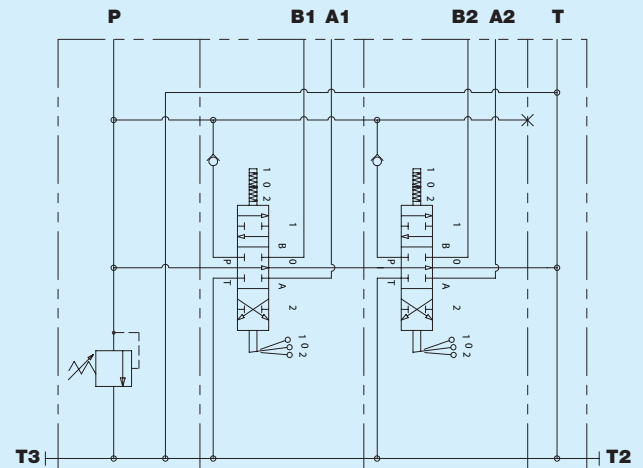


DNC100 - Modular directional control valves



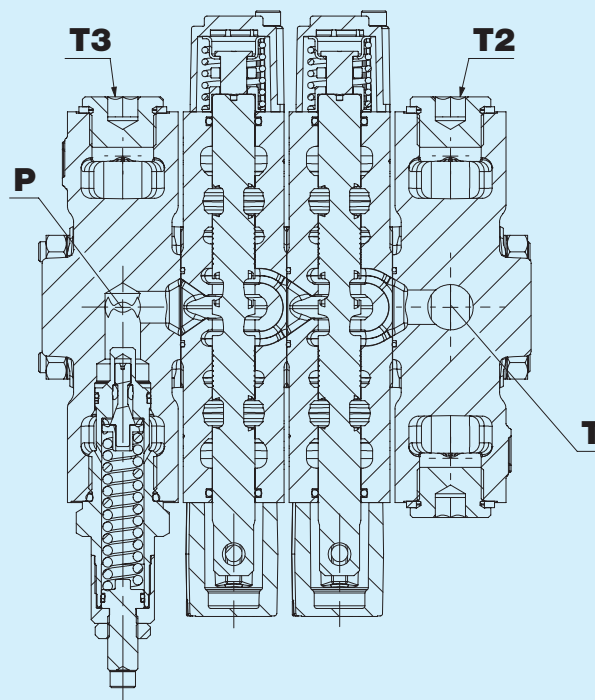
Before use, carefully read the GENERAL INSTRUCTIONS FOR USE OF DIRECTIONAL CONTROL VALVES

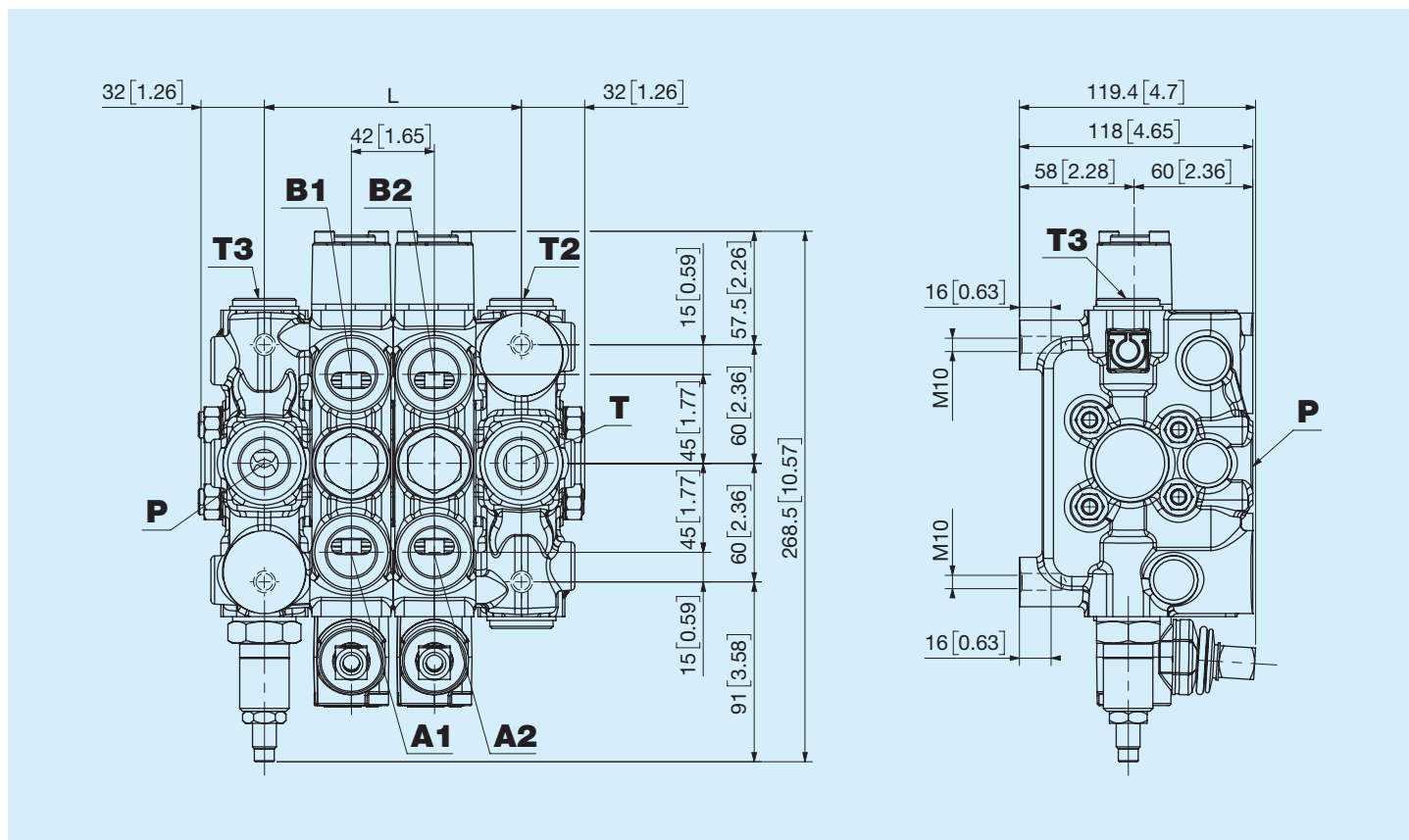
Nominal flow	120 l/min 31.7 US gpm
Nominal pressure	300 bar 4350 psi
Maximum tank pressure	50 bar 725 psi
Maximum tank pressure with electro-hydraulic actuators	10 bar 145 psi
Internal leakage (A or B -> P and T) p=100 bar (1450 psi)	8 cm³/min 0.49 in³/min
Temperature range	-20°C +85°C NBR seals (max peak +100°C) -20°C + 130°C HNBR seals
Oil viscosity	from 15 mm²/s to 90 mm²/s (15 cSt to 90 cSt)
Fluid	Hydraulic fluids as defined in ISO 6743-4 standard



STANDARD version

Section

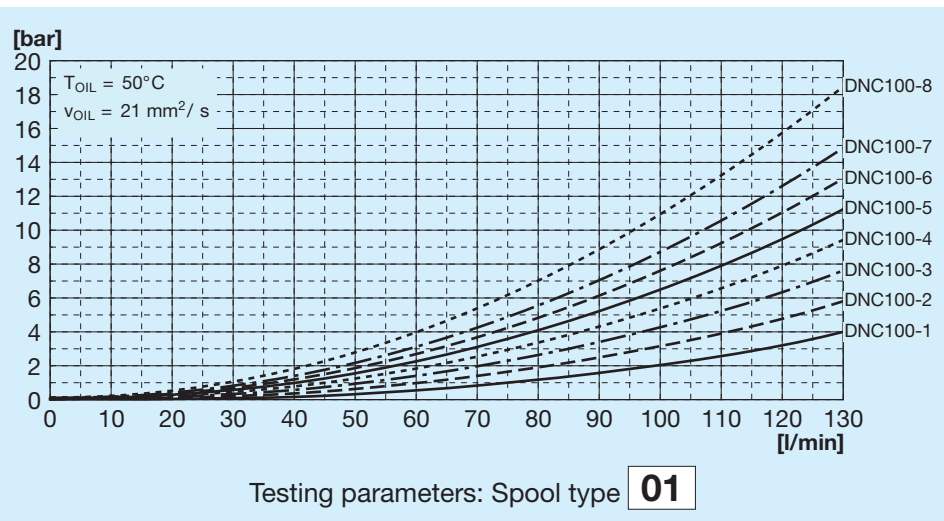
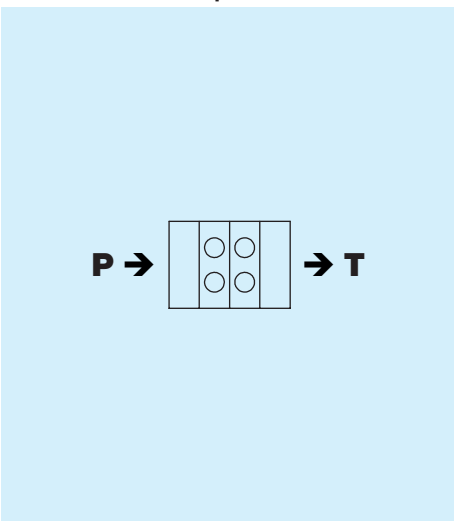




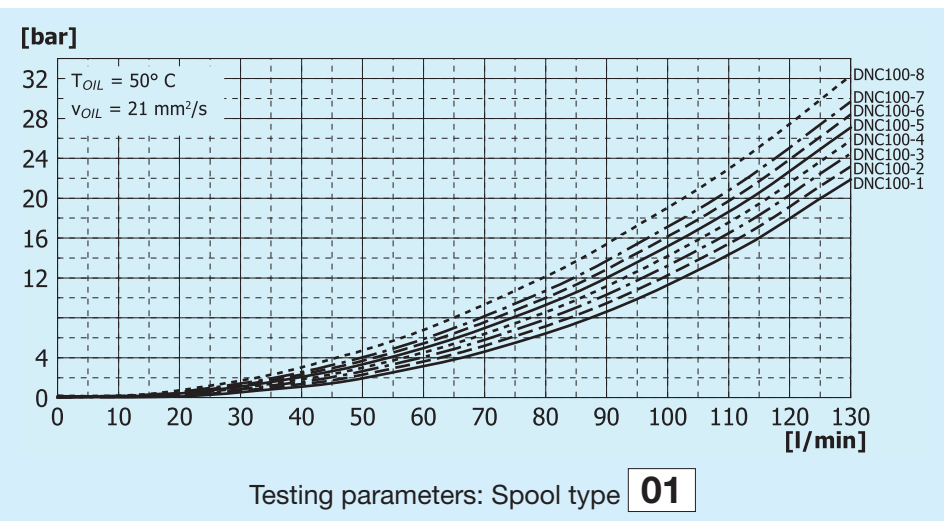
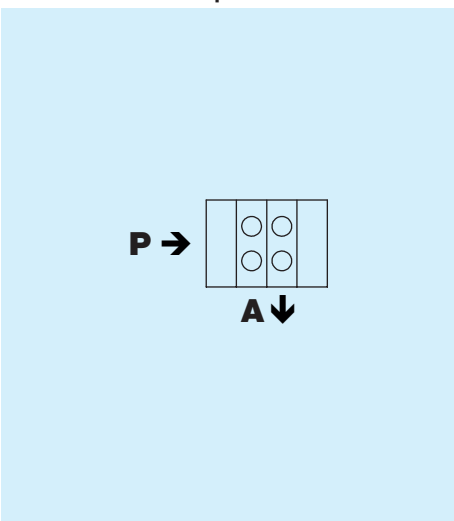
Dimensions per number of sections

Code	N° of sections	L		Weight	
		mm	in	kg	lb
1	1	88	3,47	9,47	20,9
2	2	130	5,12	12,94	28,5
3	3	172	6,78	16,41	36,2
4	4	214	8,43	19,88	43,8
5	5	256	10,08	23,35	51,5
6	6	298	11,74	26,82	59,1
7	7	340	13,39	30,29	66,8
8	8	382	15,04	33,76	74,4

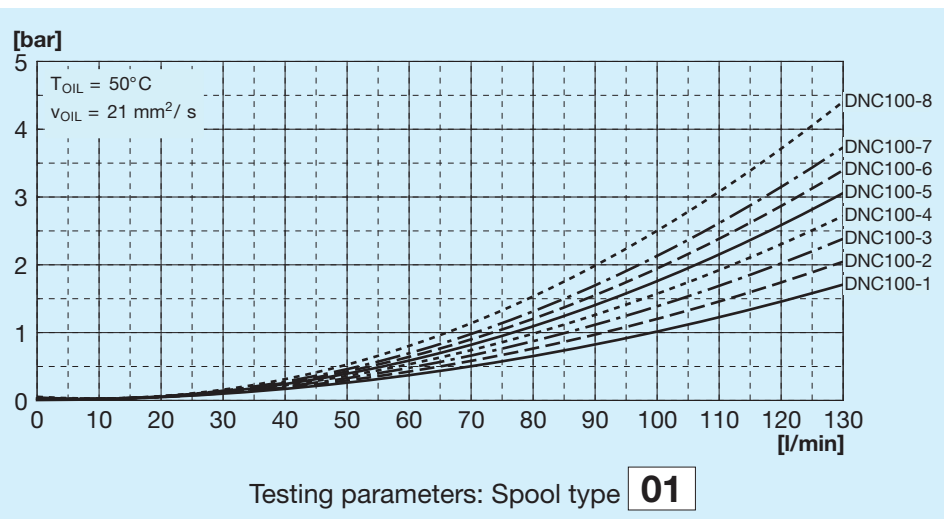
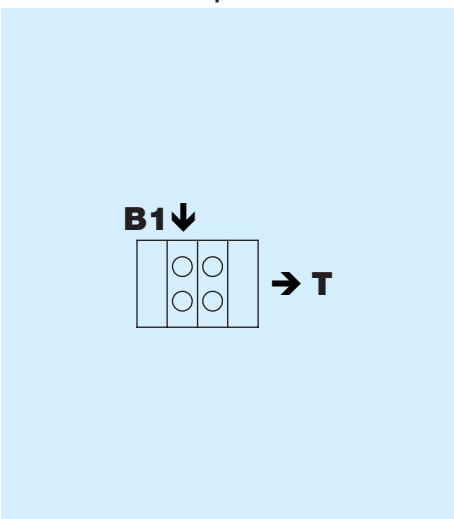
Pressure drops P-T



