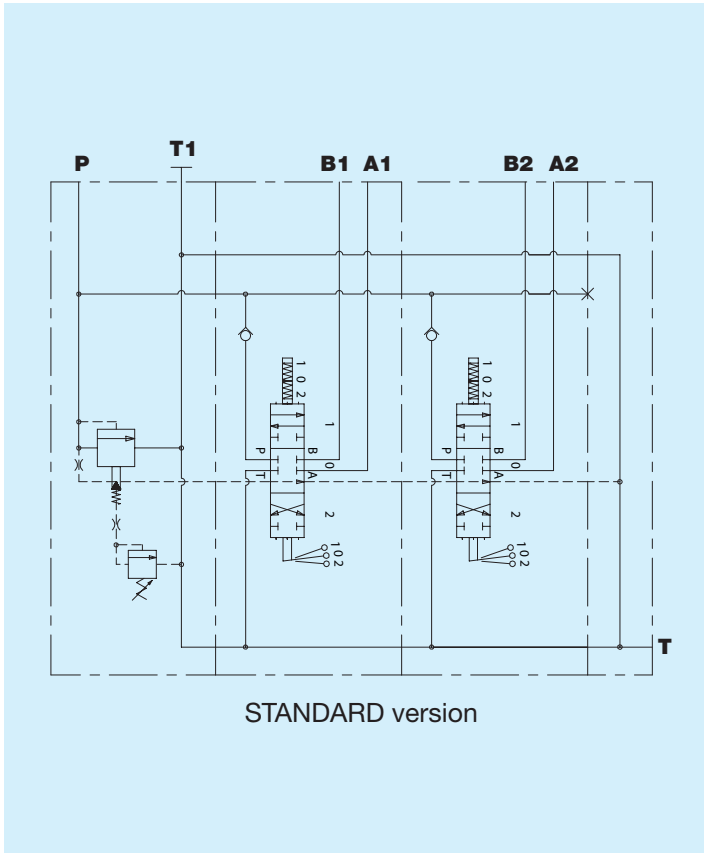


DNC35 - Modular directional control valves

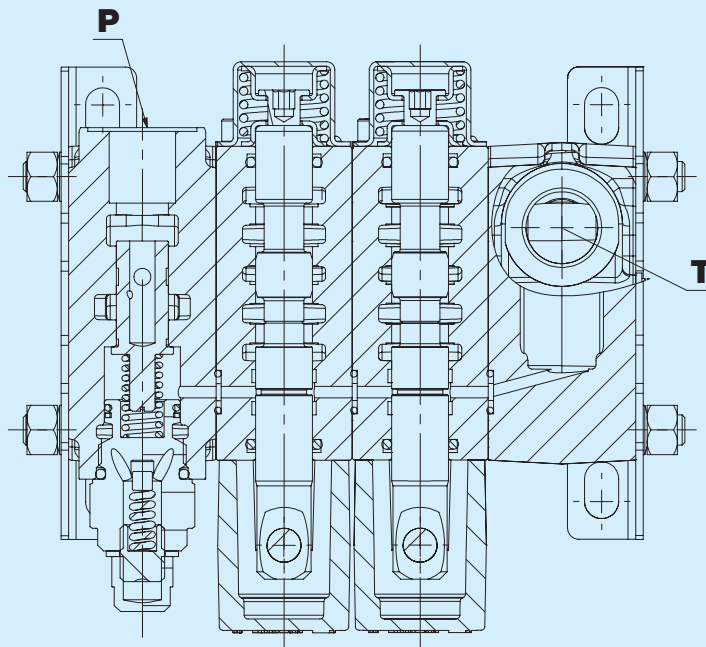


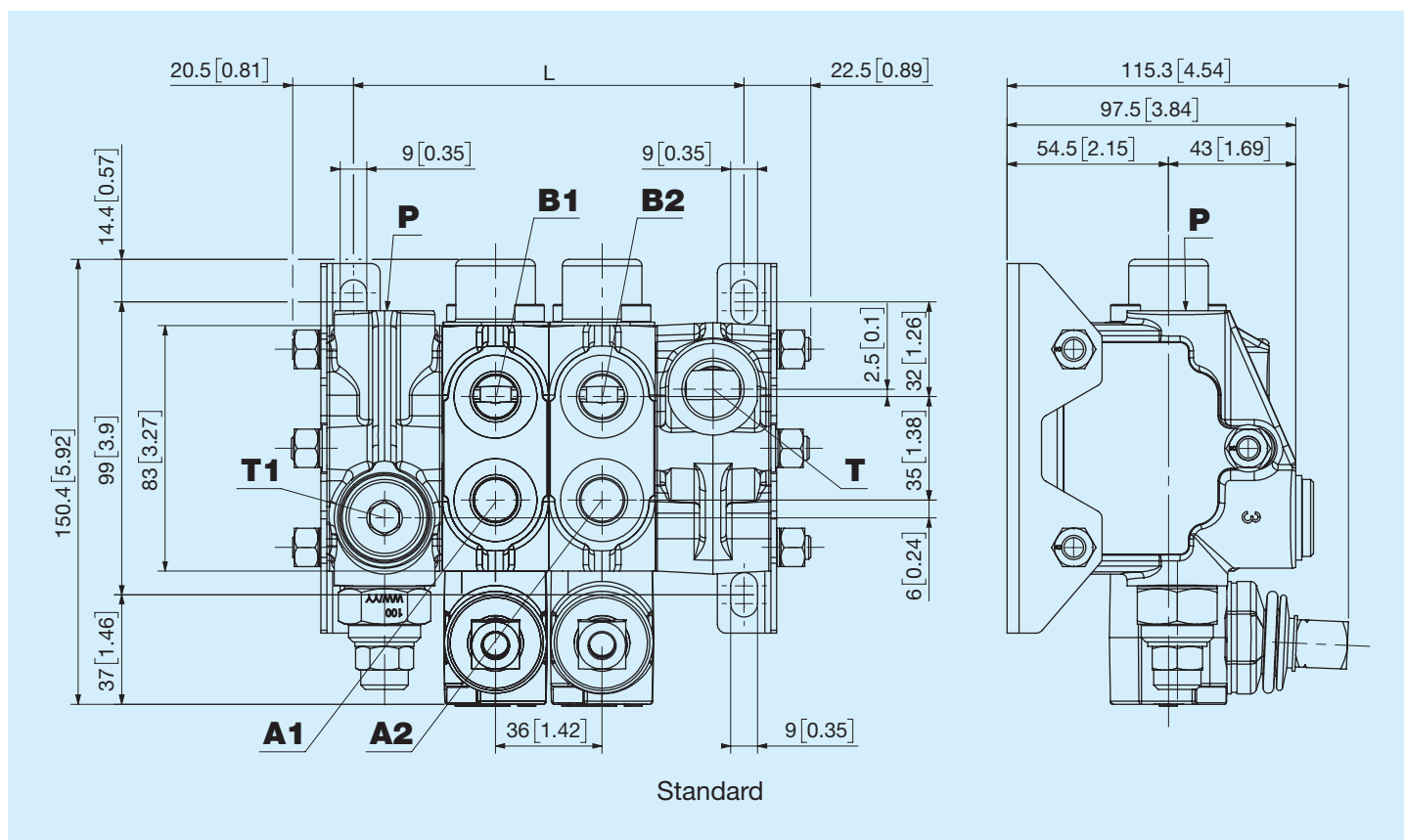
Before use, carefully read the GENERAL INSTRUCTIONS FOR USE OF DIRECTIONAL CONTROL VALVES

Nominal flow	40 l/min 10.6 US gpm
Nominal pressure	250 bar 3625 psi
Nominal inlet flow with electric actuators	25 l/min 6.6 US gpm
Maximum pressure with electric actuators	180 bar 2610 psi
Maximum tank pressure	50 bar 725 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



Section

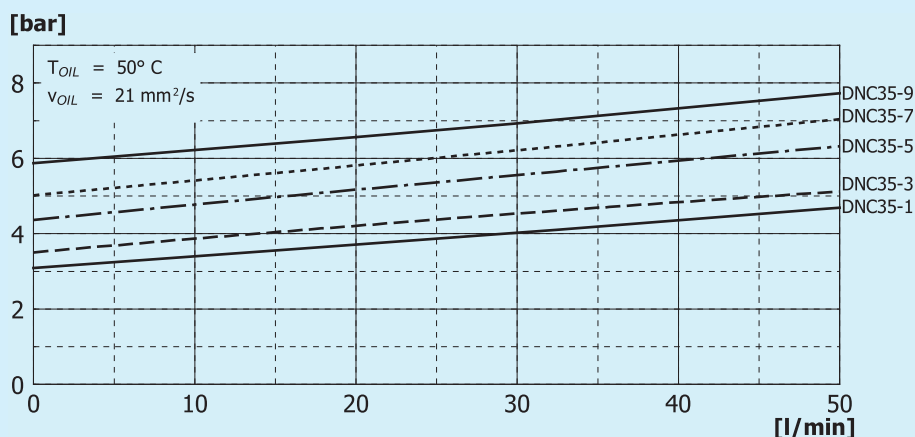
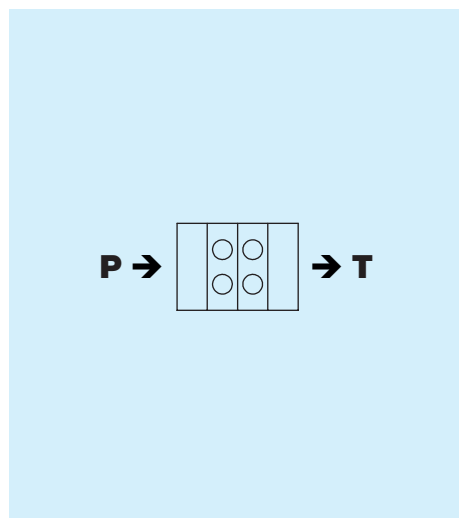




Dimensions per number of sections

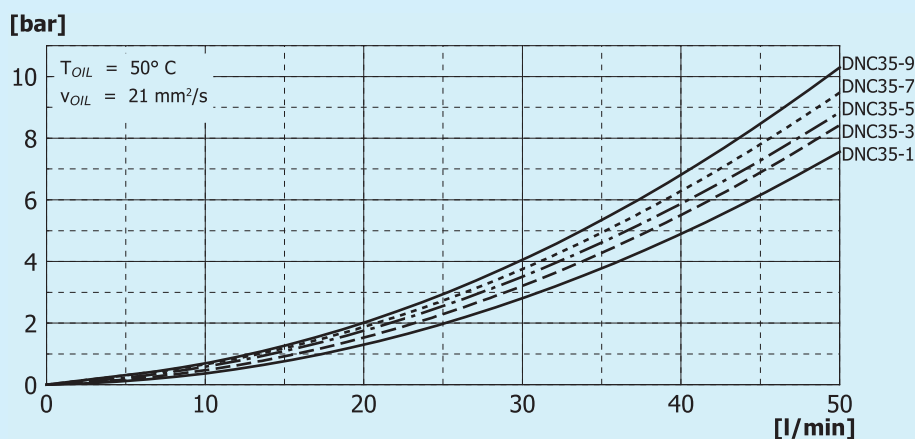
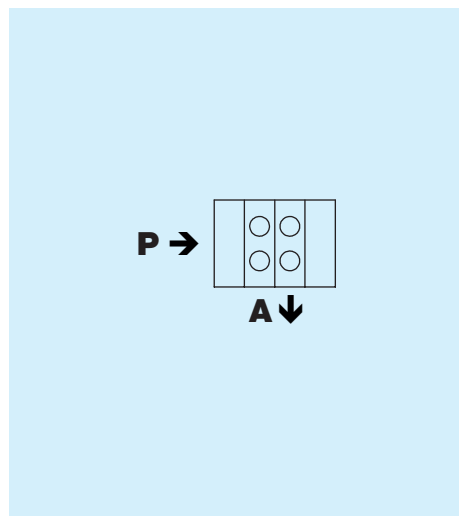
Code	N° of sections	L		Weight	
		mm	in	kg	lb
1	1	94	3.7	5,2	11,44
2	2	130	5,1	6,2	13,64
3	3	164	6,45	7,2	15,84
4	4	200	7,87	8,2	18,04
5	5	236	9,3	9,2	20,24
6	6	272	10,7	10,2	22,44
7	7	308	12,1	11,2	24,64
8	8	344	13,5	12,2	26,84
9	9	380	14,96	13,2	29,04
A	10	416	16,38	14,2	31,24

