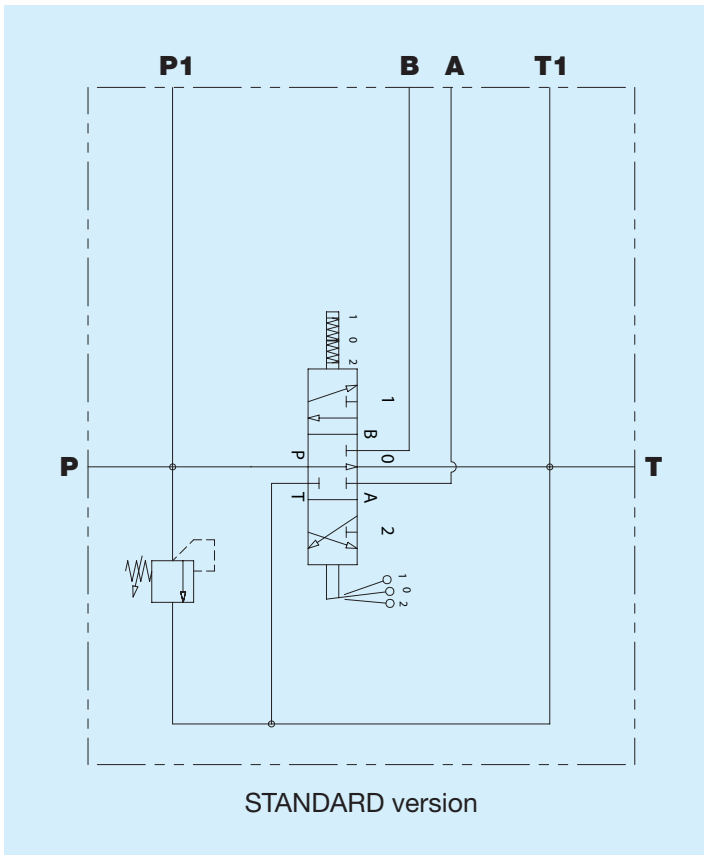


DL - Directional control valve

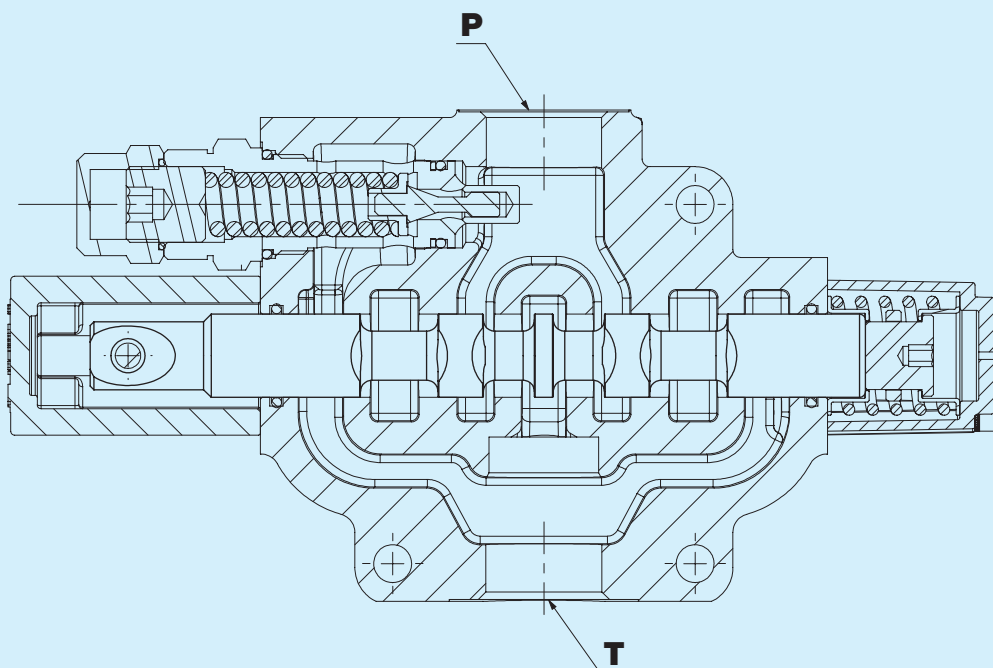


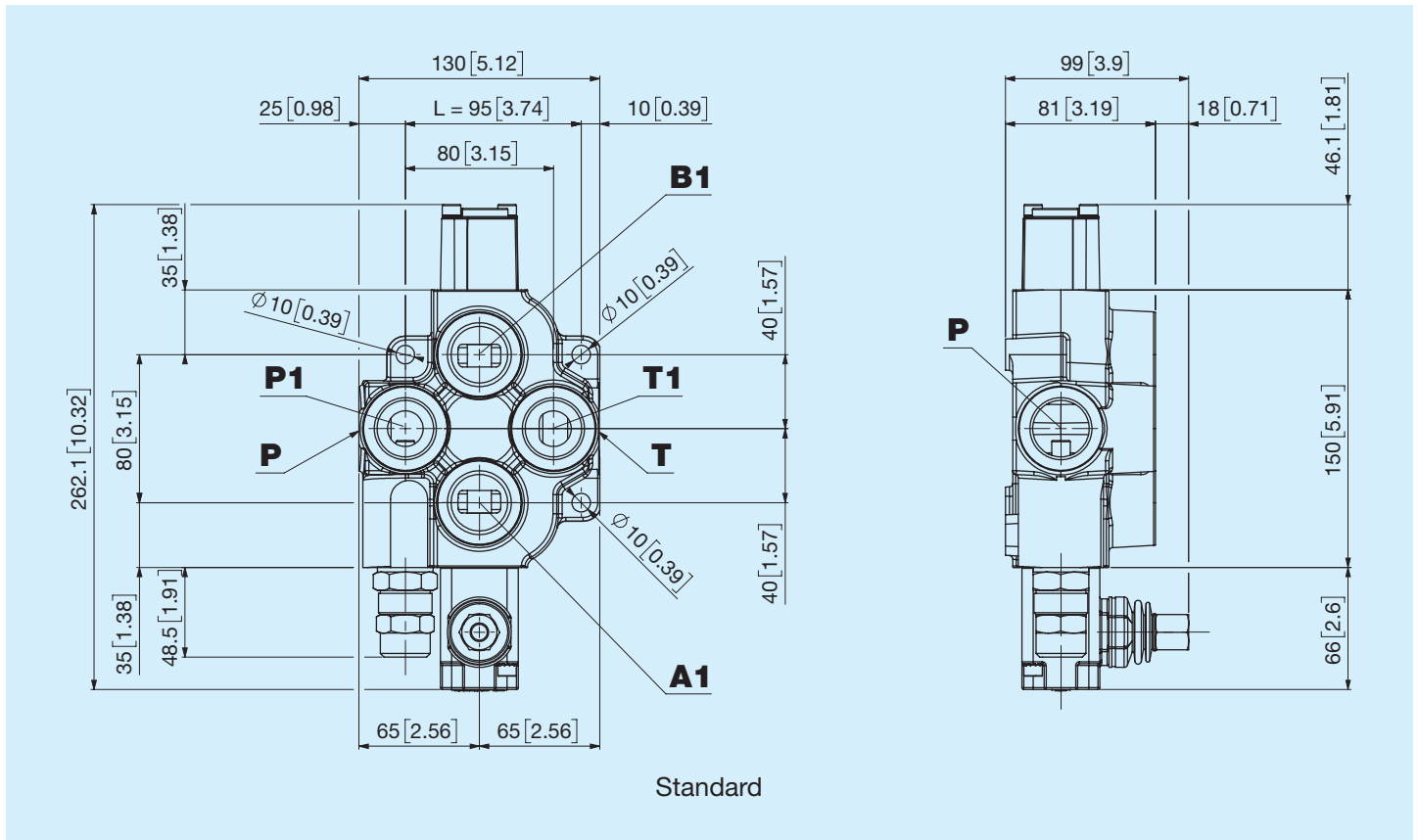
Before use, carefully read the GENERAL INSTRUCTIONS FOR USE OF DIRECTIONAL CONTROL VALVES

