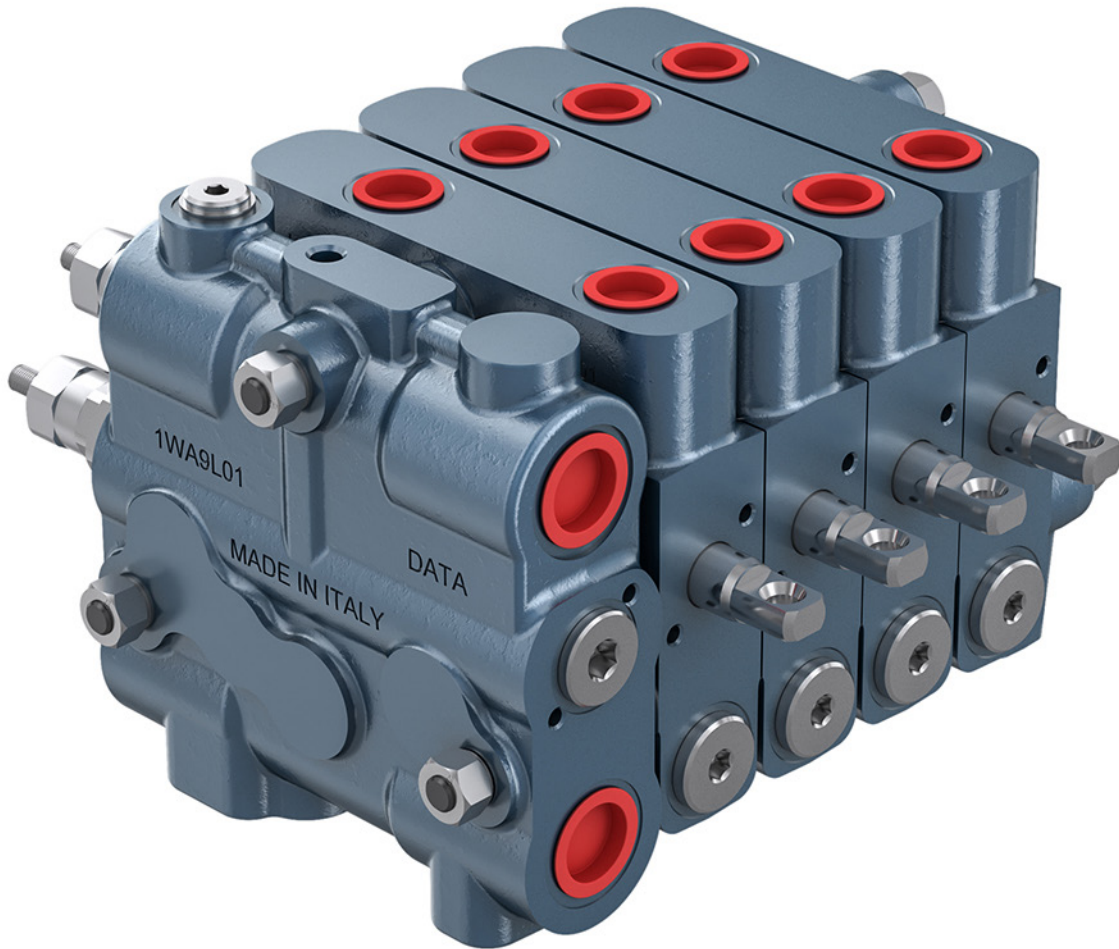
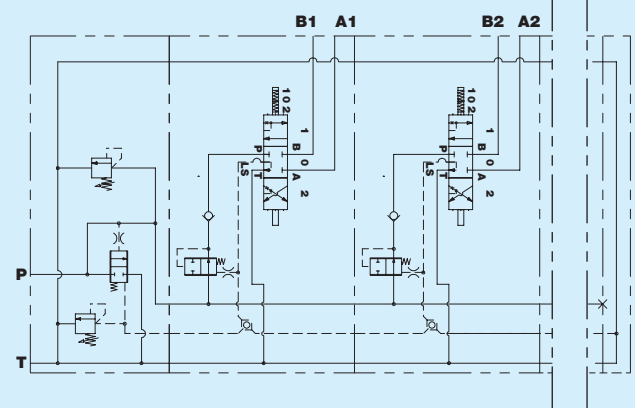


LSC90 - Load sensing modular directional control valves for tractors



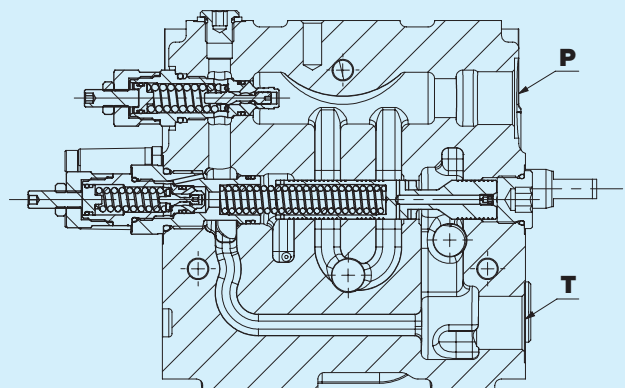
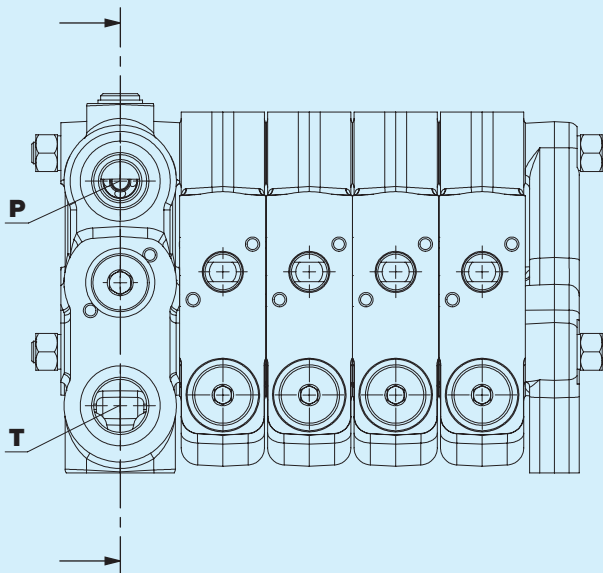
Before use, carefully read the GENERAL INSTRUCTIONS FOR USE OF DIRECTIONAL CONTROL VALVES

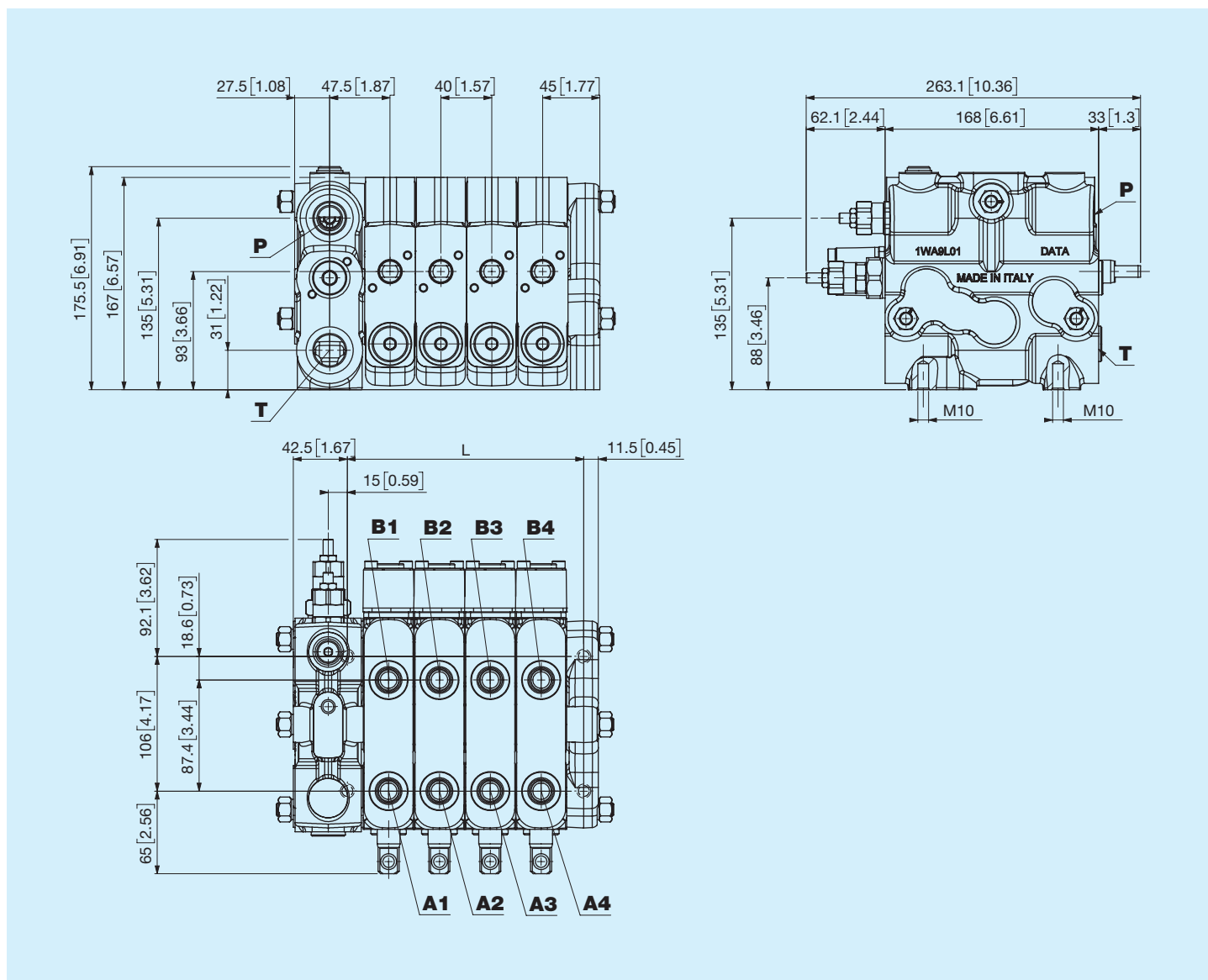
Nominal flow	100 l/min 26.4 US gpm
Nominal pressure	250 bar 3625 psi
Maximum tank pressure	20 bar 290 psi
Internal leakage (A o B -> P and T) p=100 bar (1450 psi)	< 15 cm³/min 0.91 in³/min
Internal leakage with zero leakage valve	< 3 cm³/min 0.18 in³/min
Temperature range	-20°C +85°C NBR seals (max peak +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