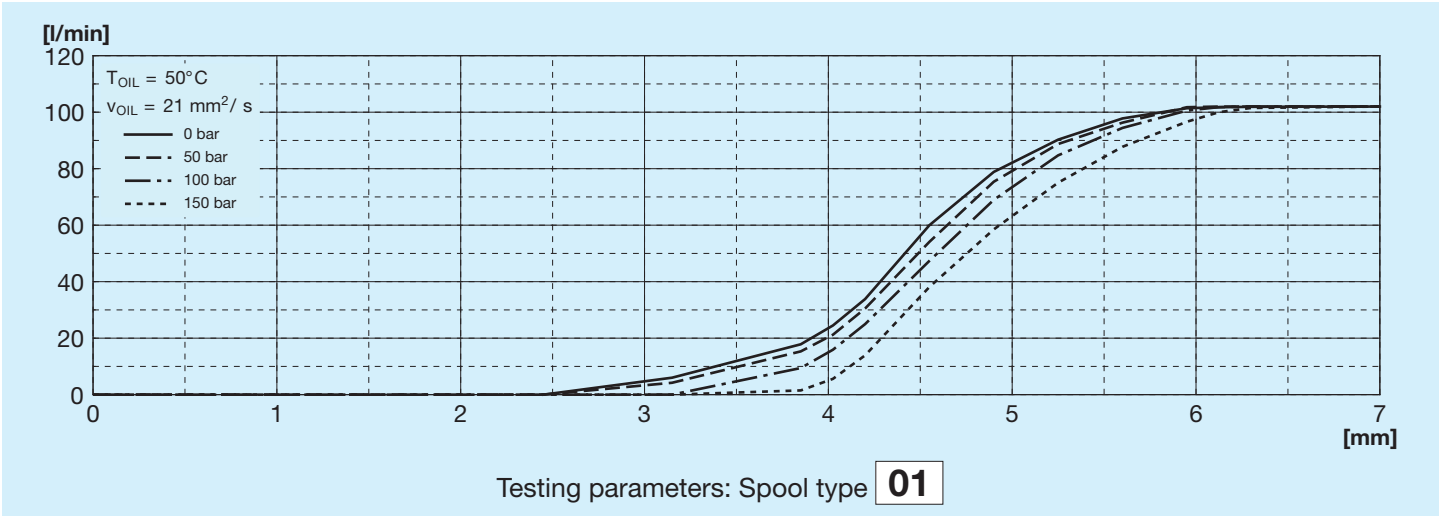
Pressure drops P-A



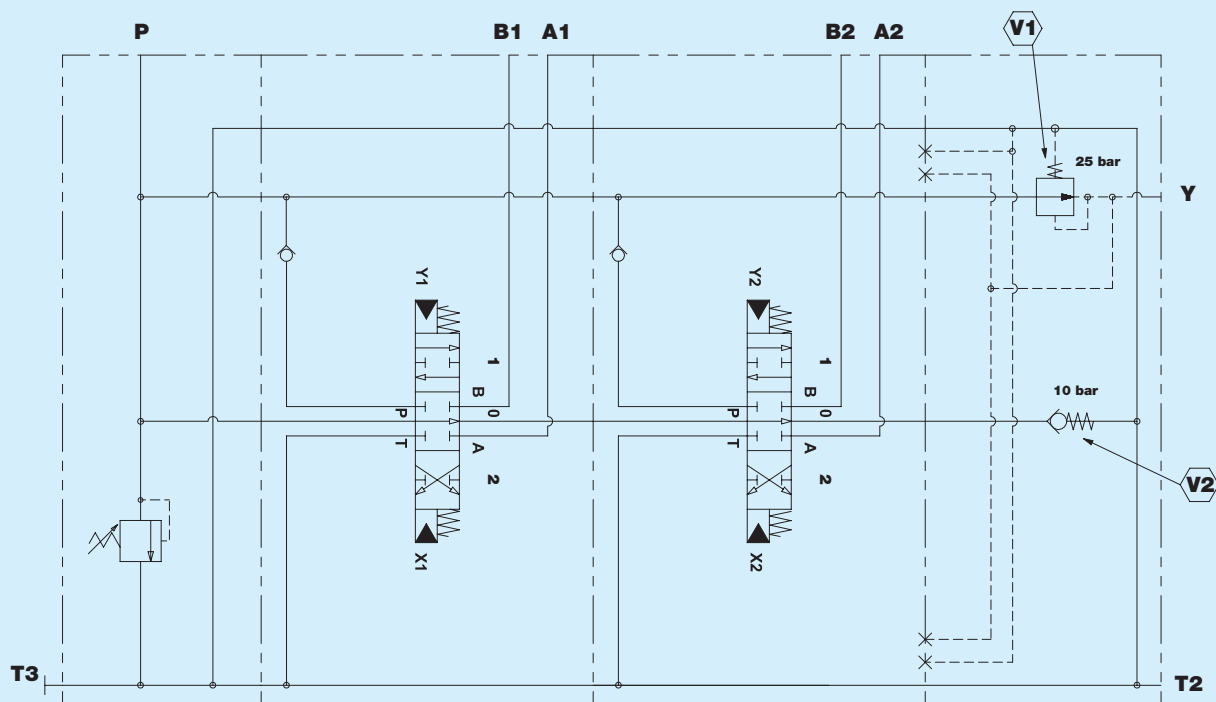
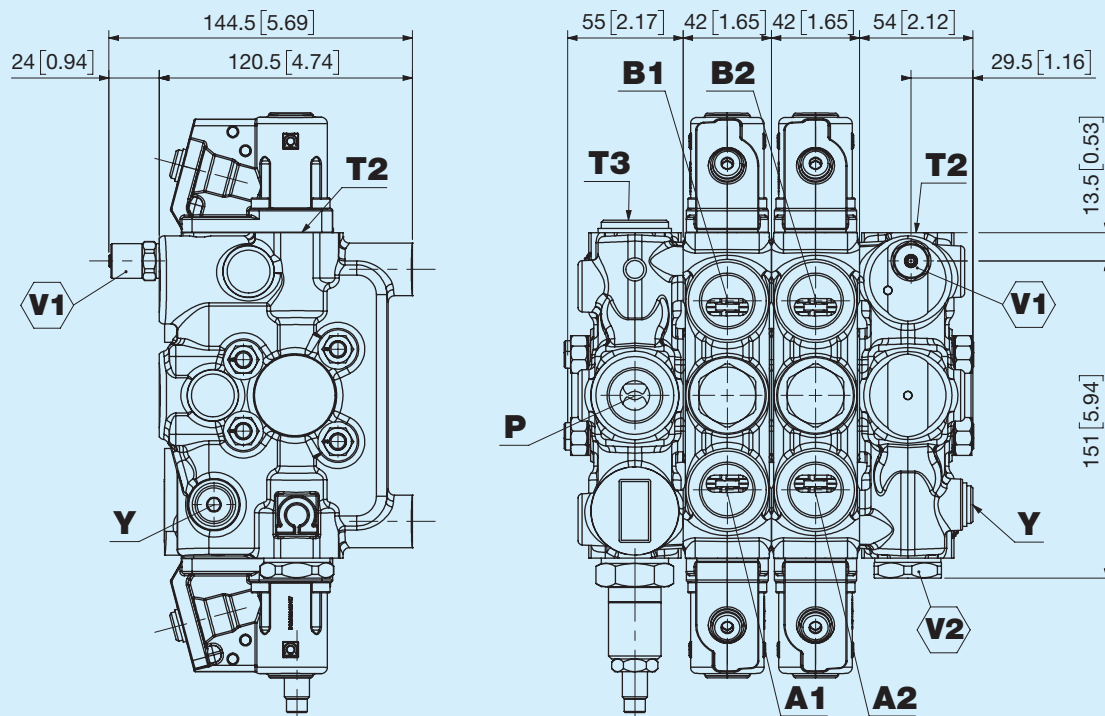
Pressure drops B1-T



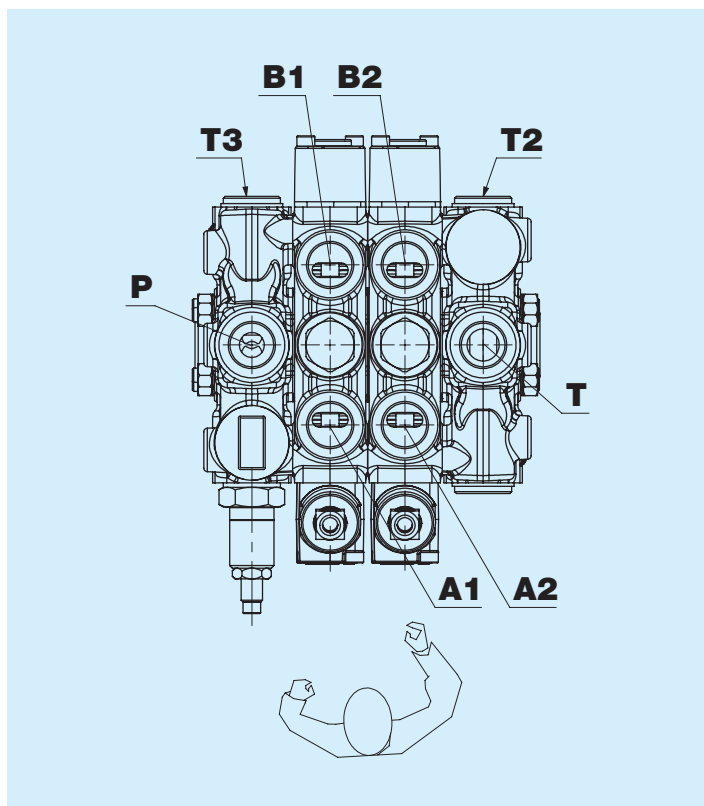
Metering



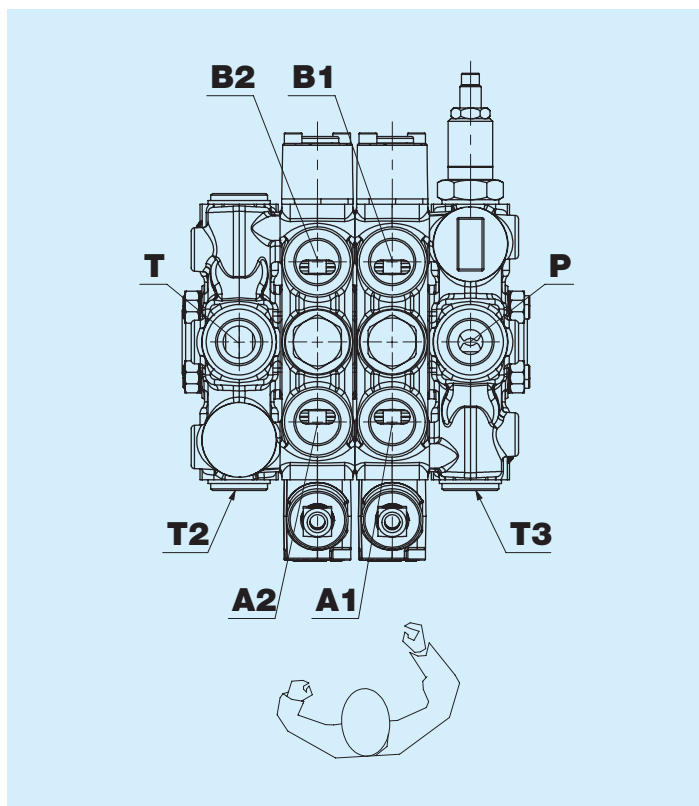
A Power unit



S Left (standard)



D Right



Port A is usually the nearest port to the actuator side.

Thread port P - P1

Code	Type	Torque Nm
B	1/2" GAS ISO 1179	70
F	3/4" GAS ISO 1179	150
N	M22x1.5 ISO 9974	70
J	M22x1.5 ISO 6149	78
5	M27x2 ISO 9974	160
U	M27x2 ISO 6149	170
R	7/8" - 14 SAE ISO 11926	77
V	1" 1/16 - 12 SAE ISO 11926	125

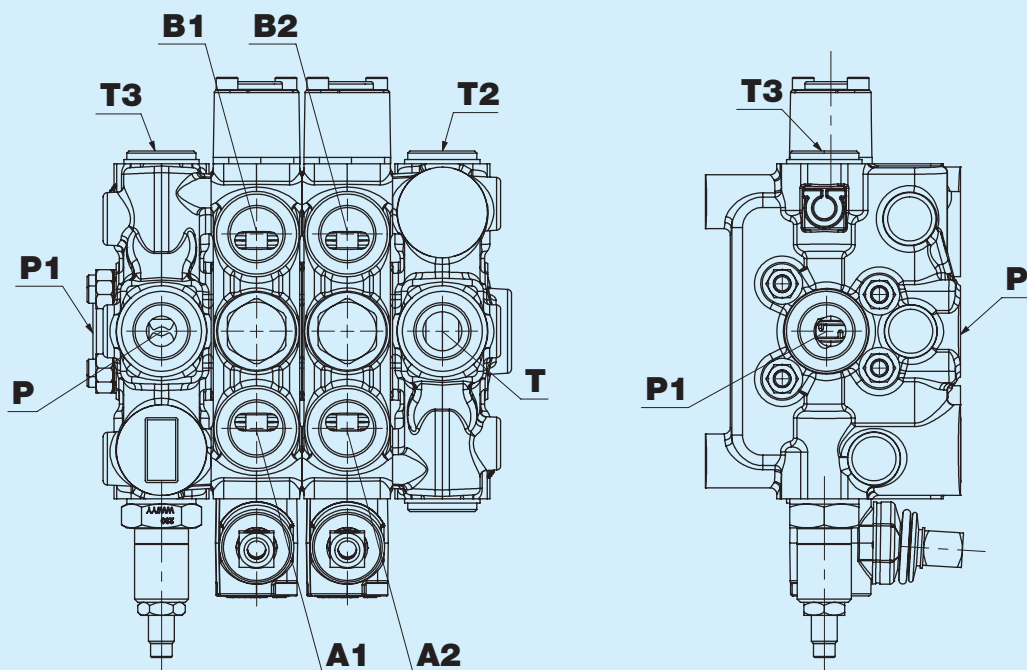
Thread ports A - B

Code	Type	Torque Nm
B	1/2" GAS ISO 1179	70
F	3/4" GAS ISO 1179	150
N	M22x1.5 ISO 9974	70
J	M22x1.5 ISO 6149	78
5	M27x2 ISO 9974	160
U	M27x2 ISO 6149	170
R	7/8" - 14 SAE ISO 11926	77
V	1" 1/16 - 12 SAE ISO 11926	125