Nominal flow	140 l/min 37 US gpm
Nominal pressure	180 bar 2610 psi
Maximum tank pressure	50 bar 725 psi
Internal leakage (A or B -> P and T) p=100 bar (1450 psi)	60 cm³/min 3.66 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



Section

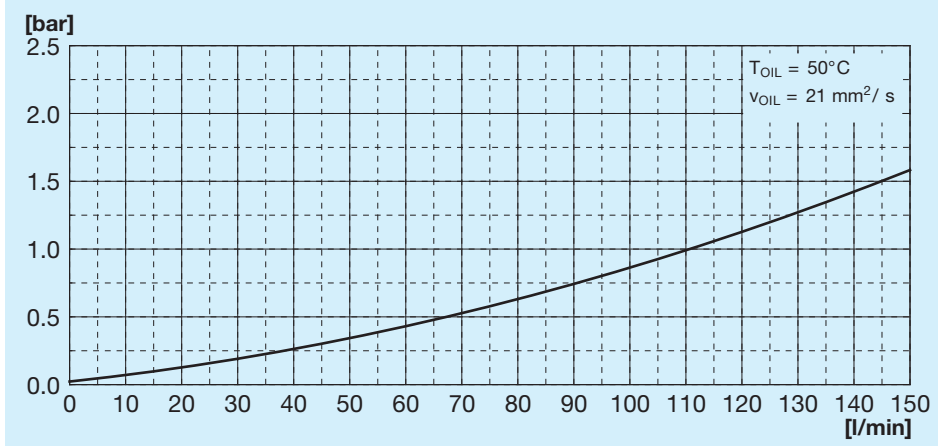
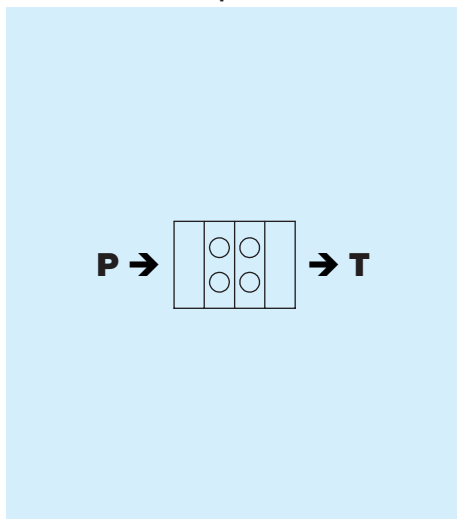




Dimensions per number of sections

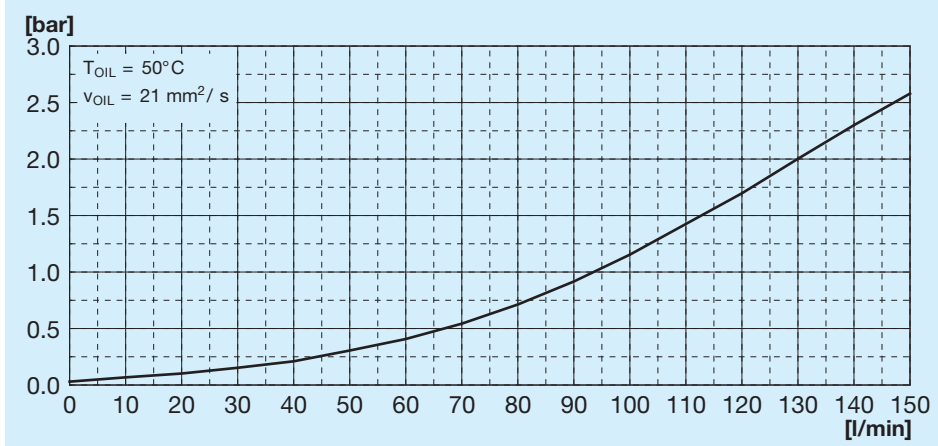
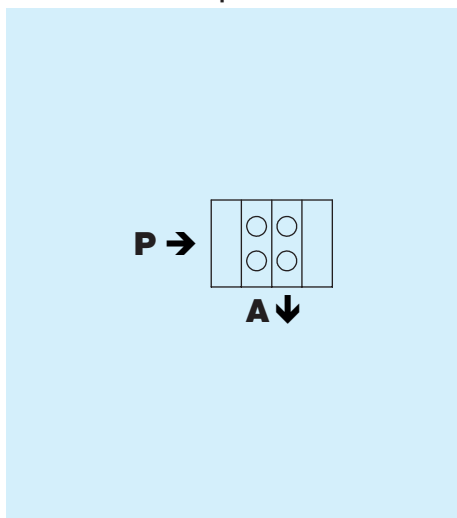
Code	N° of sections	L		Weight	
		mm	in	kg	lb
1	1	95	3.7	6.5	14,3

Pressure drop P-T



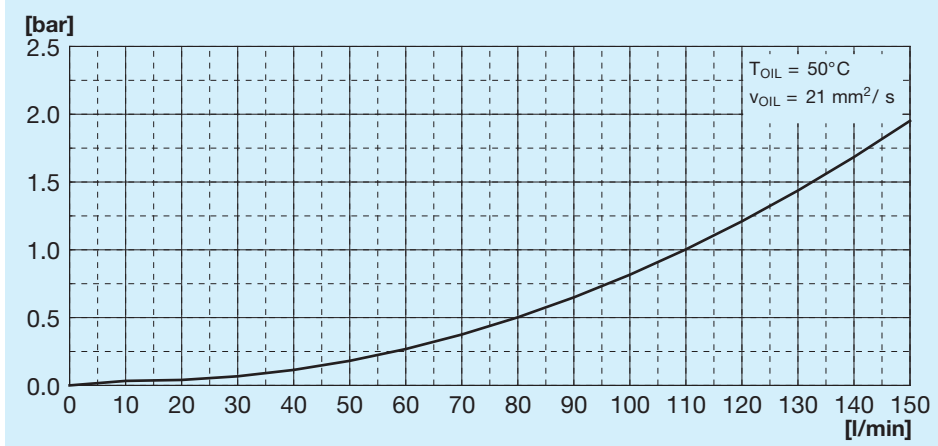
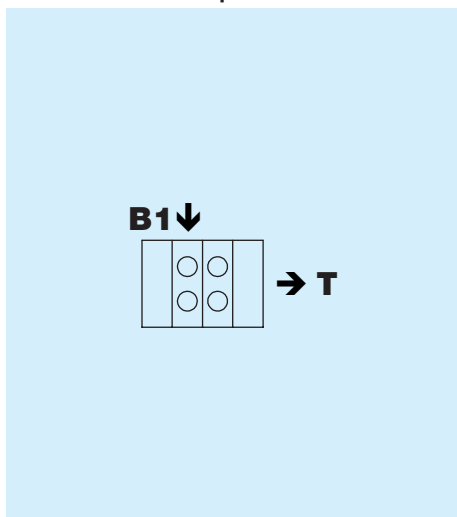
Testing parameters: Spool type **03**

