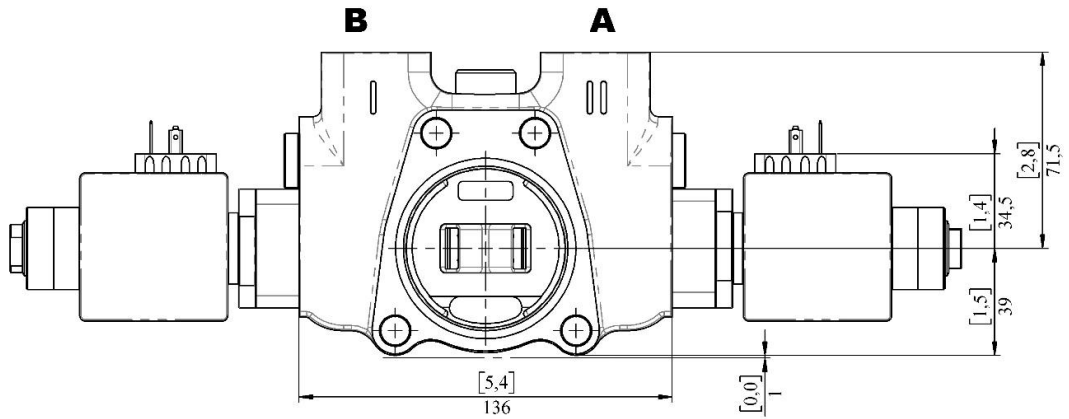
## Sections, order code

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

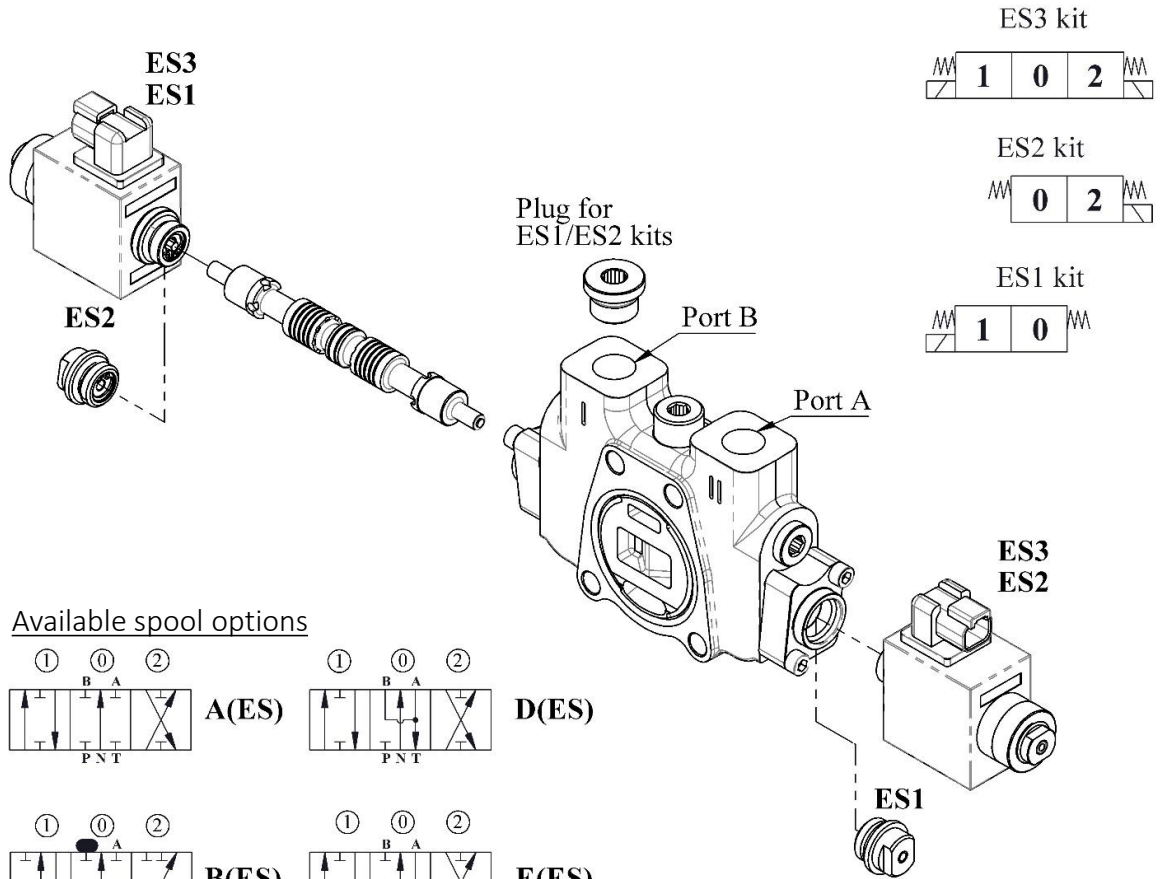
4a Coil specifications	
12V	12V coil
24V	24V coil
12V	12V DT coil
24V	24V DT coil
4b Connectors	
By default, connectors are not included	
(C)	Connector for the particular coil is included
5 Auxiliary (Port) relief valves	
o	Relief valve blanking plug
x	Anti-cavitation valve
Anti-shock valve	
y(D2-120)	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-cavitation 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**

