



45L GM GMT GMC

GMS
hydraulic

Specifications

Spool: 1,2,3,4,5,6 / Double - Single - Closed Center- Motor- Floating - Regenerative Spool

Liter: 45L Nominal - 65L Max

Ports: 3/8 Standard- 1/2-M18x1,5 Optional

Front Cap: Handle - Mechanical Joystick- Hydraulic Joystick- Remote Cable Control - Lock Handle

End Cap: Spring - Detent- Floating - Wood Splitter - Pneumatic - Proportional Coil - Hydraulic Control-Electro Hydraulic-Remote Cable Control

Open Center / Carry over / Parallel Circuit

Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm²/s – 46cSt viscosity at 40°C temperature.

Nominal flow rating		45 l/min.	
Max. flow		65 l	
Operating pressure (max.)		315 bar	4600 psi
Max. back pressure	on outlet port T	20 bar	290 psi
Internal leakage A(B)→T	Δp=100 bar – 1450psi with fluid and valve at 40°C	3cm ³ /min.	0.18 in ³ /min.
Hydraulic fluid		Mineral base oil	
Fluid temperature	with NBR seals	from - 20° to 80°C	
	with FPM (VITON) seals	from - 20° to 100°C	
Viscosity	operating range	from 15 to 75 mm ² /s	from 15 to 75 cSt
	Min.	12 mm ² /s	12 cSt
	Max.	400 mm ² /s	400 cSt
Max. level of contamination		19/16 – ISO 4406	

Standard threads

REFERENCE STANDARDS

		BSP	UN-UNF	METRIC
THREAD ACCORDING TO		ISO 228/1	ISO 263	ISO 262
		BS 2779	ANSI B1.1 unified	
CAVITY ACCORDING TO	ISO	1179	11926	9974-1
	SAE		J1926	J2244
	DIN	3852-2 shape X o Y		3852-1 shape X o Y

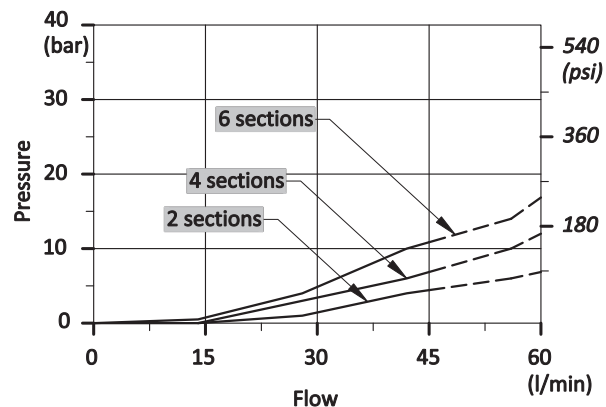
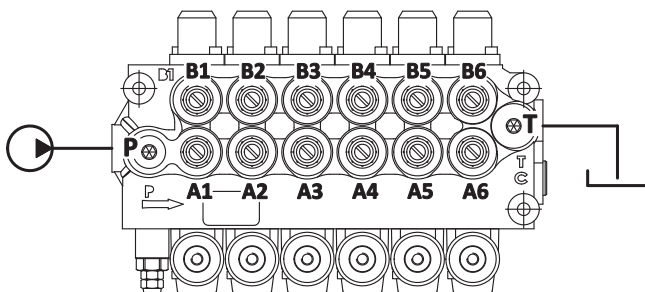
PORTS THREAD

MAIN PORTS	BSP	OPTIONAL	UN-UNF	METRIC
Inlet P and carry-over C	G 3/8	G 1/2	3/4 – 16 (SAE 8)	M18x1,5
Ports A and B	G 3/8	G 1/2	9/16 – 18 (SAE 6)	M18x1,5
Outlet T	G 3/8	G 1/2	3/4 – 16 (SAE 8)	M18x1,5
CONTROL PILOT PORTS				
Pneumatics	G 1/8		-	-
Hydraulics	G 1/4		-	-

Performance data (pressure drop vs. flow)

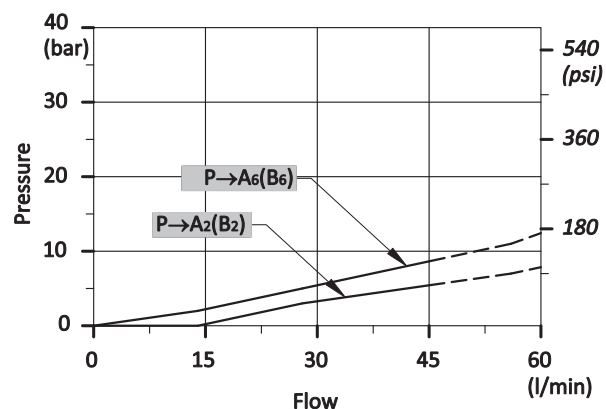
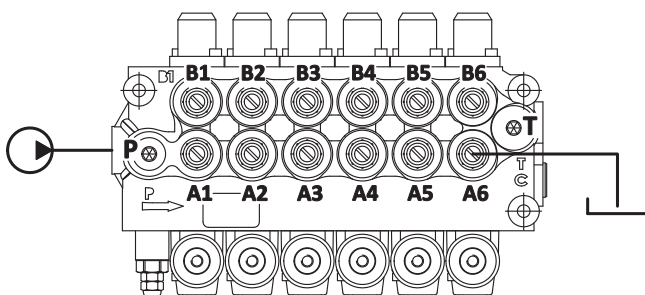
Open centre

From side inlet to side outlet.



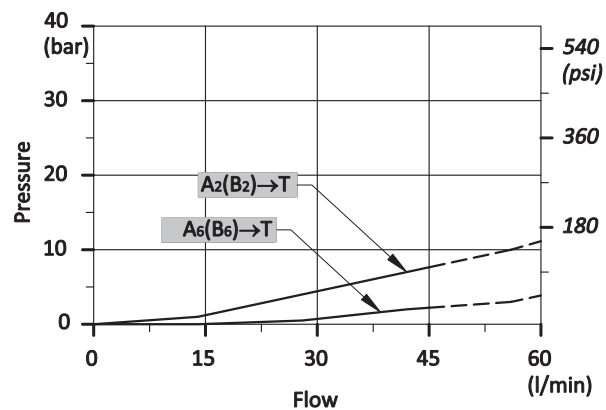
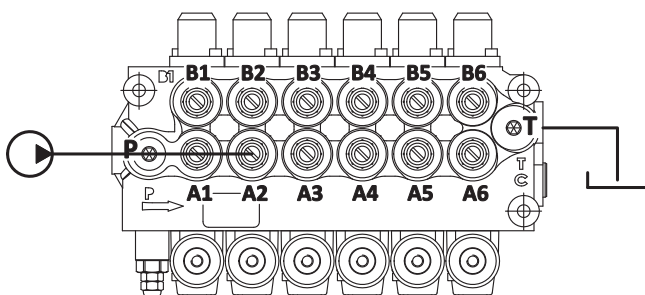
Inlet to work port

From side inlet to B port (spool in position 1) or A port (spool in position 2).