Sectional

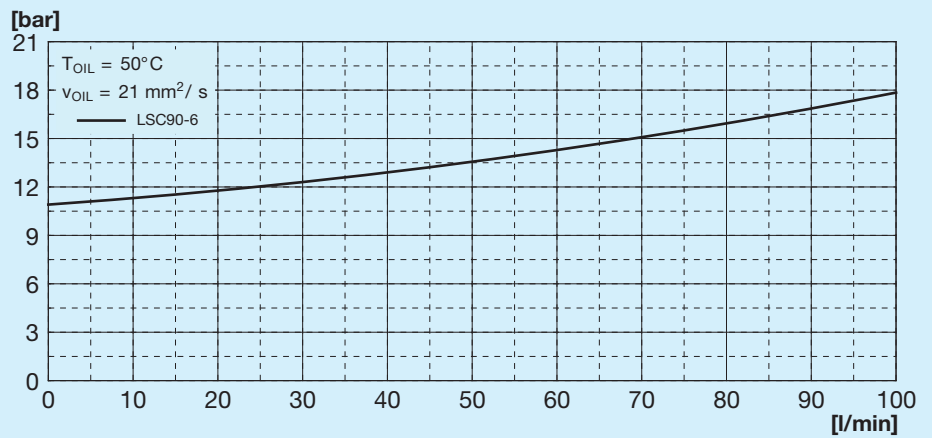
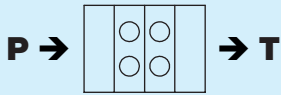




Dimensions per number of sections

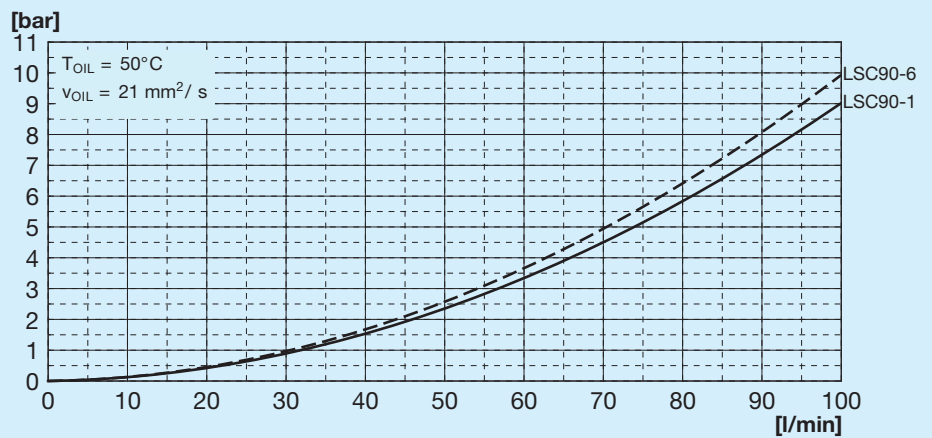
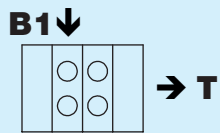
Code	N° of sections	L		Weight	
		mm	in	kg	lb
1	1	88	2.60	17	37.5
2	2	130	4.17	23	50.7
3	3	172	5.75	29	63.9
4	4	214	7.32	35	77.1
5	5	256	8.90	41	90.4
6	6	298	10.47	47	103.6

Pressure drops P-T



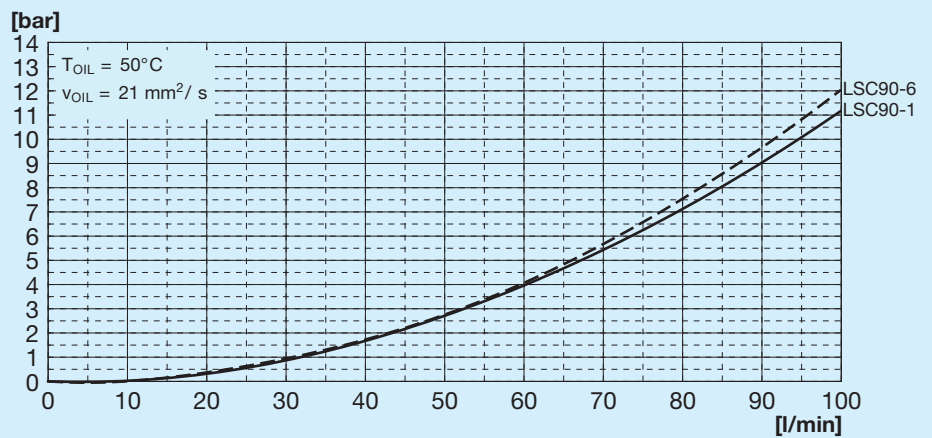
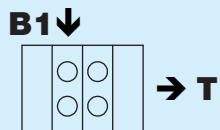
Testing parameters: Spool type **01**

Pressure drops B1-T



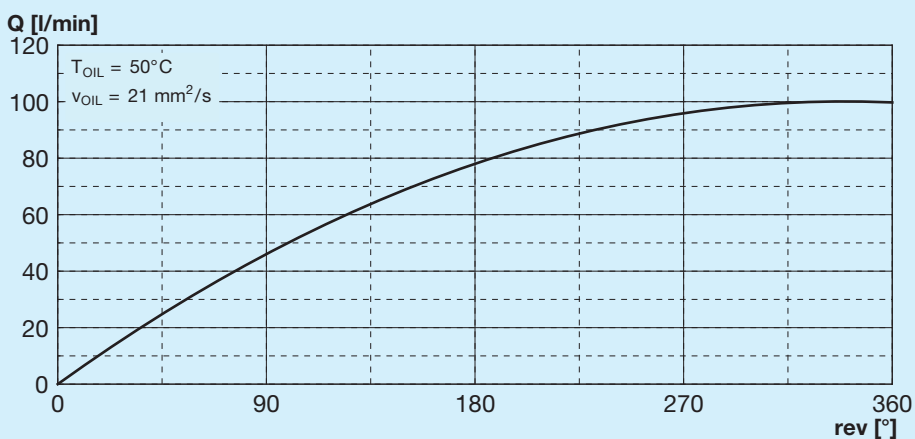
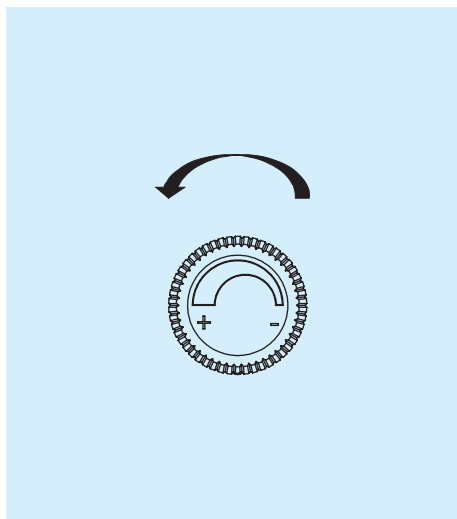
Testing parameters: Spool type **01**