Pressure drop P-A



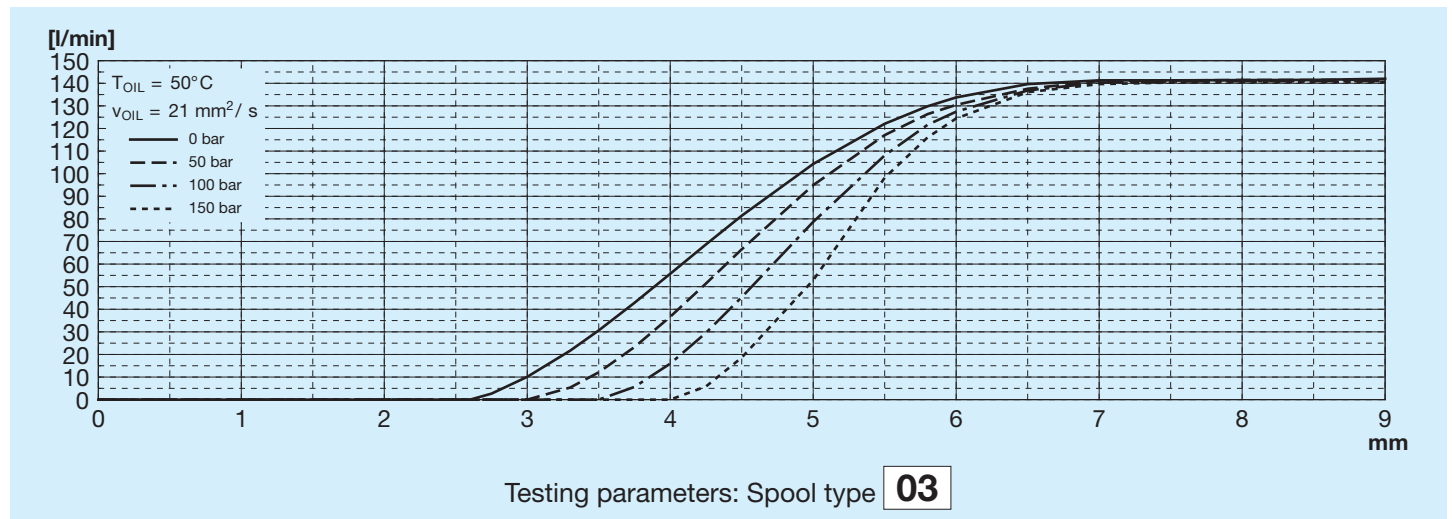
Testing parameters: Spool type **03**

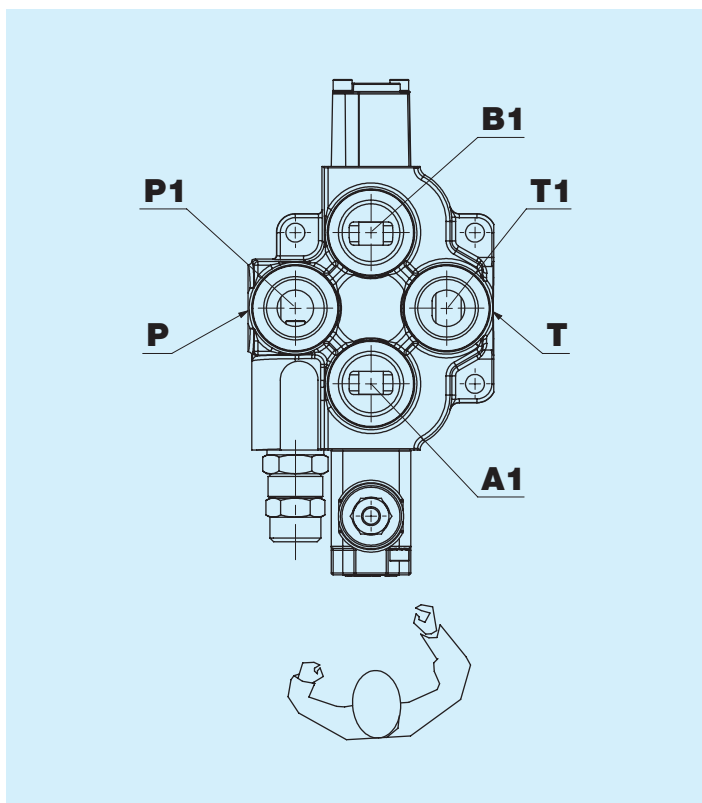
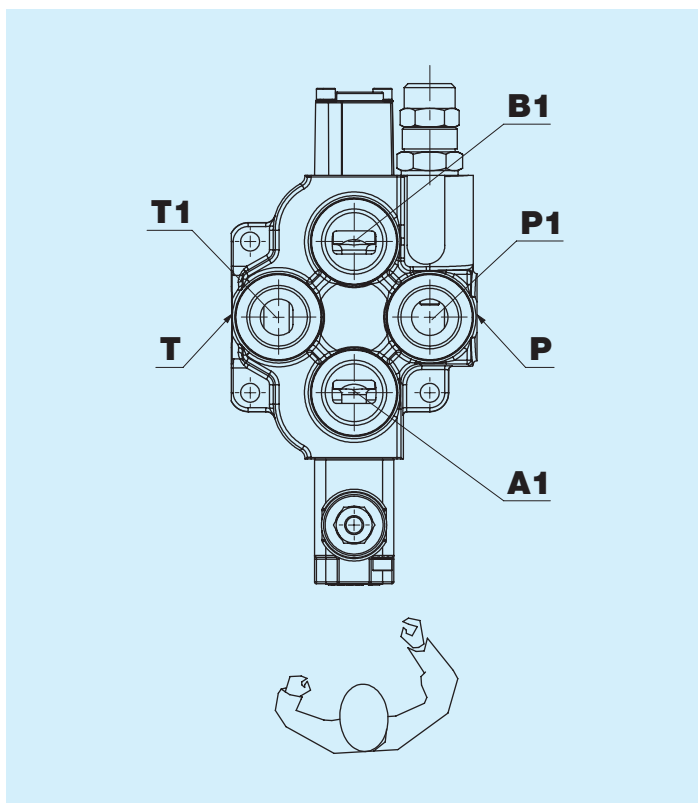
Pressure drop B1-T



Testing parameters: Spool type **03**

Metering



S Left (standard)**D** Right

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

Thread Port P

Code	Type	Torque Nm
F	3/4" GAS ISO 1179	140
G	1" GAS ISO 1179	200
5	M27x2 ISO 9974	170
6	M33x2 ISO 9974	240
V	1" 1/16 - 12 SAE ISO 11926	125
S	1" 5/16" - 12 SAE ISO 11926	270