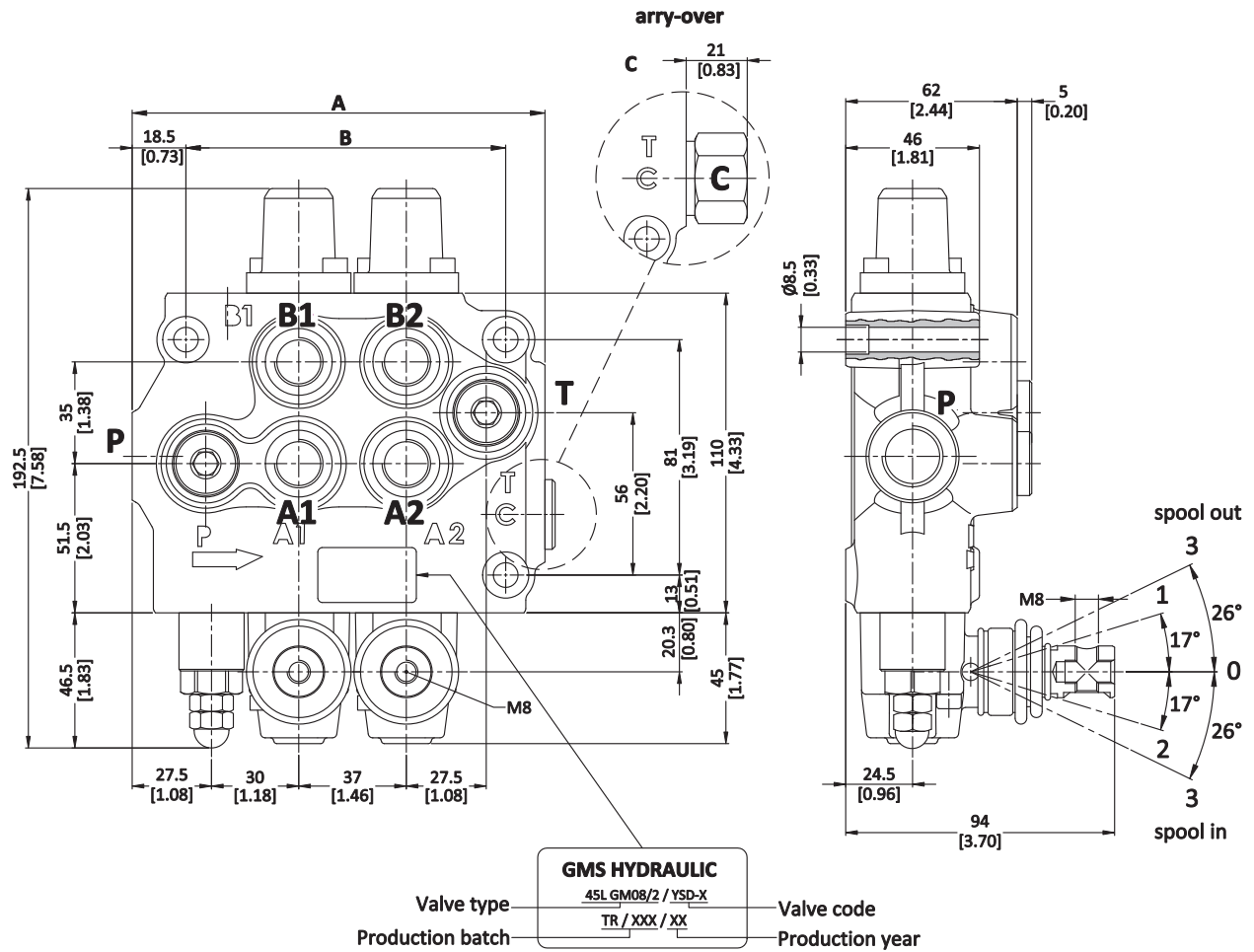


Work port to outlet

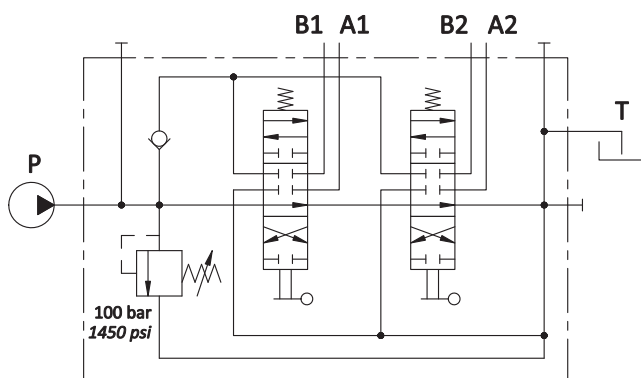
From B port (spool in position 2) or A port (spool in position 1) to side outlet.



Dimensional data (parallel circuit)



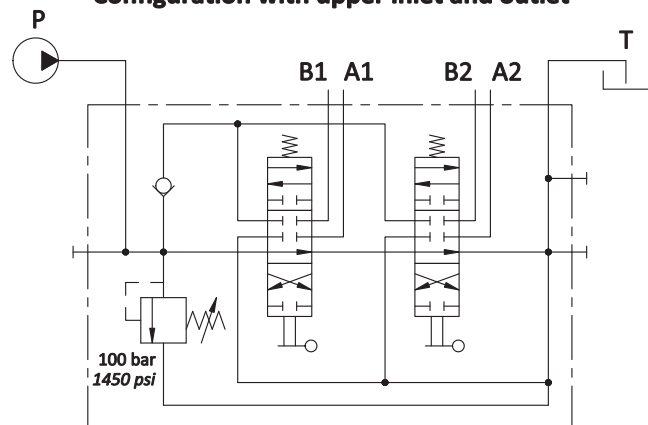
Standard configuration



Description example
45L GM08/2/YSD-YSD-X

TYPE	A		B		Weight	
	mm	in	mm	in	kg	lb
45L GM 08/1	105	4.13	73	2.87	3.1	6.83
45L GM 08/2	142	5.60	110	4.33	4.4	9.70
45L GM 08/3	179	7.05	147	5.79	5.7	12.57

Configuration with upper inlet and outlet



Description example
45L GM08/2/YSD-YSD-X-UC

TYPE	A		B		Weight	
	mm	in	mm	in	kg	lb
45L GM 08/4	216	8.50	184	7.24	7.2	15.87
45L GM 08/5	253	9.96	221	8.70	8.7	19.18
45L GM 08/6	290	11.42	258	10.16	10.2	22.49

Ordering codes

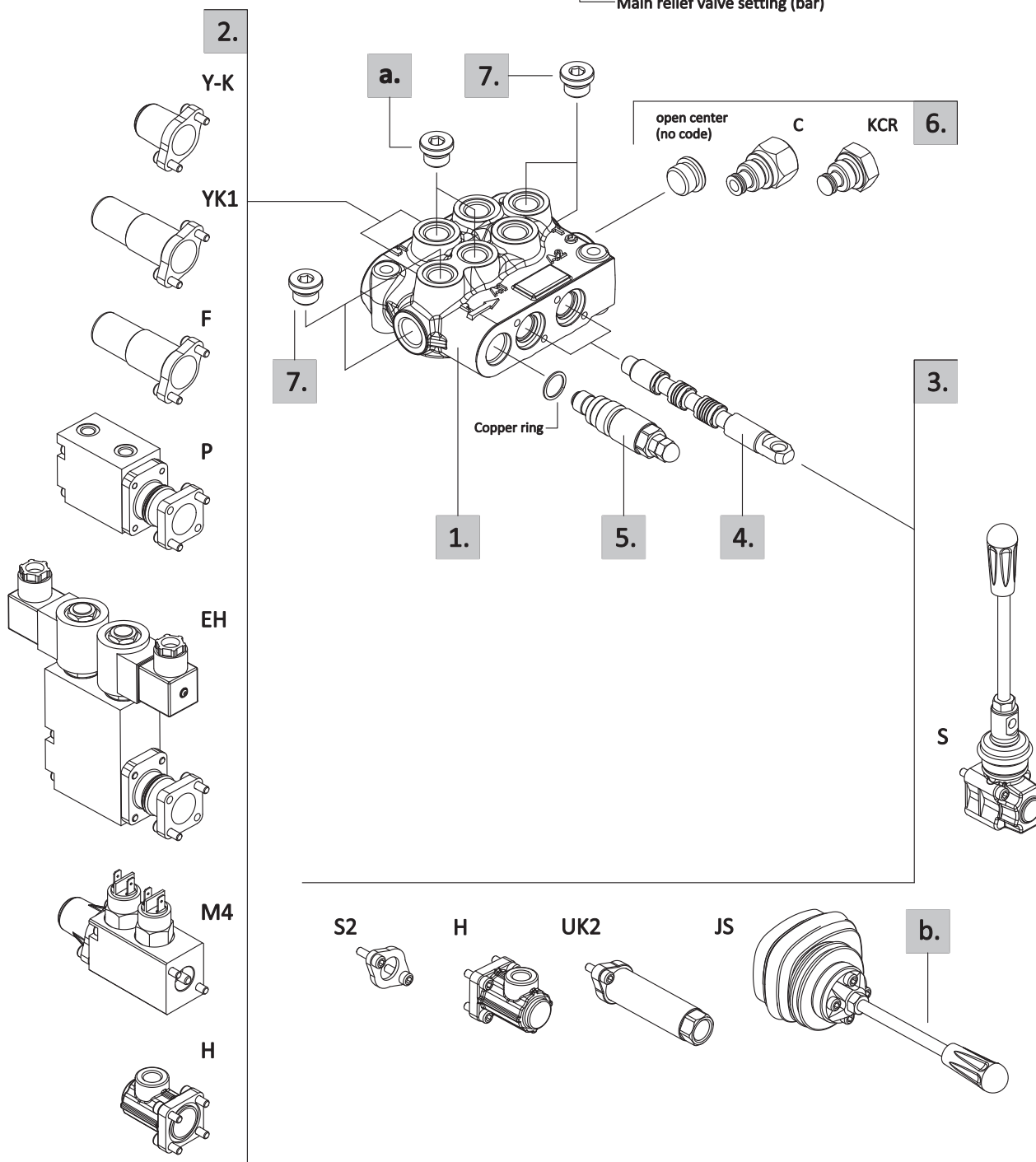
Description example:

45L GM08 / 2 / Y S D - FSF - X(100) C - UC

1st section following section

1. 2. 3. 4. 5. 6. 7.