Pressure drops B1-T with zero leakage

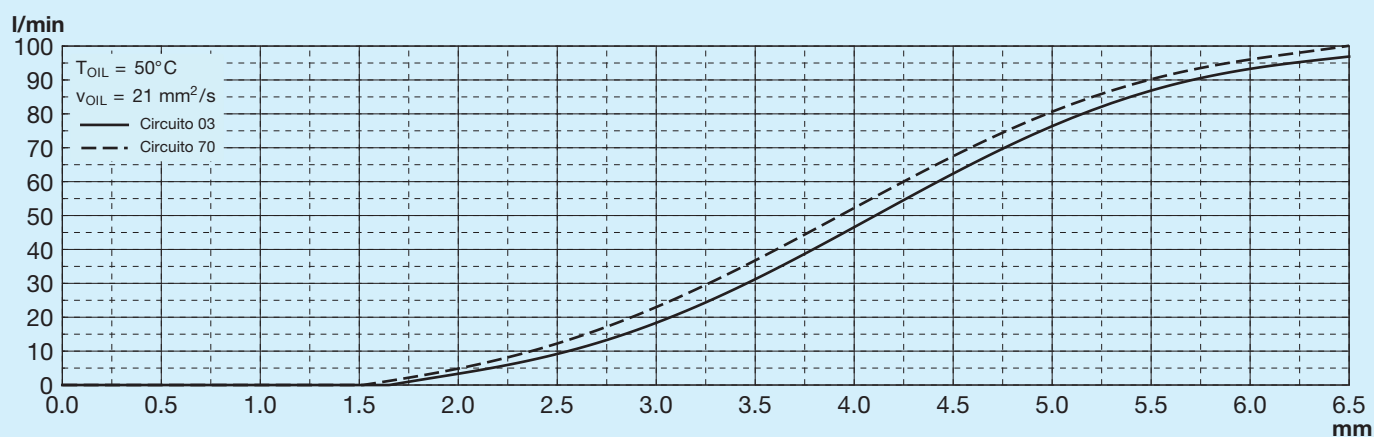


Testing parameters: Spool type **70**

Adjustment curve with flow limiter

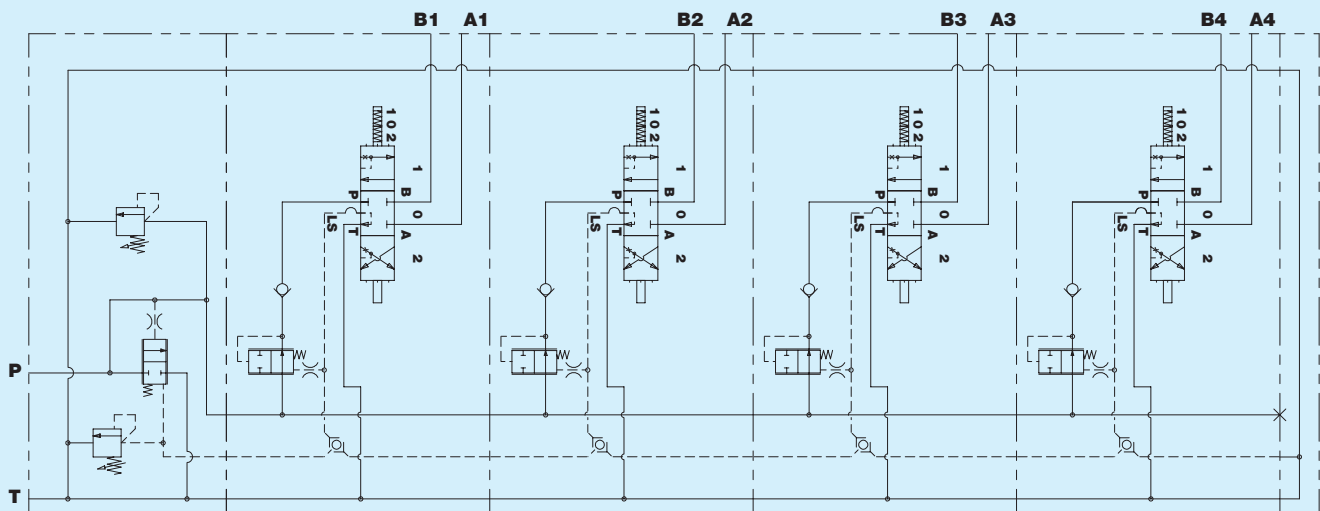
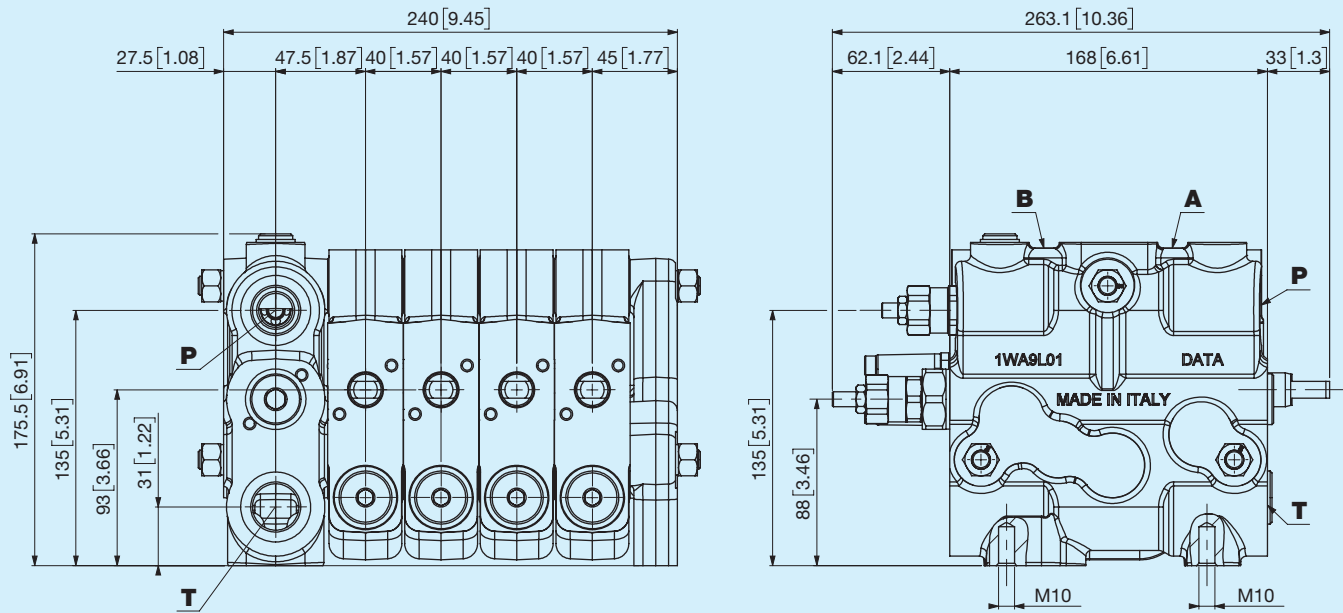