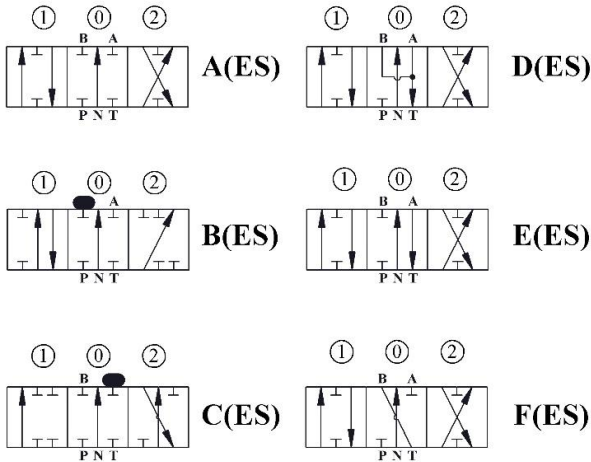
P-type section (parallel)  
Section with port valve arrangement



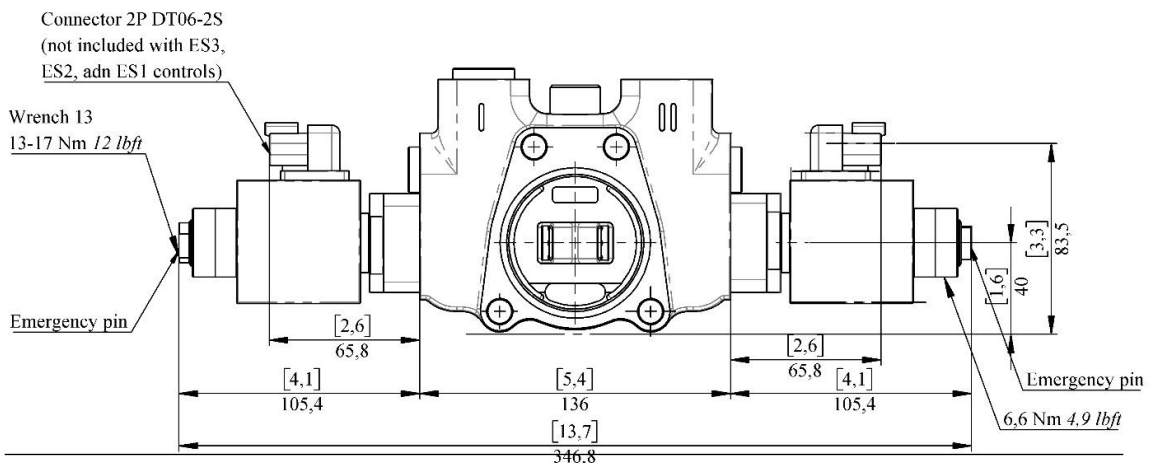
### Complete control – single acting ON/OFF solenoid control



#### Available spool options



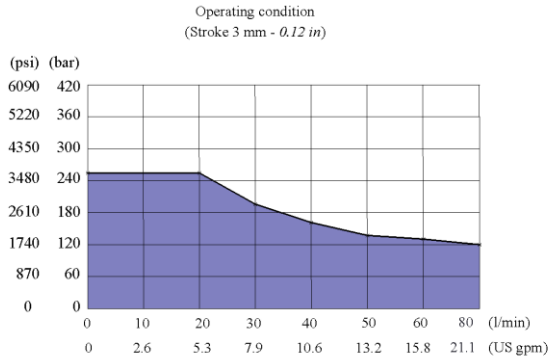
Example description: 3ZC100/N2/3x(PAES3(AoBz))/T2-G34



**Complete control – single acting ON/OFF solenoid control**

Operating features

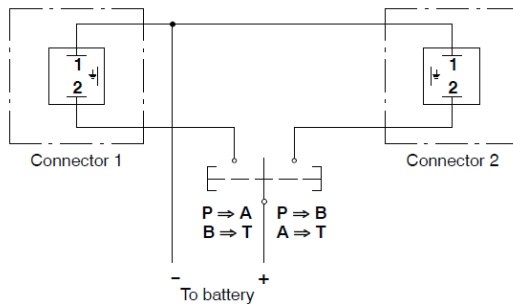
Internal leakage (min.) A(B) to T min. 15 cm<sup>3</sup>/min  
 $\Delta p = 100 \text{ bar (1450 psi)}$  fluid and 0.91 in<sup>3</sup>/min  
 valve at 40 oC (104 oF)



COIL specifications

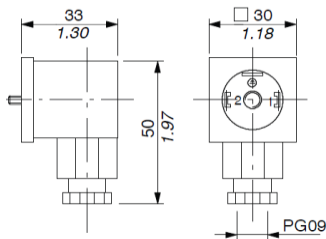
Nominal voltage tolerance	±10 %
Power rating	60 W
Current	5 A - 12 VDC 2.5 A - 24 VDC
Weather protection	IP65
Coil insulation	Class H
Duty cycle	100%