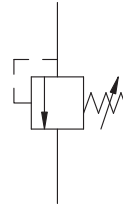
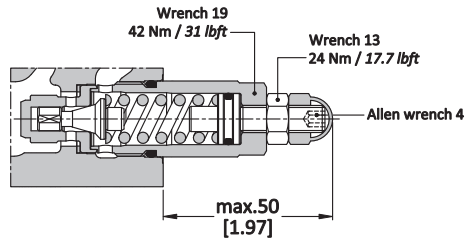
Main relief valve setting (bar)



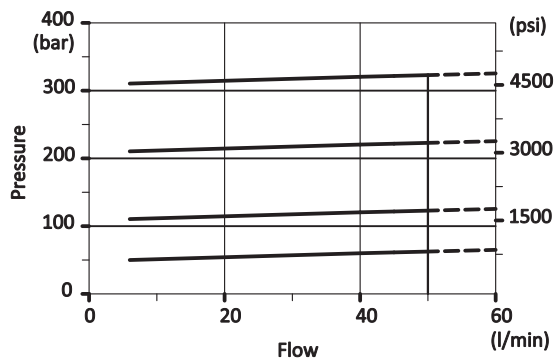
Direct pressure relief valve

Valve type

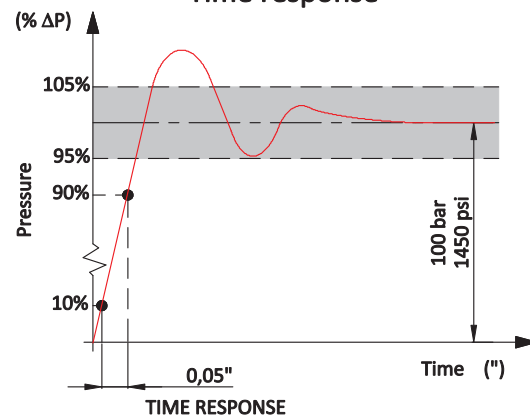
X : with screw



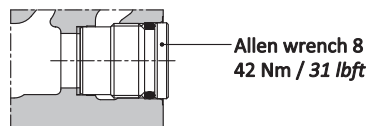
Performance data



Time response

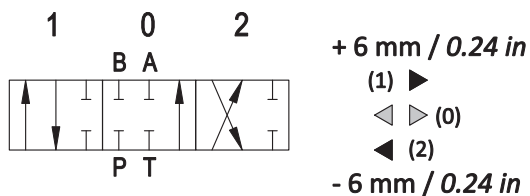


V : relief valve blanking plug

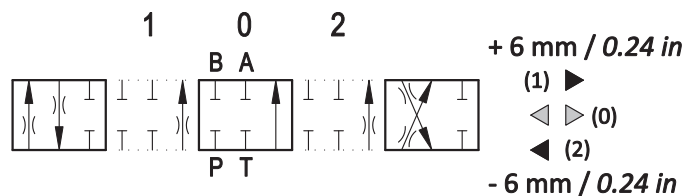


Spool options

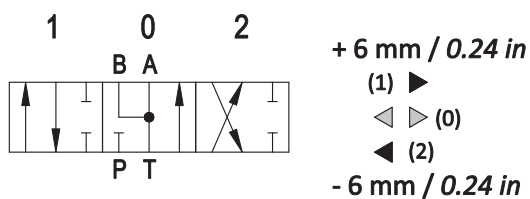
Type D



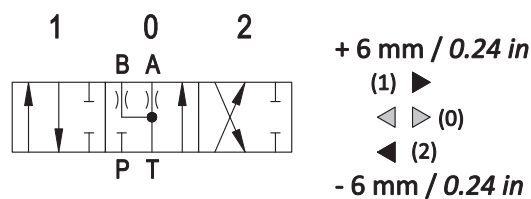
Type D1



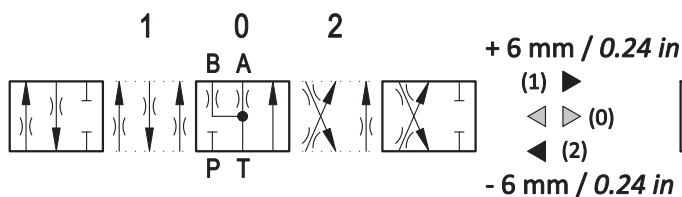
Type J



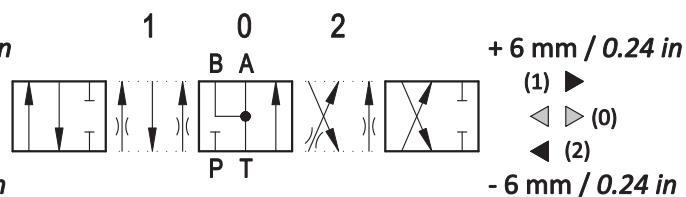
Type J1



Type J6

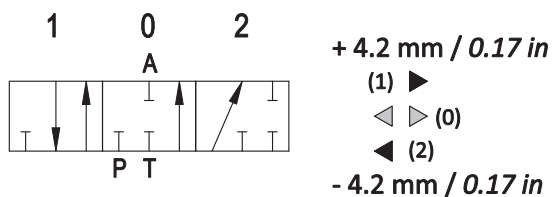


Type J7



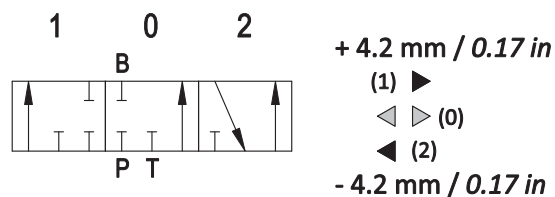
Type TA

For Y3 kit



Type TB

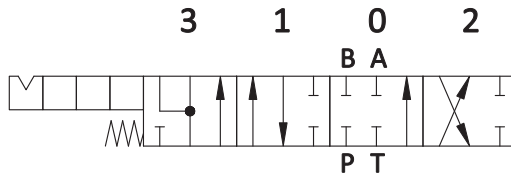
For Y3 kit



Spool options

Type F

For F kit



+ 9 mm / 0.35 in

(3) ►►

+ 4.5 mm / 0.18 in

(1) ►

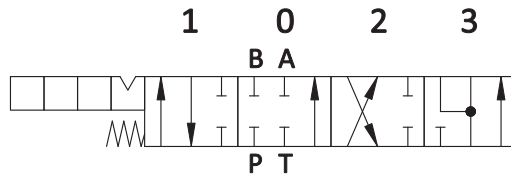
◄ ► (0)

◄ (2)

- 4.5 mm / 0.18 in

Type F1

For F1 kit



+ 4.5 mm / 0.18 in

(1) ►

◄ ► (0)

◄ (2)

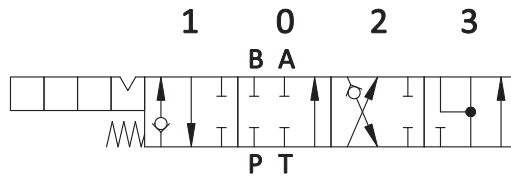
- 4.5 mm / 0.18 in

◄◄ (3)

- 9 mm / 0.35 in

Type FC

For F1 kit



+ 4.5 mm / 0.18 in

(1) ►

◄ ► (0)

◄ (2)

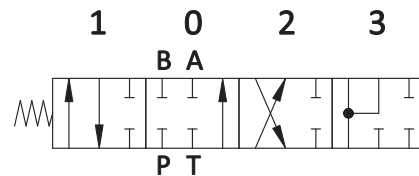
- 4.5 mm / 0.18 in

◄◄ (3)

- 9 mm / 0.35 in

Type R

For R kit



+ 4.5 mm / 0.18 in

(1) ►

◄ ► (0)

◄ (2)

- 4.5 mm / 0.18 in

◄◄ (3)