Flow curve P-T



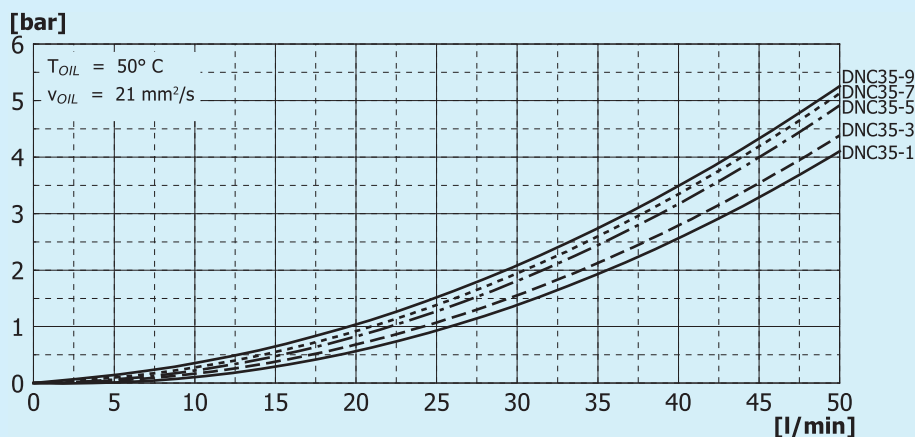
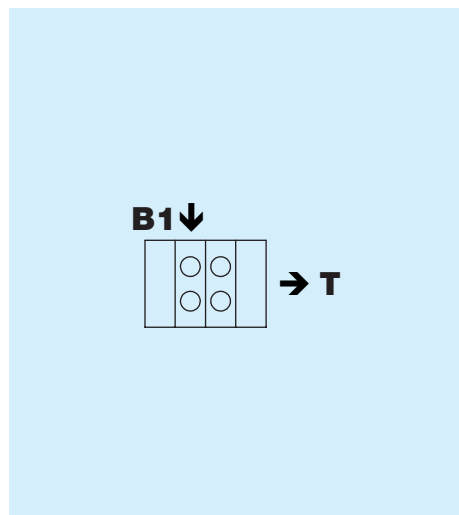
Testing parameters: Spool type **01**