Metering

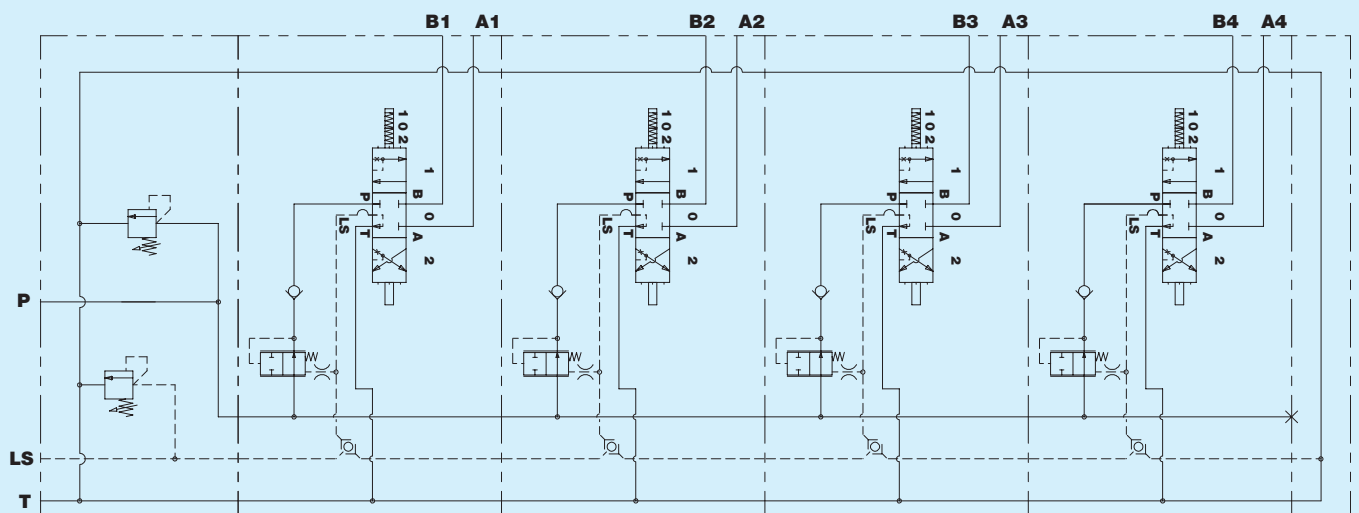
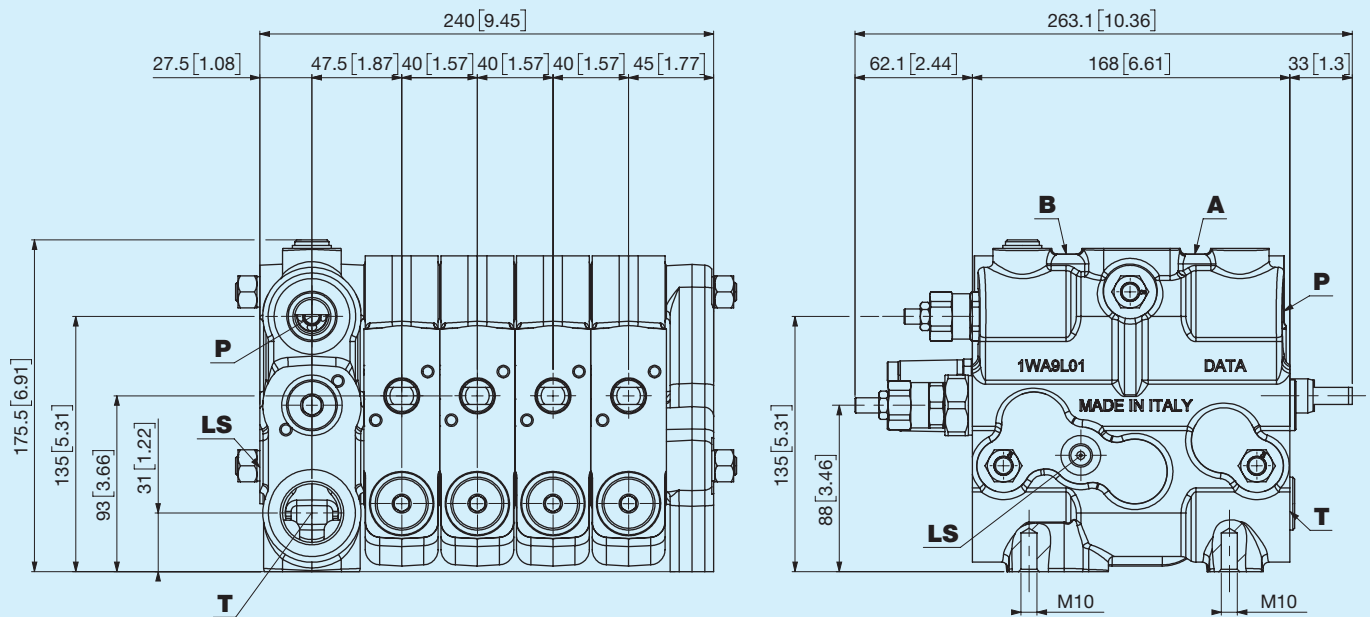


Testing parameters: Spool type **03** **70**

A Centre open (pump with fixed flow rate)



B Centre closed (Load sensing pump)



Thread port P

Code	Type	Torque $\pm 10\%$ 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	70
5	M27x2 ISO 9974	150
U	M27x2 ISO 6149	150
R	7/8" - 14 SAE ISO 11926	70
V	1" 1/16 - 12 SAE ISO 11926	150

Thread port T

Code	Type	Torque $\pm 10\%$ 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	70
5	M27x2 ISO 9974	150
U	M27x2 ISO 6149	150
R	7/8" - 14 SAE ISO 11926	70
V	1" 1/16 - 12 SAE ISO 11926	150

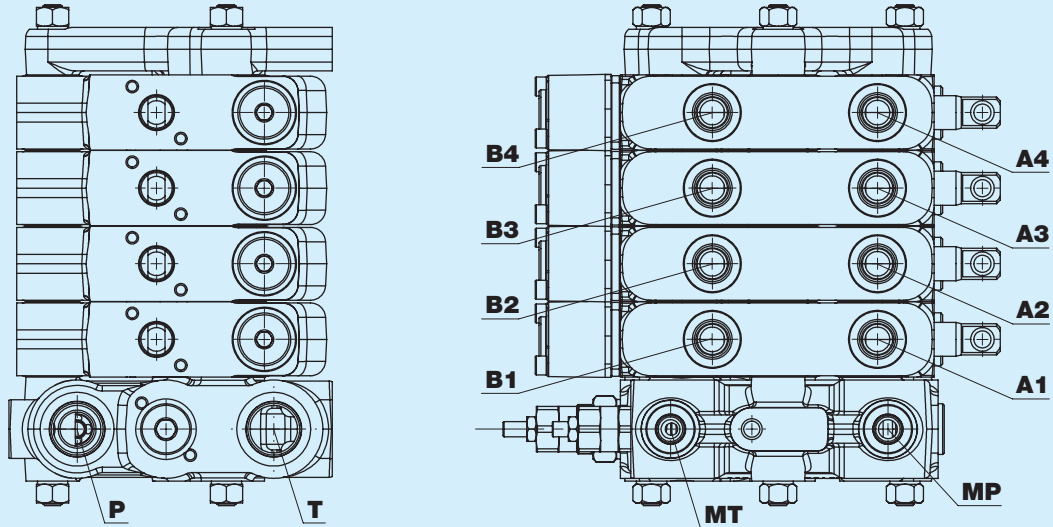
Thread Port LS

Code	Type	Torque $\pm 10\%$ Nm
0	Not processed	
L	1/4" GAS ISO 1179	27
3	M14x1.5 ISO 9974	27
K	M14x1.5 ISO 6149	27
P	9/16" - 18 SAE ISO 11926	27

Thread ports A - B

Code	Type	Torque $\pm 10\%$ Nm
B	1/2" GAS ISO 1179	70
N	M22x1.5 ISO 9974	70
J	M22x1.5 ISO 6149	70
R	7/8" - 14 SAE ISO 11926	70