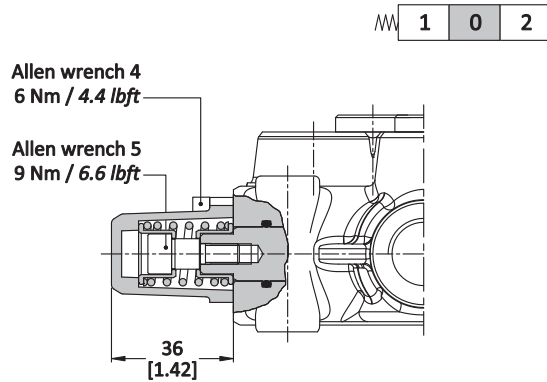
- 7.5 mm / 0.30 in

directional valve with left inlet

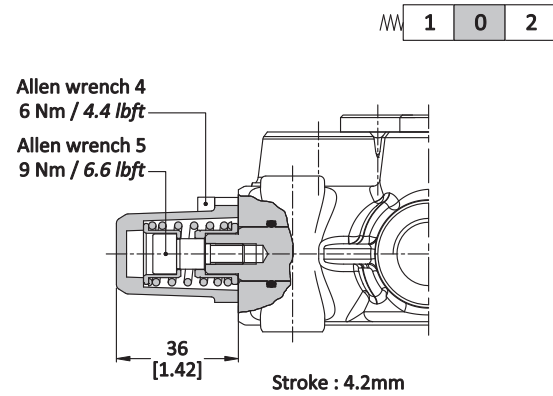
End cap options

With spring return in neutral position

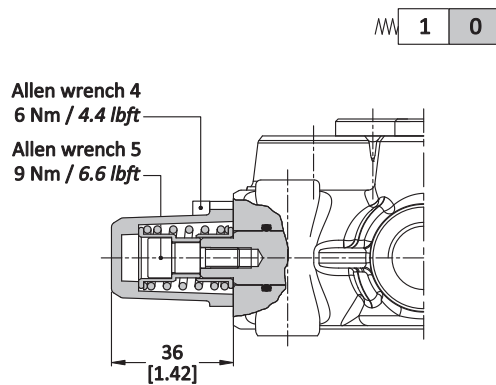
Y kit



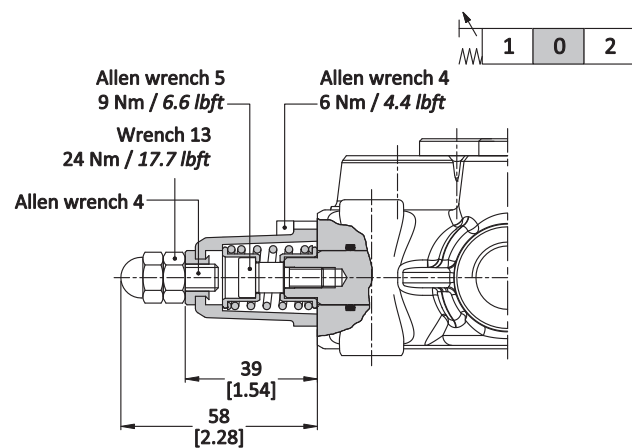
Y3 kit



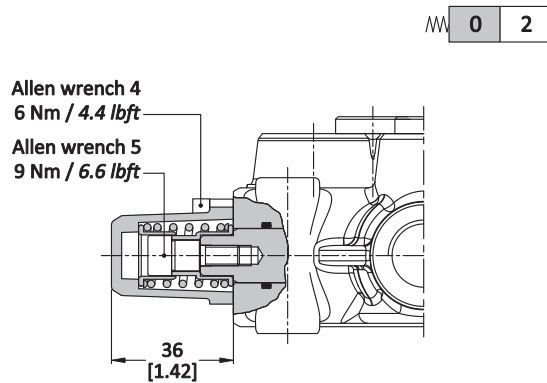
Y1 kit



YL kit



Y2 kit



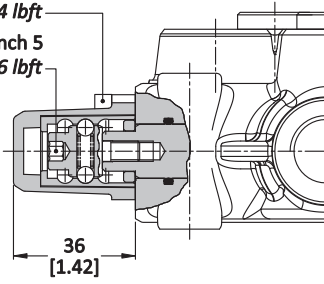
End cap options

With detent

K kit



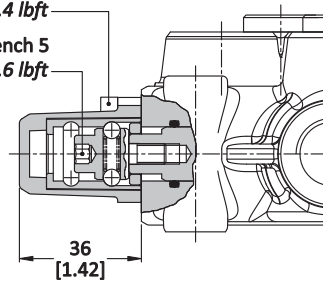
Allen wrench 4
6 Nm / 4.4 lbft
Allen wrench 5
9 Nm / 6.6 lbft



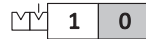
K3 kit



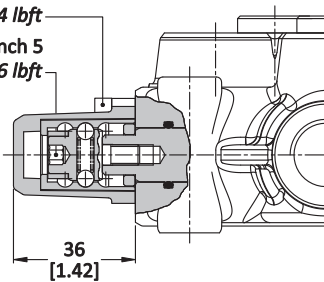
Allen wrench 4
6 Nm / 4.4 lbft
Allen wrench 5
9 Nm / 6.6 lbft



K1 kit



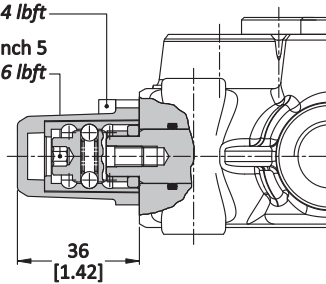
Allen wrench 4
6 Nm / 4.4 lbft
Allen wrench 5
9 Nm / 6.6 lbft



K2 kit



Allen wrench 4
6 Nm / 4.4 lbft
Allen wrench 5
9 Nm / 6.6 lbft



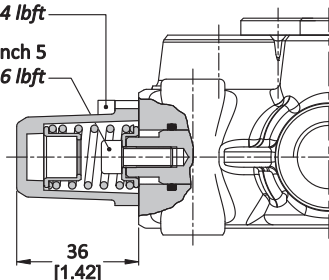
directional valve with left inlet

End cap options

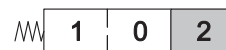
W1 kit



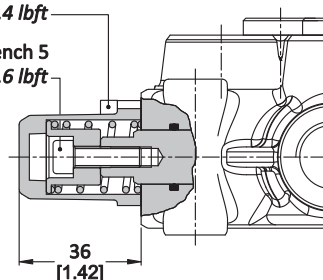
Allen wrench 4
6 Nm / 4.4 lbft
Allen wrench 5
9 Nm / 6.6 lbft



W2 kit



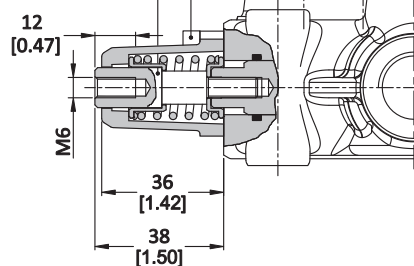
Allen wrench 4
6 Nm / 4.4 lbft
Allen wrench 5
9 Nm / 6.6 lbft



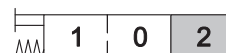
W3 kit



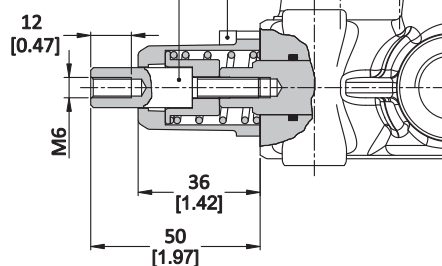
Allen wrench 4
6 Nm / 4.4 lbft
Wrench 9
9 Nm / 6.6 lbft



W4 kit

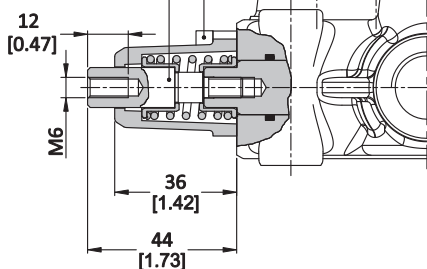


Allen wrench 4
6 Nm / 4.4 lbft
Wrench 9
9 Nm / 6.6 lbft

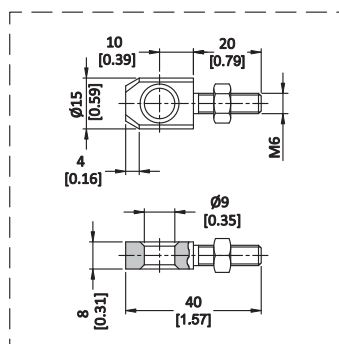


W5 kit

Allen wrench 4
6 Nm / 4.4 lbft
Wrench 9
9 Nm / 6.6 lbft



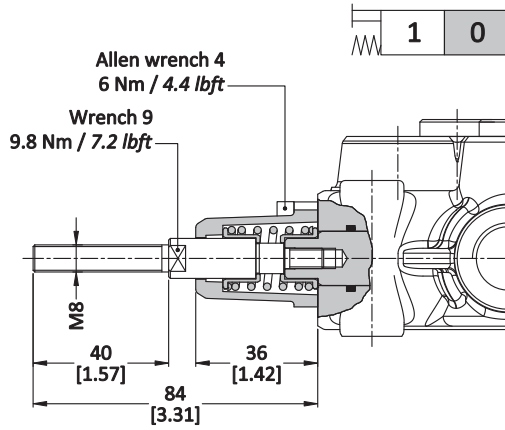
Spool end joint dimensions (optional)