Electric wiring example

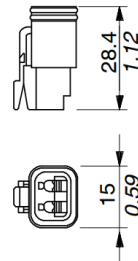


Connector specifications per type of coils available

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

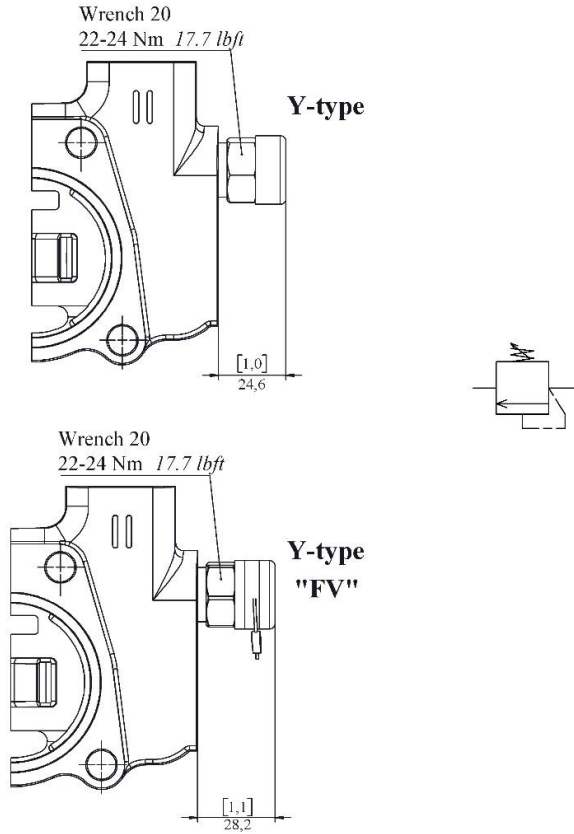


**Connector specifications  
2 poles, type Deutsch DT06-2S  
Male housing with female ends**

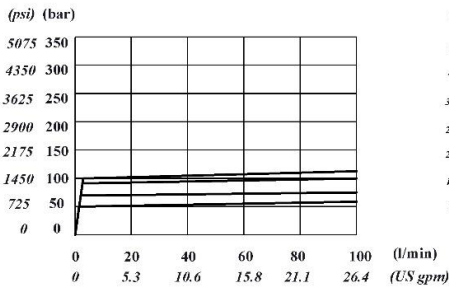


## Port valves

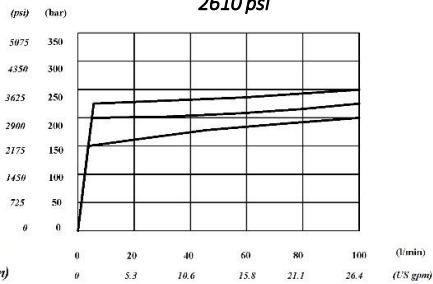
### Y-type anti-shock valves



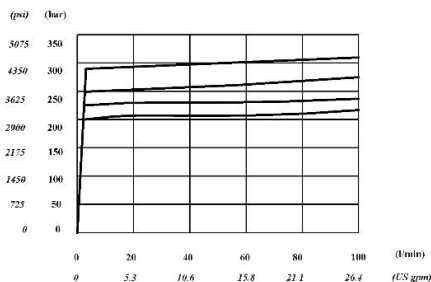
**Spring D2: Range 50 - 120 bar / 725 psi to 1740 psi, standard setting at 125 bar / 1740 psi**