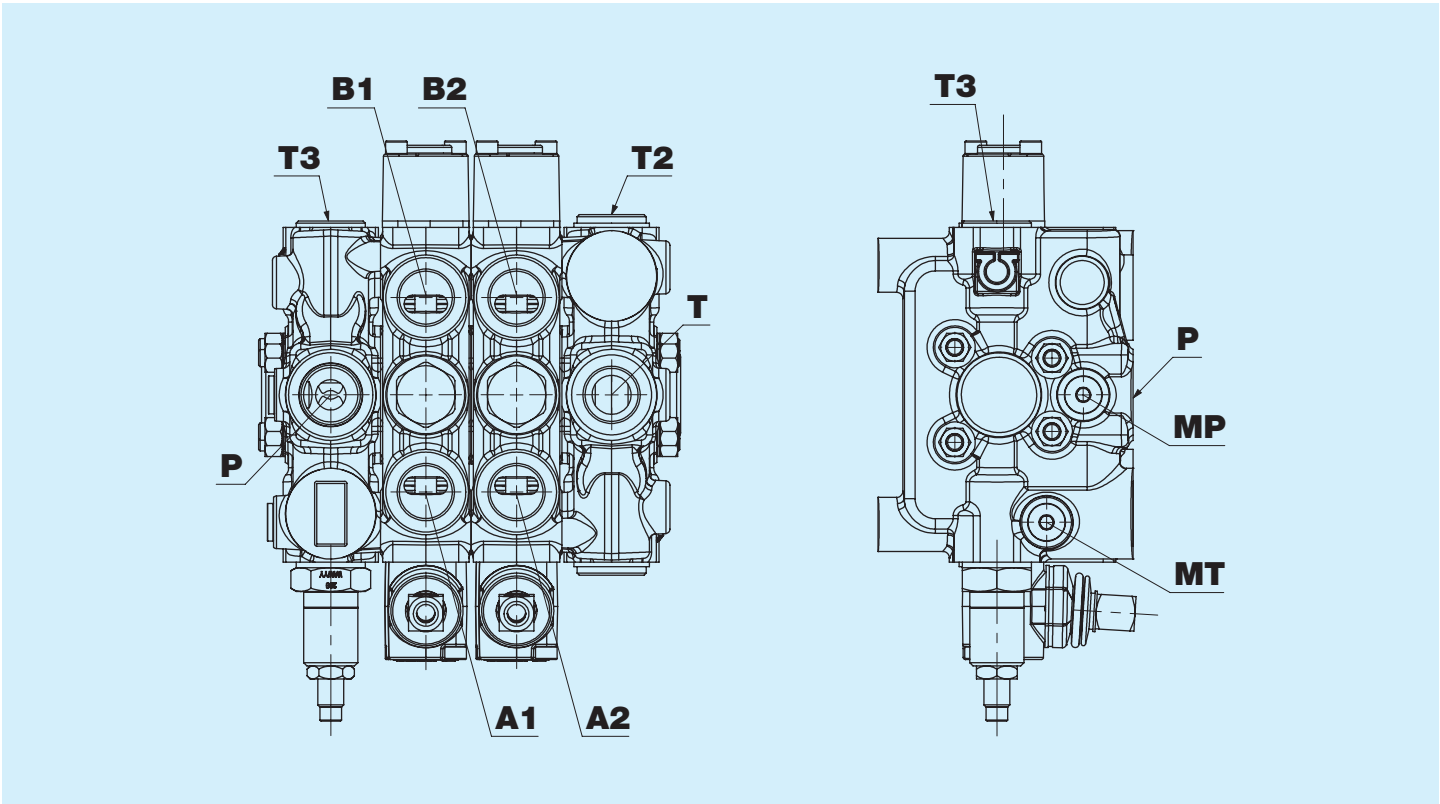
Thread port T - T2

Code	Type	Torque Nm
B	1/2" GAS ISO 1179	70
F	3/4" GAS ISO 1179	150
N	M22x1.5 ISO 9974	70
J	M22x1.5 ISO 6149	78
5	M27x2 ISO 9974	160
U	M27x2 ISO 6149	170
R	7/8" - 14 SAE ISO 11926	77
V	1" 1/16 - 12 SAE ISO 11926	125

Port P1 in inlet cover



MP and MT - Pressure gauge inlets

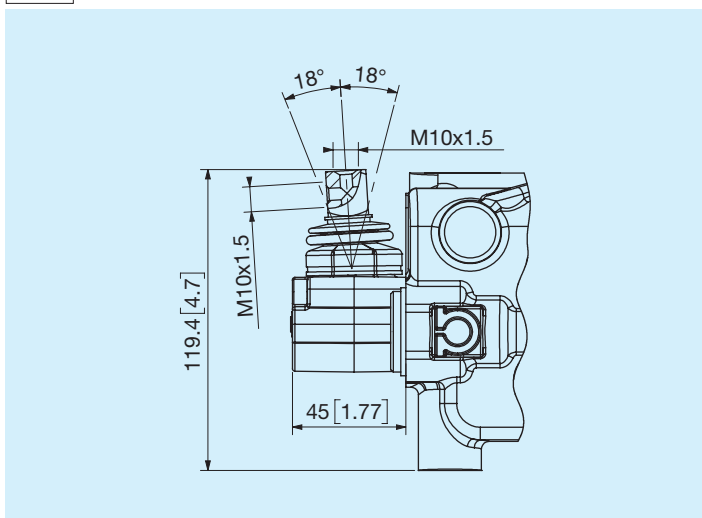


Thread ports MP and MT

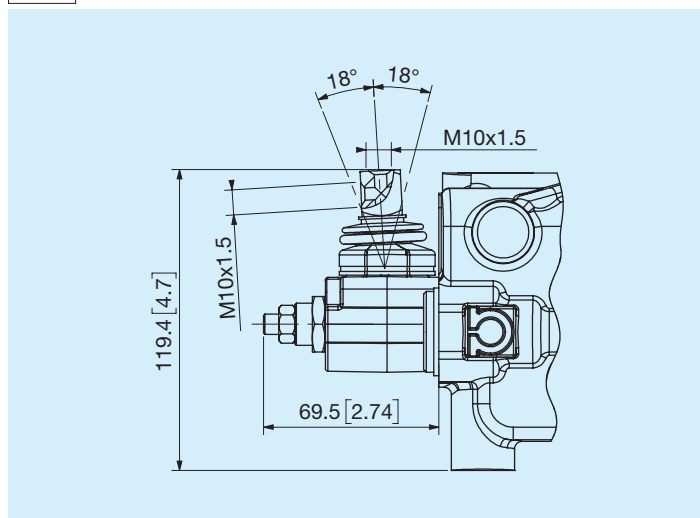
Code	Type	Torque Nm
N	None	
L	1/4" GAS ISO 1179	14
3	M14x1.5 ISO 9974	10
P	9/16" - 18 SAE ISO 11926	21

To have the gauge port MP, port P must be in the upper part of the directional control valve.

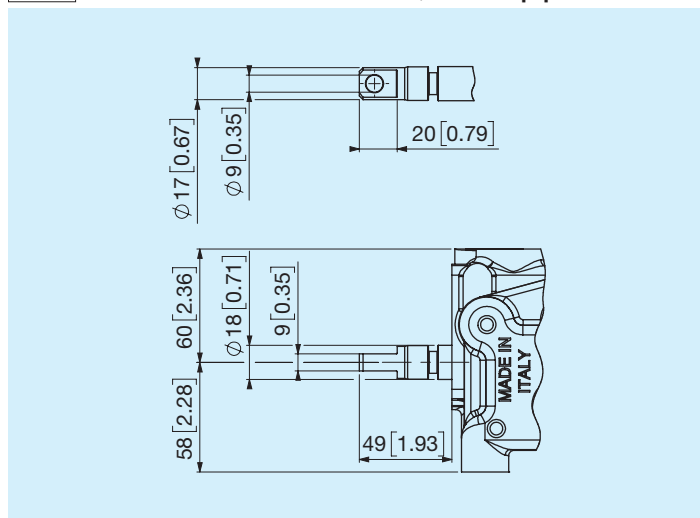
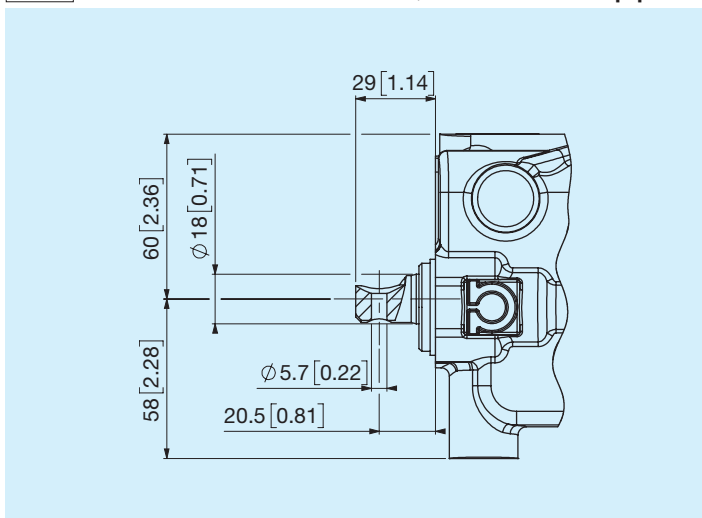
L Standard kit for lever holder



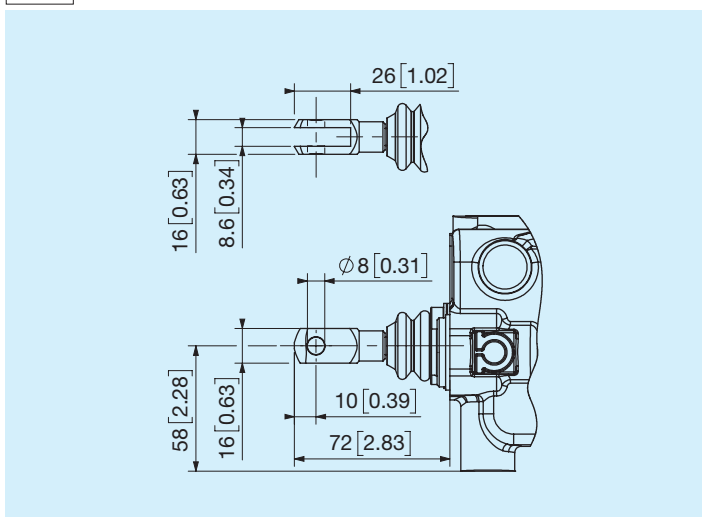
Z Lever holder with stroke limiter



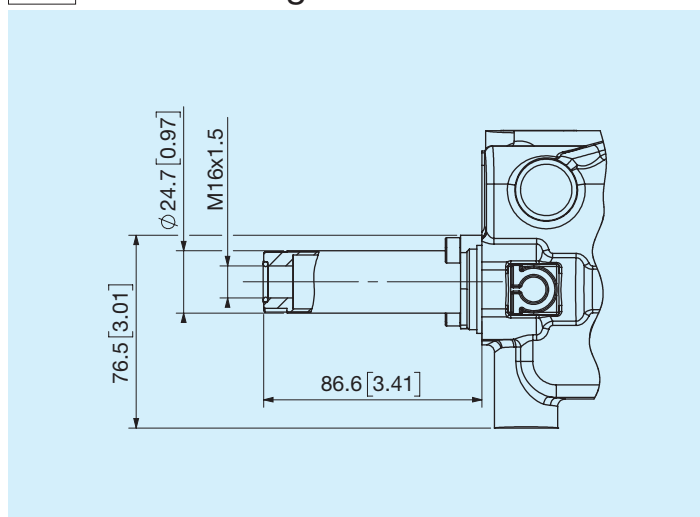
A Without lever holder, standard appendix **C** Without lever holder, flat appendix



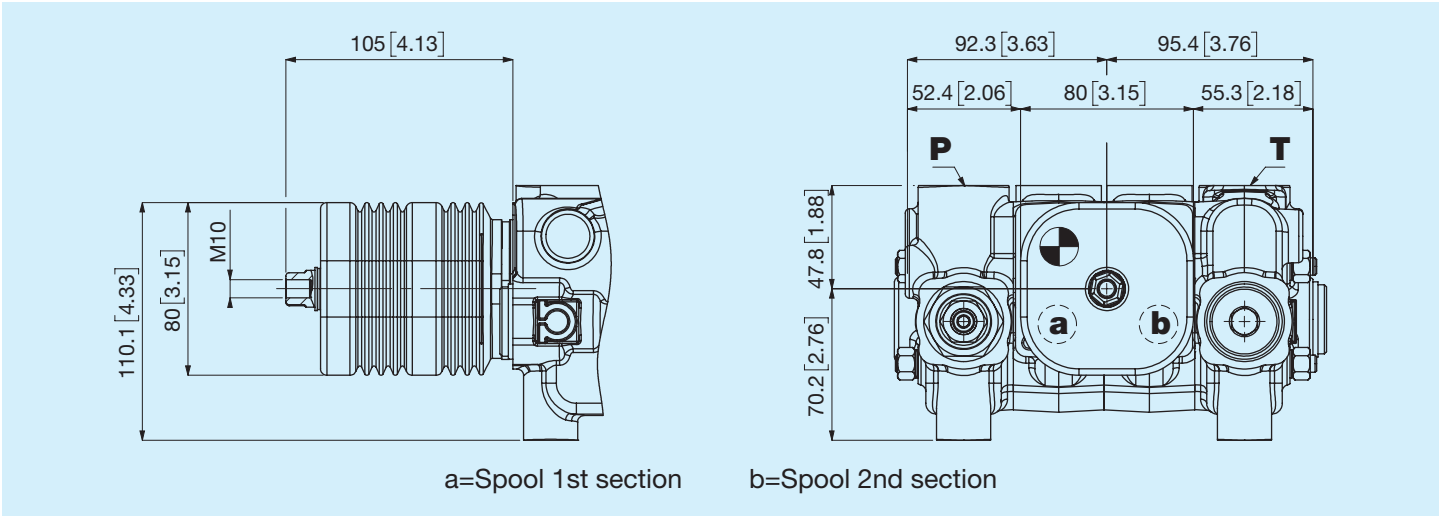
F Fork actuator



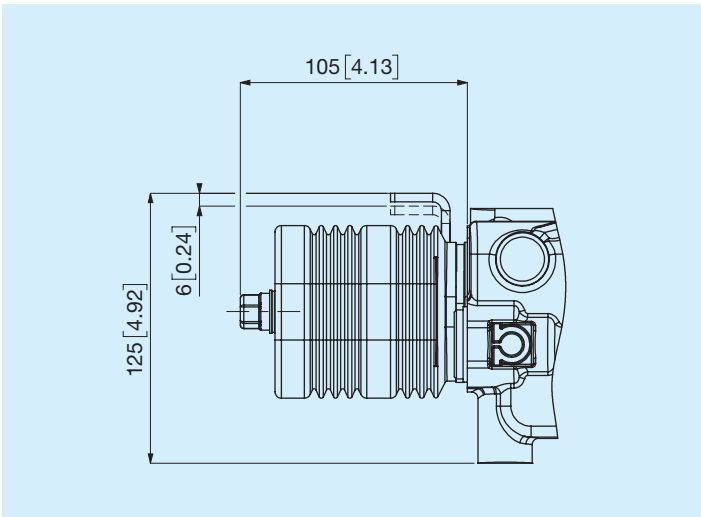
T Cable setting



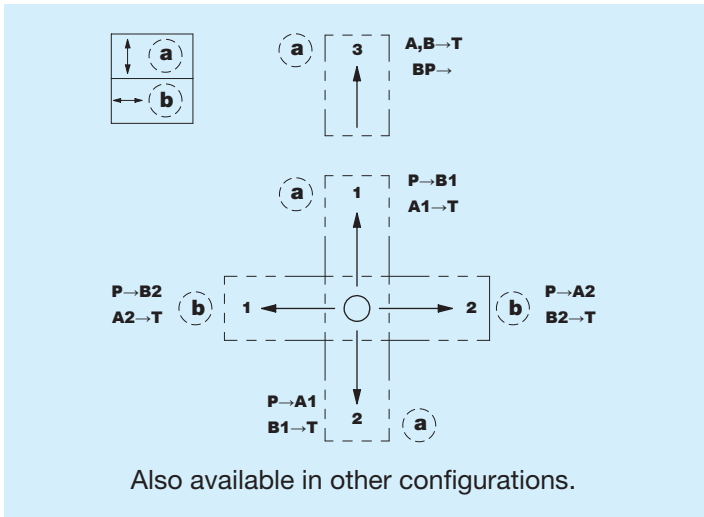
M Joystick



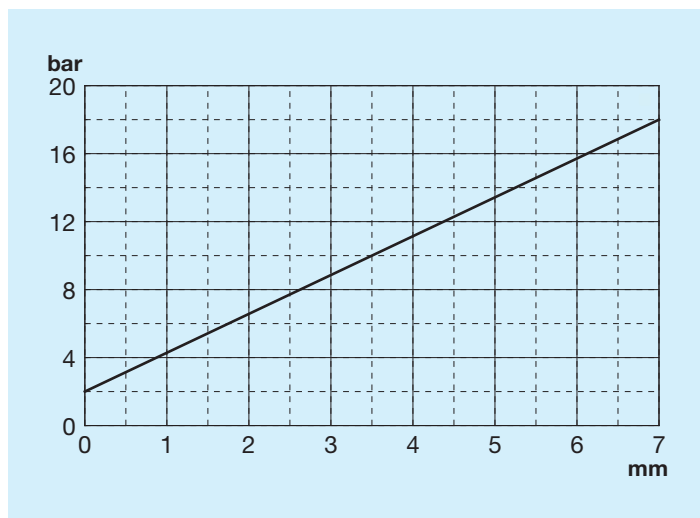
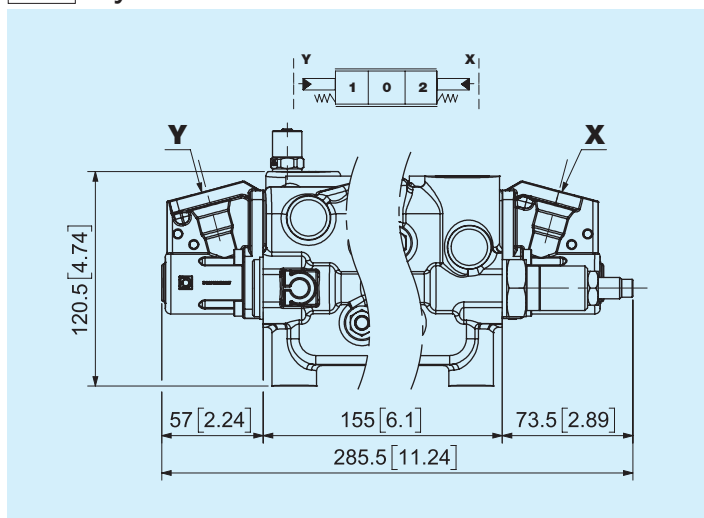
G Joystick with spool lock