Thread port P1

Code	Type	Torque Nm
O	Not processed	
L	1/4" GAS ISO 1179	27
F	3/4" GAS ISO 1179	140
G	1" GAS ISO 1179	200
3	M14x1.5 ISO 9974	10
5	M27x2 ISO 9974	170
6	M33x2 ISO 9974	240
P	9/16" - 18 SAE ISO 11926	27
V	1" 1/16 - 12 SAE ISO 11926	125
S	1" 5/16 - 12 SAE ISO 11926	270

Thread Port A and B

Code	Type	Torque Nm
F	3/4" GAS ISO 1179	140
G	1" GAS ISO 1179	200
5	M27x2 ISO 9974	170
6	M33x2 ISO 9974	240
V	1" 1/16 - 12 SAE ISO 11926	125
S	1" 5/16 - 12 SAE ISO 11926	270

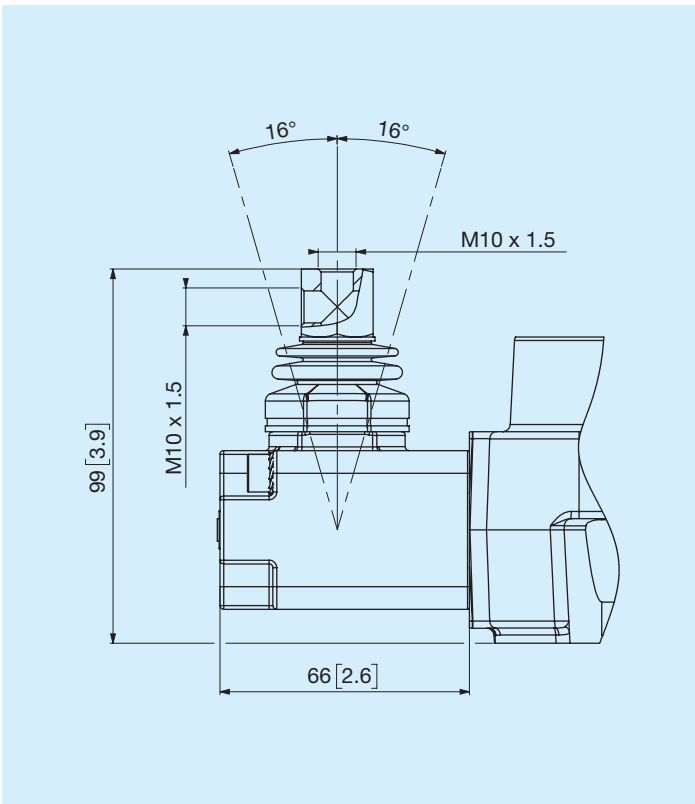
Thread Port T

Code	Type	Torque Nm
F	3/4" GAS ISO 1179	140
G	1" GAS ISO 1179	200
5	M27x2 ISO 9974	170
6	M33x2 ISO 9974	240
V	1" 1/16 - 12 SAE ISO 11926	125
S	1" 5/16 - 12 SAE ISO 11926	270

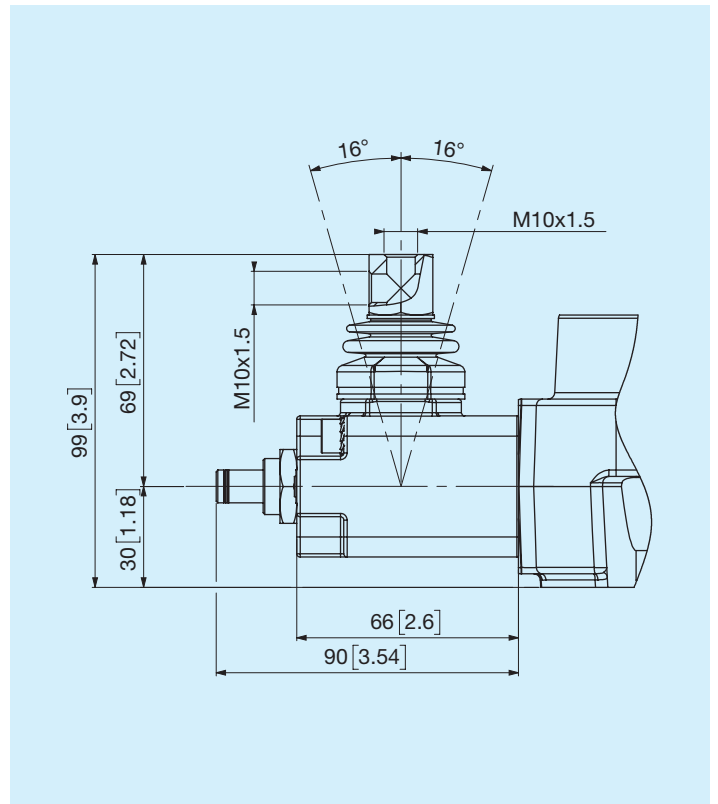
Thread port T1

Code	Type	Torque Nm
O	Not processed	
L	1/4" GAS ISO 1179	27
F	3/4" GAS ISO 1179	140
G	1" GAS ISO 1179	200
3	M14x1.5 ISO 9974	10
5	M27x2 ISO 9974	170
6	M33x2 ISO 9974	240
P	9/16" - 18 SAE ISO 11926	27
V	1" 1/16 - 12 SAE ISO 11926	125
S	1" 5/16 - 12 SAE ISO 11926	270