Flow curve P-A



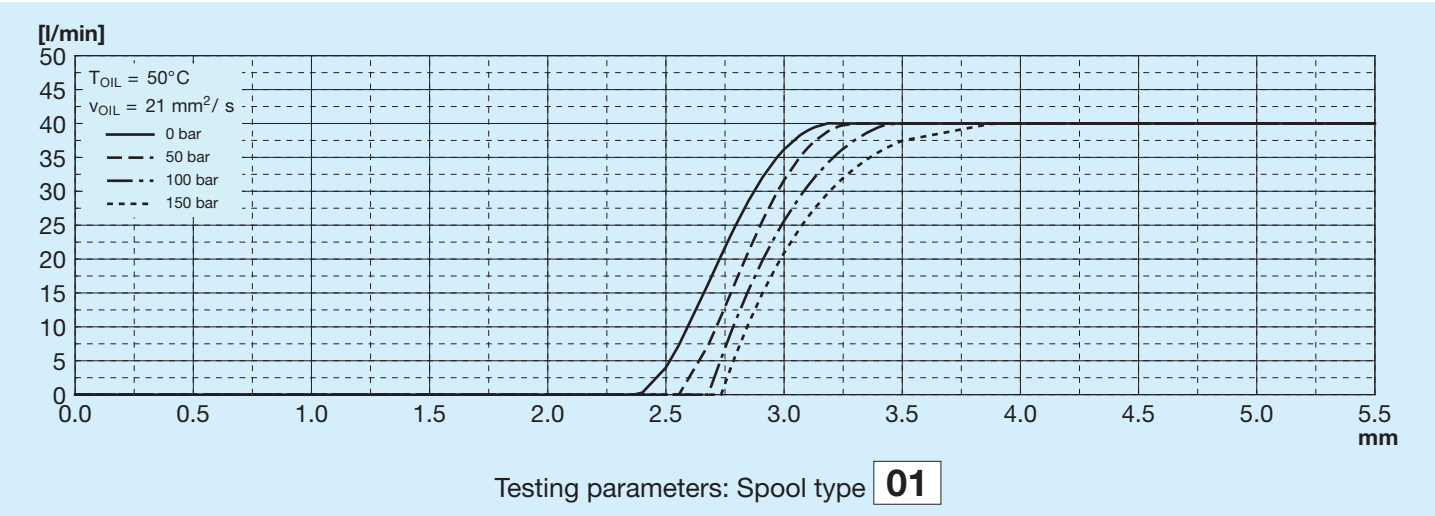
Testing parameters: Spool type **01**

Flow curve B1-T

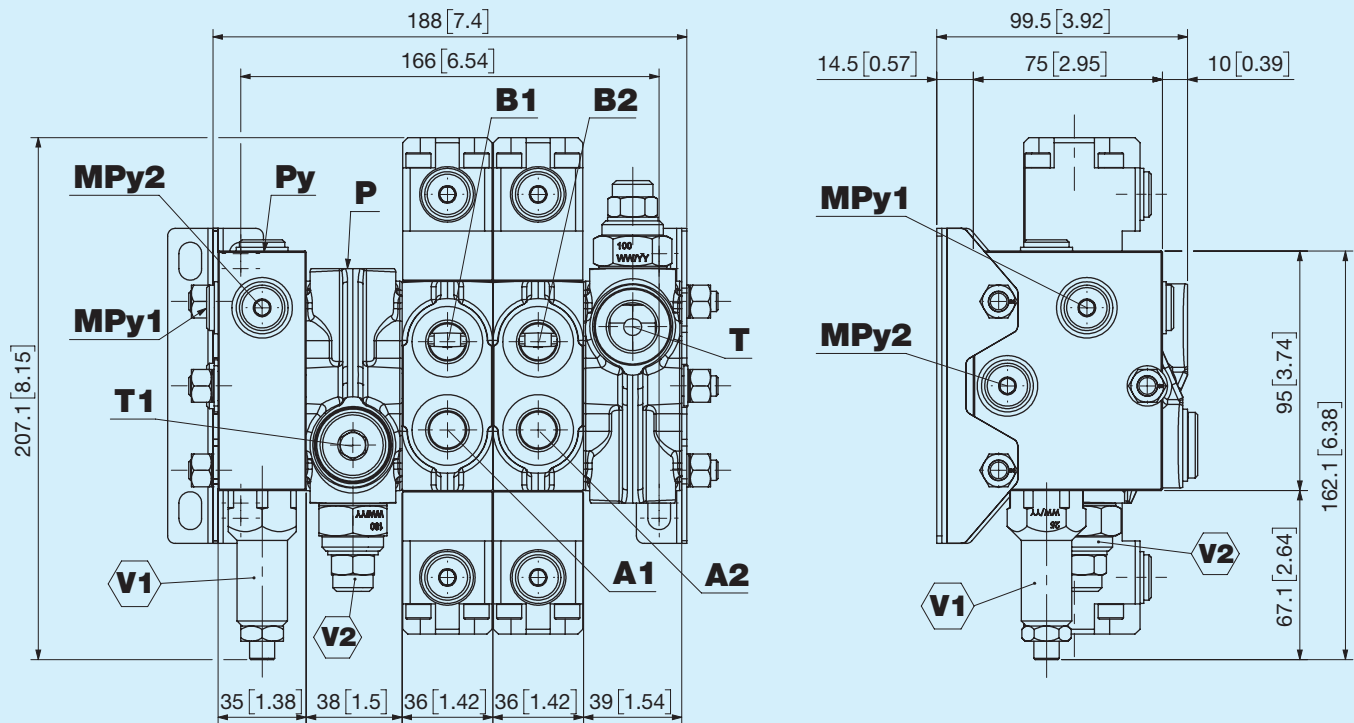


Testing parameters: Spool type **01**

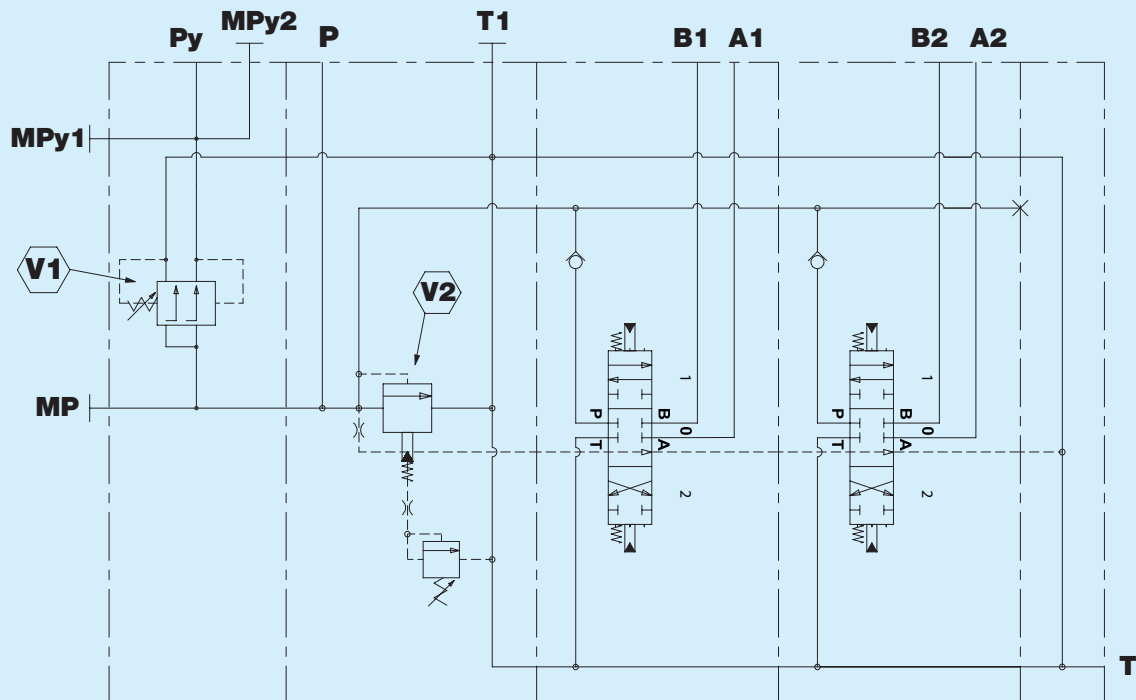
Metering



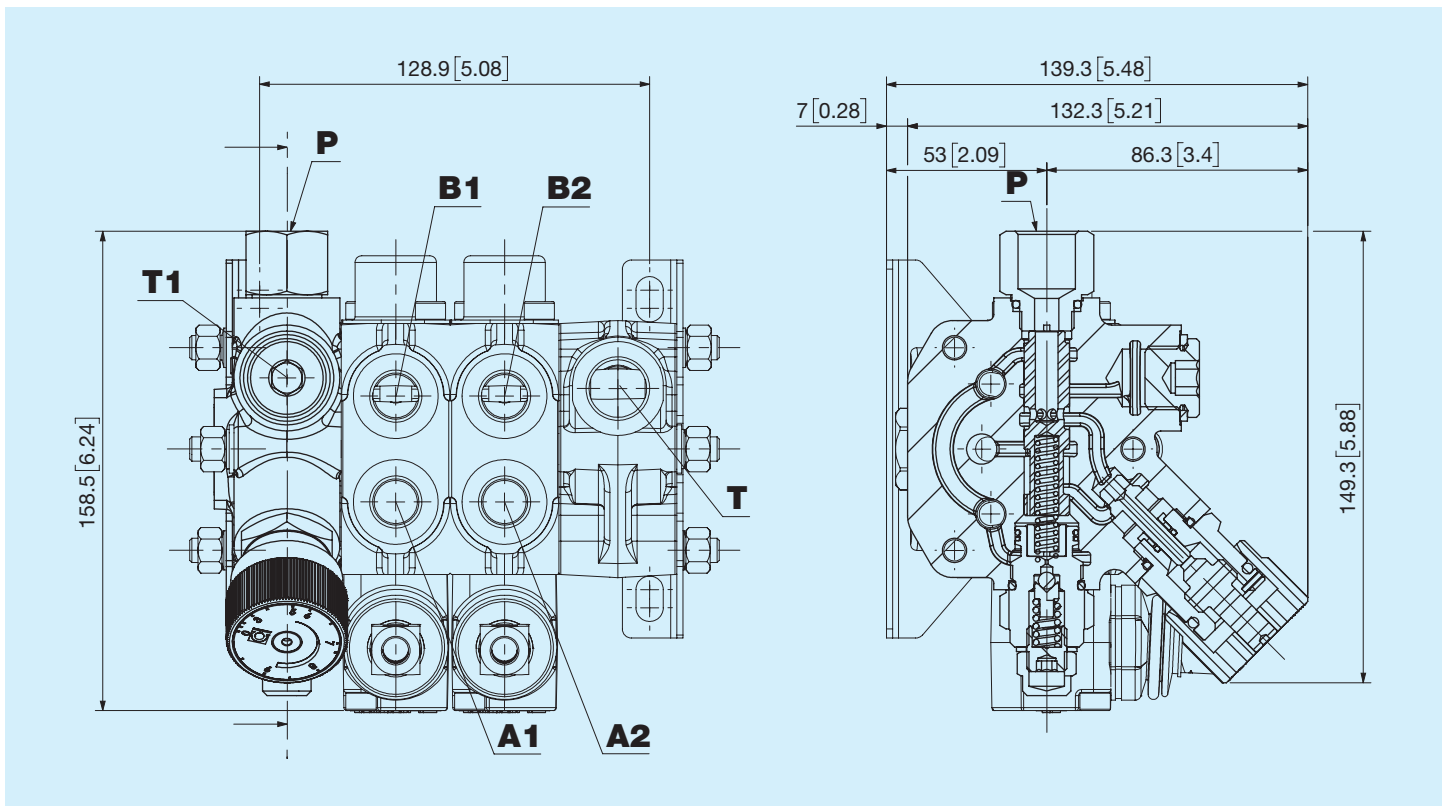
A Power unit



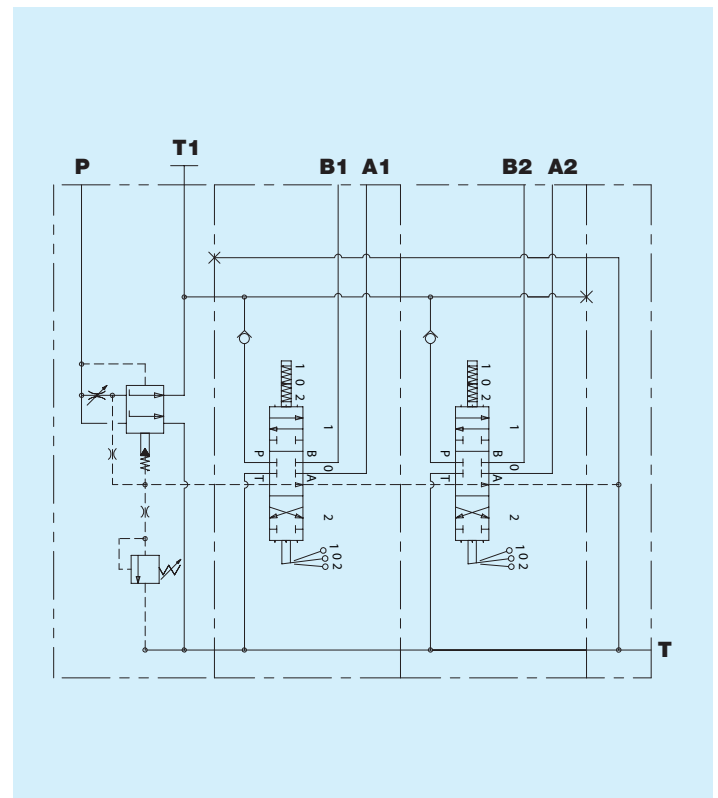
The power unit kit will not be supplied with connecting pipes.



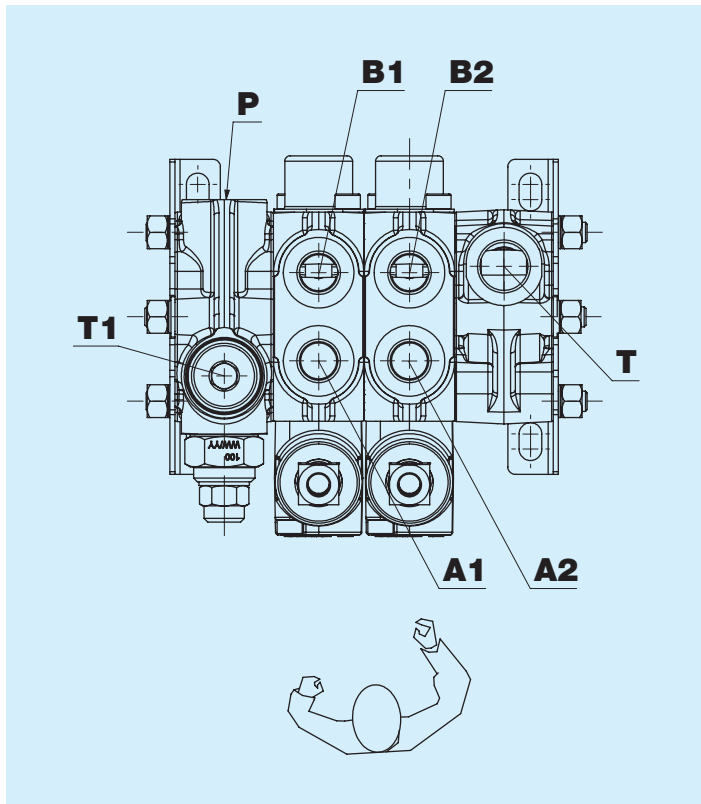
T TERV - Flow rate control cover



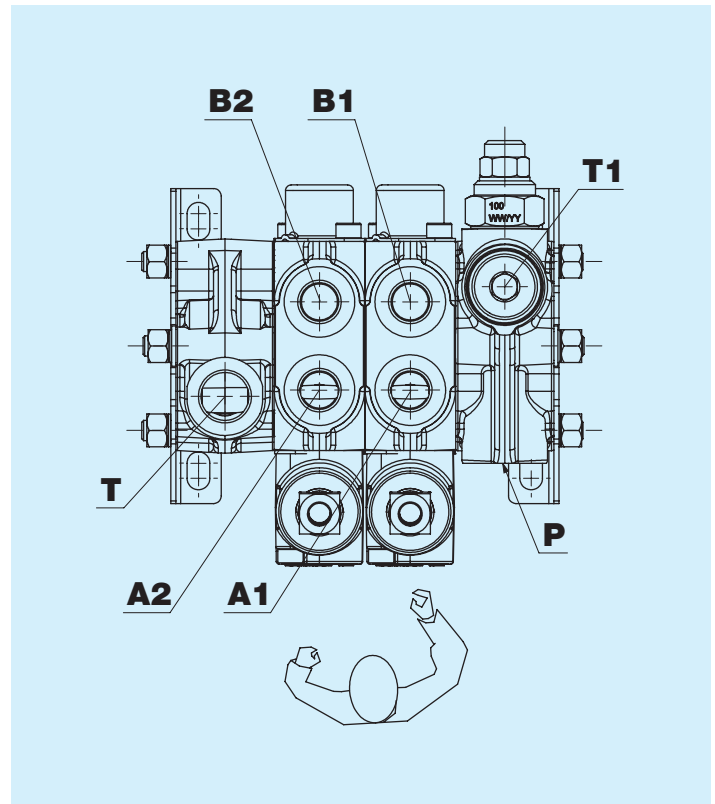
This option is used to adjust the flow rate in the downstream sections regardless of the applied load. The flow rate is adjusted by turning a knob and the excess flow is discharged.



S Left (standard)



D Right



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

Thread Port P

Code	Type	Torque Nm
B	1/2" GAS ISO 1179	65
N	M22x1.5 ISO 9974	67
J	M22x1.5 ISO 6149	67
E	3/4" - 16 SAE ISO 11926	42
R	7/8" - 14 SAE ISO 11926	67

Thread port T1

Code	Type	Torque Nm
B	1/2" GAS ISO 1179	65
N	M22x1.5 ISO 9974	67
J	M22x1.5 ISO 6149	67
E	3/4" - 16 SAE ISO 11926	42
R	7/8" - 14 SAE ISO 11926	67

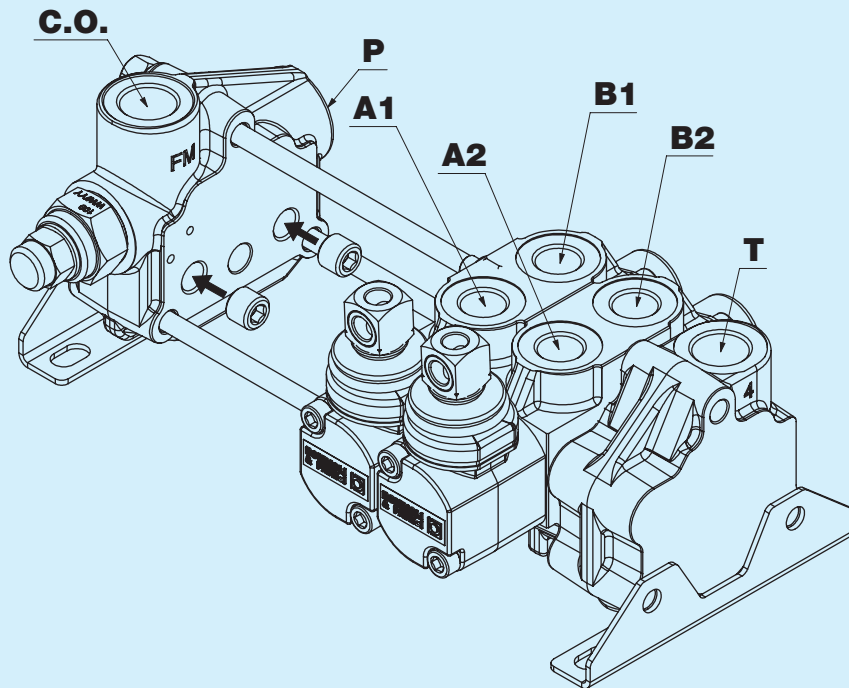
Thread ports A - B

Code	Type	Torque Nm
A	3/8" GAS ISO 1179	40
C	M18x1.5 ISO 9974	42
W	M18x1.5 ISO 6149	28
E	3/4" - 16 SAE ISO 11926	42