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

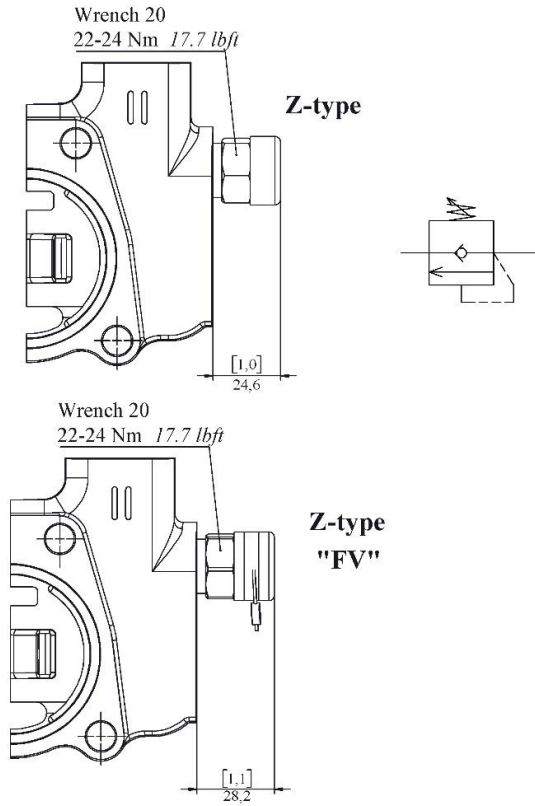


**Spring D4: Range 220-315 bar / 3190 psi to 4570 psi, standard setting at 220 bar / 3190 psi**

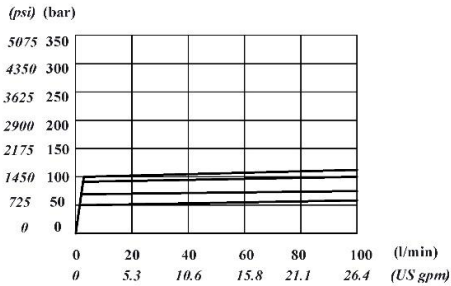


**Port valves**

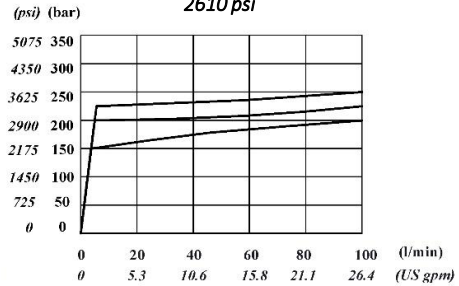
**Z-type anti-shock and anti-cavitation valves**



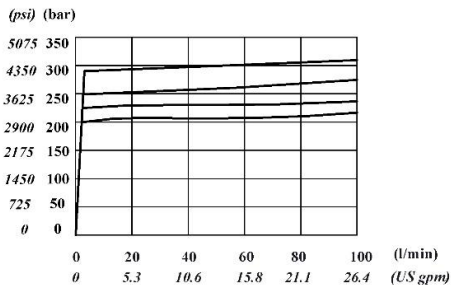
**Spring D2: Range 50 - 120 bar / 725 psi to 1740 psi, standard setting at 125 bar / 1740 psi**



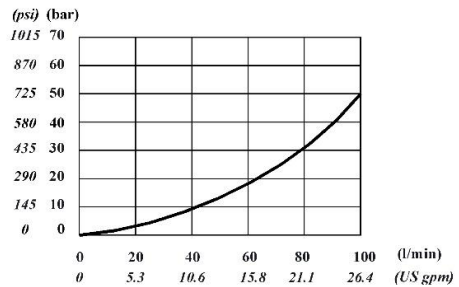
**Standard spring (no name): Range 120 - 250 bar / 1740 psi to 3625 psi, standard setting at 180 bar / 2610 psi**