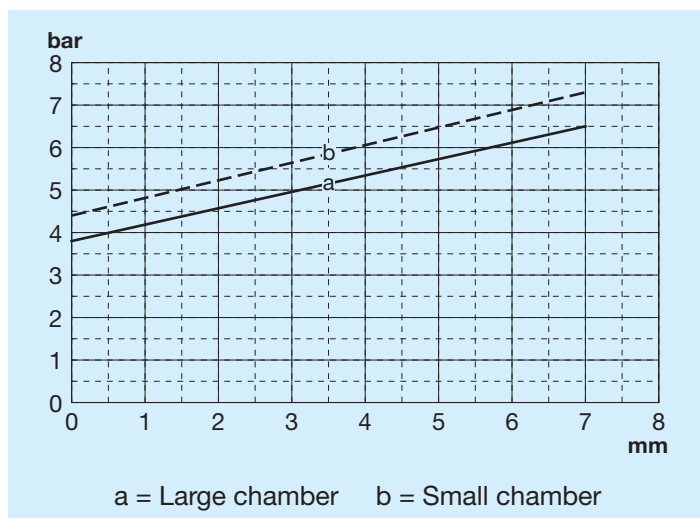
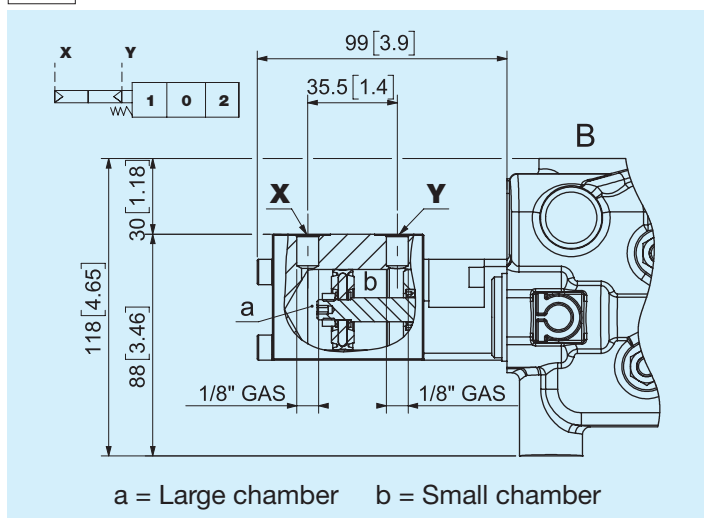
Joystick functions



K Hydraulic control

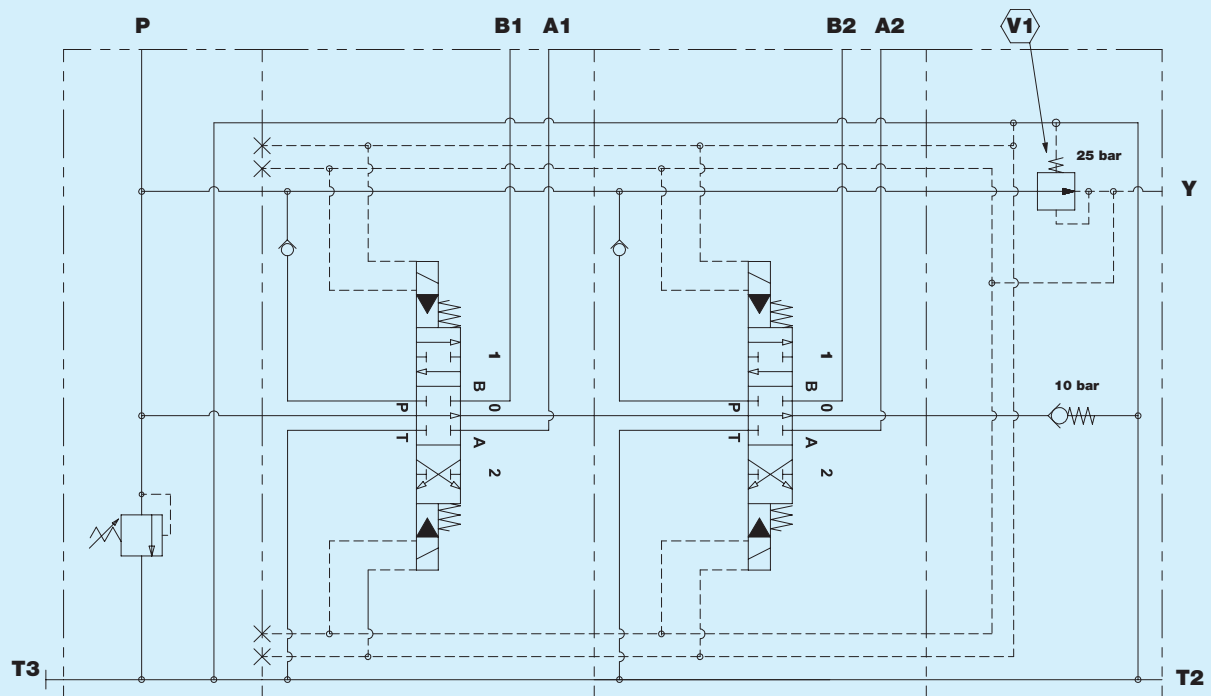
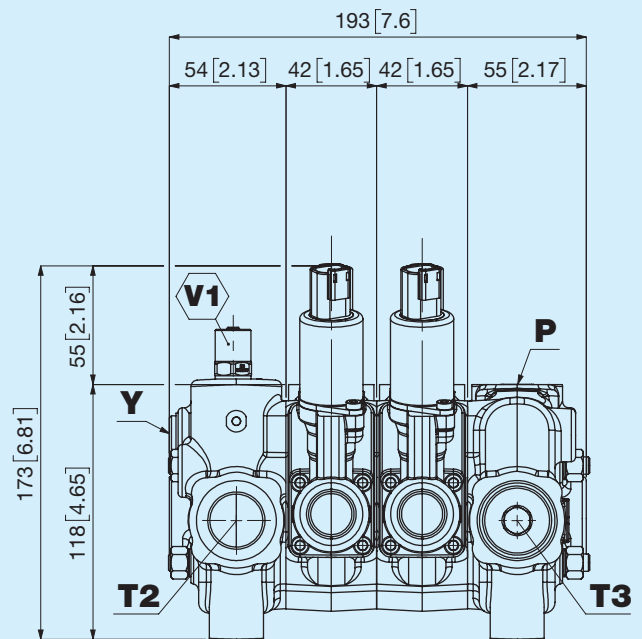
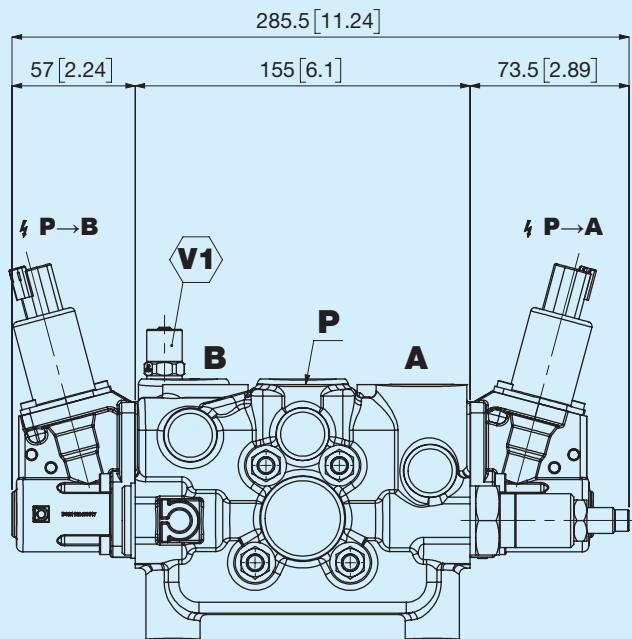


P Pneumatic control

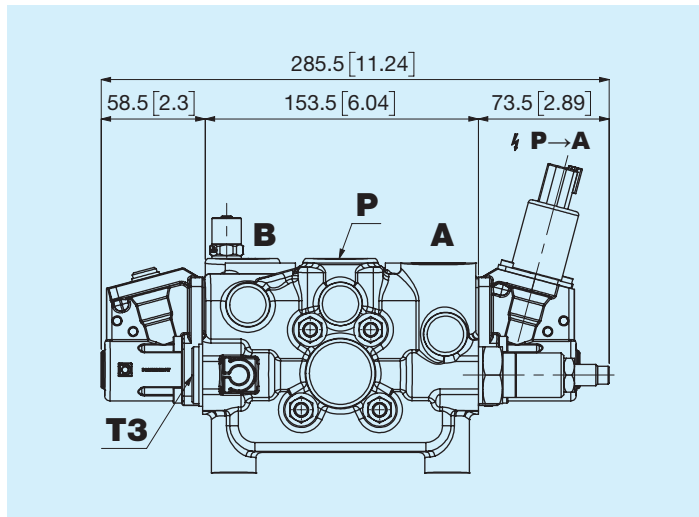


The pneumatic actuator is located on the side where the spool control is normally placed and is the main actuator. The directional control valve will also be supplied as standard with the lever holder on the opposite side.