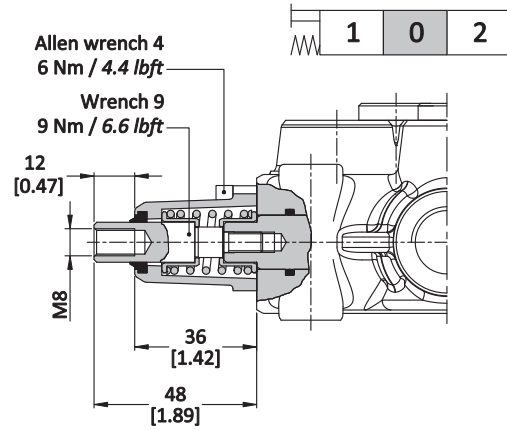
Not included to W5 kit

End cap options

W6 kit



W7 kit

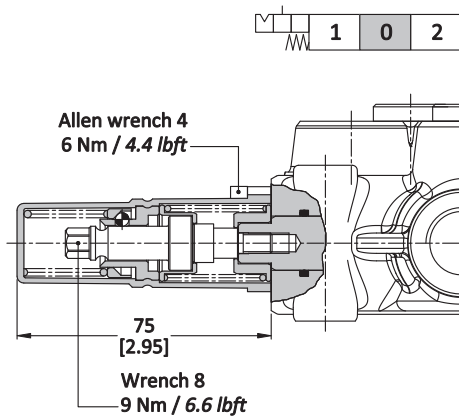


directional valve with left inlet

End cap options

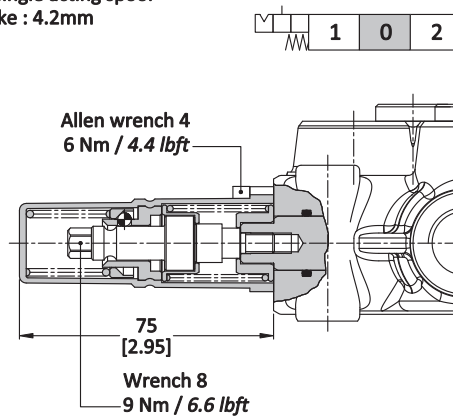
With detent and spring return to neutral position from either directions

YK1 kit

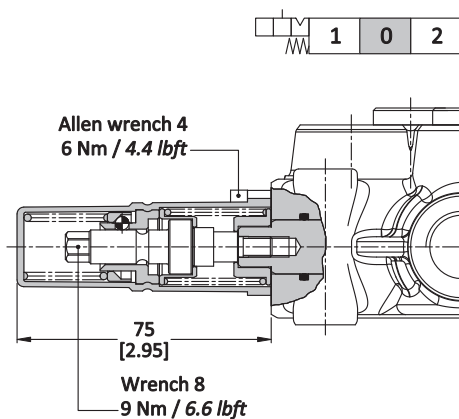


YK4 kit

For single acting spool
Stroke : 4.2mm

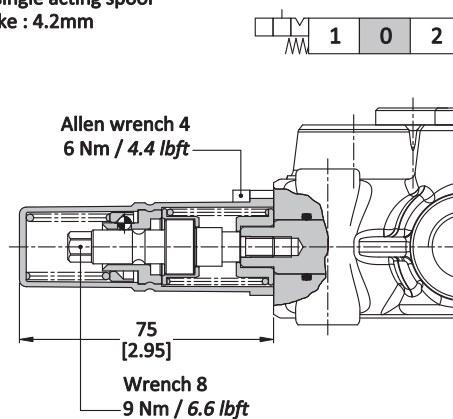


YK2 kit

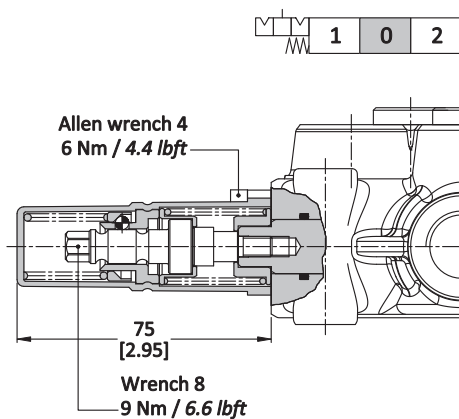


YK5 kit

For single acting spool
Stroke : 4.2mm

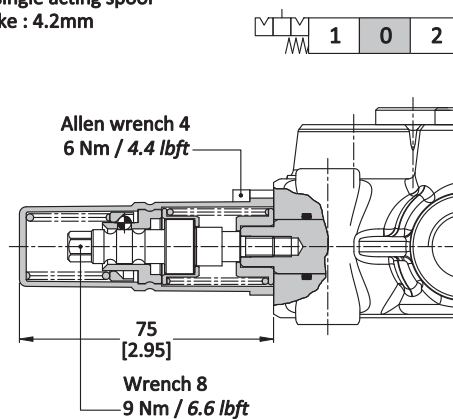


YK3 kit



YK6 kit

For single acting spool
Stroke : 4.2mm



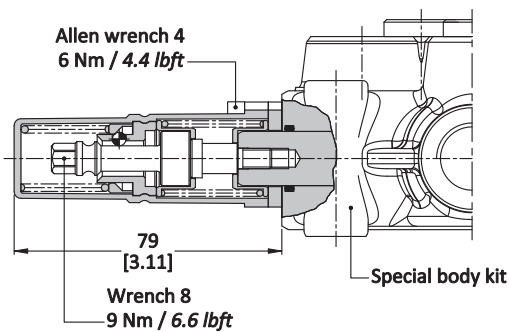
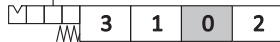
directional valve with left inlet

End cap options

Particular positioner kits for special spools

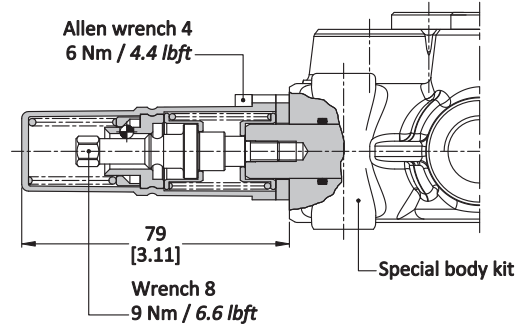
F kit

Suitable to F spool



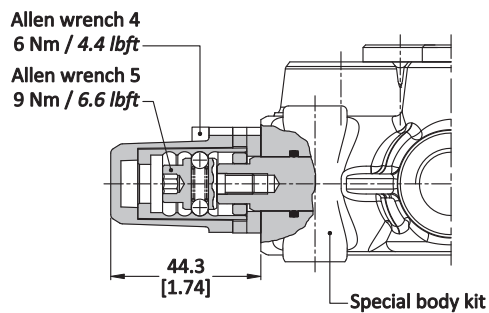
F1 kit

Suitable to F1 spool



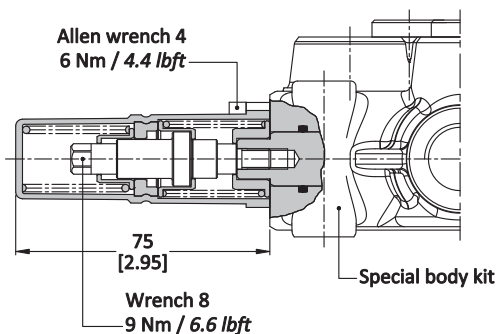
F2 kit

Suitable to F1 spool



R kit

Suitable to R spool



End cap options

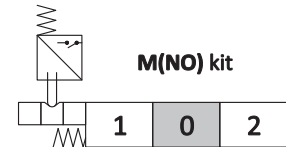
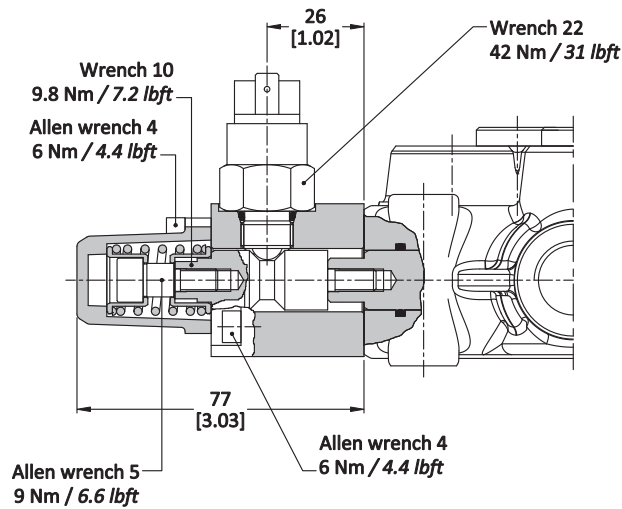
With microswitch type M(NO)

With spring return in neutral position and microswitch operated in both directions.