MP and MT - Pressure gauge inlets



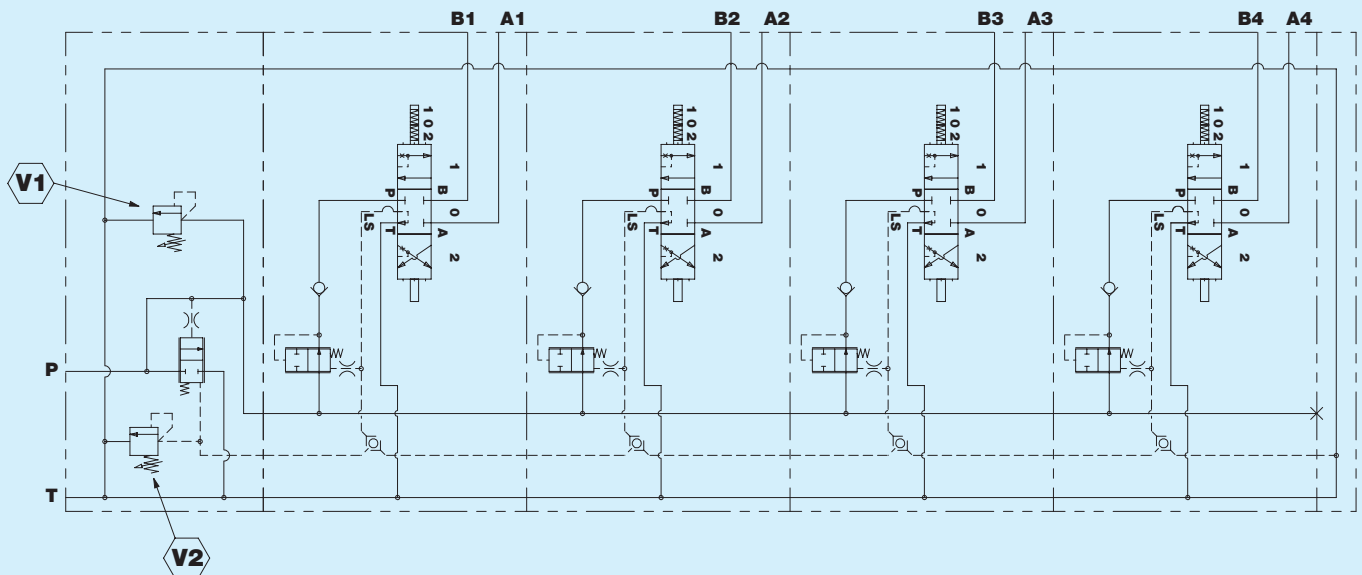
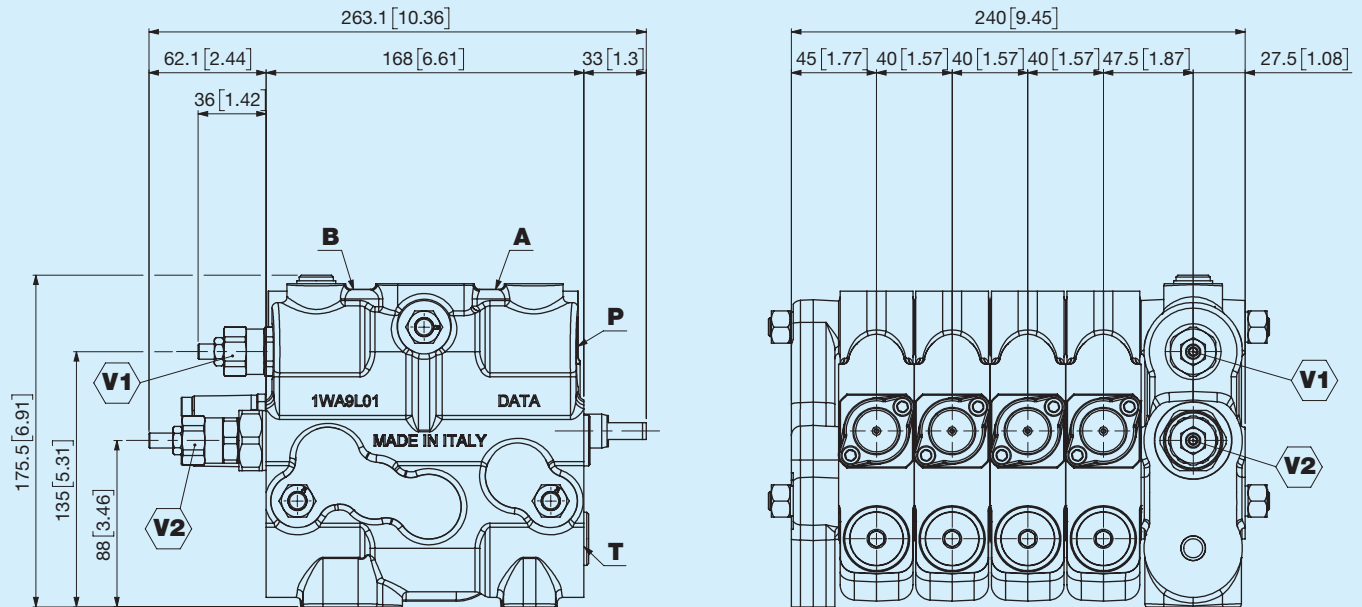
Thread Port MP

Code	Type	Torque $\pm 10\%$ Nm
N	None	
L	1/4" GAS ISO 1179	27
3	M14x1.5 ISO 9974	27
K	M14x1.5 ISO 6149	27
P	9/16" - 18 SAE ISO 11926	27

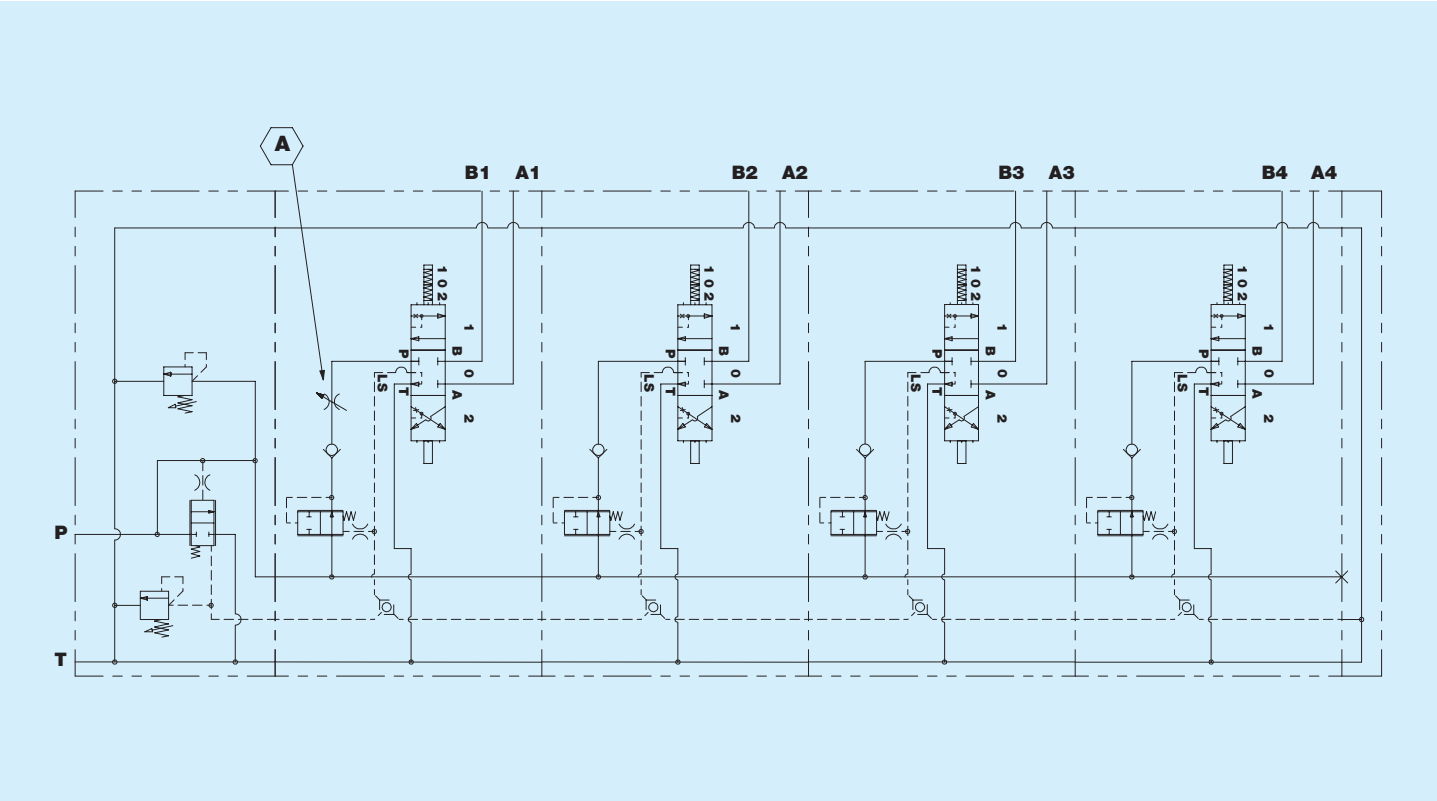
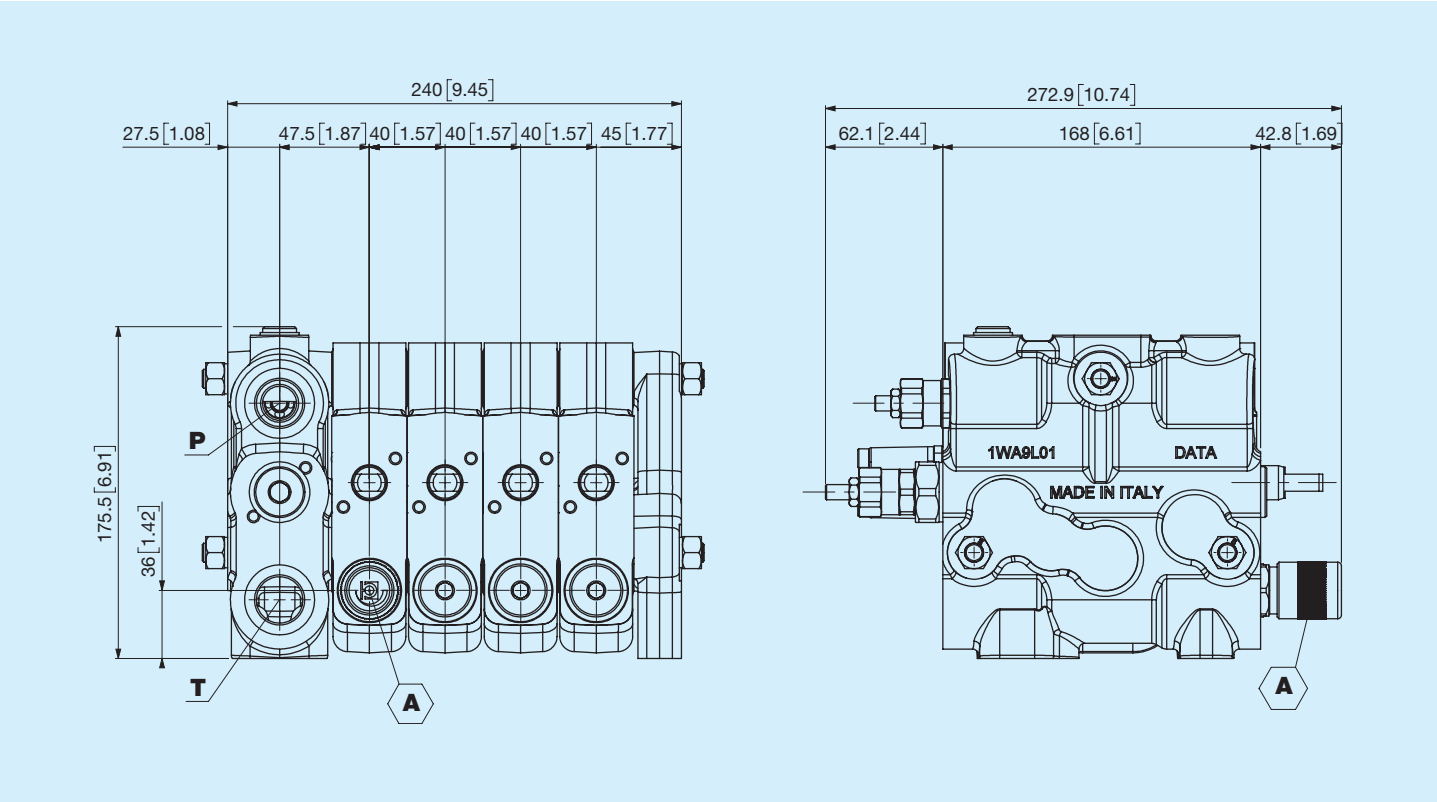
Thread Port MT