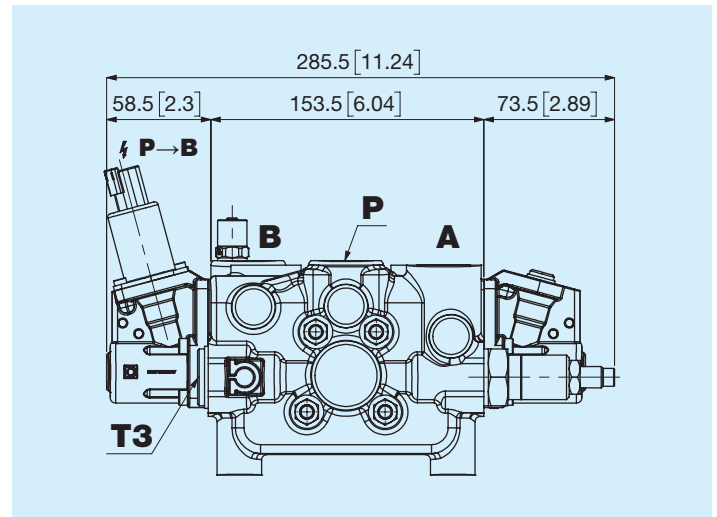
H Dual effect



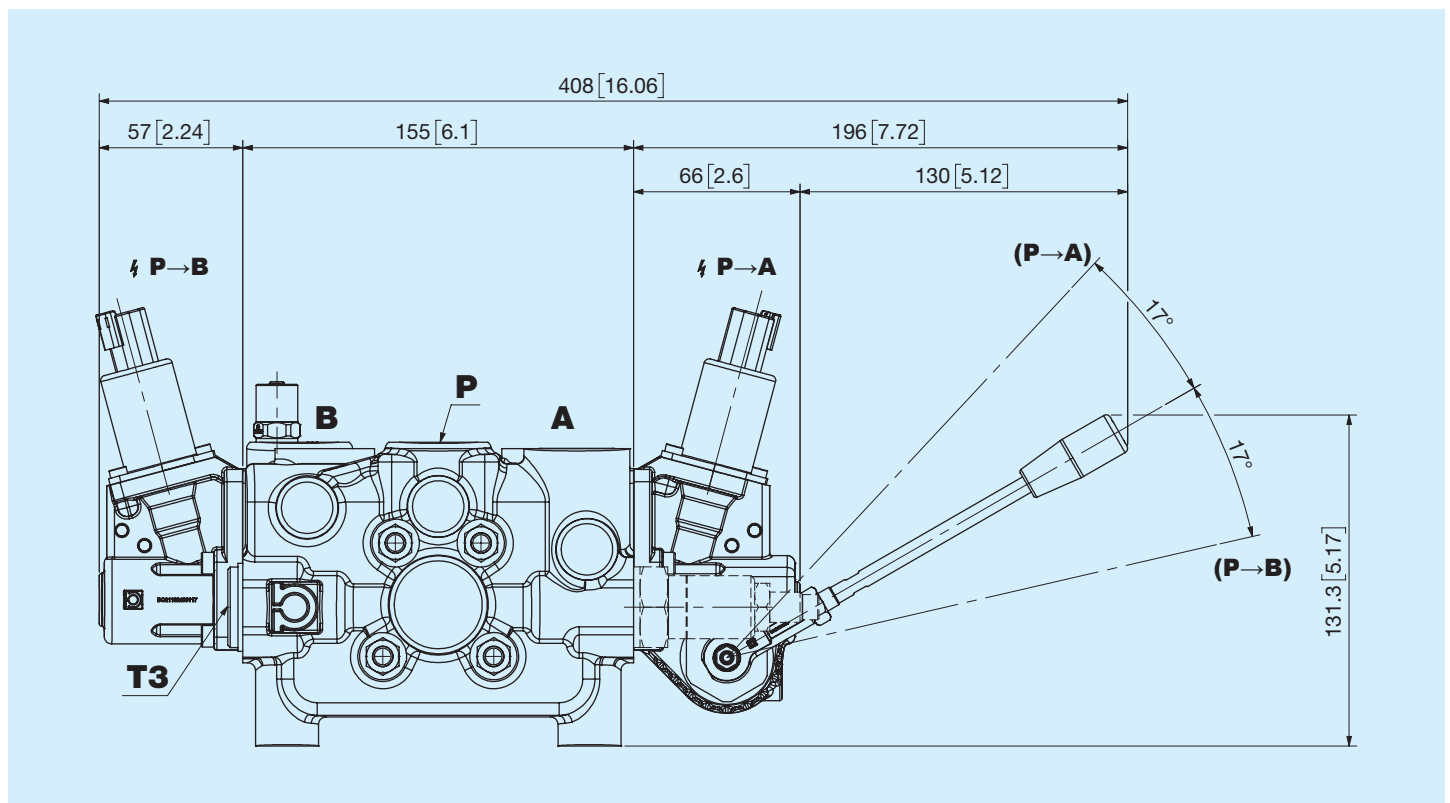
S Single effect port A



X Single effect port B

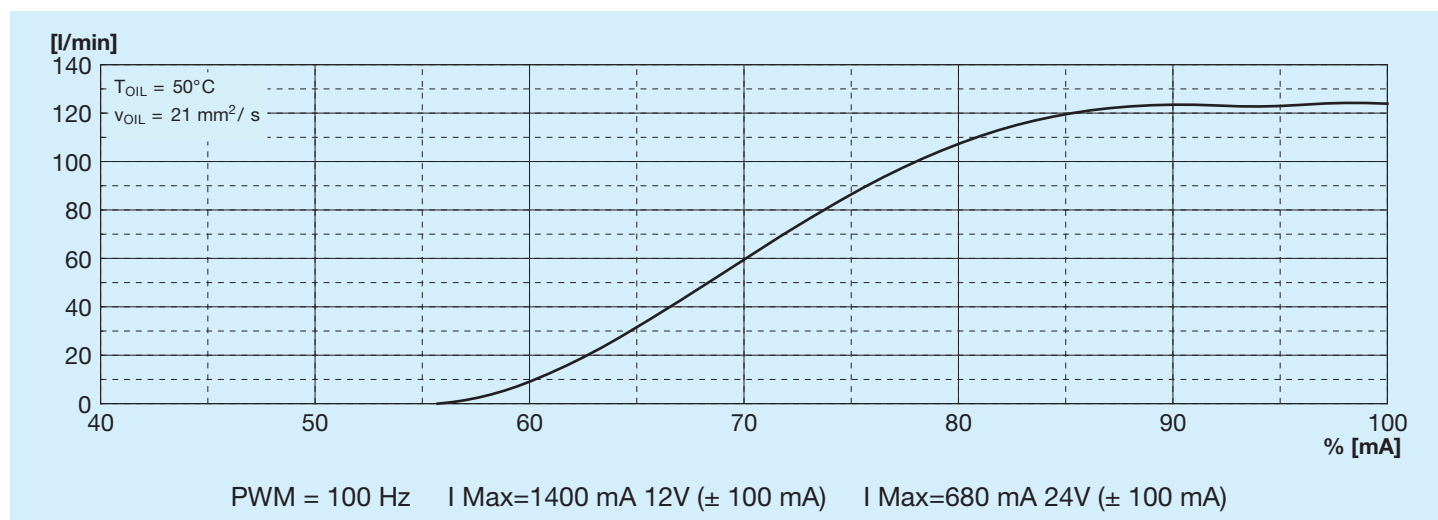


N Dual effect with emergency lever



For electro-hydraulic actuation, you must select a power supply in the general options.

Electro-hydraulic proportional actuator metering



This type of coil can be used in ON-OFF and Proportional mode.

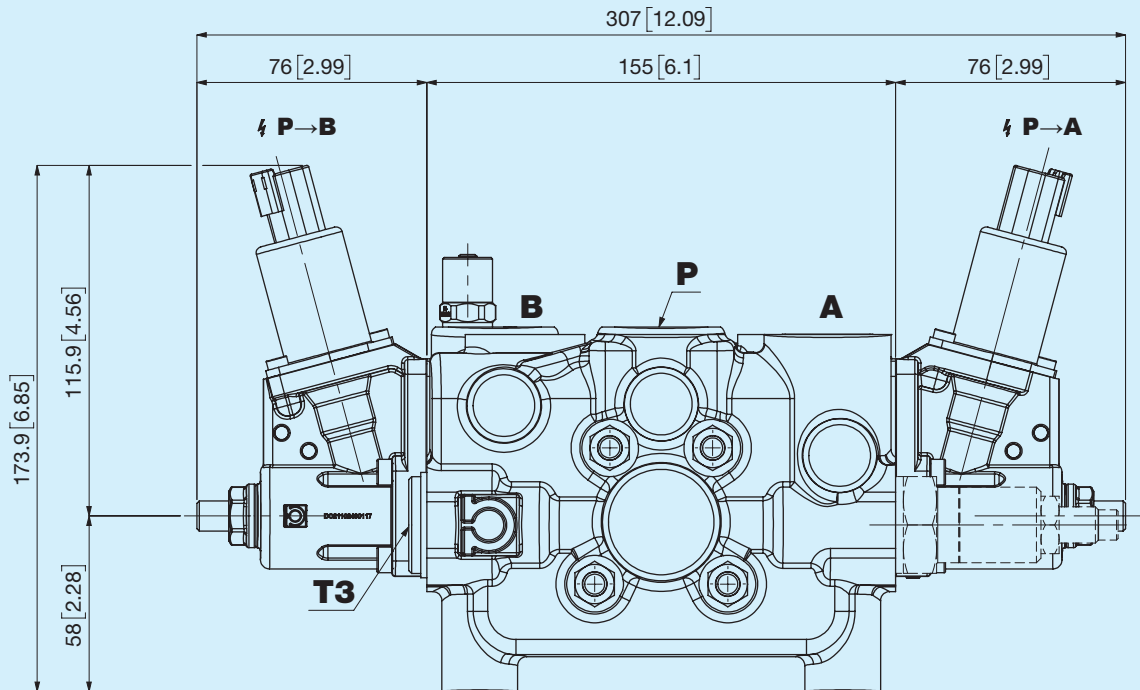
ON-OFF electrical characteristics

Type of coil ON-OFF ($\pm 10\%$)	12V	24V	
Resistenza a 20°C	4,72	20,8	$\Omega (\pm 7\%)$
Corrente assorbita	2,54	1,15	A ($\pm 5\%$)
Potenza	30	27,6	W ($\pm 5\%$)

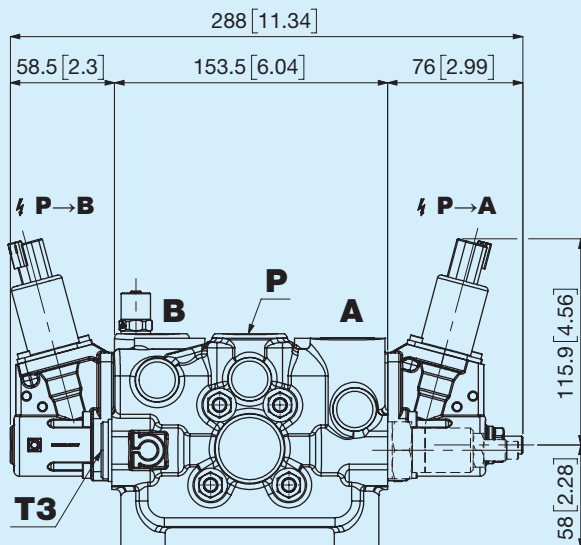
Proportional electrical characteristics

Type of coil proportional	12V	24V	
Resistenza a 20°C	4,72	20,8	$\Omega (\pm 7\%)$
Corrente minima	200	100	mA (± 100)
Corrente massima	1500	750	mA (± 100)
PWM	100	100	Hz

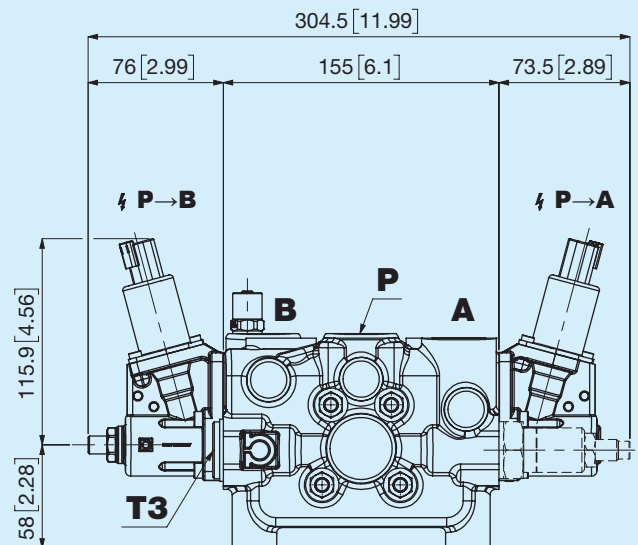
A Spool stroke limiter port A and B



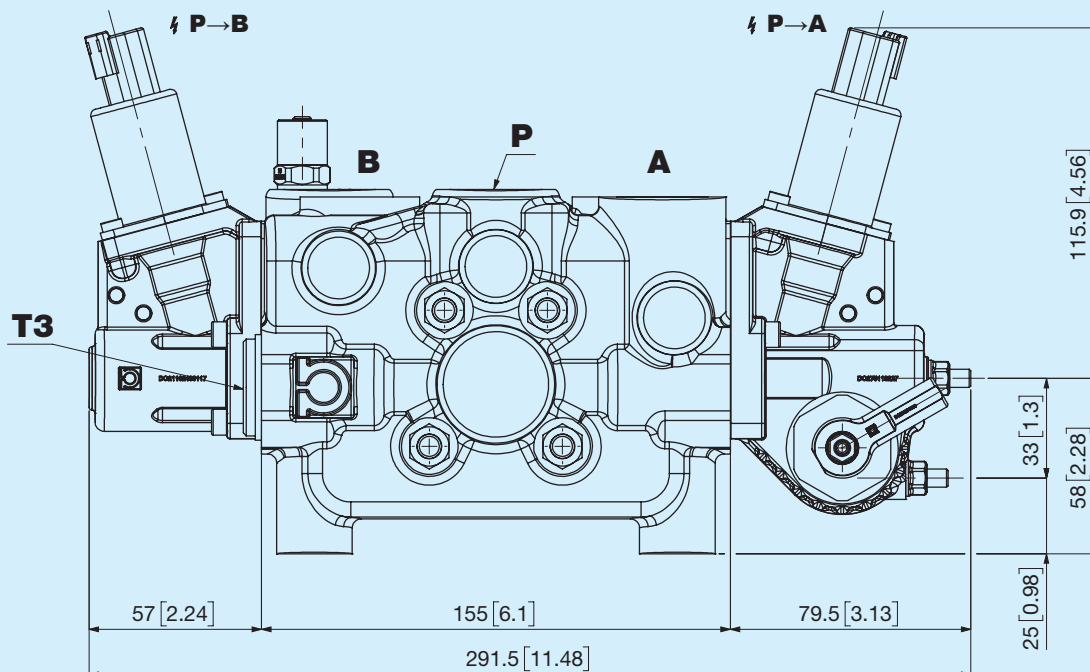
E Limiter port A side



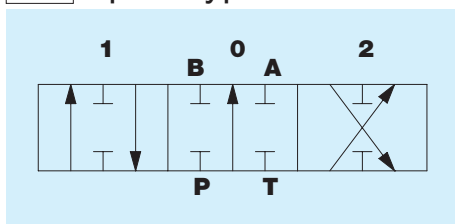
F Limiter port B side



Spool stroke limiter with emergency lever



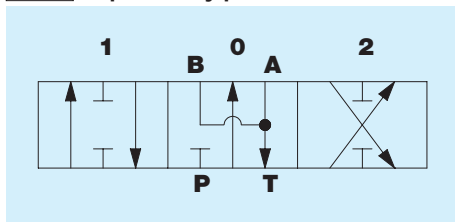
01 Spool type



Positions

3	1	0	2	4
	$P \rightarrow B$ $A \rightarrow T$ $BP \rightarrow$	$P, T \rightarrow$ $A, B \rightarrow$ $BP \rightarrow$	$P \rightarrow A$ $B \rightarrow T$ $BP \rightarrow$	

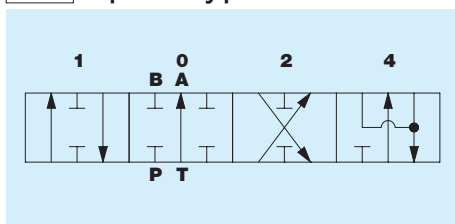
03 Spool type



Positions

3	1	0	2	4
	$P \rightarrow B$ $A \rightarrow T$ $BP \rightarrow$	$A, B \rightarrow T$ $P \rightarrow$ $BP \rightarrow$	$P \rightarrow A$ $B \rightarrow T$ $BP \rightarrow$	

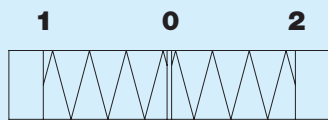
70 Spool type



Positions

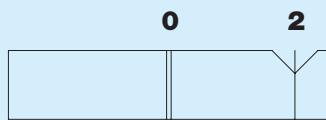
3	1	0	2	4
	$P \rightarrow B$ $A \rightarrow T$ $BP \rightarrow$	$P, T \rightarrow$ $A, B \rightarrow$ $BP \rightarrow$	$P \rightarrow A$ $B \rightarrow T$ $BP \rightarrow$	$A, B \rightarrow T$ $P \rightarrow$ $BP \rightarrow$