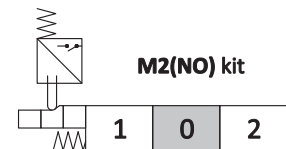
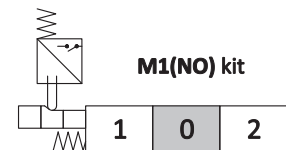
Also available **M1(NO)** configuration (microswitch operated in position 1) and **M2(NO)** configuration (microswitch operated in position 2); dimensions are the same of M(NO) configuration.

Same configurations are available with normally closed (NC) contact.

For more information contact Sales Department.



Other configurations



Operating features

MICROSWITCH

Mechanical life

: 5x10⁵ operations

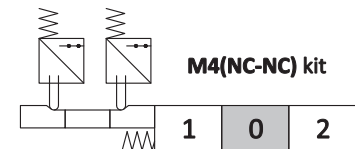
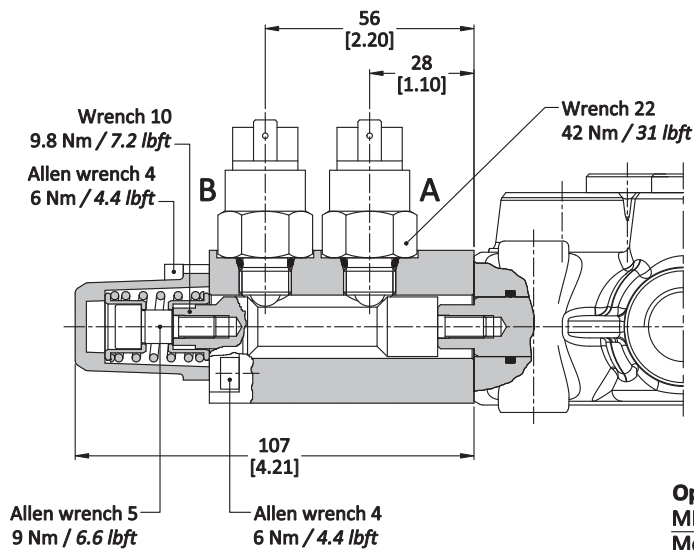
Electrical life (resistive load)

: 5x10⁴ operations 12V

: 5x10⁴ operations 24V

Type M4(NC-NC)

With double microswitch in position 1 and 2



Positions	A	B
1		
0		
2		

Operating features

MICROSWITCH

Mechanical life

: 5x10⁵ operations

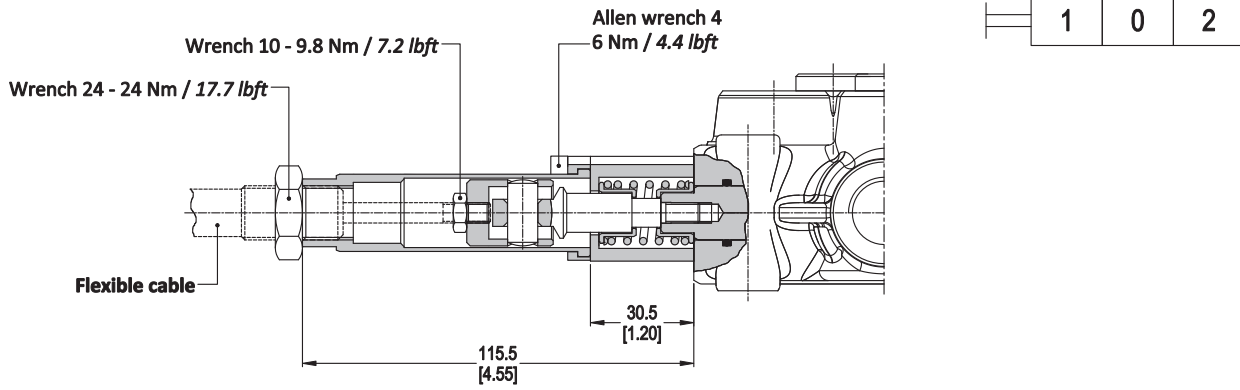
Electrical life (resistive load)

: 5x10⁴ operations 12V

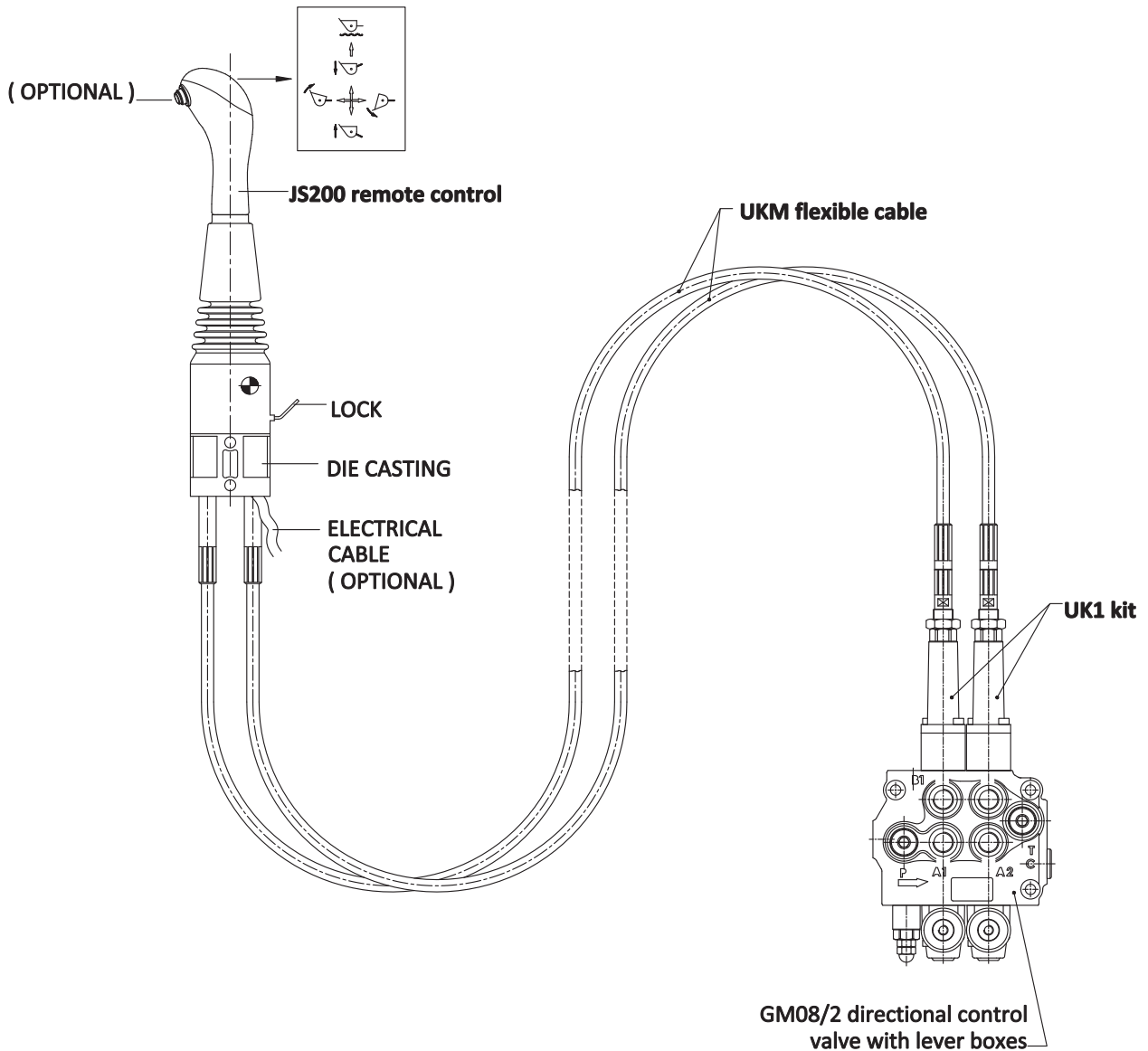
: 5x10⁴ operations 24V

End cap options

UK1 cable remote control kit



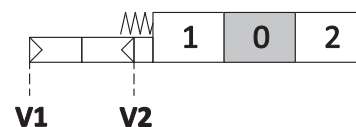
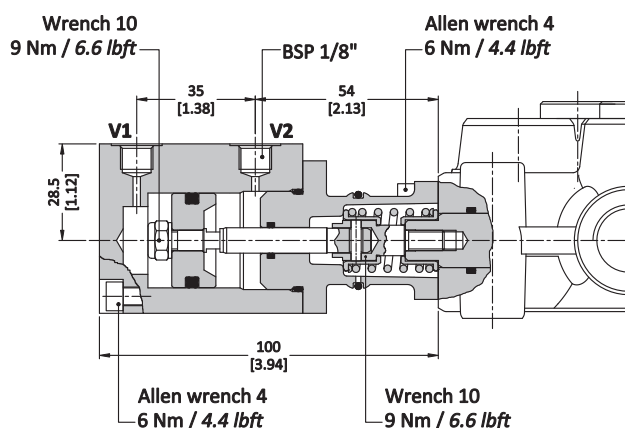
Connection example