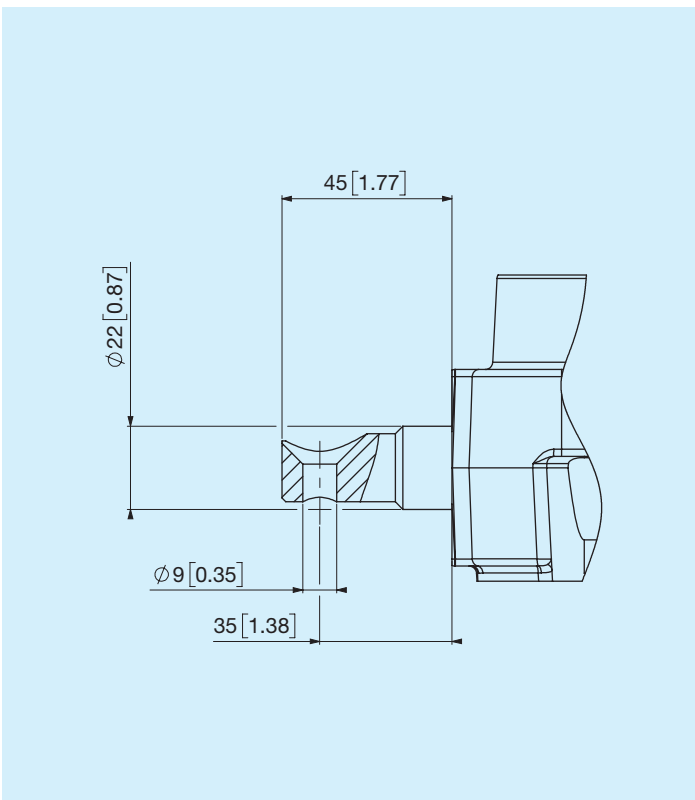
L Standard kit for lever holder



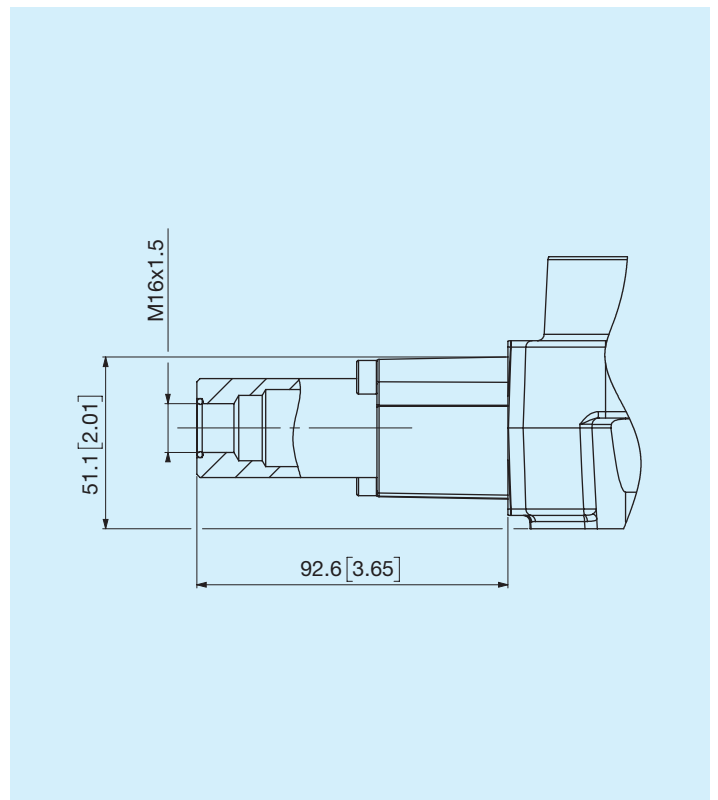
Z Lever holder with stroke limiter



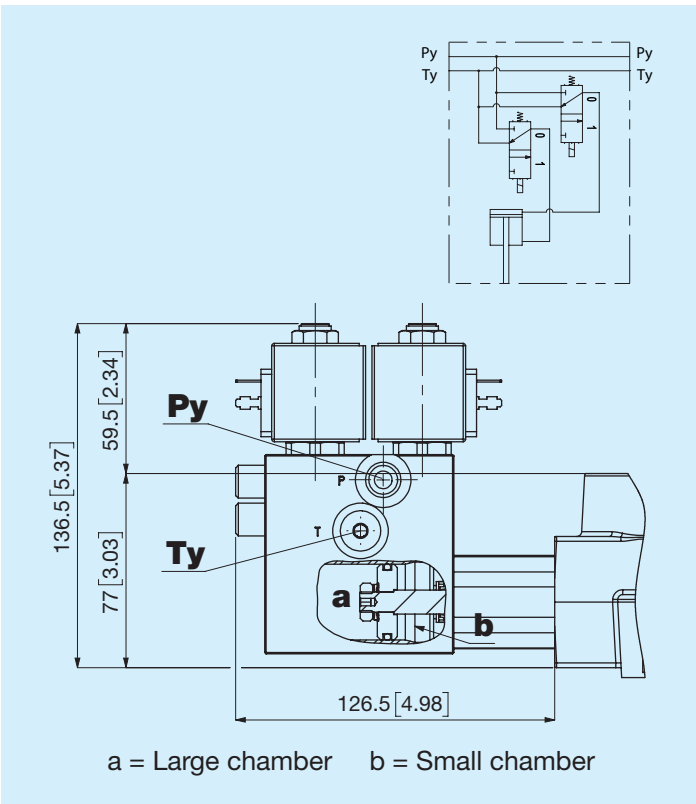
A Without lever holder, standard



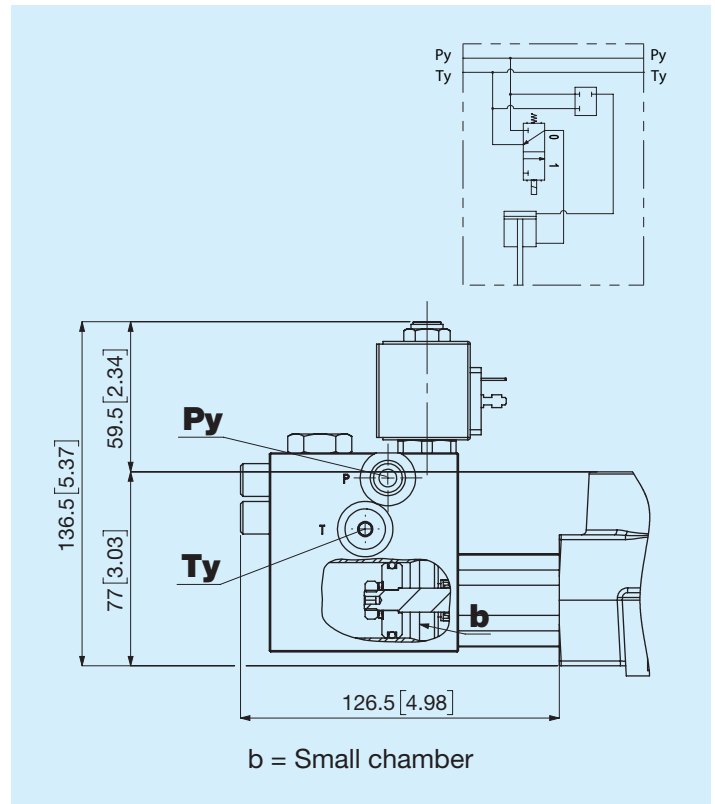
T Cable setting



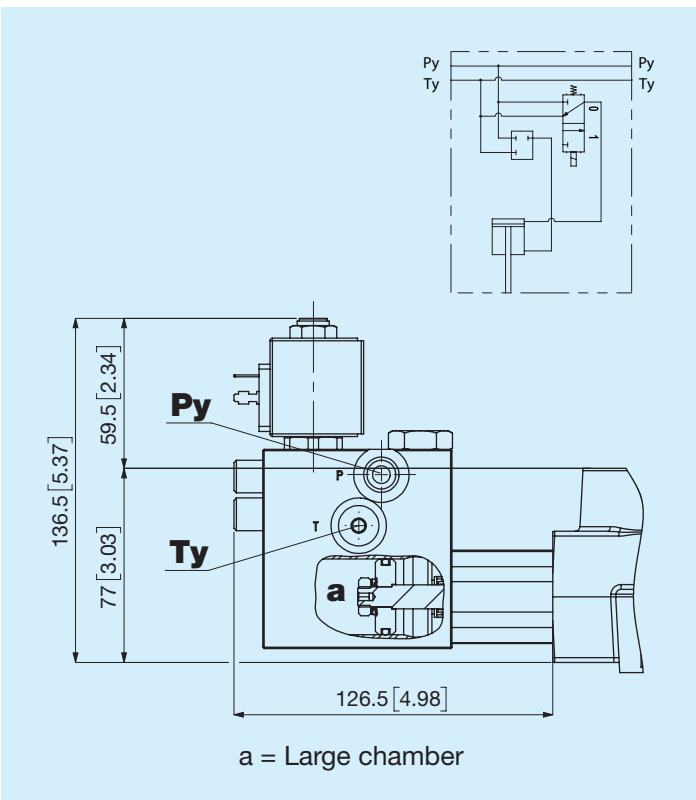
H Dual effect



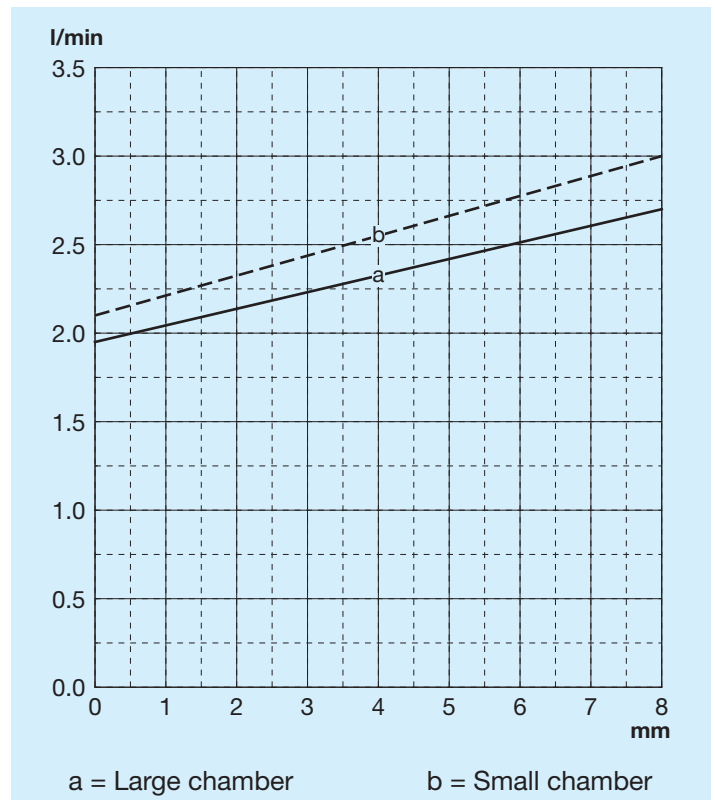
S Simple effect port A