Code	Type	Torque $\pm 10\%$ Nm
L	1/4" GAS ISO 1179	27
3	M14x1.5 ISO 9974	27
K	M14x1.5 ISO 6149	27
P	9/16" - 18 SAE ISO 11926	27

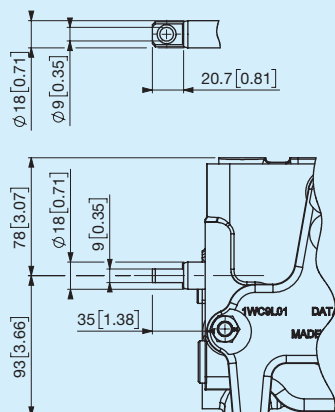
VMP - Maximum relief valve, P and LS line



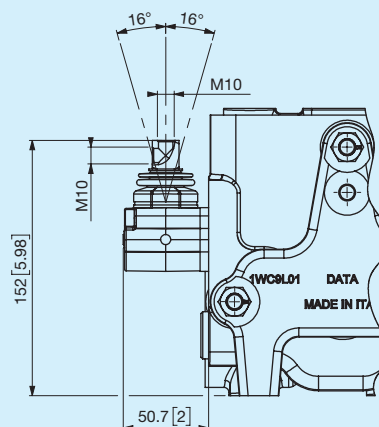
A Flow regulator



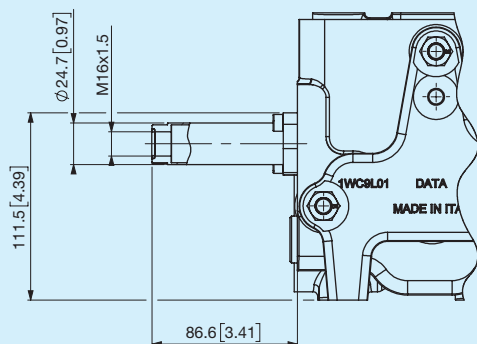
C Without lever holder, flat appendix



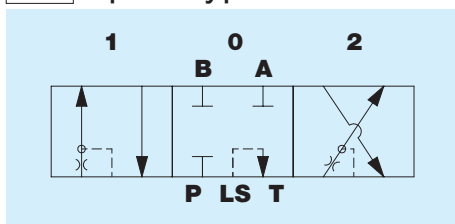
L Lever holder kit



T Cable setting



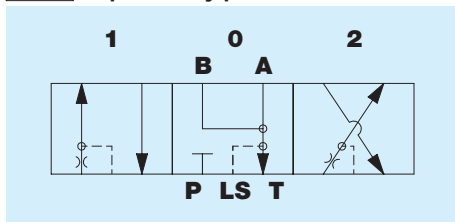
01 Spool type



Positions

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

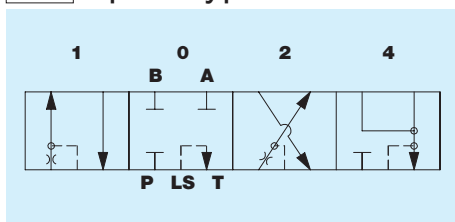
03 Spool type



Positions

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

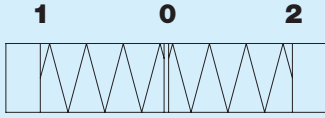
70 Spool type



Positions

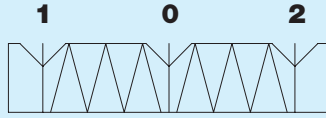
3	1	0	2	4
	$P \rightarrow B$ $A \rightarrow T$	$P, T \rightarrow$ $A, B \rightarrow$	$P \rightarrow A$ $B \rightarrow T$	$A, B \rightarrow T$ $P \rightarrow$