0A



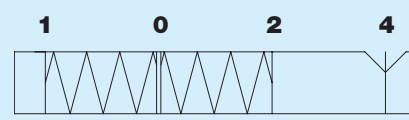
Neutral position in 0

0H



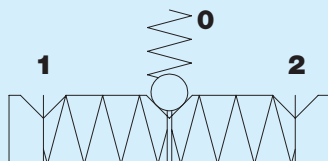
Detent in 2

NT



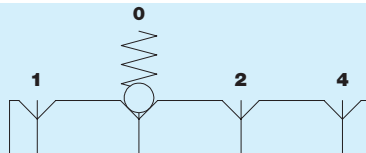
Neutral position in 0, detent in 4

KD



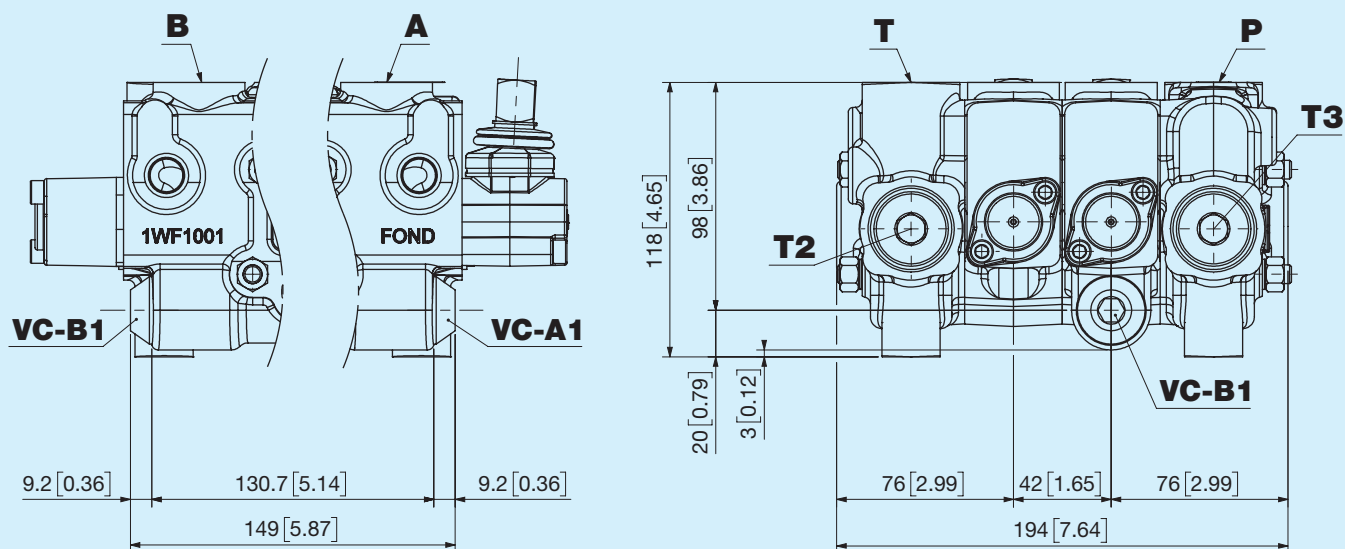
For kick-off

PT

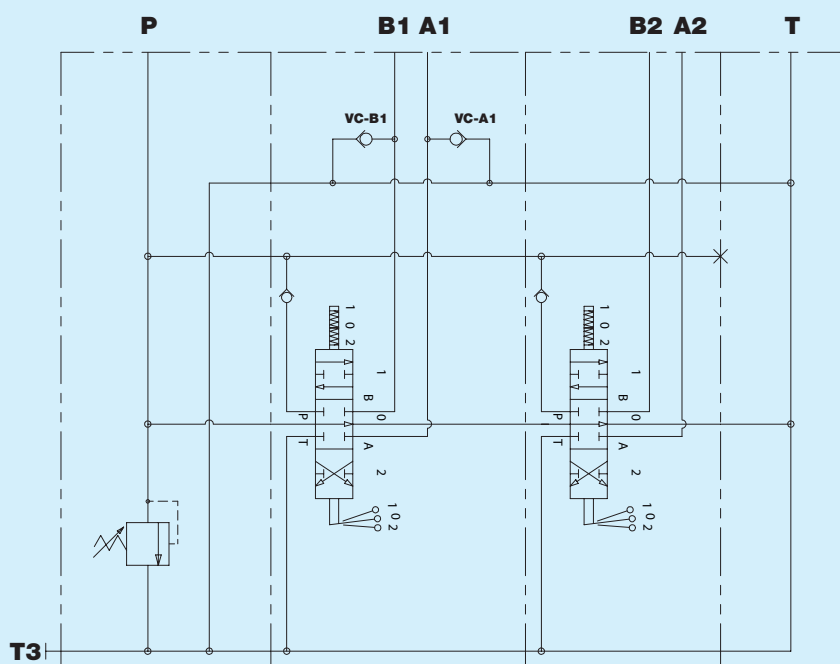


Detent in 0, 1, 2, 4 and kick-off

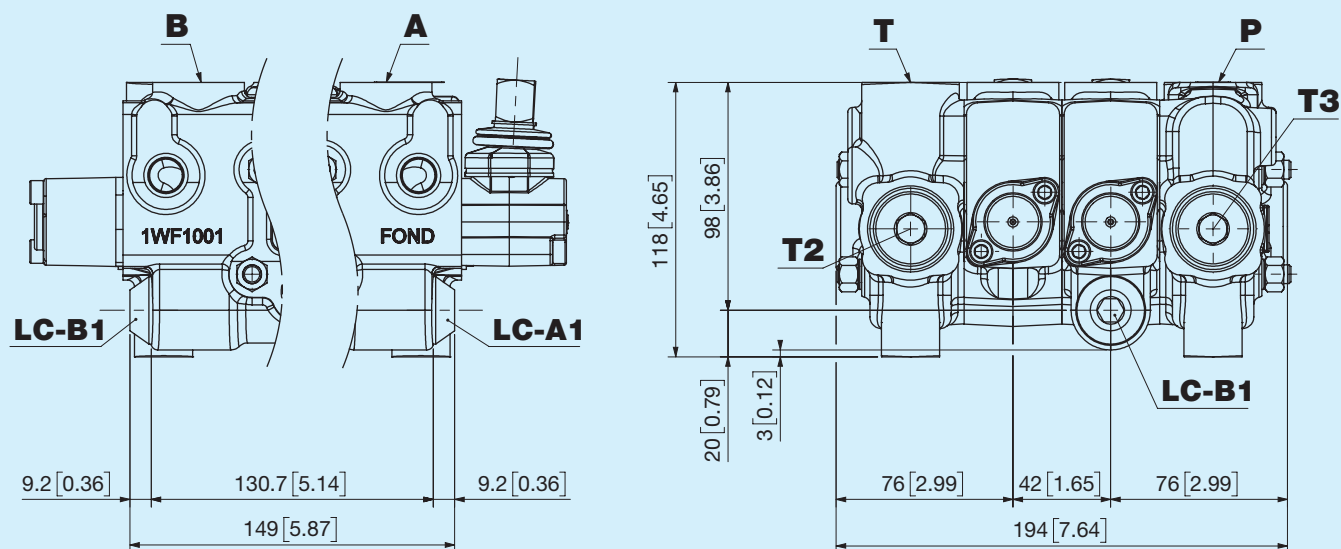
VC Anticavitation valve



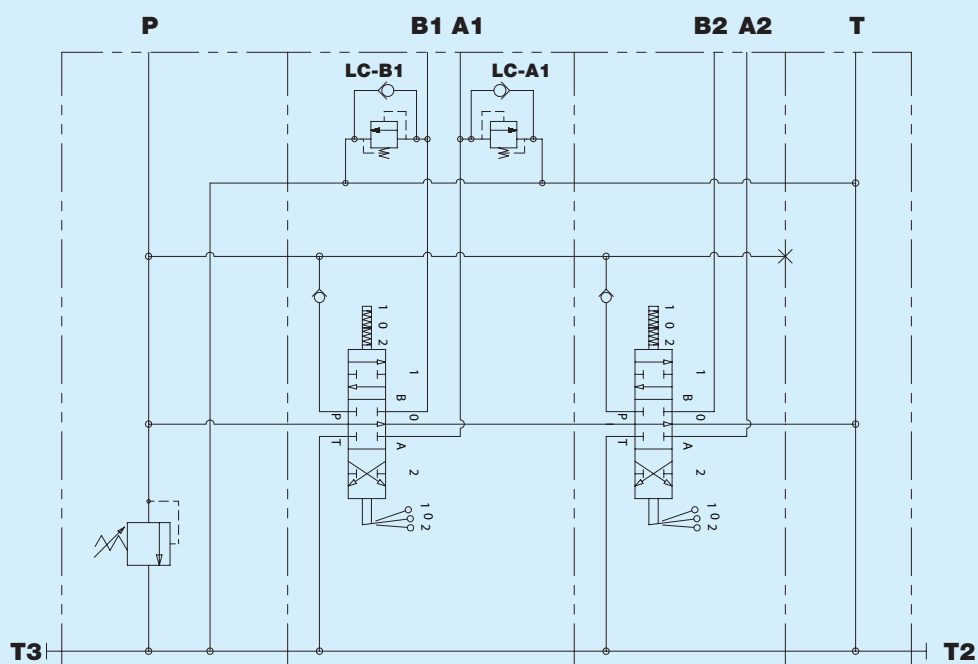
This option includes special cast iron



LC Pressure limiter and anticavitation cartridge

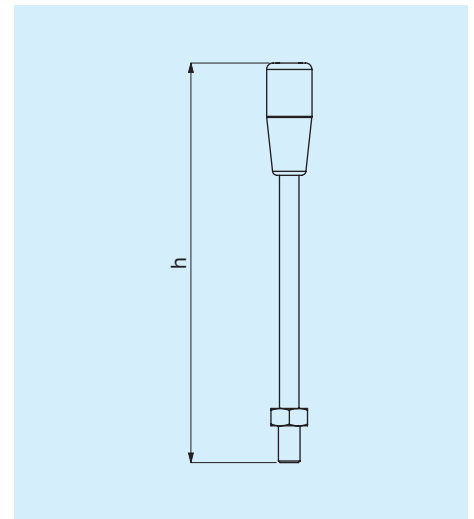


This option includes special cast iron



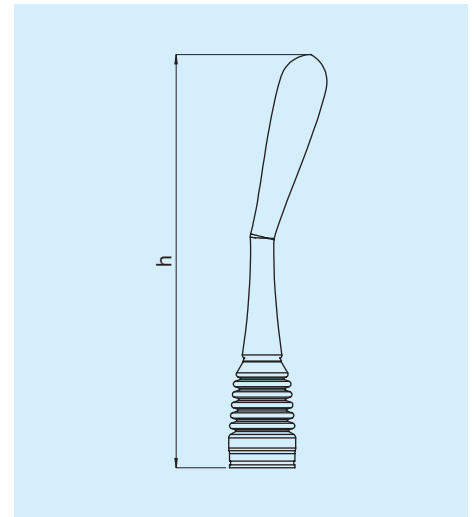
Straight standard knob

Code	Description	h [mm]	h [in]
A	Straight standard knob	109	4,3
B	Straight standard knob	134	5.28
C	Straight standard knob	184	7,24
D	Straight standard knob	214	8,42
E	Straight standard knob	254	10
F	Straight standard knob	304	11,97

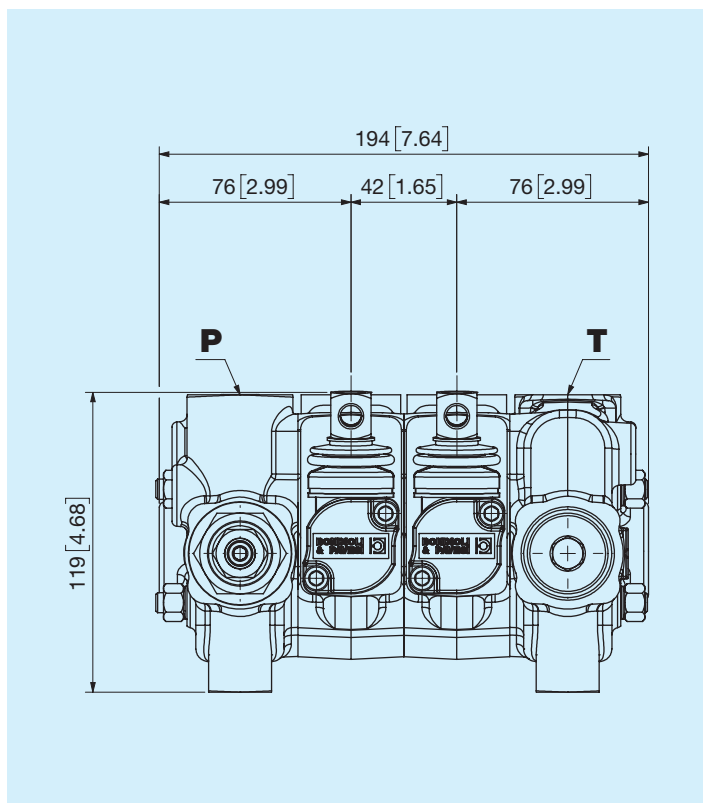


Ergonomic lever

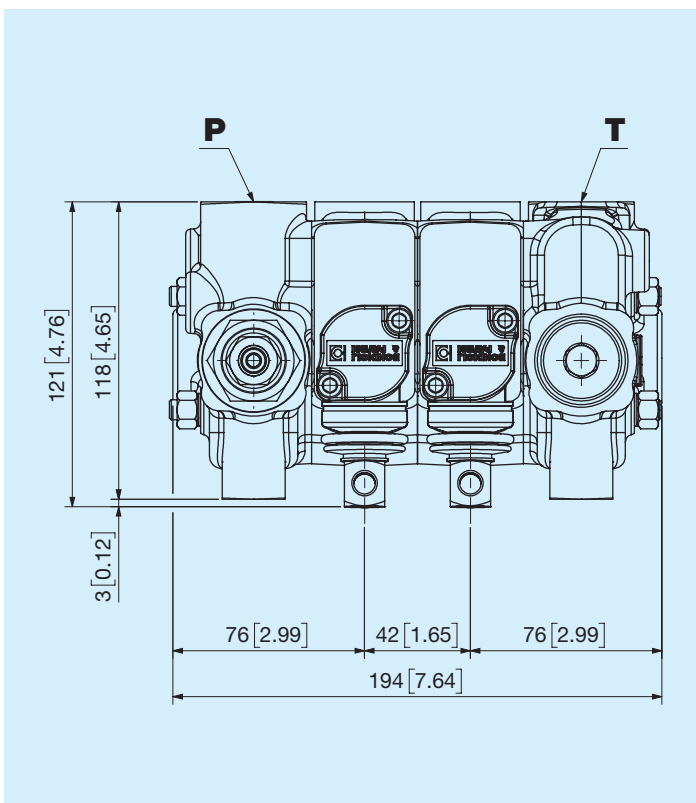
Code	Description	h [mm]	h [in]
L	Straight vertical	180	7.09
O	Bent 15° vertical	180	7.09
R	Bent 30° vertical	180	7.09
M	Straight horizontal	180	7.09
Y	Bent 15° horizontal	180	7.09
Q	Bent 30° horizontal	180	7.09