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

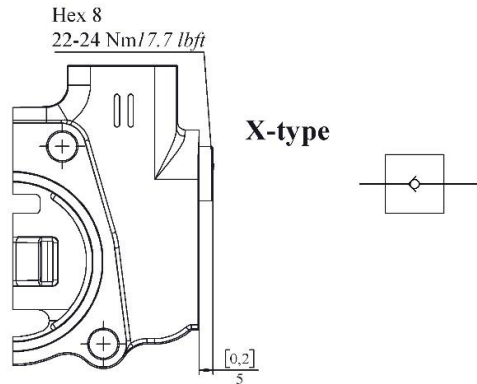


**Pressure drop through anti-cavitation valve**

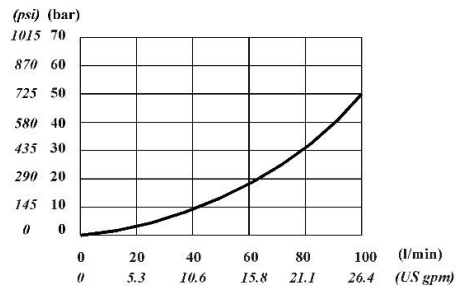


**Port valves**

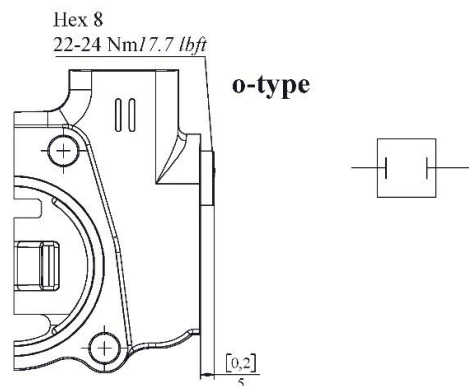
**Anti-cavitation valve**



**Pressure drop through anti-cavitation valve**



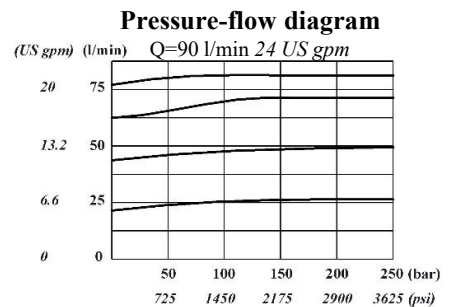
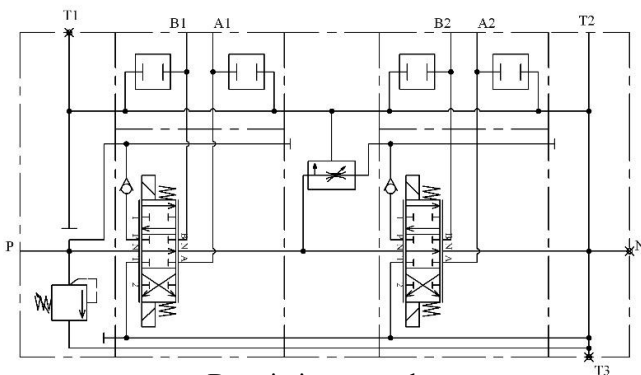
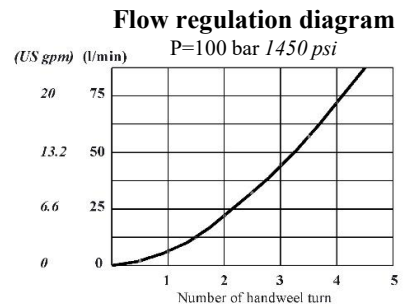
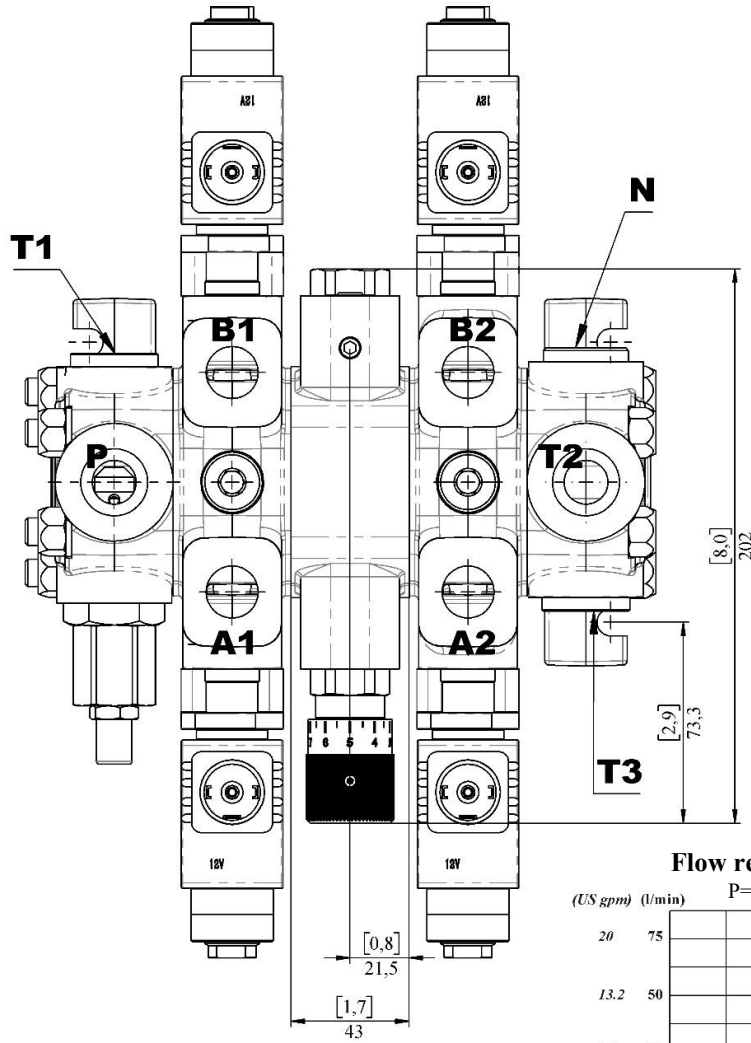
**Valve blanking plug**