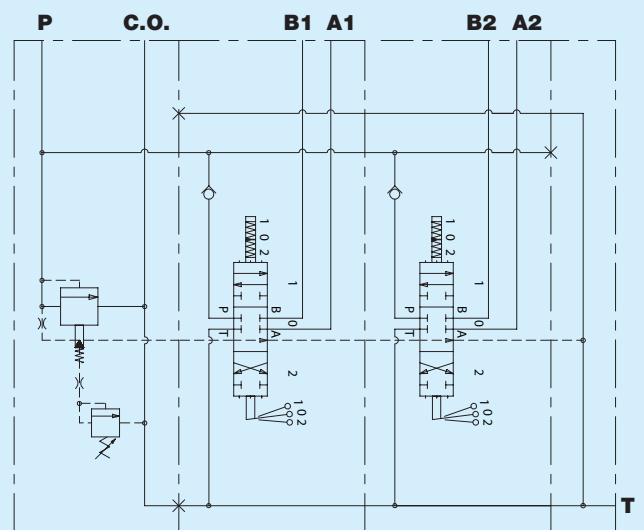
Thread Port T

Code	Type	Torque Nm
B	1/2" GAS ISO 1179	65
N	M22x1.5 ISO 9974	67
J	M22x1.5 ISO 6149	67
E	3/4" - 16 SAE ISO 11926	42
R	7/8" - 14 SAE ISO 11926	67

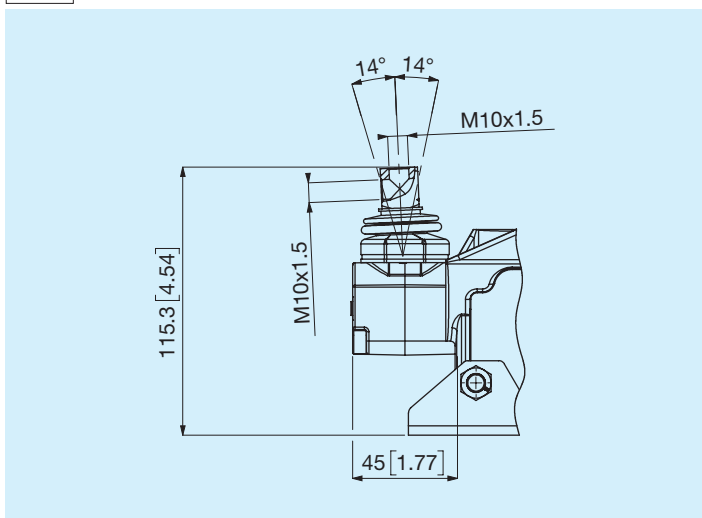
Carry-over port T1



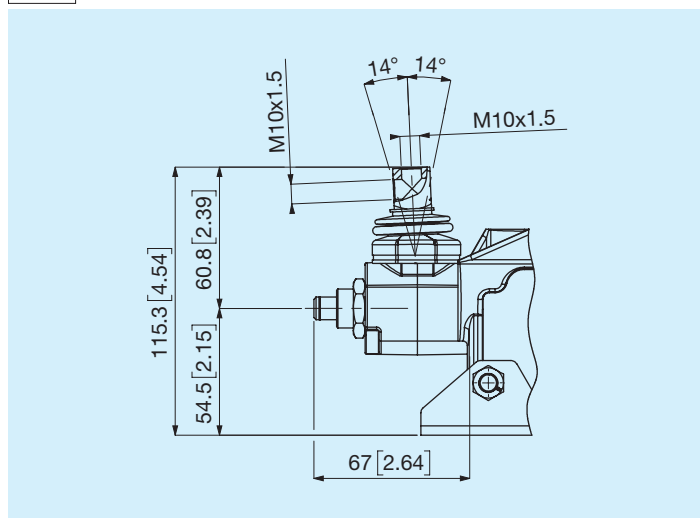
Bear in mind that the VMP (relief valve) discharges the flow into the carry-over channel. Make sure that, when not used, the device connected to the carry-over channel discharges the flow.



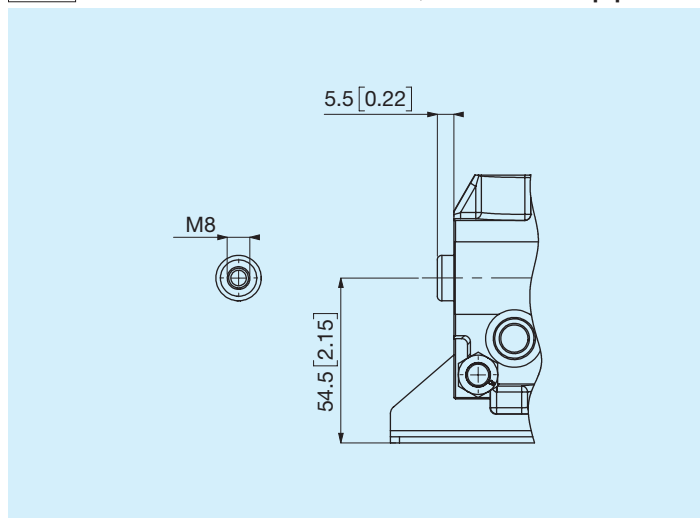
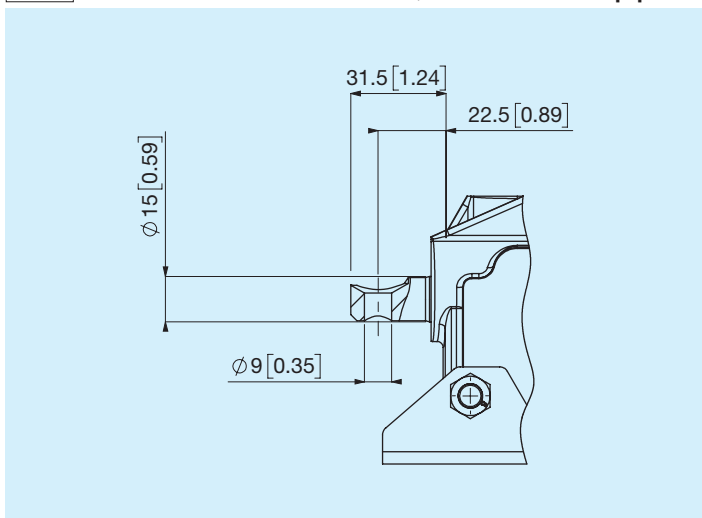
L Standard kit for lever holder



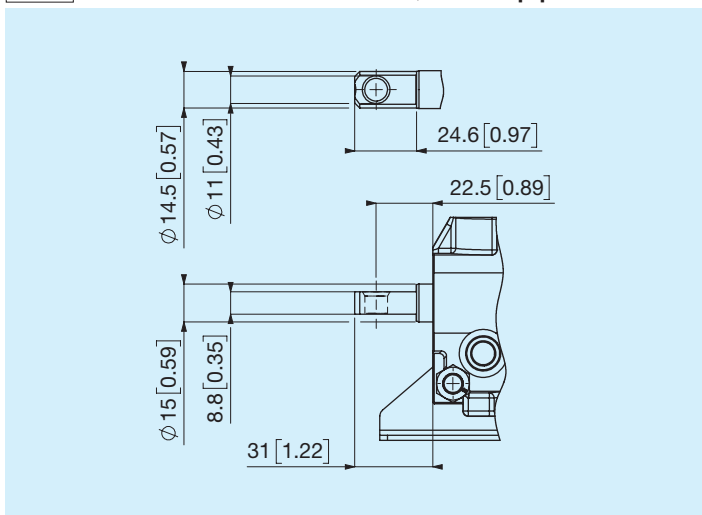
Z Lever holder with stroke limiter



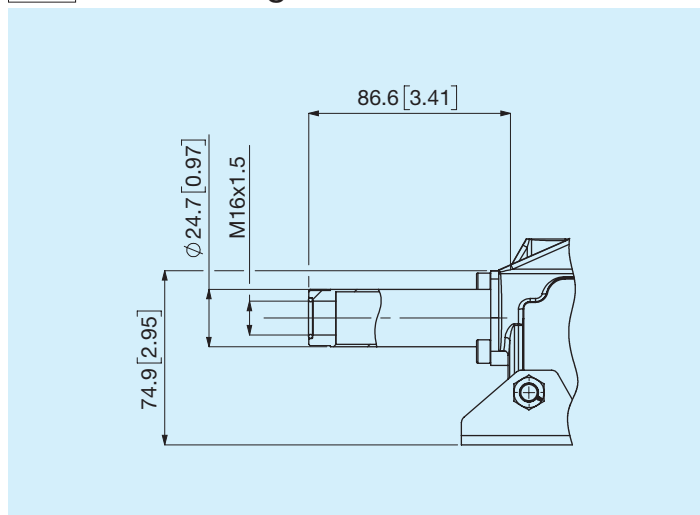
A Without lever holder, standard appendix **B** Without lever holder, without appendix