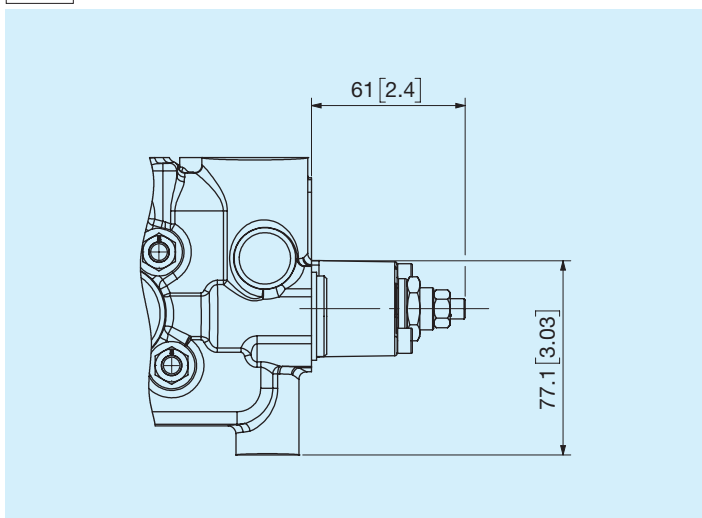
A Straight



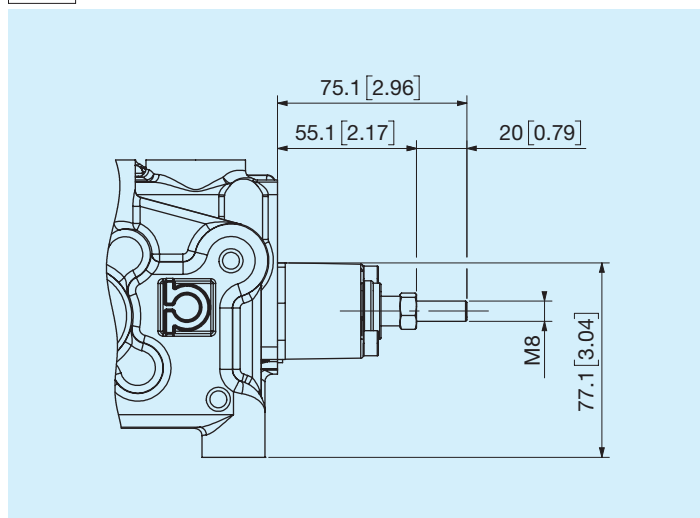
C Rotated 180°



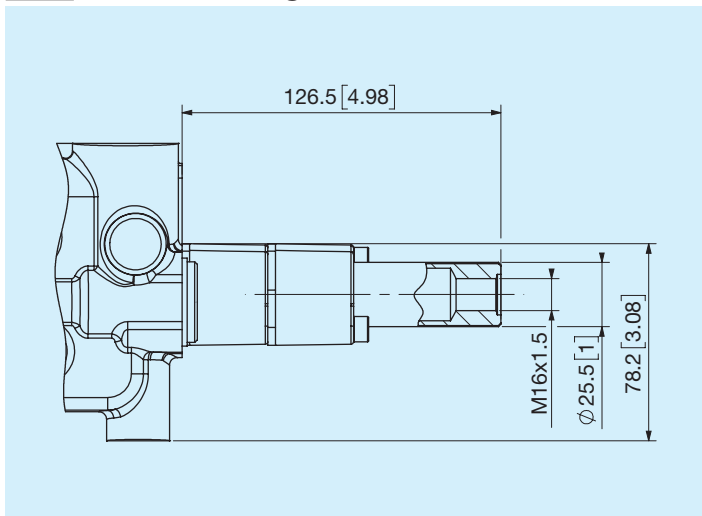
C Stroke limiter



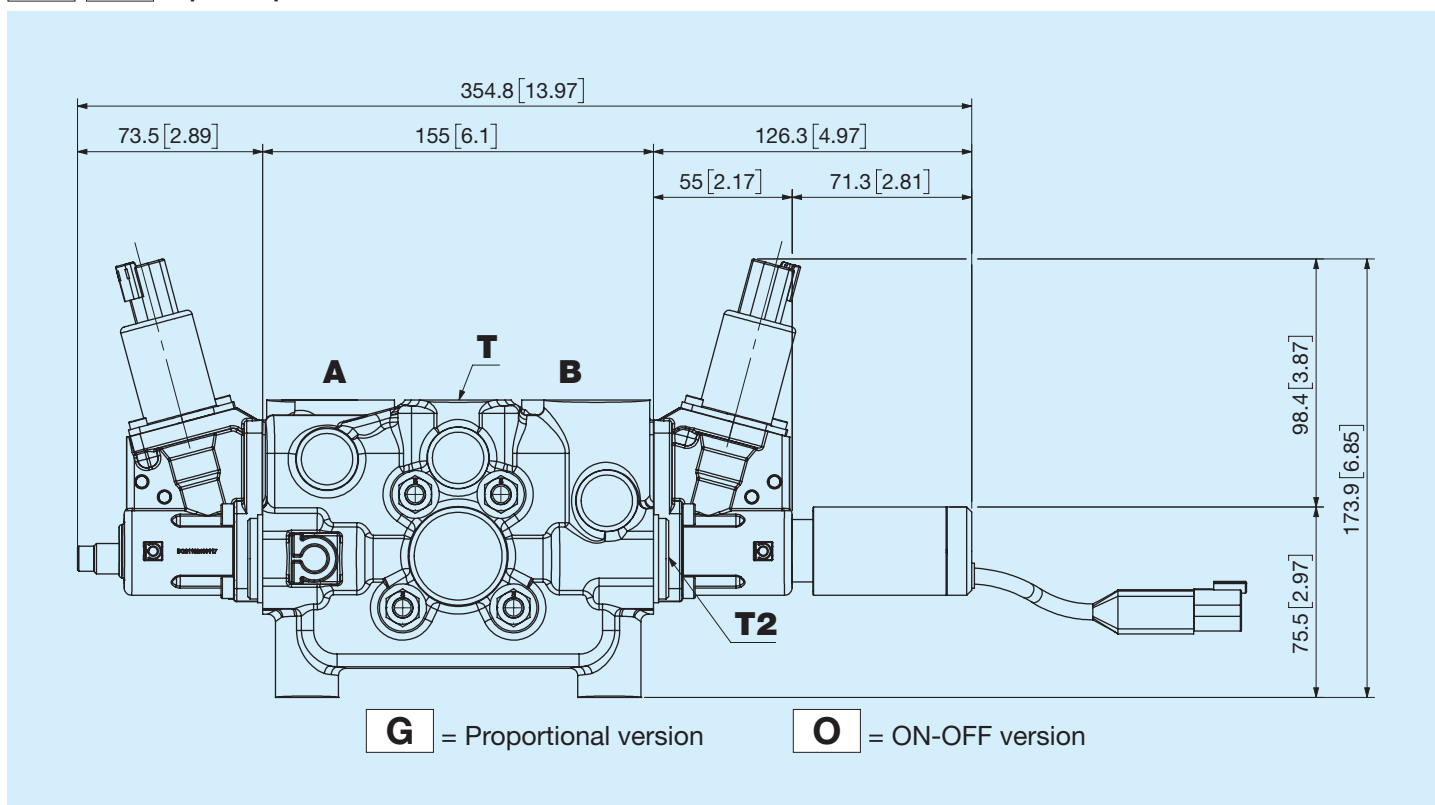
M Male dual control



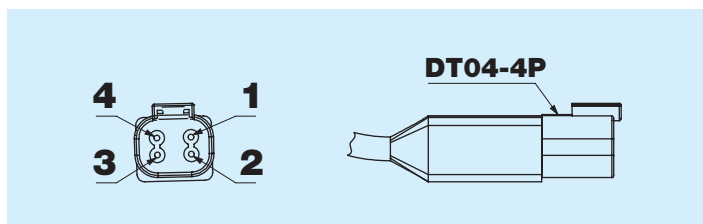
T Cable setting



G **O** Spool position sensor



Technical data of spool position electromagnetic sensor

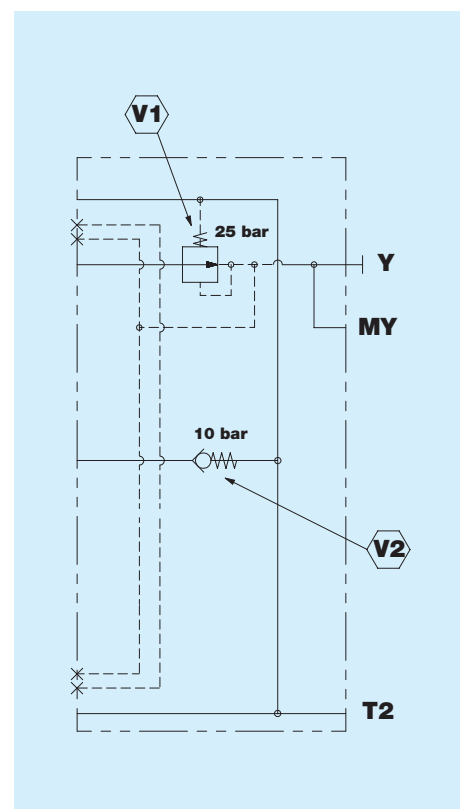
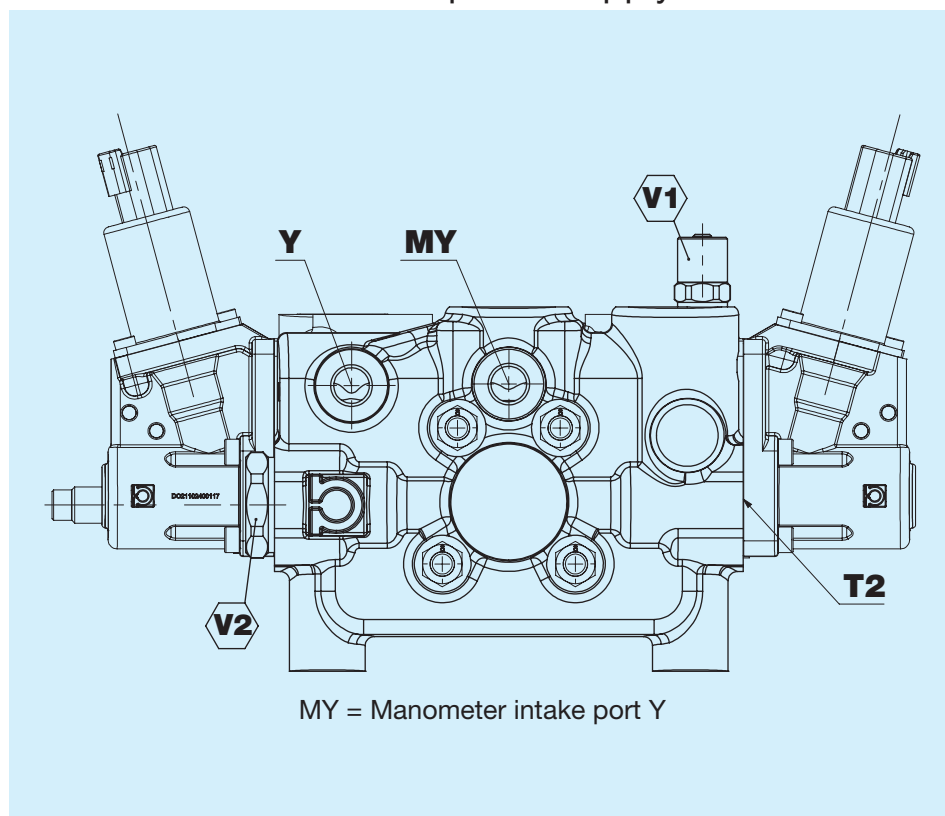


PIN	Connection
1	+V (Voltage)
2	-V (Voltage-GND)
3	Output signal
4	No use

Technical data of electromagnetic sensor

Temperature range	-40°C +100°C
Maximum operating pressure	60 bar- 870.2 psi
VB	9 - 32 V
Output signal	PNP
Maximum output current	15 mA

Ports on outlet cover with power supply

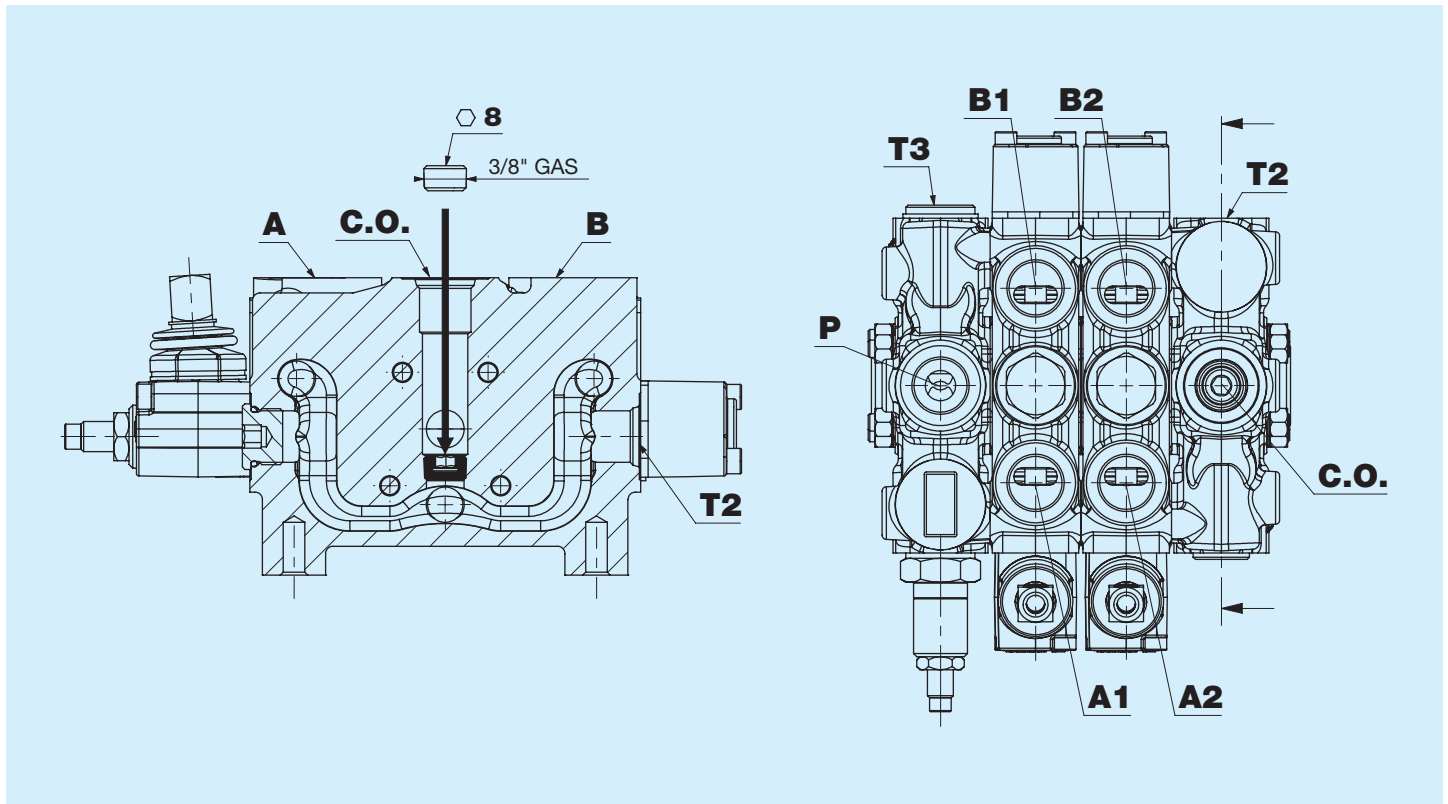


Thread ports Y - MY

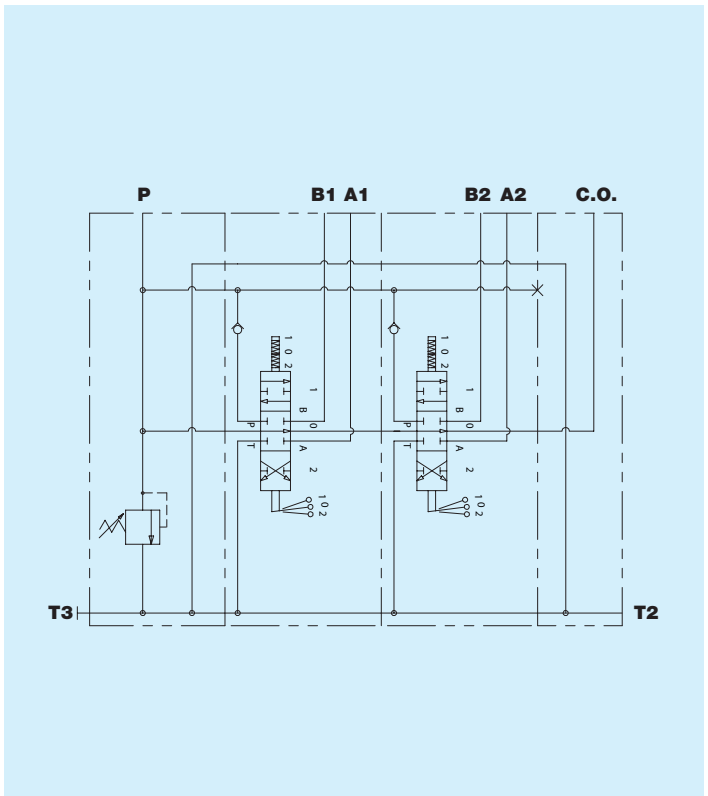
Code	Type	Torque Nm
0	Not processed	
L	1/4" GAS ISO 1179	14
3	M14x1.5 ISO 9974	10
P	9/16" - 18 SAE ISO 11926	21

Port Y and the possibility of selecting the manometer intake MY will only be possible if there is a power supply on the outlet cover.