**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.

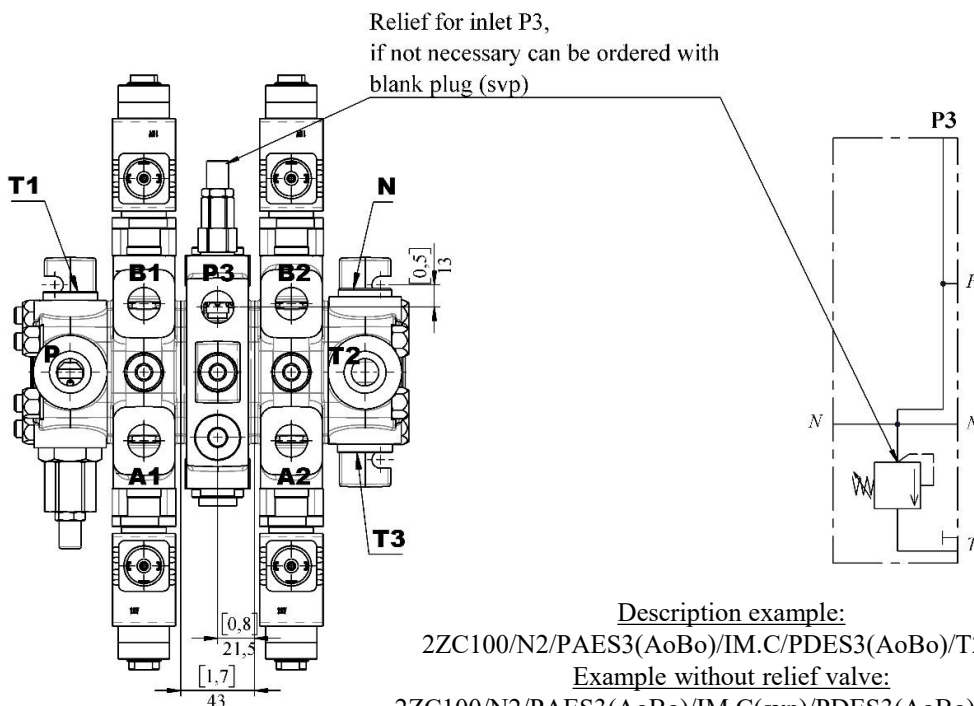


Description example:

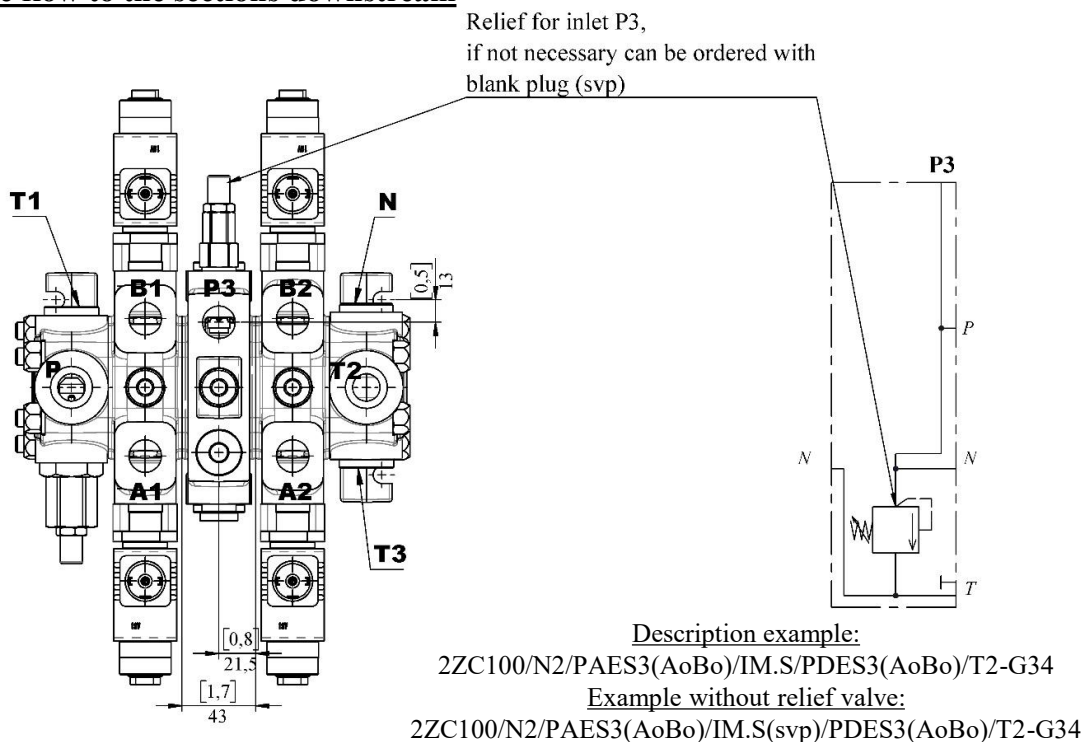
2ZC100/N2/PA1KZ1/DF/PA1KZ1(AoBo)/T2-G34

**Middle covers**

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

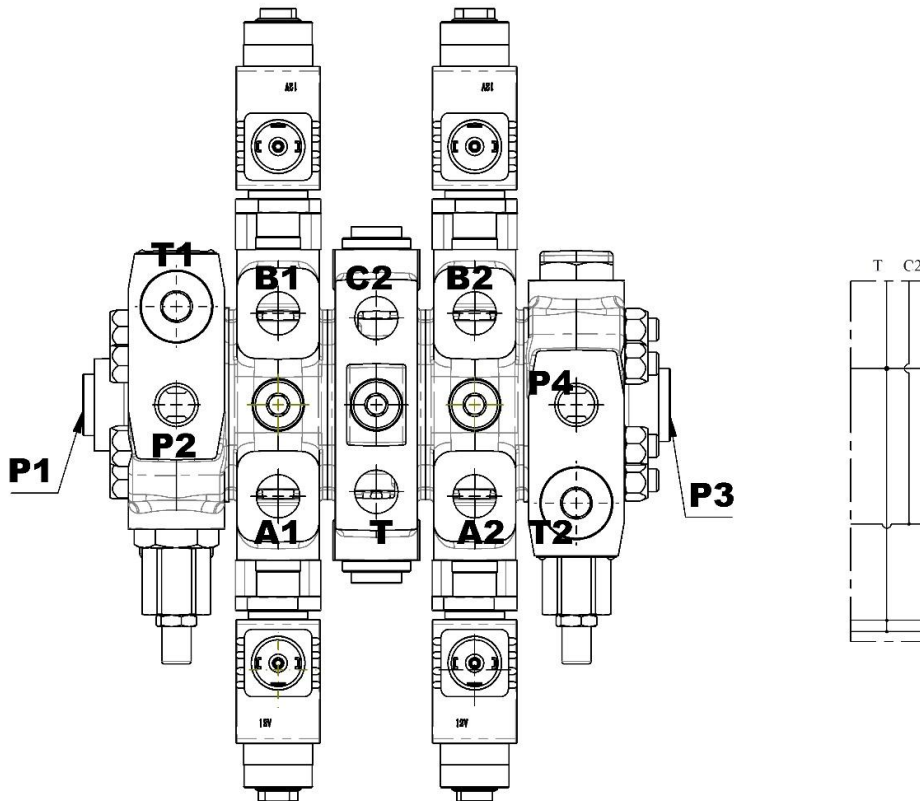


**IM.S Middle inlet section interrupting the flow from inlet cover and providing a separate flow to the sections downstream**



**Middle covers**

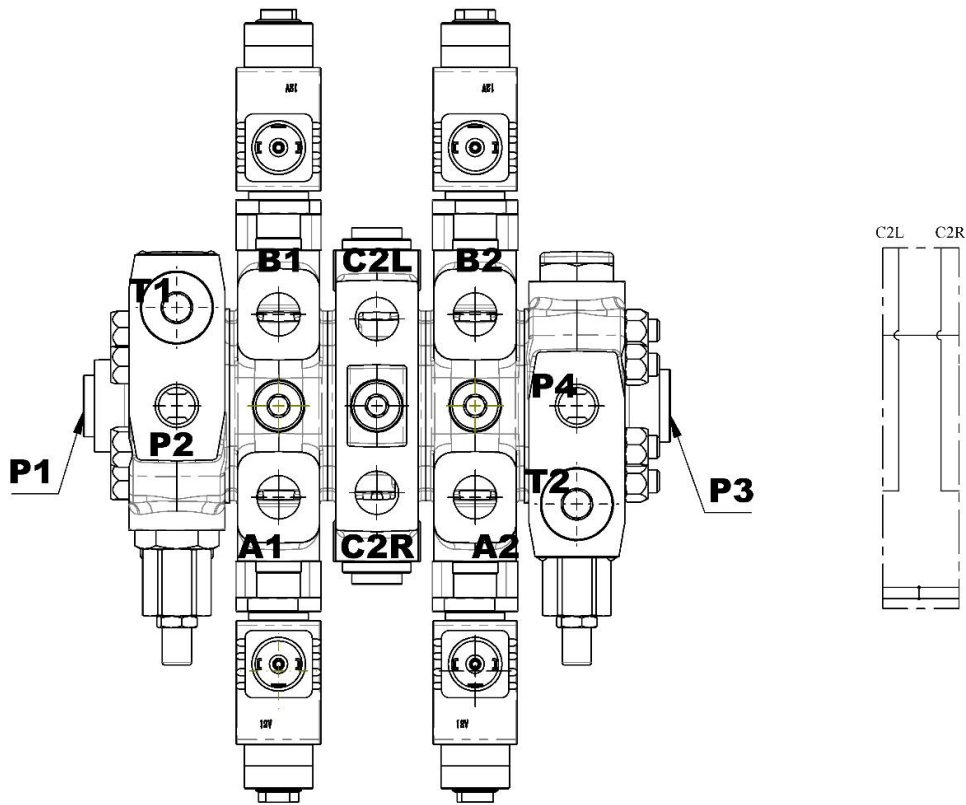
**OM.C2T Middle outlet section with high pressure line and tank line for dual inlet cover schematic**