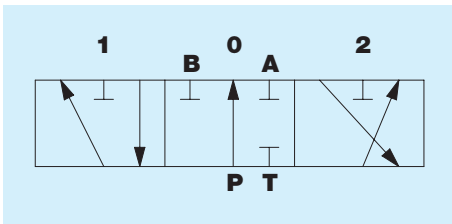
X Simple effect port B



Electro-hydraulic control



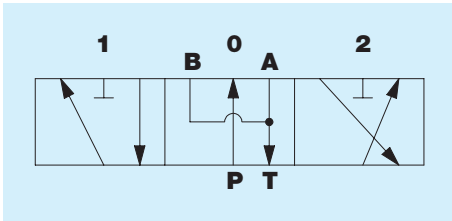
01 Spool type



Positions

3	1	0	2	4
	P → B A → T BP —	A, B — BP →	P → A B → T BP —	

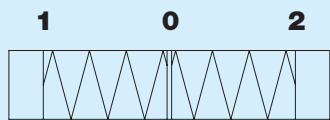
03 Spool type



Positions

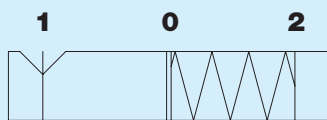
3	1	0	2	4
	P → B A → T BP —	A, B → T BP →	P → A B → T BP —	