0A



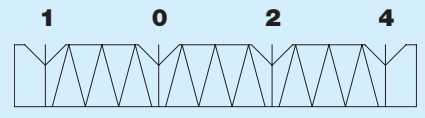
Neutral position in 0

0D



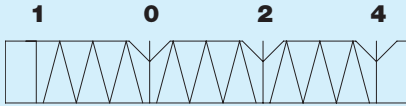
Detent in 0, 1, 2

PT



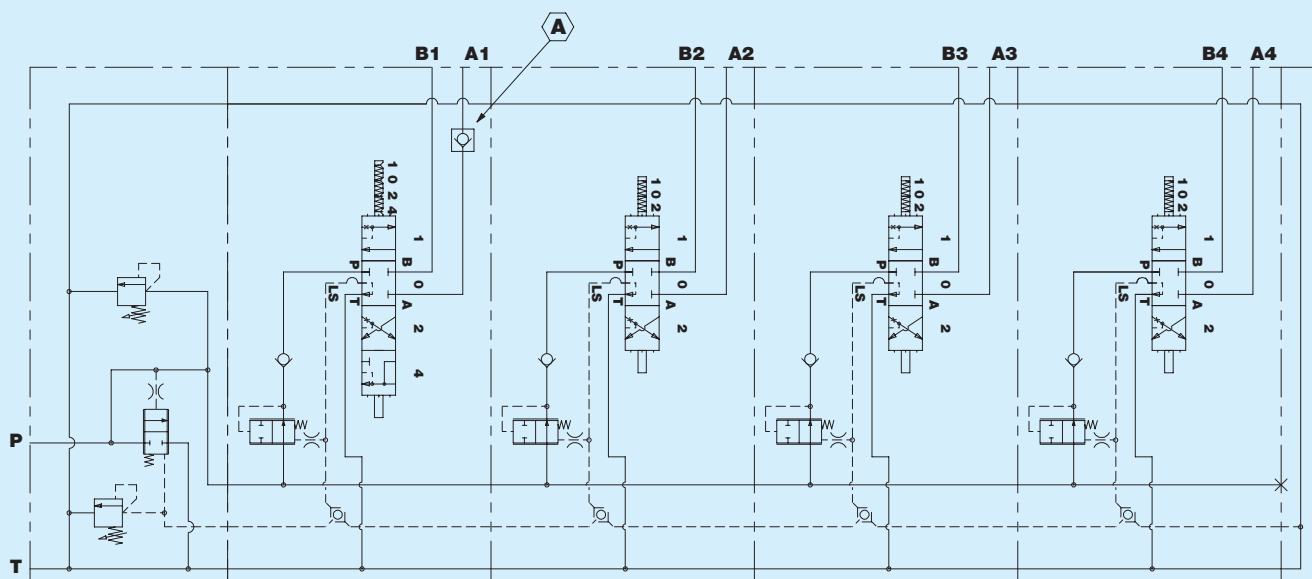
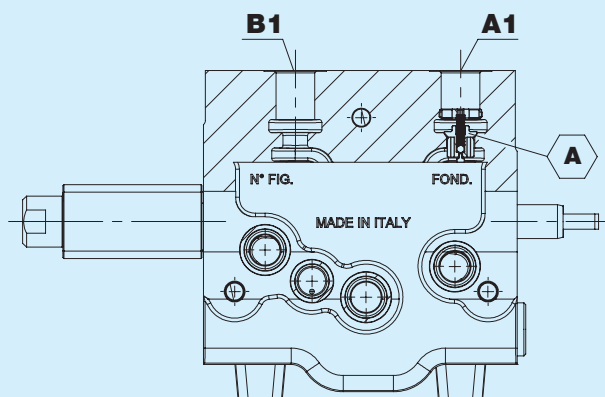
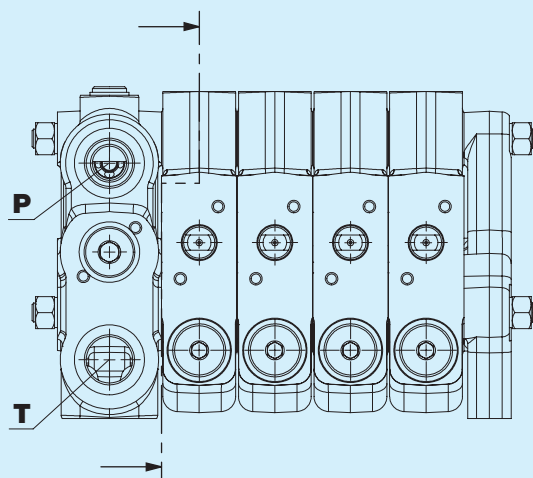
Detent in 1, 0, 2, 4

CP

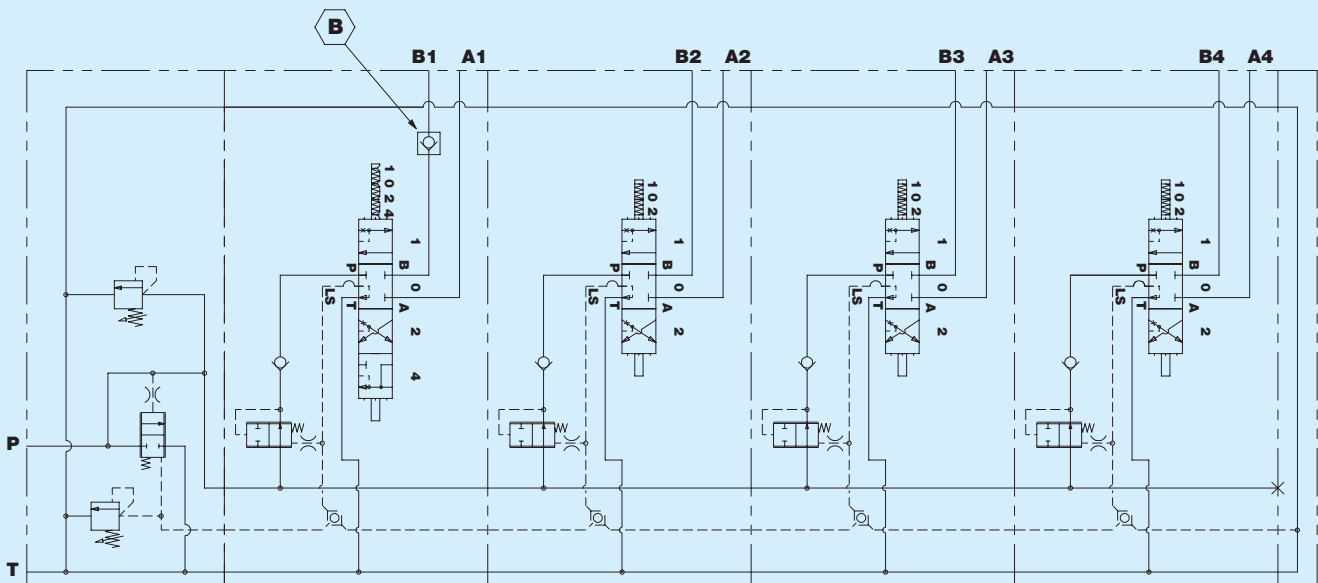
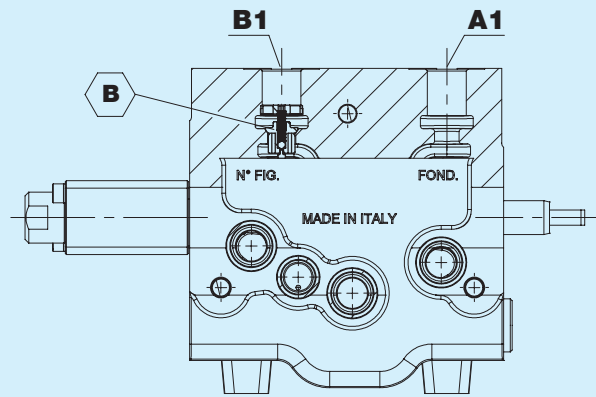
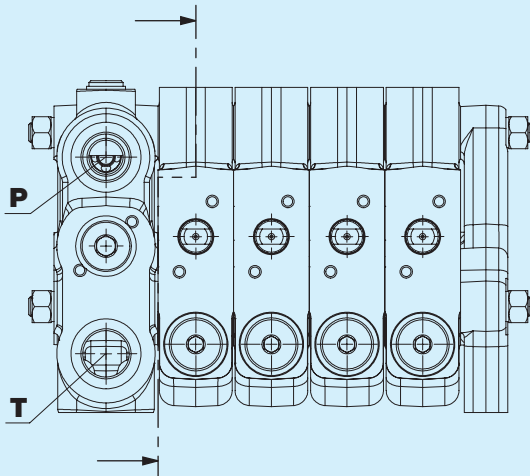