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**

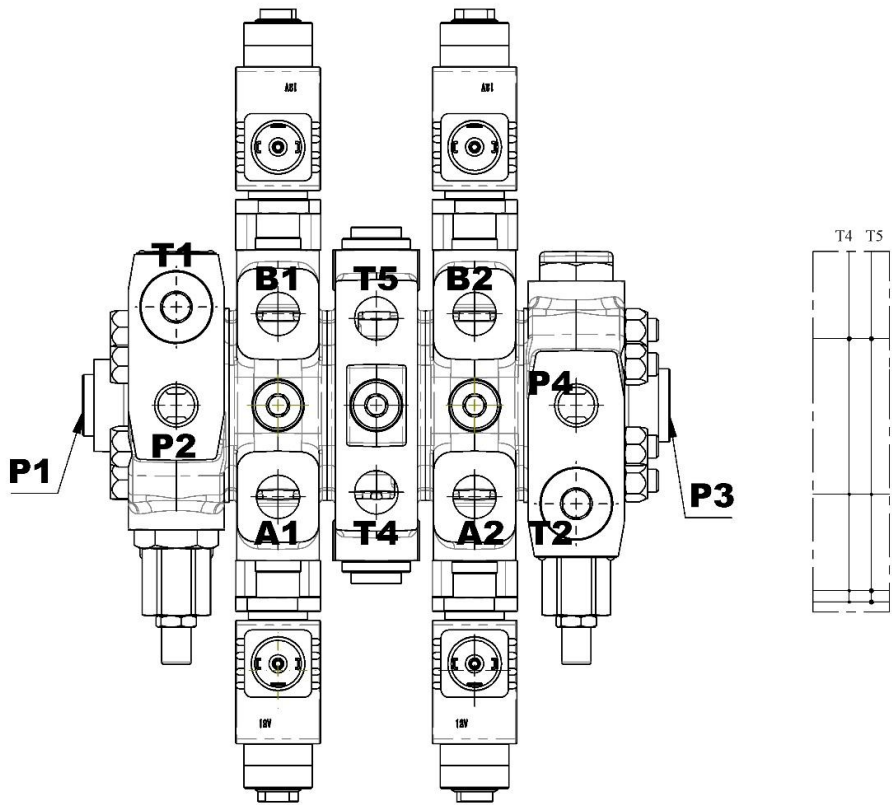


Description example:

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

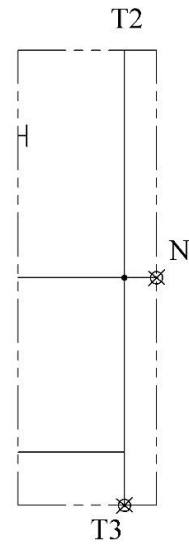
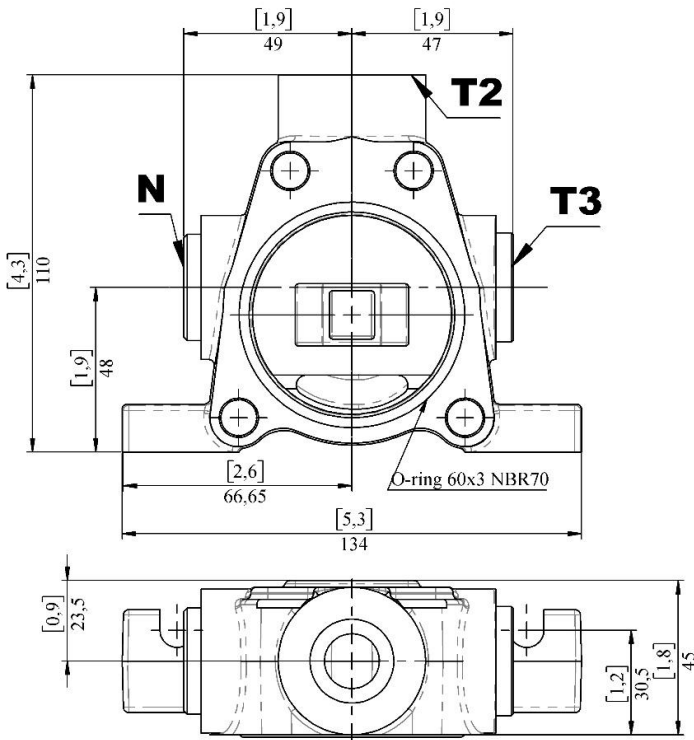
**Middle covers**

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



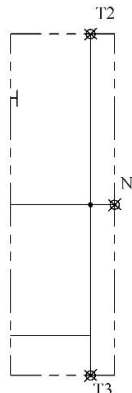
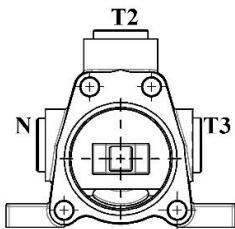
Description example:  
2ZC100/L2/PD1KZ1/CS/PRD1KZ1/L4-G34

## Outlet cover



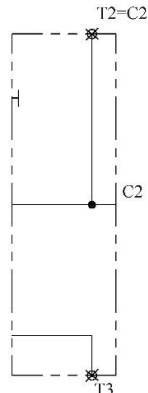
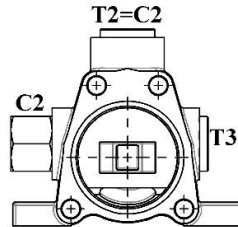
Description example:  
T2-G34

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



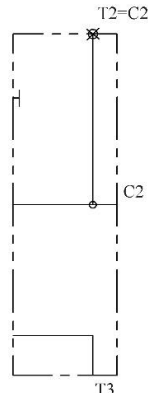
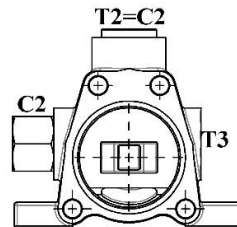
Description example:  
T1-G34

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



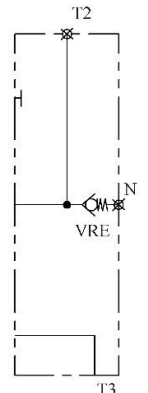
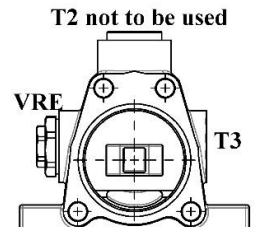
Description example:  
T1-C2-G34

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