Carry-over port T1

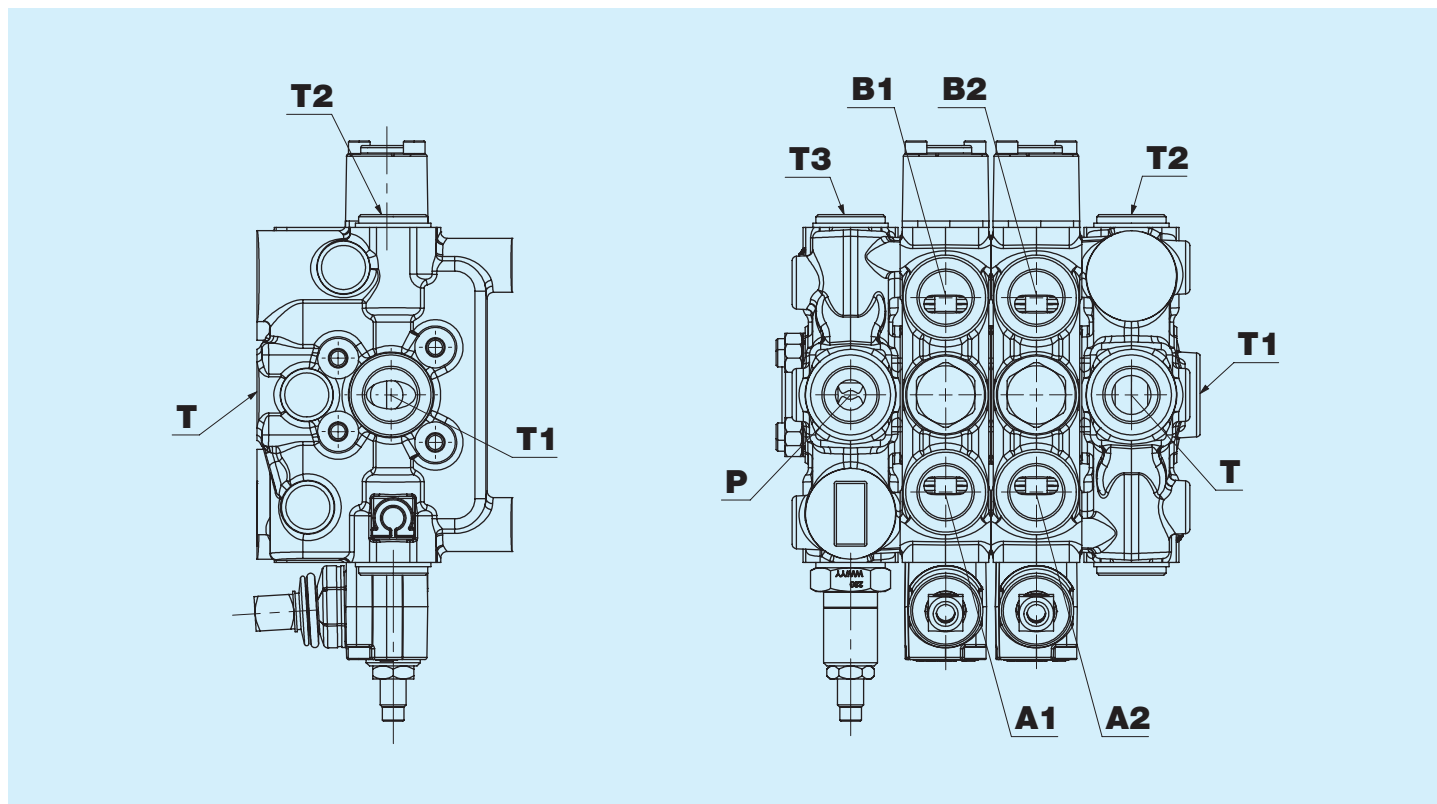


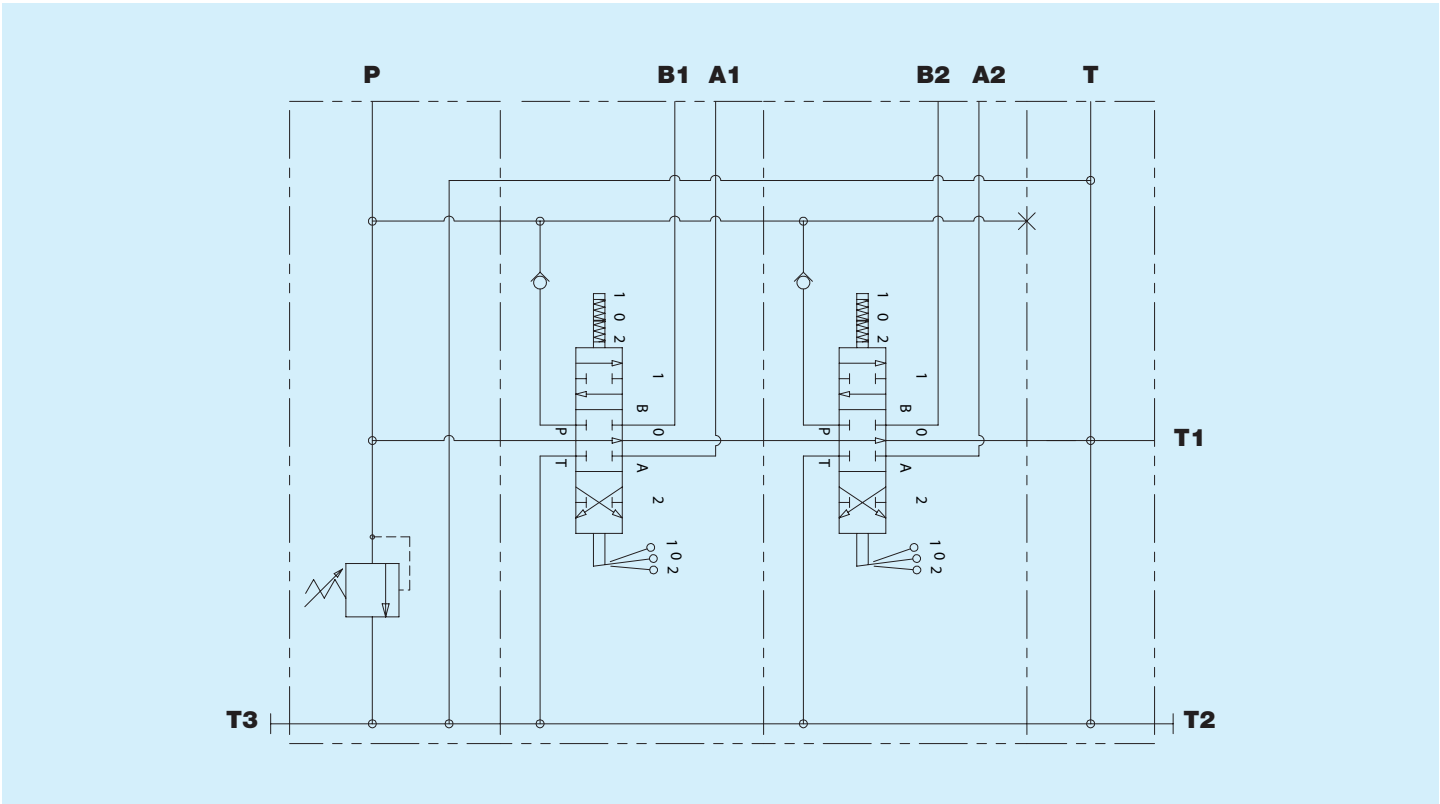
All the DNC100 directional control valves are set up for C.O. (carry-over) except for the version with a power supply.



LSC100 - Directional control valve with compensator on cover and L.S. signal. This option includes the use of the distributor with a compensator and fixed pump (open centre) or with a blocked compensator and LS pump (closed centre).

Port T1 on outlet cover





To order and receive more information on the special options, please contact the Bondioli e Pavesi technical department.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DNC100															
1	Number of sections														
	1 1 Section			3 3 Sections				5 5 Sections				7 7 Sections			
	2 2 Sections			4 4 Sections				6 6 Sections				8 8 Sections			
2	General options														
	N None			Z Zinc plating				B Black painted and power supply							
	V Black paint			A Power unit				E Zinc plating and power supply							
3	Inlet type														
	S Left (standard)			D Right											
4	Thread port P														
	B 1/2" GAS ISO 1179			J M22x1.5 ISO 6149				N M22x1.5 ISO 9974				R 7/8" - 14 SAE ISO 11926			
	F 3/4" GAS ISO 1179			U M27x2 ISO 6149				5 M27x2 ISO 9974				V 1" 1/16 - 12 SAE ISO 11926			
5	Thread port P1														
	B 1/2" GAS ISO 1179			J M22x1.5 ISO 6149				5 M27x2 ISO 9974							
	B 1/2" GAS ISO 1179			U M27x2 ISO 6149				R 7/8" - 14 SAE ISO 11926							
	F 3/4" GAS ISO 1179			N M22x1.5 ISO 9974				V 1" 1/16 - 12 SAE ISO 11926							
6	Options on port P - P1														
	A P open - P1 not processed (standard)			B P open - P1 plugged				C P open - P1 open				D P plugged - P1 open			
7	Thread port MP														
	O Not processed			3 M14x1.5 ISO 9974				P 9/16" - 18 SAE ISO 11926							
	L 1/4" GAS ISO 1179			P 9/16" - 18 SAE ISO 11926											
8	Thread port MT														
	O Not processed			3 M14x1.5 ISO 9974				P 9/16" - 18 SAE ISO 11926							
	L 1/4" GAS ISO 1179			P 9/16" - 18 SAE ISO 11926											
9	Options on ports MP - MT														
	N None			B MP open, MT plugged				D MP open, MT not processed							
	A MP plugged, MT open			C MP and MT plugged											
10 11	Maximum pressure relief valve type														
	00 VMP replacement plug			15 150 bar				21 210 bar				27 270 bar			
	10 100 bar			16 160 bar				22 220 bar				28 280 bar			
	11 110 bar			17 170 bar				23 230 bar				29 290 bar			
	12 120 bar			18 180 bar				24 240 bar				30 300 bar			
	13 130 bar			19 190 bar				25 250 bar							
	14 140 bar			20 200 bar				26 260 bar							
12	Sealing type maximum pressure relief valve														
	G Grub screw			C Cap				P Sealed				N None			

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

13	Thread ports A - B						
B	1/2" GAS ISO 1179	N	M22x1.5 ISO 9974	5	M27x2 ISO 9974	R	7/8" - 14 SAE ISO 11926
F	3/4" GAS ISO 1179	J	M22x1.5 ISO 6149	U	M27x2 ISO 6149	V	1" 1/16 - 12 SAE ISO 11926

14	Actuators						
N	None	F	Fork	P	Pneumatic control	X	Single effect port B
L	Standard kit for lever holder	T	Cable setting	...		N	Dual effect with emergency lever
Z	Lever holder with stroke limiter	M	Joystick	...	Electro-hydraulic controls	Q	Single effect port A with emergency lever
A	Without lever holder, standard appendix	G	Joystick with spool lock	H	Dual effect	R	Single effect port B with emergency lever
C	Without lever holder, flat appendix	K	Hydraulic control	S	Single effect port A		

15	Electro-hydraulic control options						
N	None	A	Spool stroke limiter port A and B	E	Spool stroke limiter port A	F	Spool stroke limiter port B

16	17	Spool types			
01	Spool type	03	Spool type	70	Spool type

18	Spool options			
A	Standard spool	B	Nickel-plated spool	

19	20	Spool control					
NN	None	OH	Detent in 2	KD	For kick-off	...	
0A	Neutral position in 0	NT	Neutral position in 0, detent in 4	PT	Detent in 0, 1, 2, 4 and kick-off	...	For selection, see the relevant chapter

21	22	Valve type port A					
NN	None	TP	Processed and plugged	VC	Anticavitation valve	LC	Pressure limiter and anticavitation cartridge

23	24	Setting LC valve on port A					
00	None	15	LC 150 bar	21	LC 210 bar	27	LC 270 bar
10	LC 100 bar	16	LC 160 bar	22	LC 220 bar	28	LC 280 bar
11	LC 110 bar	17	LC 170 bar	23	LC 230 bar	29	LC 290 bar
12	LC 120 bar	18	LC 180 bar	24	LC 240 bar	30	LC 300 bar
13	LC 130 bar	19	LC 190 bar	25	LC 250 bar		
14	LC 140 bar	20	LC 200 bar	26	LC 260 bar		

25	26	Valve type port B					
NN	None	TP	Processed and plugged	VC	Anticavitation valve	LC	Pressure limiter and anticavitation cartridge

27	28	Setting LC valve on port B					
00	None	15	LC 150 bar	21	LC 210 bar	27	LC 270 bar
10	LC 100 bar	16	LC 160 bar	22	LC 220 bar	28	LC 280 bar
11	LC 110 bar	17	LC 170 bar	23	LC 230 bar	29	LC 290 bar
12	LC 120 bar	18	LC 180 bar	24	LC 240 bar	30	LC 300 bar
13	LC 130 bar	19	LC 190 bar	25	LC 250 bar		
14	LC 140 bar	20	LC 200 bar	26	LC 260 bar		

36 37 38 39 40

29	Lever options			
	N None	C h 184 mm / 7.24 in	L Straight vertical	Y Bent 15° horizontal
	S Without lever	D h 214 mm / 8.42 in	O Bent 15° vertical	Q Bent 30° horizontal
	A h 109 mm / 4.3 in	E h 254 mm / 10 in	R Bent 30° vertical	
	B h 134 mm / 5.28 in	F h 304 mm / 11.97 in	M Straight horizontal	
30	Lever holder position			
	A Straight	C Rotated 180°	N None	
31	Spool control options			
	N None	M Male dual control	G Spool position electromagnetic sensor Proportional	
	C Stroke limiter	T Cable setting	O Spool position electromagnetic sensor ON-OFF	
32	Voltage and connector			
	N None	G 12V DEUTSCH DT04-2P	H 24V DEUTSCH DT04-2P	
33	Thread port Y			
	N None	3 M14x1.5 ISO 9974	P 9/16" - 18 SAE ISO 11926	
	L 1/4" GAS ISO 1179	P 9/16" - 18 SAE ISO 11926		
34	Options on port Y			
	N None	A Open	B Plugged	
35	Thread port MY			
	N None	3 M14x1.5 ISO 9974	P 9/16" - 18 SAE ISO 11926	
	L 1/4" GAS ISO 1179	P 9/16" - 18 SAE ISO 11926		
36	Options on port MY			
	N None	A Open	B Plugged	
37	Thread port T			
	B 1/2" GAS ISO 1179	N M22x1.5 ISO 9974	5 M27x2 ISO 9974	R 7/8" - 14 SAE ISO 11926
	F 3/4" GAS ISO 1179	J M22x1.5 ISO 6149	U M27x2 ISO 6149	V 1" 1/16 - 12 SAE ISO 11926
38	Thread port T2			
	B 1/2" GAS ISO 1179	N M22x1.5 ISO 9974	5 M27x2 ISO 9974	R 7/8" - 14 SAE ISO 11926
	F 3/4" GAS ISO 1179	J M22x1.5 ISO 6149	U M27x2 ISO 6149	V 1" 1/16 - 12 SAE ISO 11926
39	Options on port T - T2			
	A T open - T2 plugged (standard)	B T open - T2 open	C T plugged - T2 open	D T not processed - T2 open (with power supply)
40	Discharge options			
	A Carry-over option (standard)	B With carry-over port T	C Carry Over not available (options with power supply)	