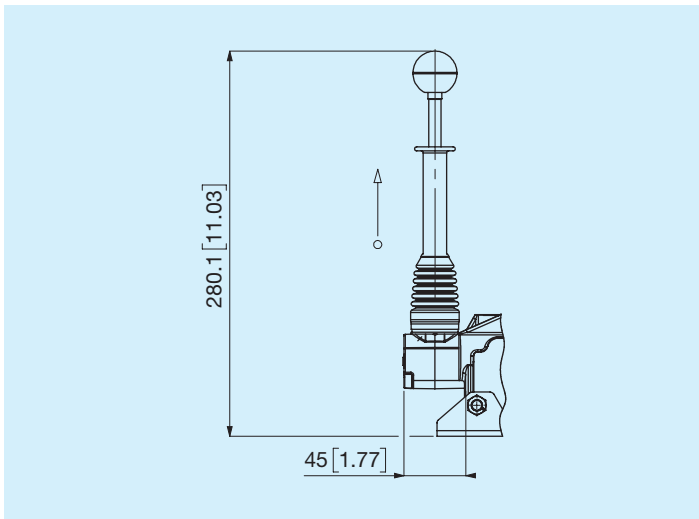
C Without lever holder, flat appendix



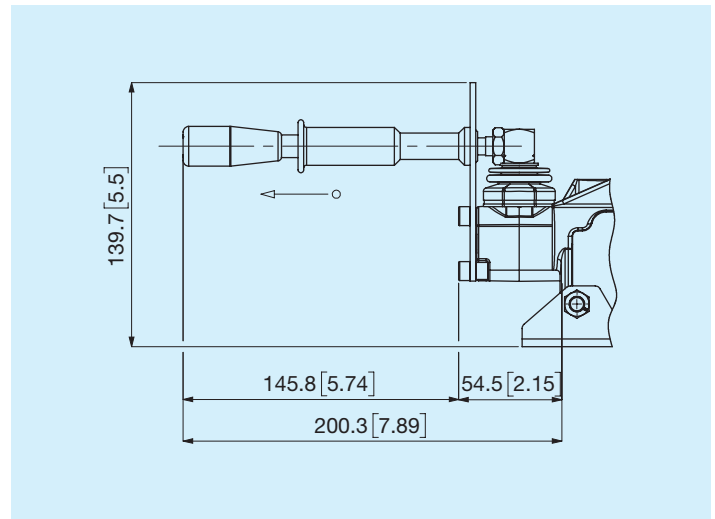
T Cable fitting on actuator side



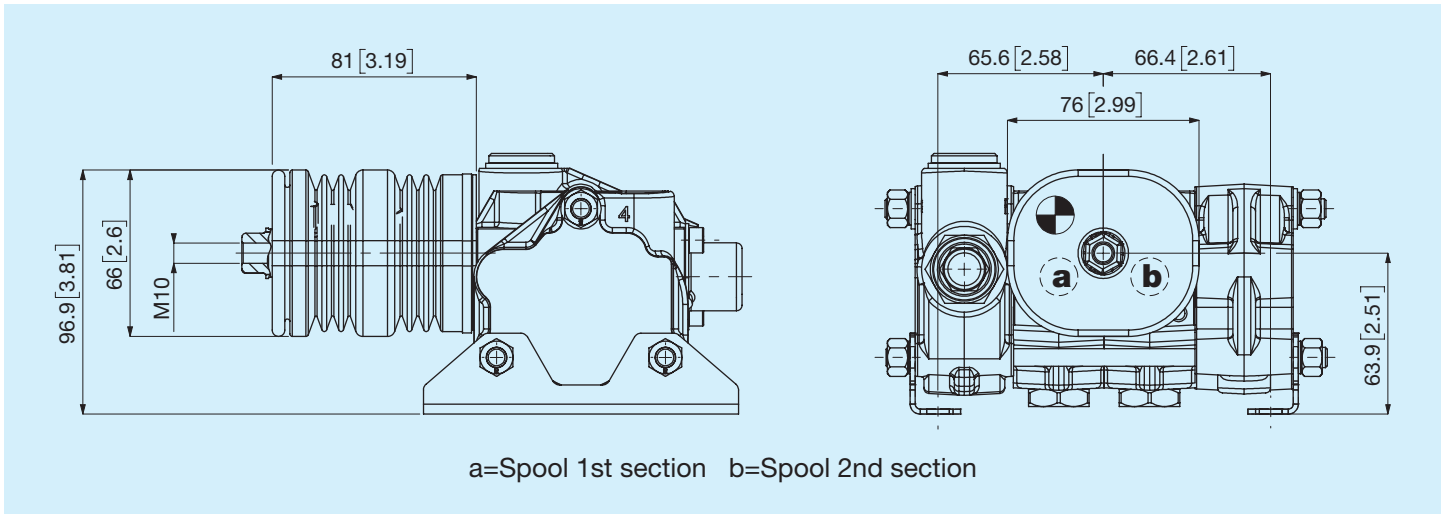
V Intentional, vertical



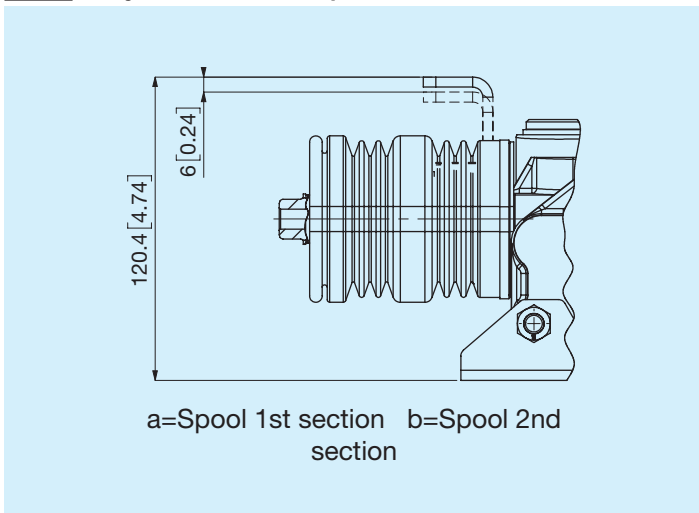
O Intentional, horizontal



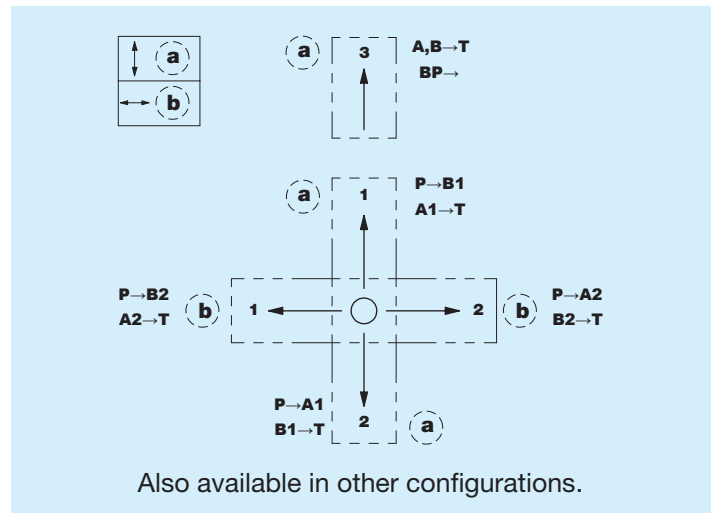
M Joystick



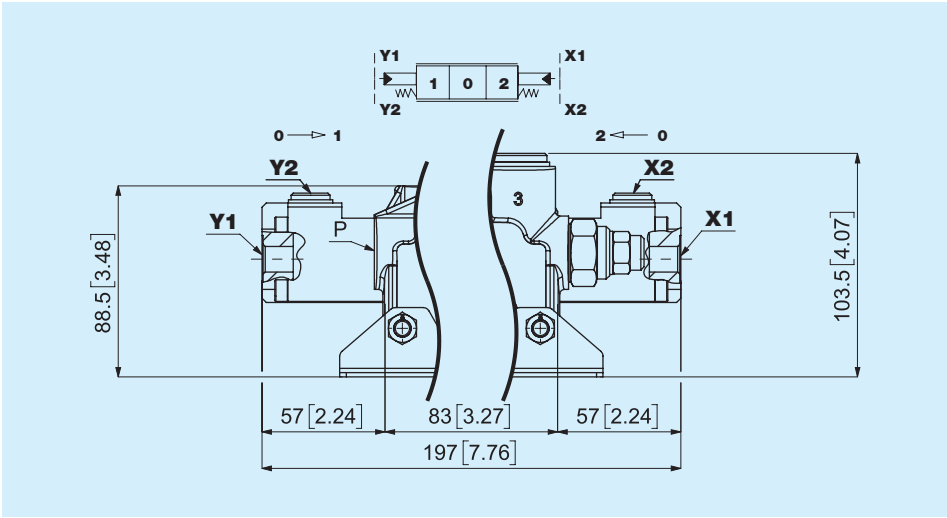
G Joystick with spool lock



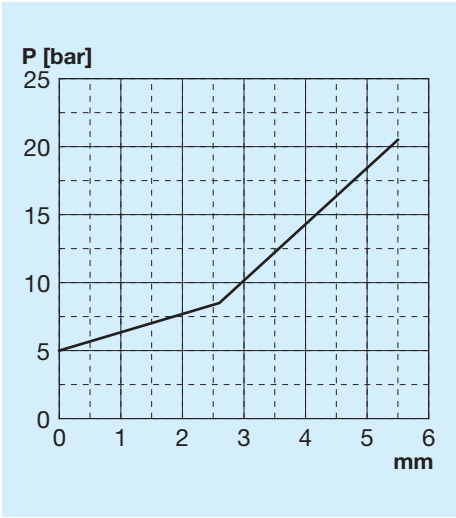
Joystick functions



K Hydraulic control



Hydraulic control

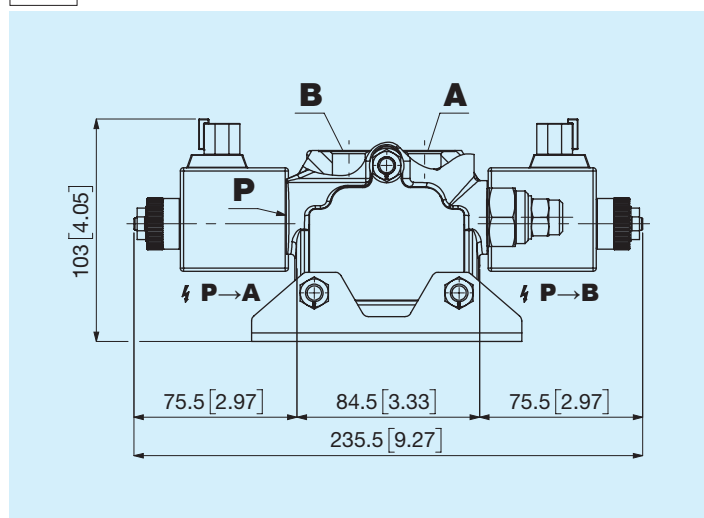


Thread ports X – Y

Thread	Tightening torque
1	+V (Voltage)
2	-V (Voltage-GND)
3	Output signal

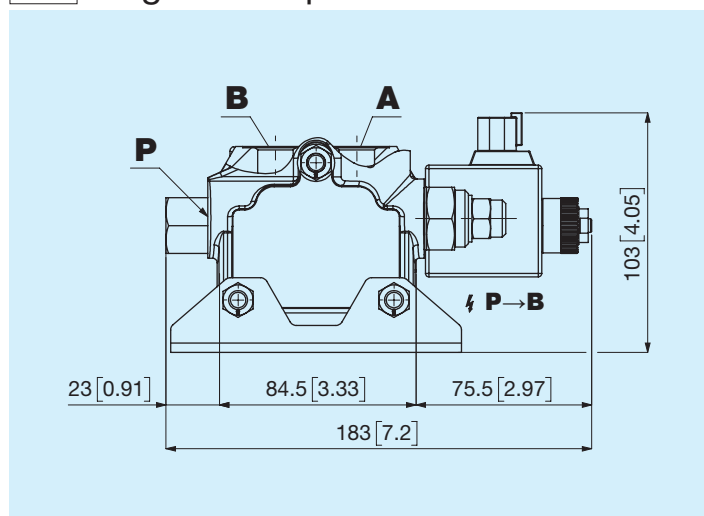
The thread for ports X - Y is automatically selected according to the thread selected in port P.

E Dual effect

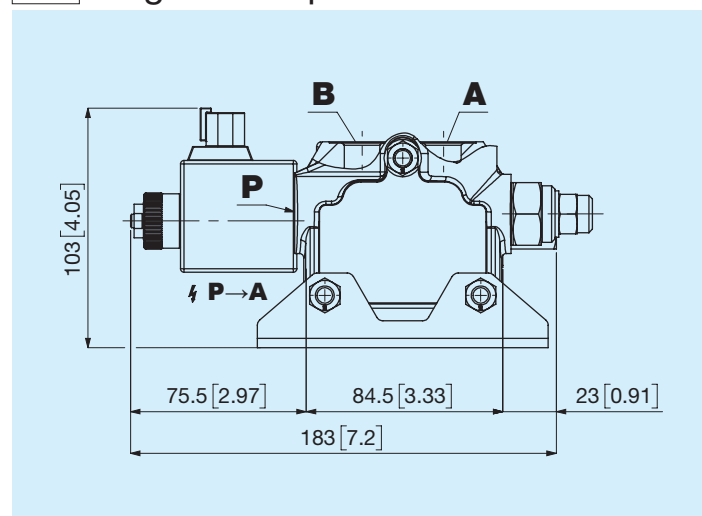


Type of coil	12V	24V	null
Resistance at 20°C	4	18	Ω ($\pm 7\%$)
Absorbed current	3	1,2	A ($\pm 5\%$)
Power	36	30	W ($\pm 5\%$)