0A



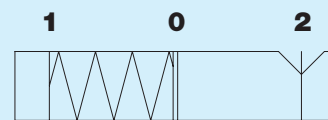
Neutral position in 0

0B



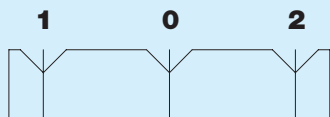
Neutral position in 0,
detent in 1

0C



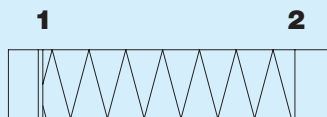
Neutral position in 0,
detent in 2

0D



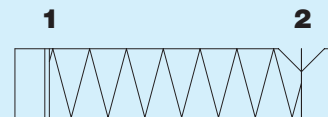
Detent in 0, 1, 2

0S



Neutral position in 1

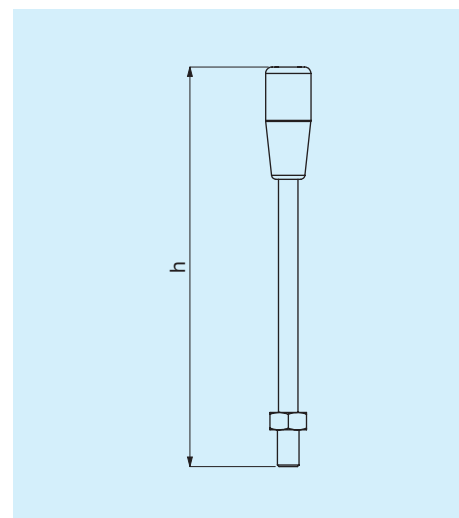
SQ



Neutral position in 1,
detent in 2

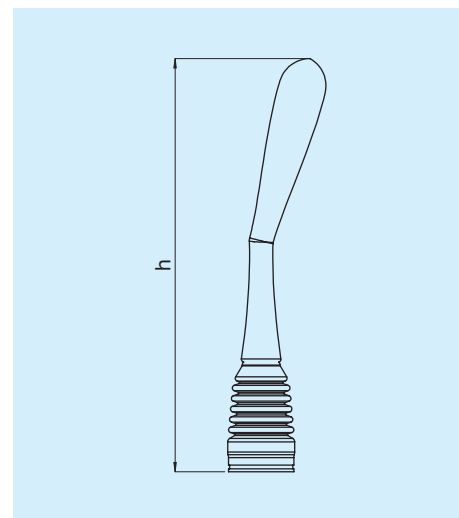
Straight standard knob

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

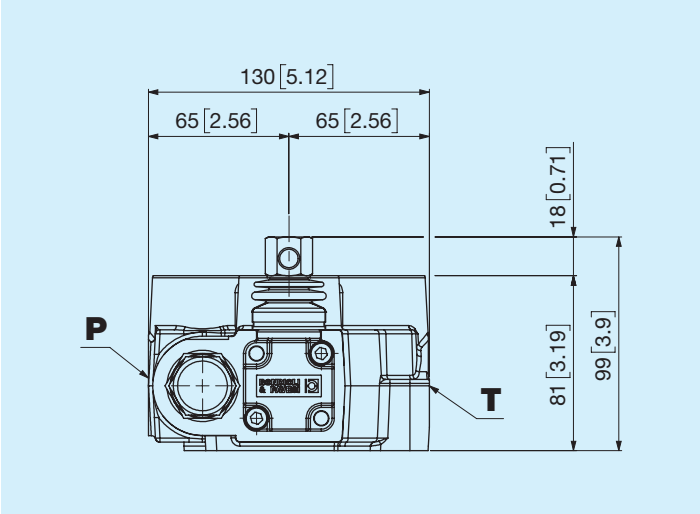


Ergonomic lever

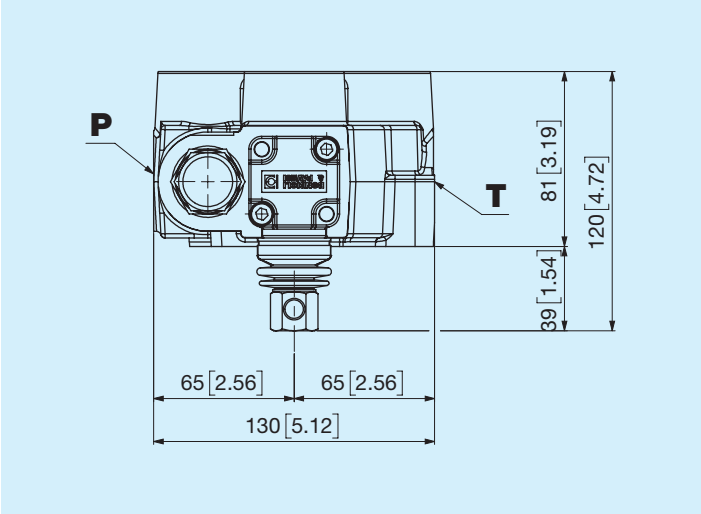
Code	Description	h [mm]	h [in]
L	Straight vertical	180	7.09
O	Bent 15° vertical	180	7.09
R	Bent 30° vertical	180	7.09
M	Straight horizontal	180	7.09
Y	Bent 15° horizontal	180	7.09
Q	Bent 30° horizontal	180	7.09



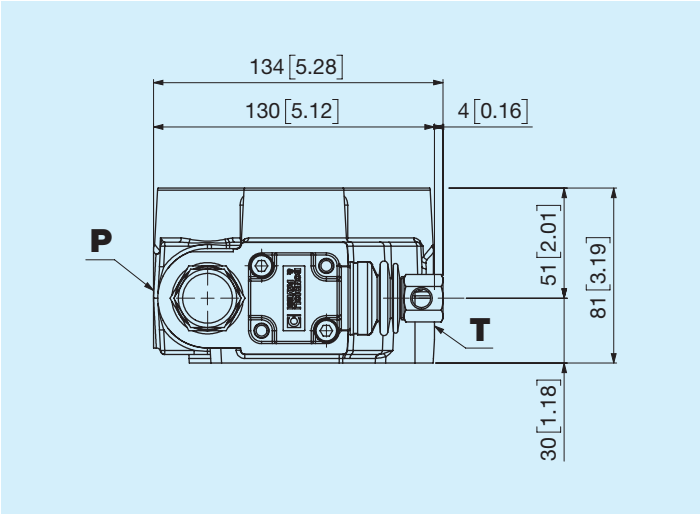
A Straight



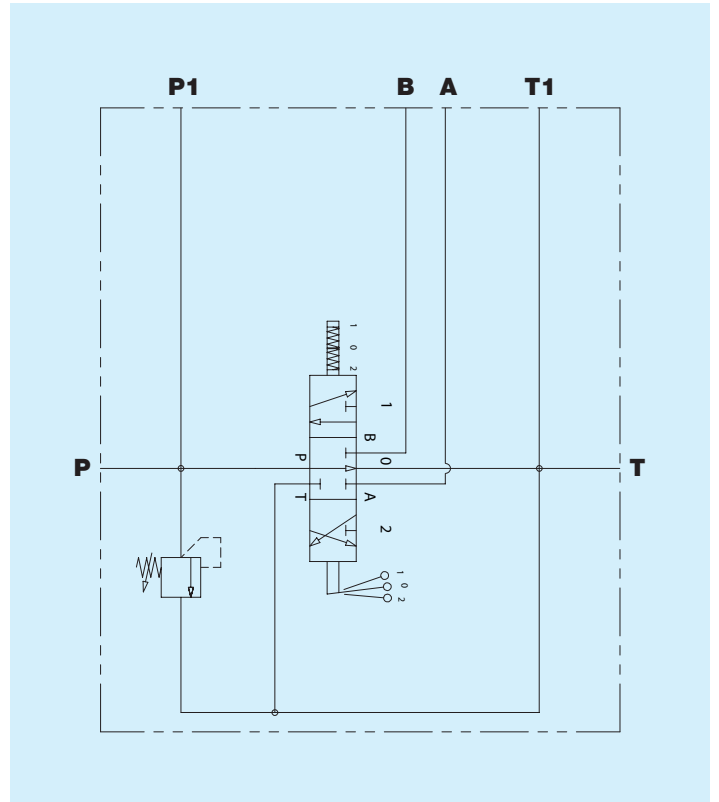
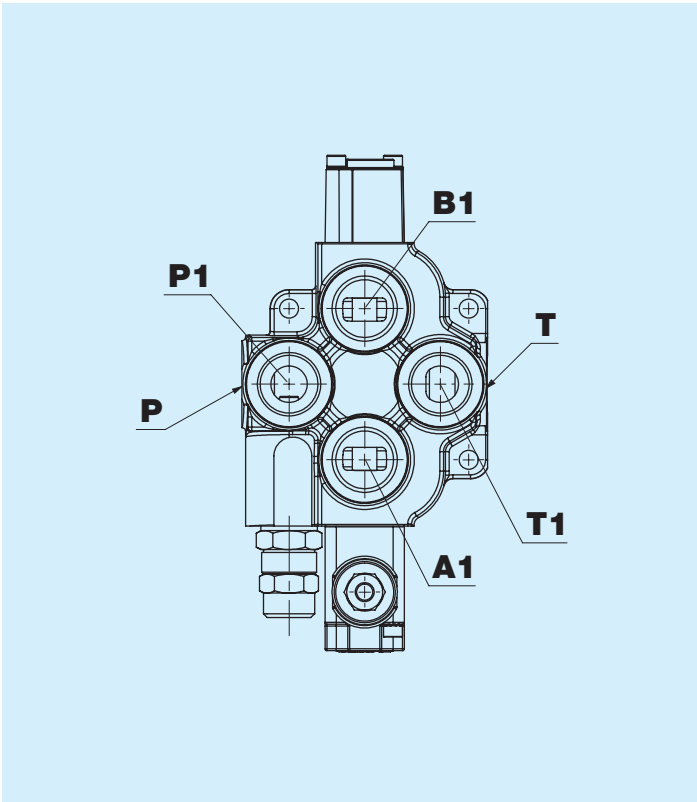
C Rotated 180°