directional valve with left inlet

ON/OFF pneumatic kit type P

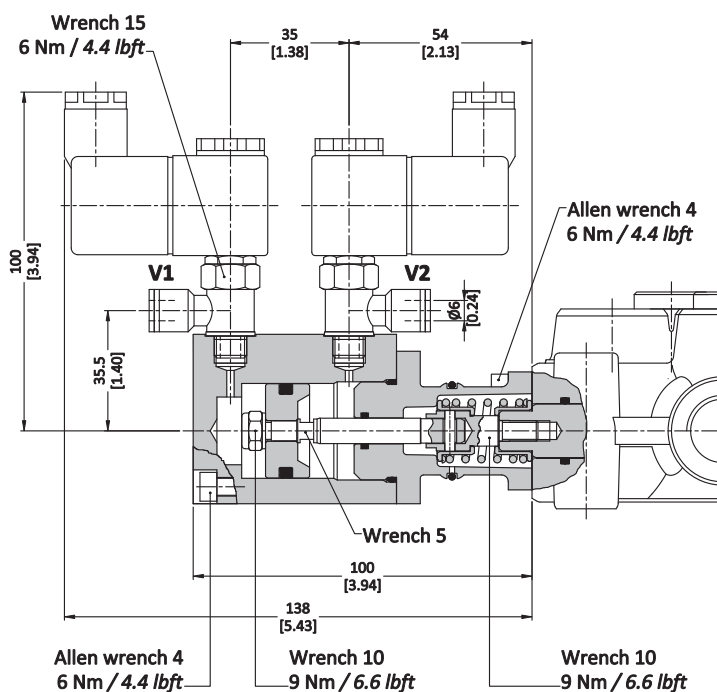
With spring return to neutral position.



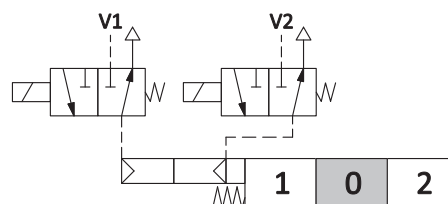
Operating features

Pilot pressure.....: min. 5.5 bar / 80 psi
: max.10 bar / 145 psi

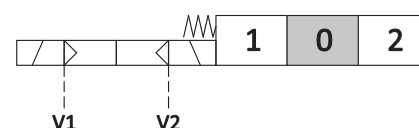
ON/OFF electro-pneumatic kit type EP



Scheme



Scheme ISO 1219



Operating features

CONTROL

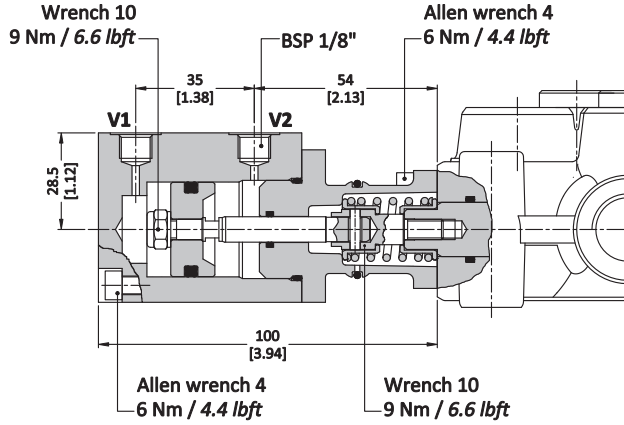
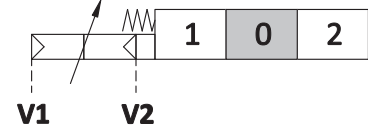
Pilot pressure : 6 bar / 87 psi
: max. 15 bar / 218 psi

COIL

Nominal voltage tolerance : $\pm 10\%$
Power rating : 8 W
Nominal current : 12 VDC
: 24 VDC
Coil insulation : Class H
Weather protection : IP65

Proportional pneumatic kit type P1

With spring return to neutral position.



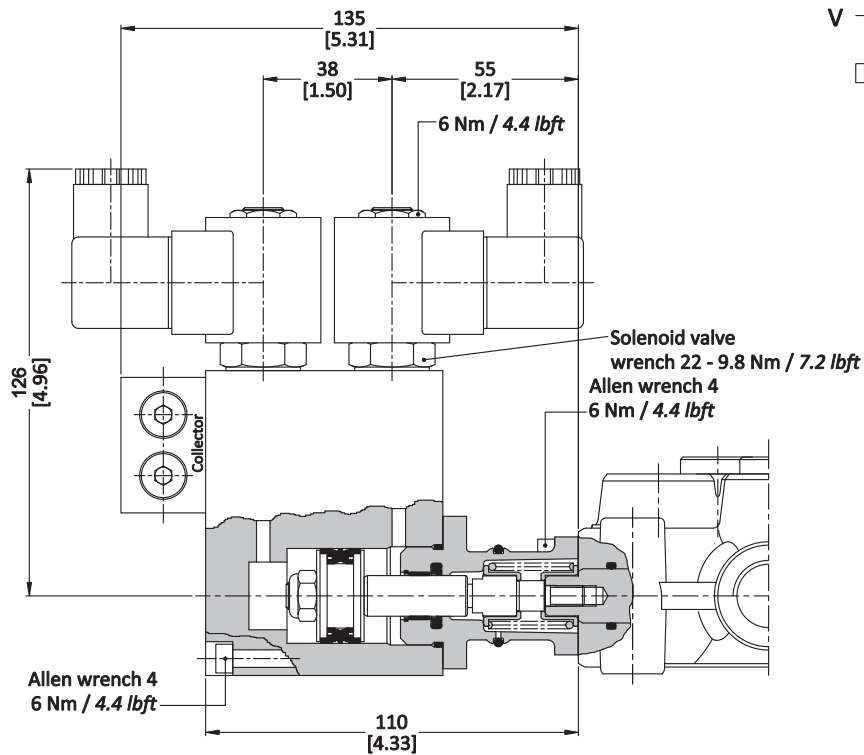
Operating features

Pilot pressure.....: min. 2 bar / 29 psi
: max.10 bar / 145 psi

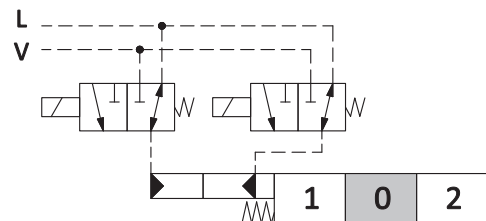
directional valve with left inlet

ON/OFF electro-hydraulic kit type EH

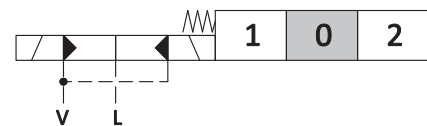
With external pilot and drain.



Scheme



Scheme ISO 1219



Operating features

CONTROL

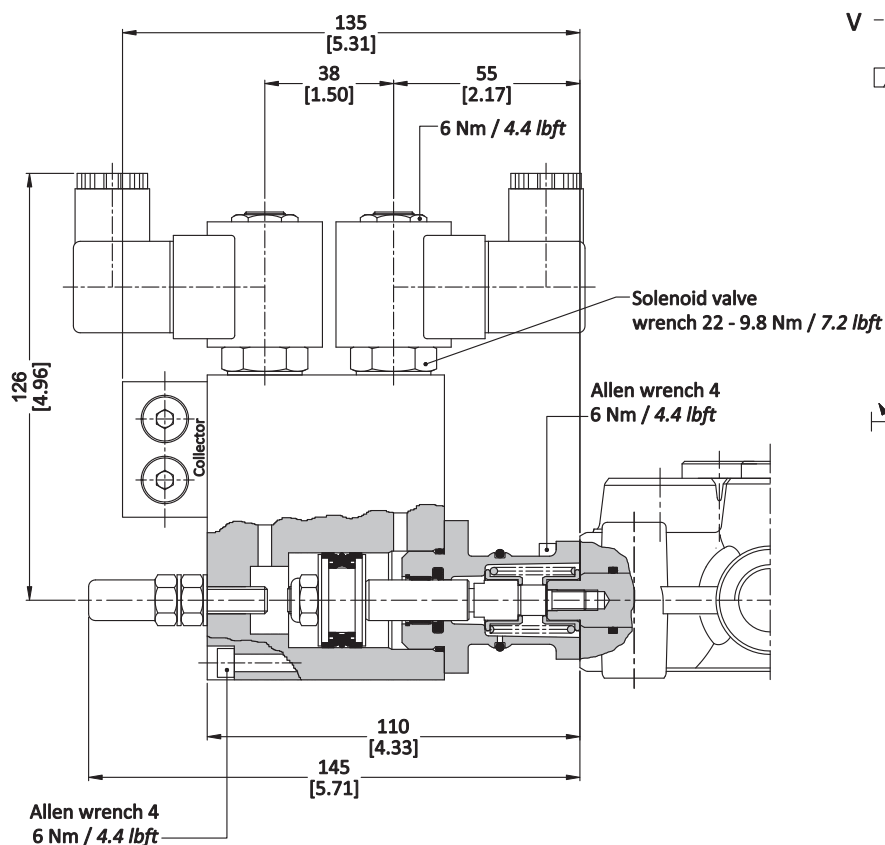
Pilot pressure	: min. 10 bar / 145 psi
	: max. 50 bar / 725 psi
Max. backpressure on drain L	: 25 bar / 360 psi