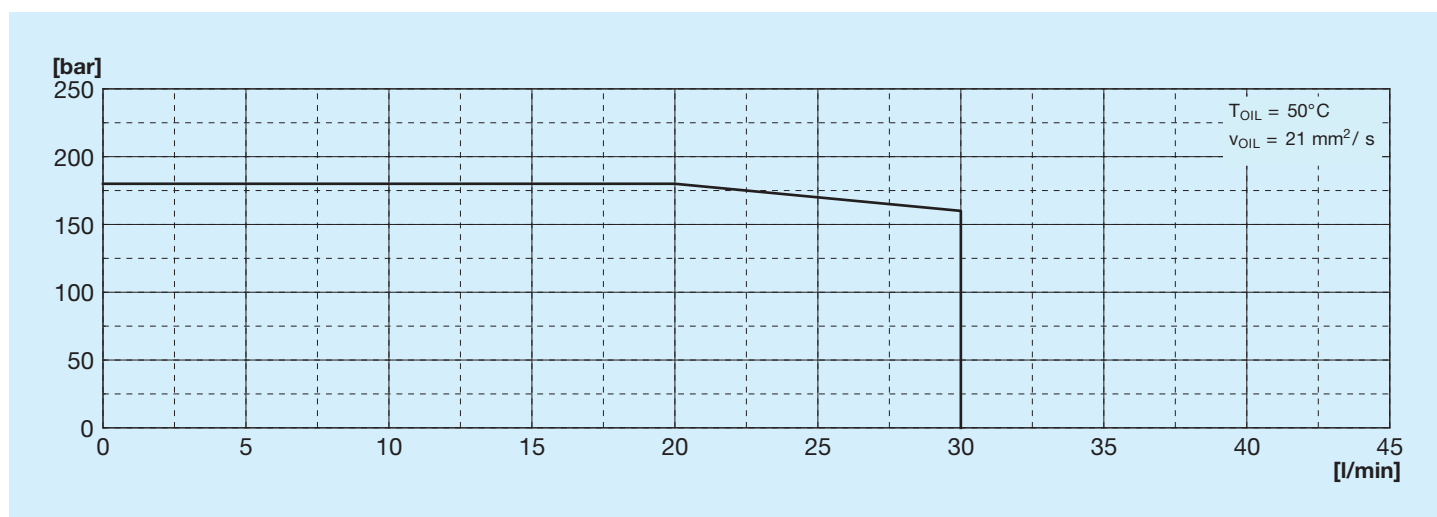
D Single effect port A side



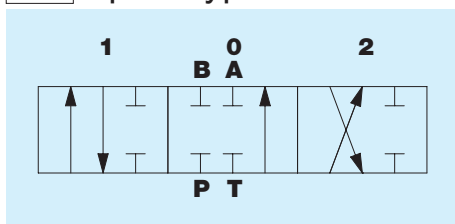
J Single effect port B side



Performance limits for electric actuator



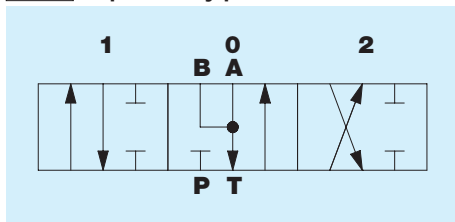
01 Spool type



Positions

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

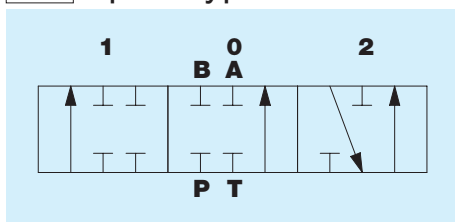
03 Spool type



Positions

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

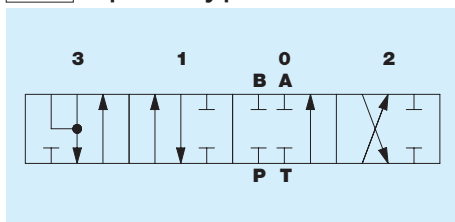
05 Spool type



Positions

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

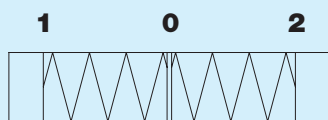
07 Spool type



Positions

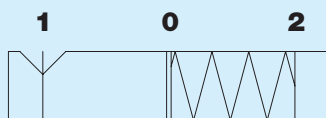
3	1	0	2	4
A, B → T P — BP →	P → B A → T BP —	P, T — A, B — BP →	P → A B → T BP —	

0A



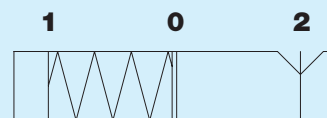
Neutral position in 0

0B



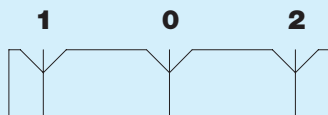
Neutral position in 0,
detent in 1

0C



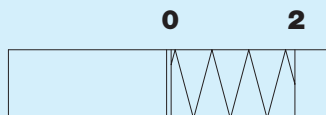
Neutral position in 0,
detent in 2

0D



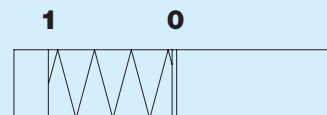
Detent in 0, 1, 2

0E



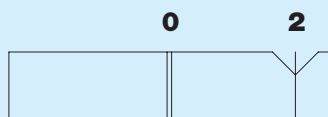
Neutral position in 0

0F



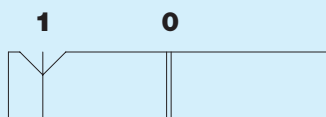
Neutral position in 0

0H



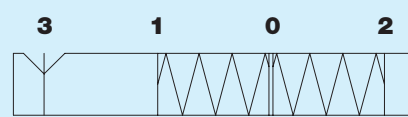
Detent in 2

0L



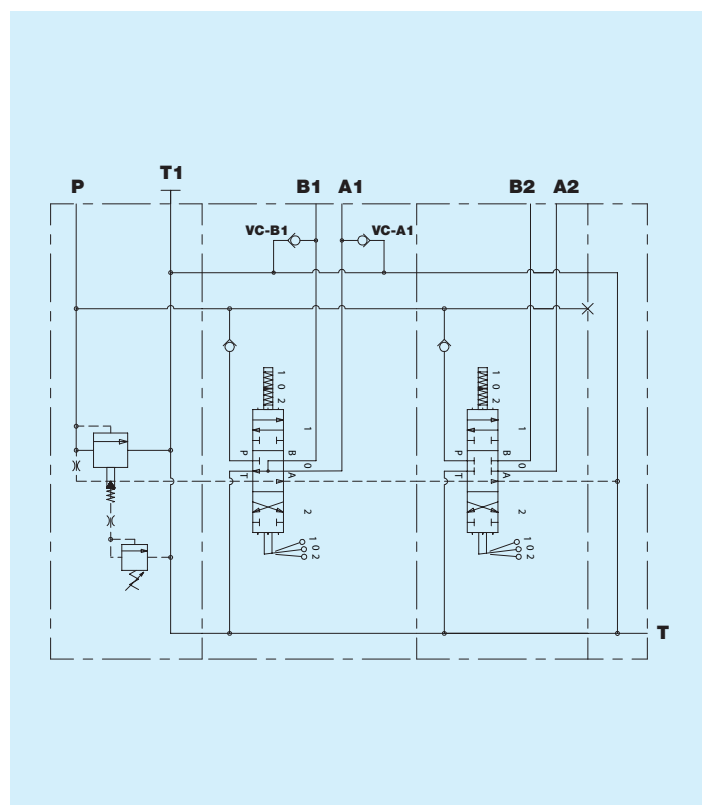
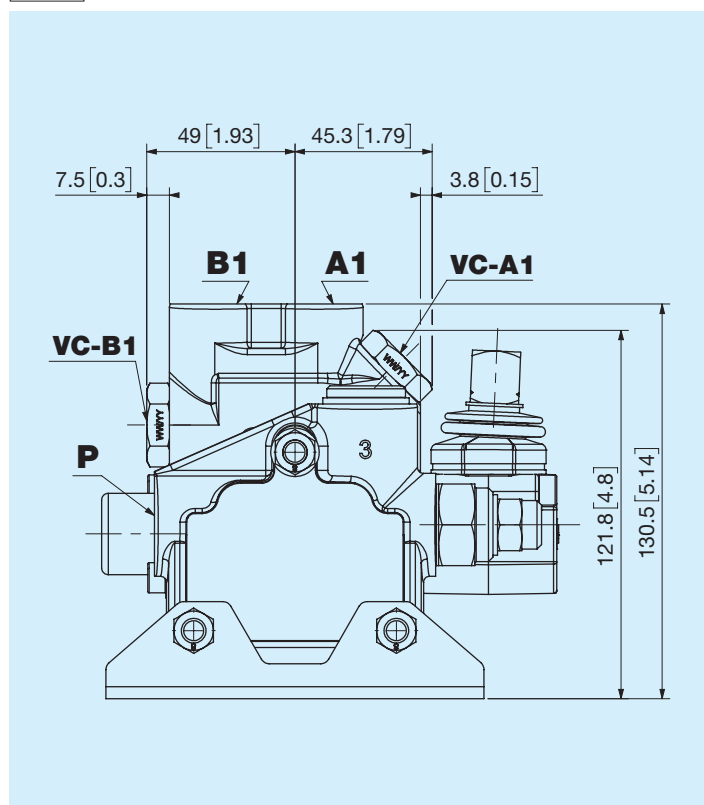
Detent in 1

NS

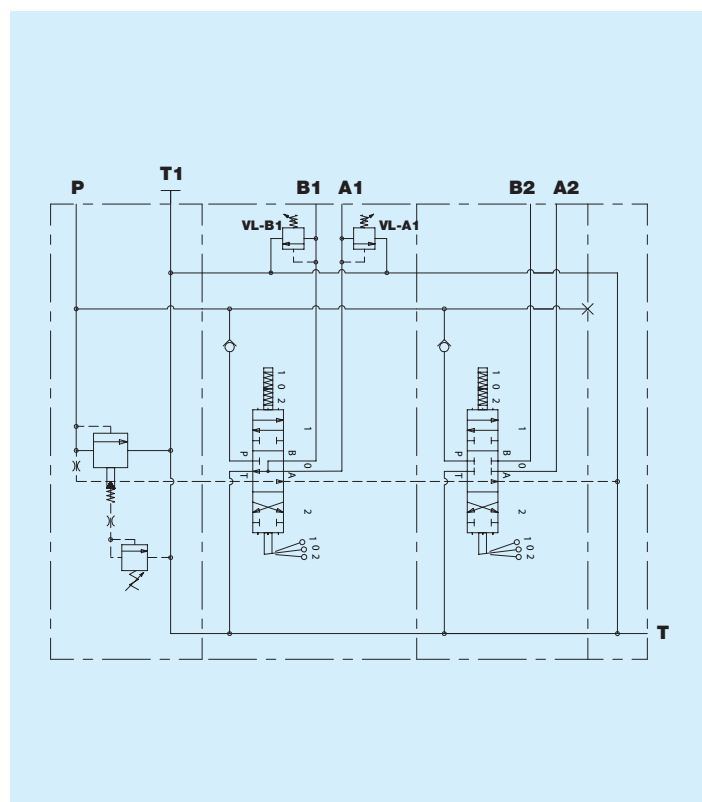
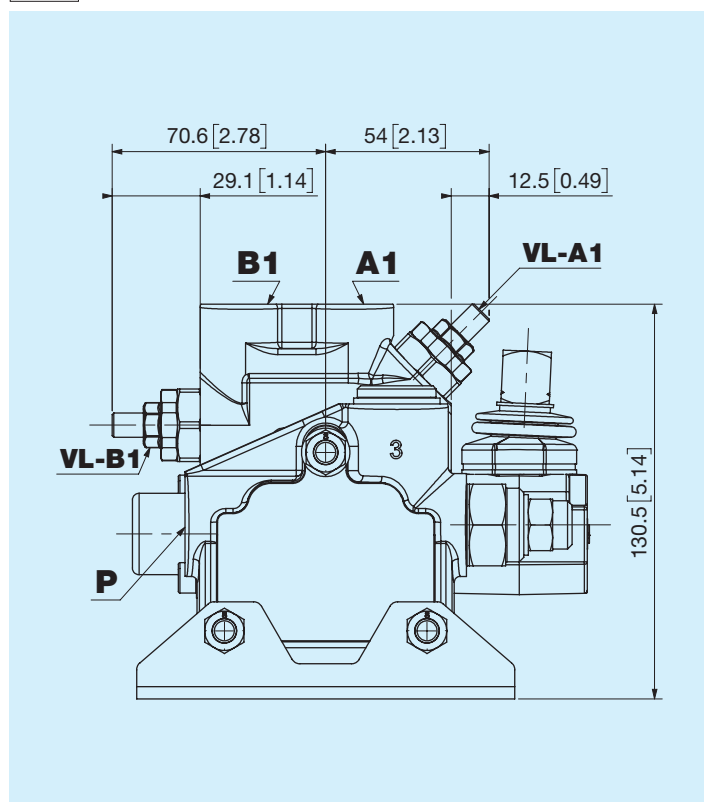