Neutral position in 0, detent in 2,
4

A Zero leakage port A

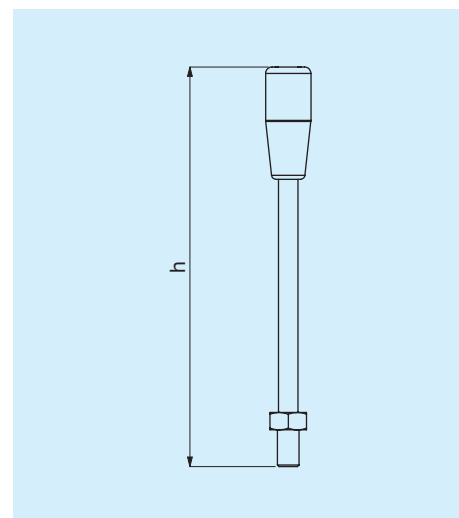


B Zero leakage port B



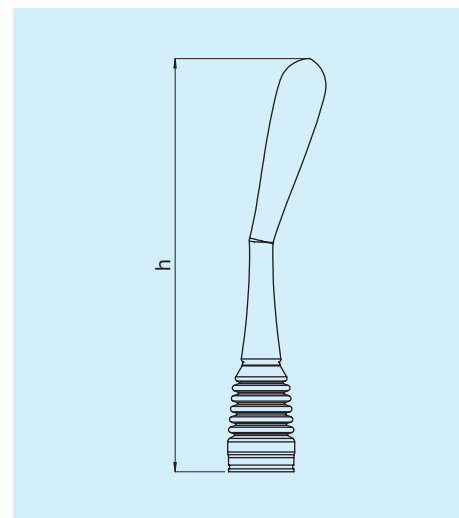
Straight standard knob

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

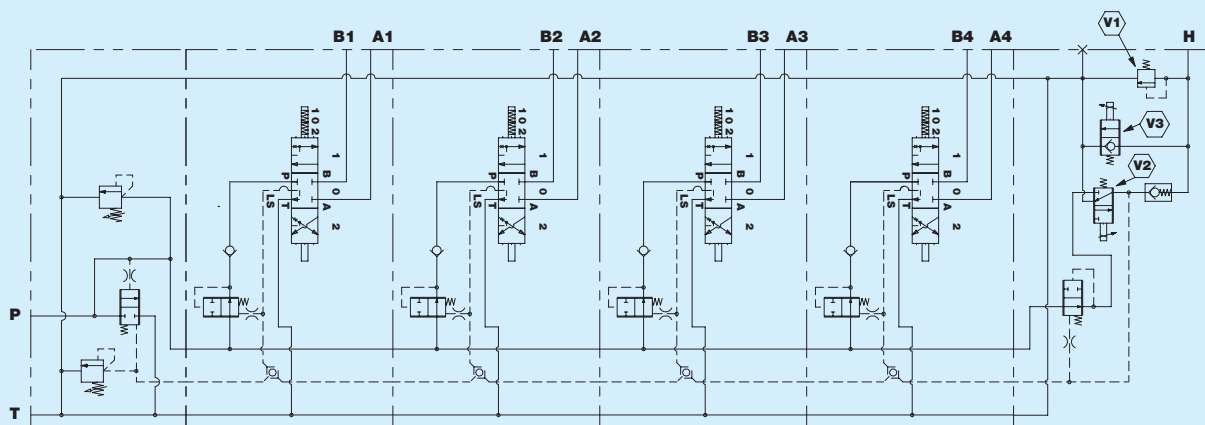
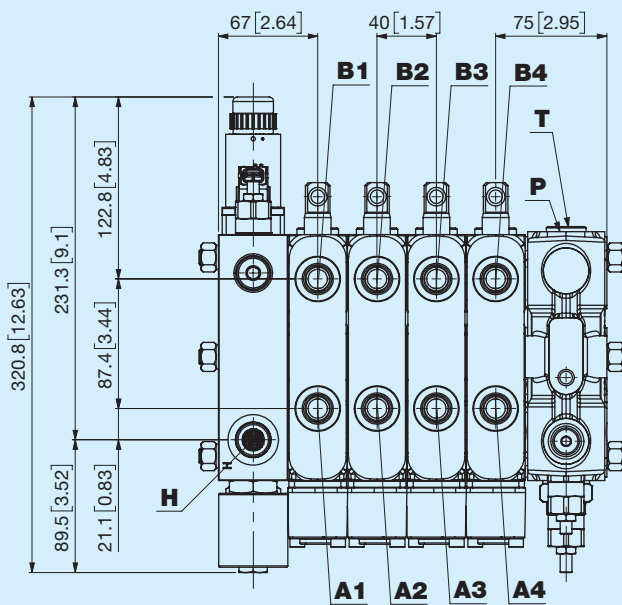
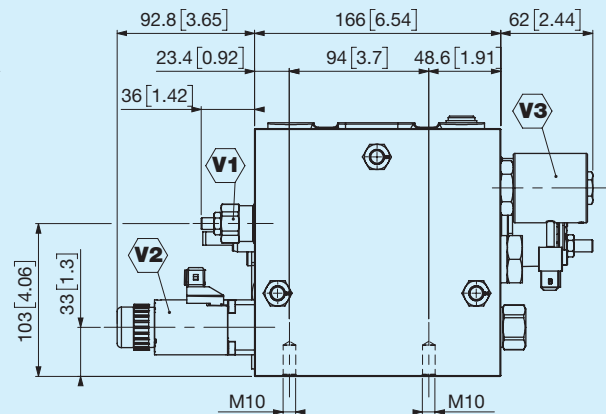
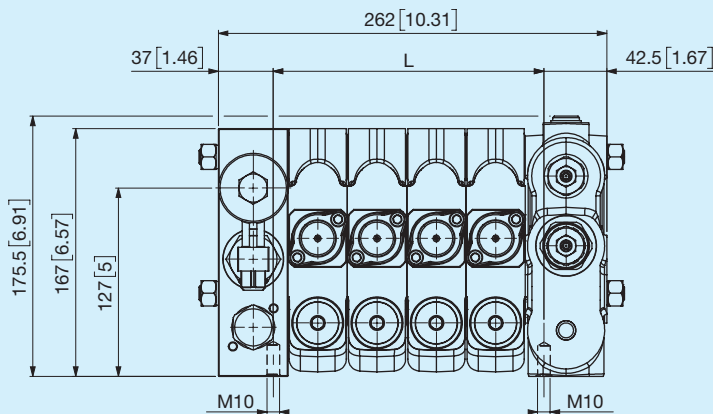


Ergonomic lever

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



B With hitch-control valve



Electrical characteristics of the V2 valve

Voltage	6	V ($\pm 10\%$)
Resistance at 20°C	1.63	$\Omega (\pm 7\%)$
Minimum current	1200	mA ($\pm 5\%$)
Maximum current	3700	mA ($\pm 5\%$)
PWM	100*	Hz

*Recommended

Electrical characteristics of the V3 valve

Voltage	6	V ($\pm 10\%$)
Resistance at 20°C	1.8	$\Omega (\pm 7\%)$
Minimum current	700	mA ($\pm 5\%$)
Maximum current	2100	mA ($\pm 5\%$)
PWM	100*	Hz

*Recommended

Thread port H - Hitch control valve

Code	Type	Torque $\pm 10\%$ Nm
0	None	
B	1/2" GAS ISO 1179	70
N	M22x1.5 ISO 9974	70
J	M22x1.5 ISO 6149	70
R	7/8" - 14 SAE ISO 11926	70

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LSC90																
1	Number of sections															
	1 1 section			3 3 sections				5 5 sections								
	2 2 sections			4 4 sections				6 6 sections								
2	General options															
	N None			V Black paint				Z Zinc plating								
3	Inlet cover type															
	A Centre open (pump with fixed flow rate)			B Centre closed (Load sensing pump)												
4	Thread port P															
	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			
5	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			
6	Thread Port LS															
	N None			3 M14x1.5 ISO 9974				P 9/16" - 18 SAE ISO 11926								
	L 1/4" GAS ISO 1179			K M14x1.5 ISO 6149												
7	Thread port MP															
	N None			3 M14x1.5 ISO 9974				P 9/16" - 18 SAE ISO 11926								
	L 1/4" GAS ISO 1179			K M14x1.5 ISO 6149												
8	Thread port MT															
	L 1/4" GAS ISO 1179			3 M14x1.5 ISO 9974				K M14x1.5 ISO 6149					P 9/16" - 18 SAE ISO 11926			
9	Options on ports MP - MT															
	A MP not processed, MT plugged			C MP and MT open				E MP open, MT plugged								
	B MP not processed, MT open			D MP and MT plugged												
10 11	Maximum pressure relief valve type on P-line															
	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 on P-line															
	G Grub screw			P Sealed				N None								

Repeat for each section of the valve

17	18	19	20	21	22	23	24	25	26	27	28	29	30

13	14

Maximum pressure relief valve type on LS-line

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	

15

Sealing type maximum pressure relief valve on LS-line

G Grub screw	P Sealed	N None
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16

Thread ports A - B

B 1/2" GAS ISO 1179	N M22x1.5 ISO 9974	J M22x1.5 ISO 6149	R 7/8" - 14 SAE ISO 11926
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17

Element options

N None	A With flow regulator
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18

Actuators

C Without lever holder, flat appendix	L Lever holder kit	T Cable setting
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19	20

Spool types

01 Spool type	03 Spool type	70 Spool type
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21

Spool options

A Standard spool	B Nickel-plated spool
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22	23

Spool control

0A Neutral position in 0	PT Detent in 1, 0, 2, 4	...
0D Detent in 0, 1, 2	CP Neutral position in 0, detent in 2, 4	...
		To select, see the relevant section

24	25

Kick-out option pressure setting

NN None	14 140 bar	17 170 bar	20 200 bar
12 120 bar	15 150 bar	18 180 bar	
13 130 bar	16 160 bar	19 190 bar	

26

Zero leakage option

N None	A Zero leakage port A	B Zero leakage port B
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27

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	

28



Closing plate

- | | |
|-------------------|-----------------------------------|
| A Standard | B With hitch-control valve |
|-------------------|-----------------------------------|

29



Thread port H

- | | | |
|----------------------------|---------------------------|----------------------------------|
| O None | N M22x1.5 ISO 9974 | R 7/8" - 14 SAE ISO 11926 |
| B 1/2" GAS ISO 1179 | J M22x1.5 ISO 6149 | |

30



Voltage and connector of the hitch control option

- | | |
|---------------|------------------------|
| N None | Q 6V AMP JUNIOR |
|---------------|------------------------|