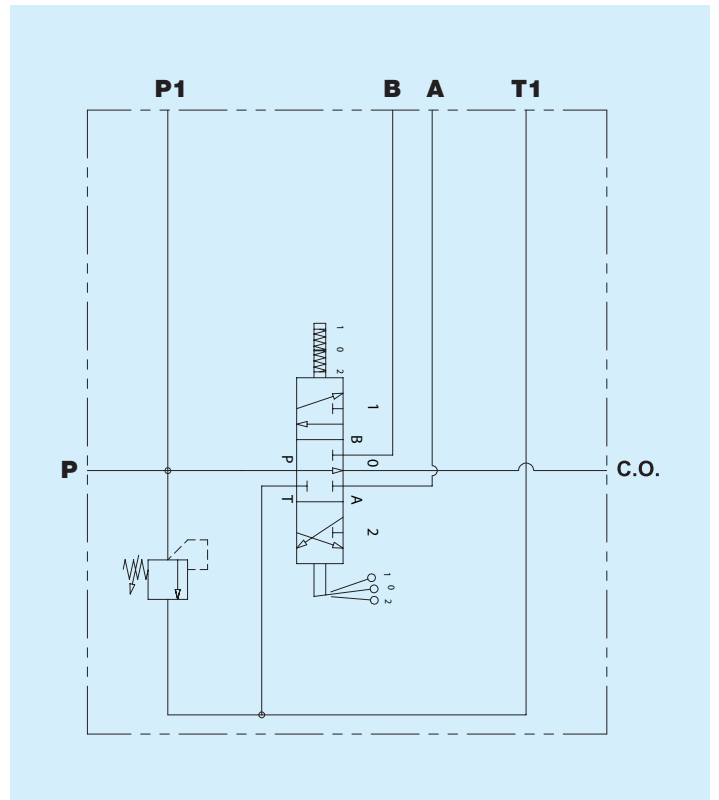
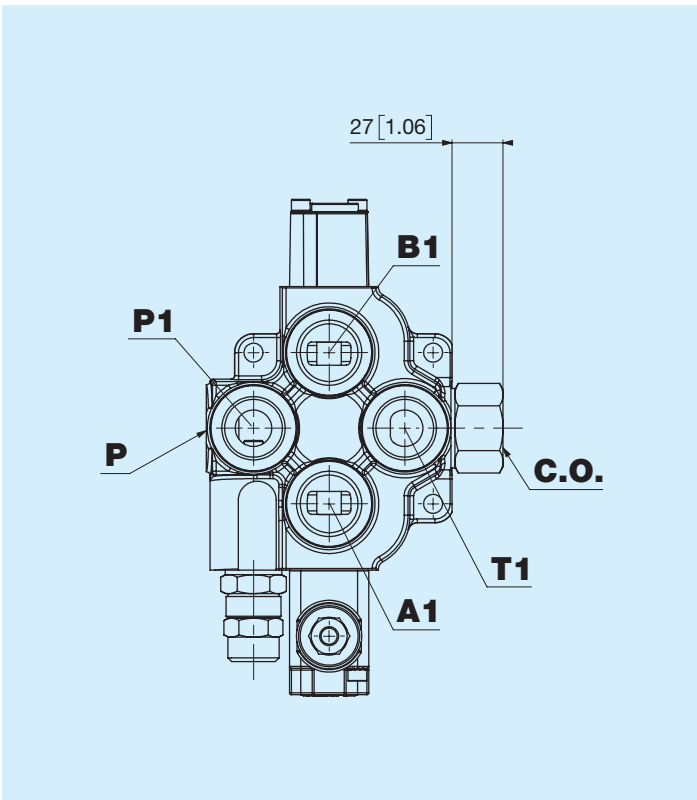
D Rotated 90° towards T

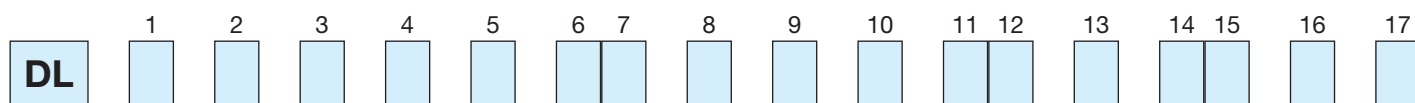


A Carry-over option

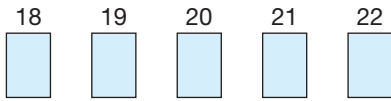


B With carry-over





1	General options																
	N None	V Black paint	Z Zinc plating														
2	Type inlet																
	S Left (standard)	D Right															
3	Thread port P																
	F 3/4" GAS ISO 1179	5 M27x2 ISO 9974	V 1" 1/16 - 12 SAE ISO 11926														
	G 1" GAS ISO 1179	6 M33x2 ISO 9974	S 1' 5/16 - 12 SAE ISO 11926														
4	Thread port P1																
	0 Not processed	G 1" GAS ISO 1179	6 M33x2 ISO 9974	S 1' 5/16 - 12 SAE ISO 11926													
	L 1/4" GAS ISO 1179	3 M14x1.5 ISO 9974	P 9/16" - 18 SAE ISO 11926														
	F 3/4" GAS ISO 1179	5 M27x2 ISO 9974	V 1" 1/16 - 12 SAE ISO 11926														
5	Options on port P-P1																
	A P open - P1 open (standard)	B P open - P1 plugged	C P plugged - P1 open	D P open - P1 not processed													
6 7	Maximum pressure relief valve type																
	00 VMP replacement plug	09 90 bar	13 130 bar	17 170 bar													
	06 60 bar	10 100 bar	14 140 bar	18 180 bar													
	07 70 bar	11 110 bar	15 150 bar														
	08 80 bar	12 120 bar	16 160 bar														
8	Sealing type maximum pressure relief valve																
	G Grub screw	P Sealed	N None														
	C Cap	R Seal option															
9	Thread ports A - B																
	F 3/4" GAS ISO 1179	5 M27x2 ISO 9974	V 1" 1/16 - 12 SAE ISO 11926														
	G 1" GAS ISO 1179	6 M33x2 ISO 9974	S 1' 5/16 - 12 SAE ISO 11926														
10	Actuators																
	L Standard kit for lever holder	A Without lever holder, standard appendix	H Dual effect electro-hydraulic control port A	X Simple effect electro-hydraulic control port B													
	Z Lever holder with stroke limiter	T Cable setting	S Simple effect electro-hydraulic control port A														
11 12	Spool types																
	01 Spool type	03 Spool type															
13	Spool options																
	A Standard spool	B Nickel-plated spool															
14 15	Spool control																
	NN None	0B Neutral position in 0, detent in 1	0D Detent in 0, 1, 2	...													
	0A Neutral position in 0	0C Neutral position in 0, detent in 2	0Q Neutral position in 1, detent in 2	...	For selection, see the relevant chapter												



18	Lever options			
19	N None	C h 184 mm / 7.24 in	L Straight vertical	Y Bent 15° horizontal
20	S Without lever	D h 214 mm / 8.42 in	O Bent 15° vertical	Q Bent 30° horizontal
21	A h 109 mm / 4.3 in	E h 254 mm / 10 in	R Bent 30° vertical	
22	B h 134 mm / 5.28 in	F h 304 mm / 11.97 in	M Straight horizontal	
16	Lever holder position			
17	A Straight	C Rotated 180°	N None	
18	B Rotated 90° towards P (right inlet)	D Rotated 90° towards T		
18	Voltage and connector			
19	N None	A 12V DIN 43650	B 24V DIN 43650	
19	Thread port T			
20	F 3/4" GAS ISO 1179	5 M27x2 ISO 9974	V 1" 1/16 - 12 SAE ISO 11926	
20	G 1" GAS ISO 1179	6 M33x2 ISO 9974	S 1" 5/16 - 12 SAE ISO 11926	
20	Thread port T1			
21	O Not processed	G 1" GAS ISO 1179	6 M33x2 ISO 9974	S 1" 5/16 - 12 SAE ISO 11926
21	L 1/4" GAS ISO 1179	3 M14x1.5 ISO 9974	P 9/16" - 18 SAE ISO 11926	
21	F 3/4" GAS ISO 1179	5 M27x2 ISO 9974	V 1" 1/16 - 12 SAE ISO 11926	
21	Options on port T-T1			
22	A T open - T1 open (standard)	B T open - T1 plugged	C T plugged - T1 open	D T open - T1 not processed
22	Discharge options			
22	A Carry-over option (standard)	B With carry-over port T1		