Neutral position in 0, detent in 3

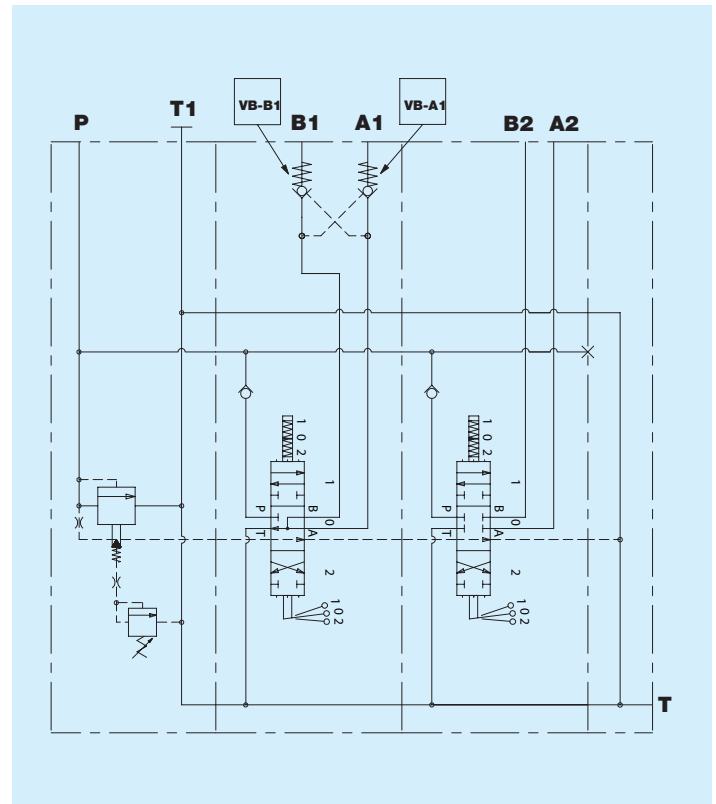
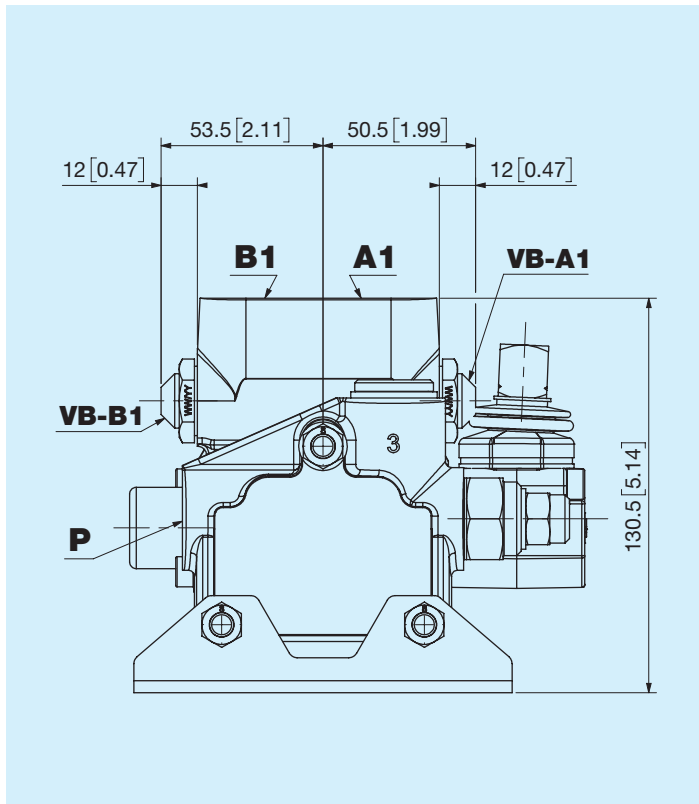
VC Anticavitation valve



VL Pressure limiter valve

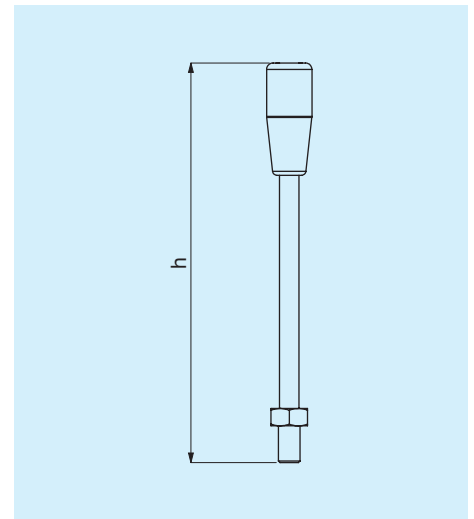


VB Pilot operated check valve



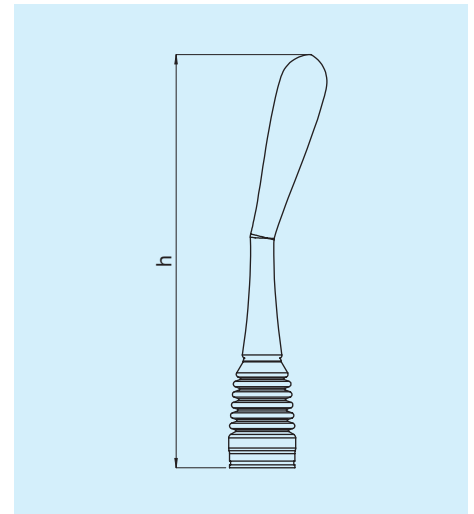
Straight standard knob

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

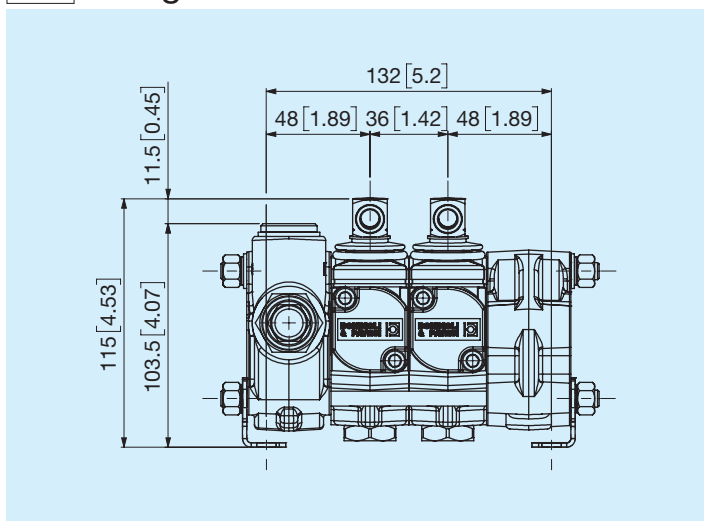


Ergonomic lever

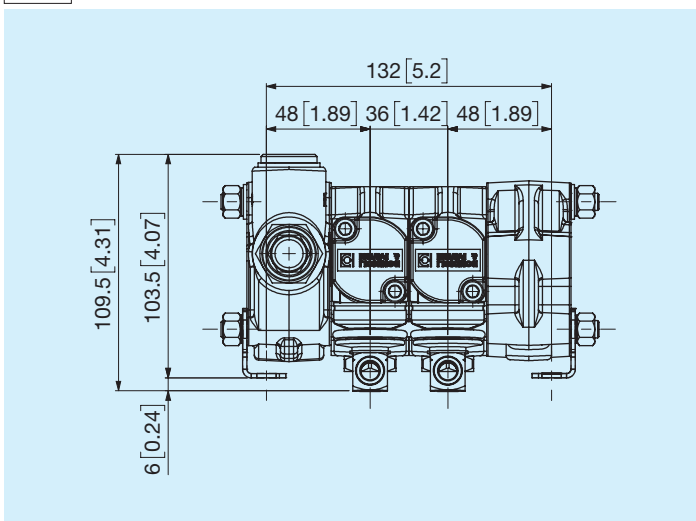
Code	Description	h [mm]	h [in]
L	Straight vertical	180	7.09
O	Bent 15° vertical	180	7.09
R	Bent 30° vertical	180	7.09
M	Straight horizontal	180	7.09
Y	Bent 15° horizontal	180	7.09
Q	Bent 30° horizontal	180	7.09



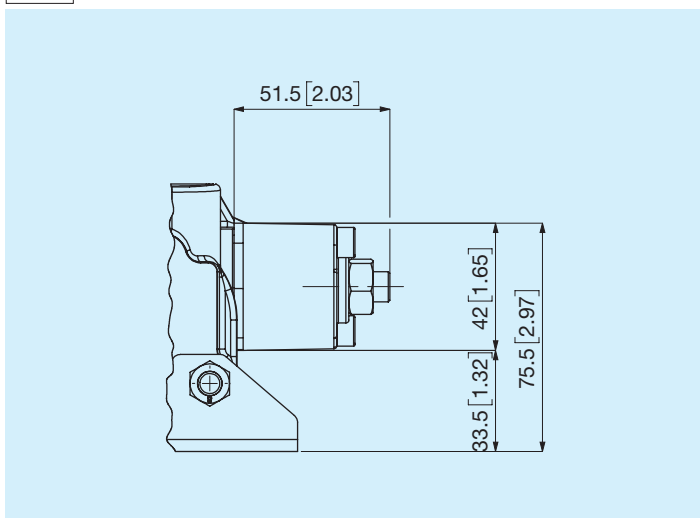
A Straight



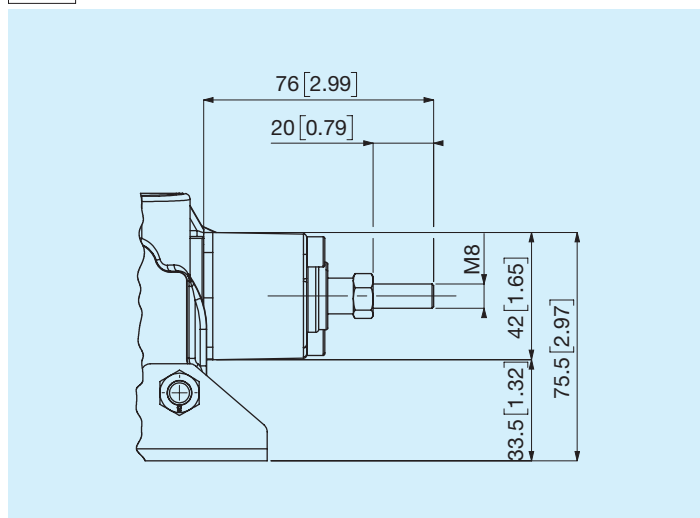
C Rotated 180°



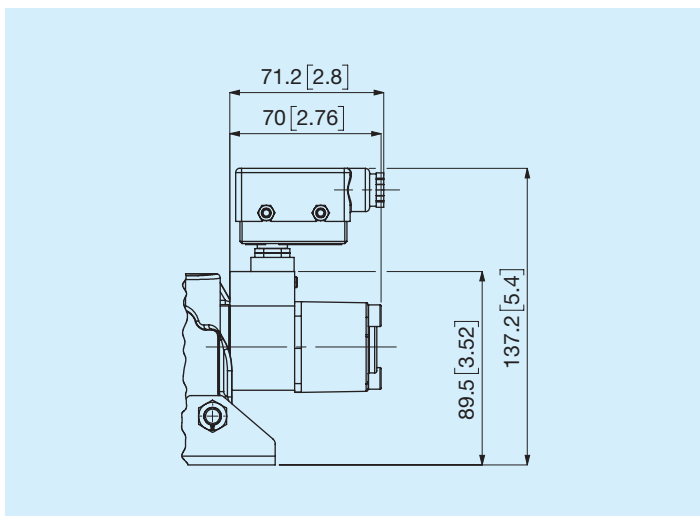
C Stroke limiter



M Male dual control



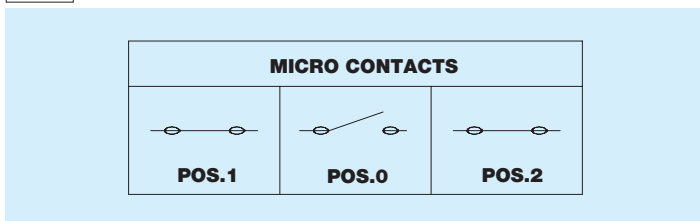
Microswitch



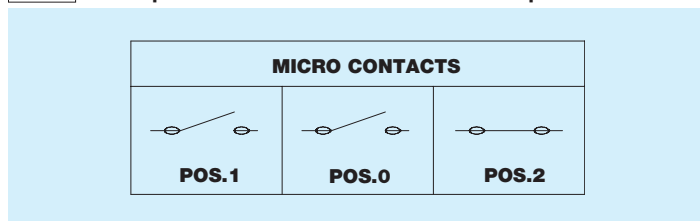
Characteristics of microswitch positioner

Contact rating	16(5)A at 250V A.C 50 Hz 3A at 30V D.C. L/R= 5 ms
Temperature range	-20° to 85° C
Expected mechanical life	10 million cycles at 1 Hz
Insulation	Up to 100 MΩ

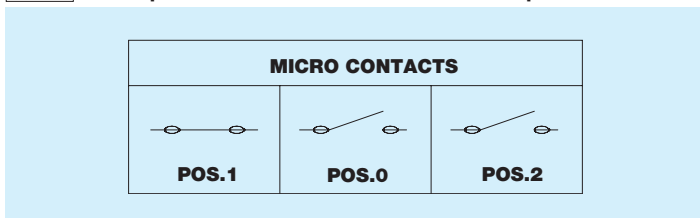
Y Dual effect microswitch



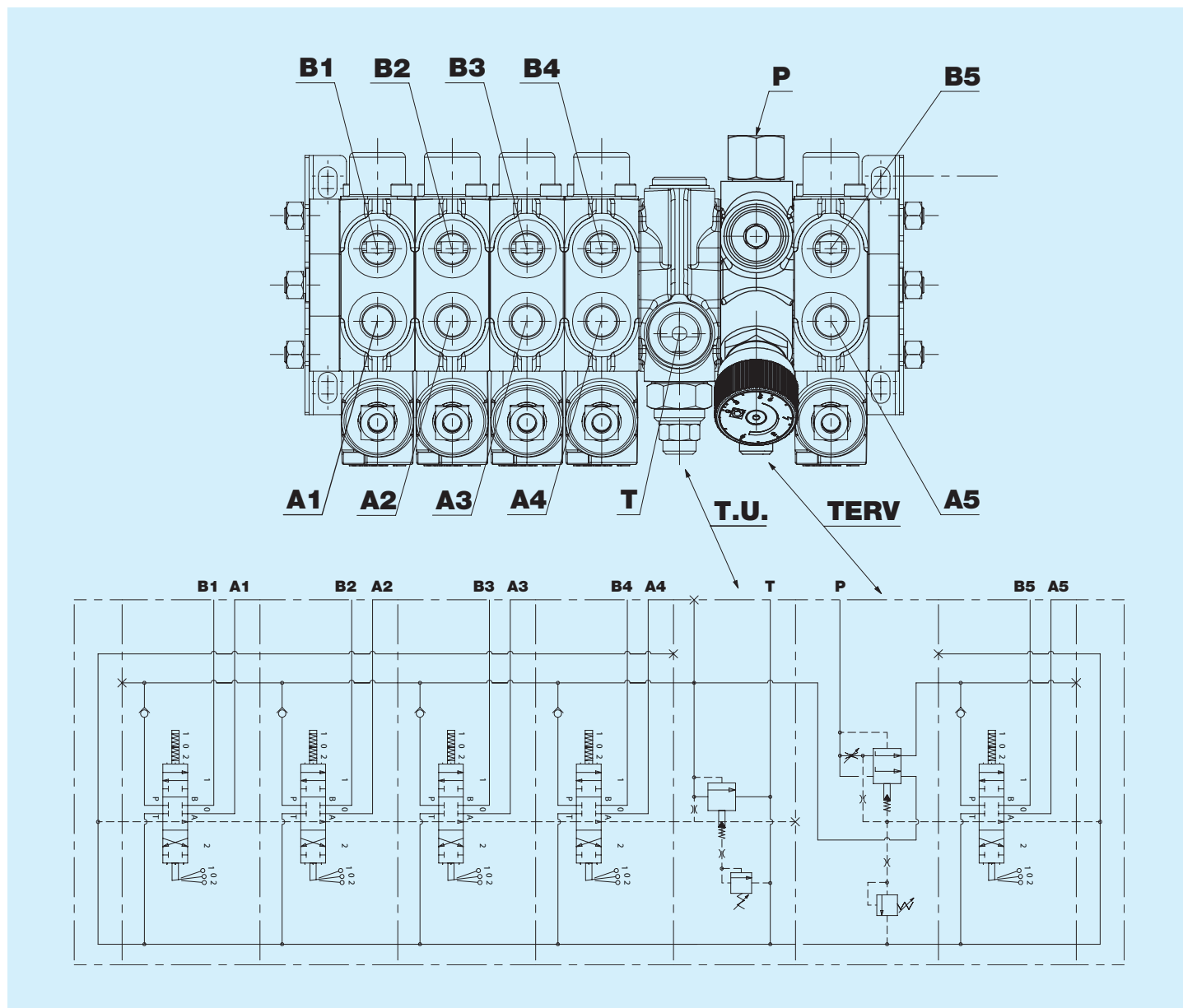
P Simple effect microswitch port A



O Simple effect microswitch port B



ERV - Intermediate flow rate control cover



The ERV (intermediate flow rate control cover) option is used to adjust the flow rate in the priority sections regardless of the applied load. The flow rate is adjusted by turning a knob and the excess flow supplies the remaining sections. The following option is not included in the order codes. Contact the Bondioli e Pavesi technical department to order.

											Repeat for each section of the distributor						
											12	13	14	15			
DNC35																	
1	1	2	3	4	5	6	7	8	9	10	11						
Spool types																	
1	1	2	3	4	5	6	7	8	9	A 10 Sections							
	1 Section			4	5	6	7	8	9								
	2 Sections																
	3 Sections																
2	External treatment																
	N	V	Z	A	B	E											
	None	Black paint	Galvanising	Power unit	Black painted power supply	Galvanised power supply											
3	Element type																
	S	T															
	Standard	TERV - Flow rate control cover															
4	Element type																
	S	D															
	Left (standard)	Right															
5	Thread Port A and B																
	B	N	J	E	R												
	1/2" GAS ISO 1179	M22x1.5 ISO 9974	M22x1.5 ISO 6149	3/4" - 16 SAE ISO 11926	7/8" - 14 SAE ISO 11926												
6	Thread Port A and B																
	B	N	J	E	R												
	1/2" GAS ISO 1179	M22x1.5 ISO 9974	M22x1.5 ISO 6149	3/4" - 16 SAE ISO 11926	7/8" - 14 SAE ISO 11926												
7	Options on port P-T-LS																
	A	B	C														
	P open - T1 plugged (standard)	P open - T1 open	P open + carry-over														
8 9	Maximum pressure valve type																
	00	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
	VMP replacement plug	100 bar	110 bar	120 bar	130 bar	140 bar	150 bar	160 bar	170 bar	180 bar	190 bar	200 bar	210 bar	220 bar	230 bar	240 bar	250 bar
10	Type of lead seal																
	C	P	N														
	Cap	Sealed	None														
11	Thread Port P																
	A	C	W	E													
	3/8" GAS ISO 1179	M18x1.5 ISO 9974	M18x1.5 ISO 6149	3/4" - 16 SAE ISO 11926													
12	Actuator																
	N	L	A	B	C	Z	T	V	O	M	G	K	E	D	J		
	None	Standard kit for lever holder	Without lever holder, standard appendix	Without lever holder, without appendix	Without lever holder, flat appendix	Lever holder with stroke limiter	Cable fitting on actuator side	Intentional, vertical	Intentional, horizontal	Joystick	Joystick with spool lock	Hydraulic control	Dual effect electric control	Single effect electric control port A side	Single effect electric control port B side		

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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13	14	Spool types 01 Spool type 03 Spool type 05 Spool type 07 Spool type													
15	Spool options A Standard spool B Nickel-plated spool O ON-OFF (electric act.)														
16	17	Positioning device NN None 0C Neutral position in 0, detent in 2 0F Neutral position in 0 NS Neutral position in 0, detent in 3 0A Neutral position in 0 0D Detent in 0, 1, 2 0H Detent in 2 ... 0B Neutral position in 0, detent in 1 0E Neutral position in 0 0L Detent in 1 ... For selection, see the relevant chapter													
18	19	Port A valve type NN None VC Anticavitation valve VB Pilot operated check valve VL Pressure limiter valve LT Processed and plugged													
20	21	VL Pressure limiting valve below port A 00 None 11 VL 110 bar 17 VL 170 bar 23 VL 230 bar 06 VL 60 bar 12 VL 120 bar 18 VL 180 bar 24 VL 240 bar 07 VL 70 bar 13 VL 130 bar 19 VL 190 bar 25 VL 250 bar 08 VL 80 bar 14 VL 140 bar 20 VL 200 bar 09 VL 90 bar 15 VL 150 bar 21 VL 210 bar 10 VL 100 bar 16 VL 160 bar 22 VL 220 bar													
22	23	Port A valve type NN None VC Anticavitation valve VB Pilot operated check valve VL Pressure limiter valve LT Processed and plugged													
24	25	VL Pressure limiting valve below port A 00 None 11 VL 110 bar 17 VL 170 bar 23 VL 230 bar 06 VL 60 bar 12 VL 120 bar 18 VL 180 bar 24 VL 240 bar 07 VL 70 bar 13 VL 130 bar 19 VL 190 bar 25 VL 250 bar 08 VL 80 bar 14 VL 140 bar 20 VL 200 bar 09 VL 90 bar 15 VL 150 bar 21 VL 210 bar 10 VL 100 bar 16 VL 160 bar 22 VL 220 bar													
26	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														
27	Lever holder position A Straight C Rotated 180° N None														
28	Actuator N None M Male dual control P Simple effect microswitch port C Stroke limiter Y Dual effect microswitch O Simple effect microswitch port														

29



Voltage and connector

N None

A 12V DIN 43650

B 24V DIN 43650

G 12V DEUTSCH DT04-2P

H 24V DEUTSCH DT04-2P

30



Thread Port P

B Outlet cover with T open

C Outlet cover with T plugged

31



Thread Port A and B

B 1/2" GAS ISO 1179

N M22x1.5 ISO 9974

J M22x1.5 ISO 6149

E 3/4" - 16 SAE ISO 11926

R 7/8" - 14 SAE ISO 11926