COIL

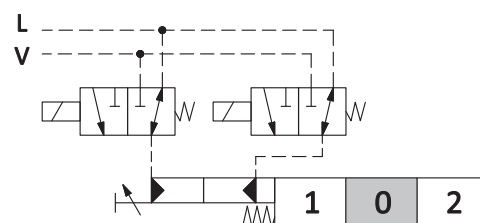
Nominal voltage tolerance	: ±10%
Power rating	: 21 W
Nominal current	: 12 V - 24 V
Coil insulation	: Class F
Weather protection	: IP65

ON/OFF electro-hydraulic kit type EH1

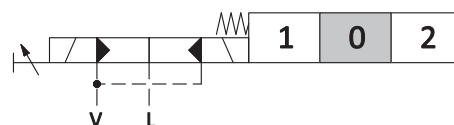
Collector kit with pilot and drain lines with stroke limiter



Scheme



Scheme ISO 1219



Operating features

CONTROL

Pilot pressure	: min. 10 bar / 145 psi
	: max. 50 bar / 725 psi
Max. backpressure on drain L	: 25 bar / 360 psi

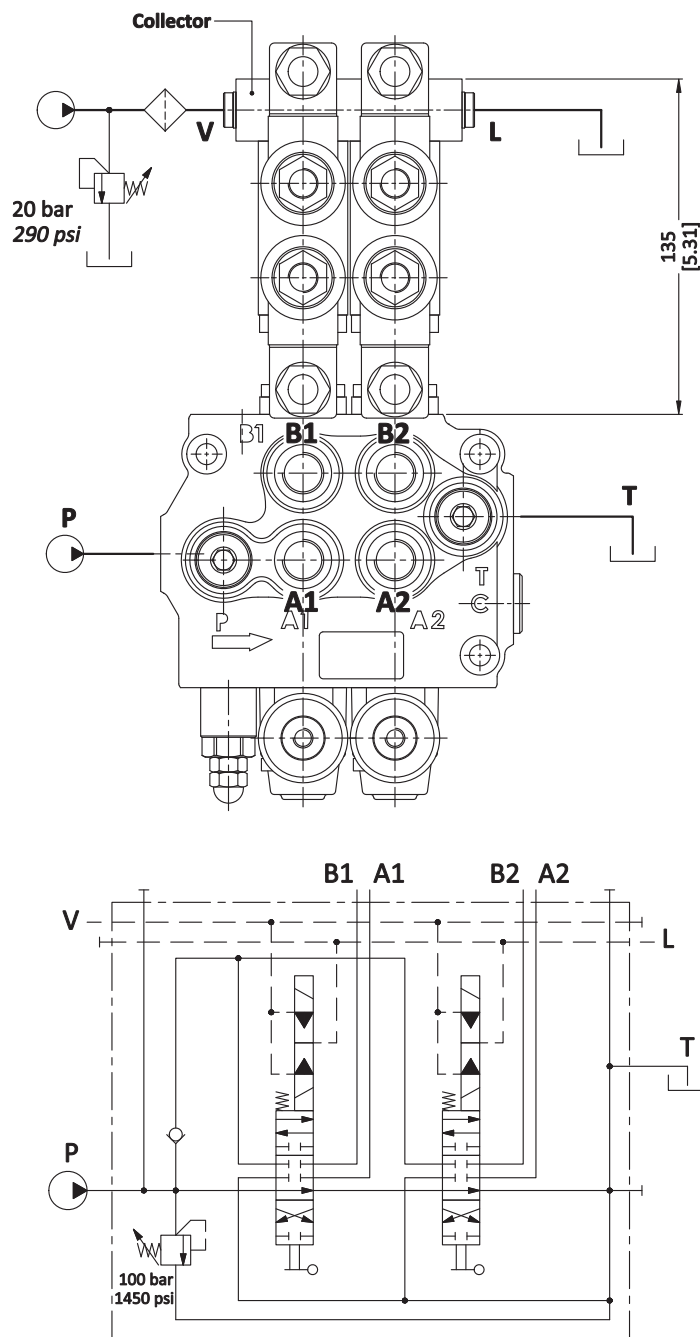
COIL

Nominal voltage tolerance	: $\pm 10\%$
Power rating	: 21 W
Nominal current	: 12 V - 24 V
Coil insulation	: Class F
Weather protection	: IP65

End cap options

ON/OFF electro-hydraulic kit type EH2

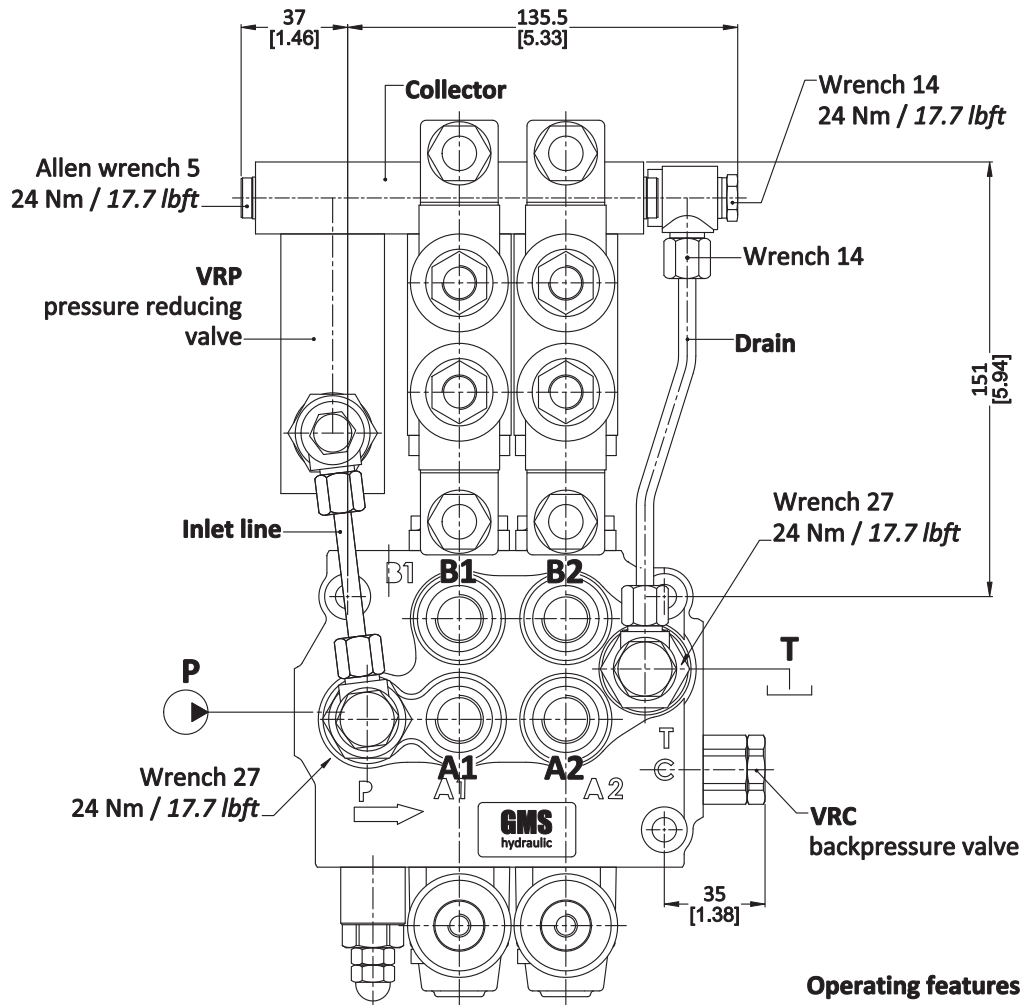
Collector kit for external pilot and drain



Description example :
45L GM08/2/EH2SD-EH2SD-X-24V

ON/OFF electro-hydraulic kit type EH

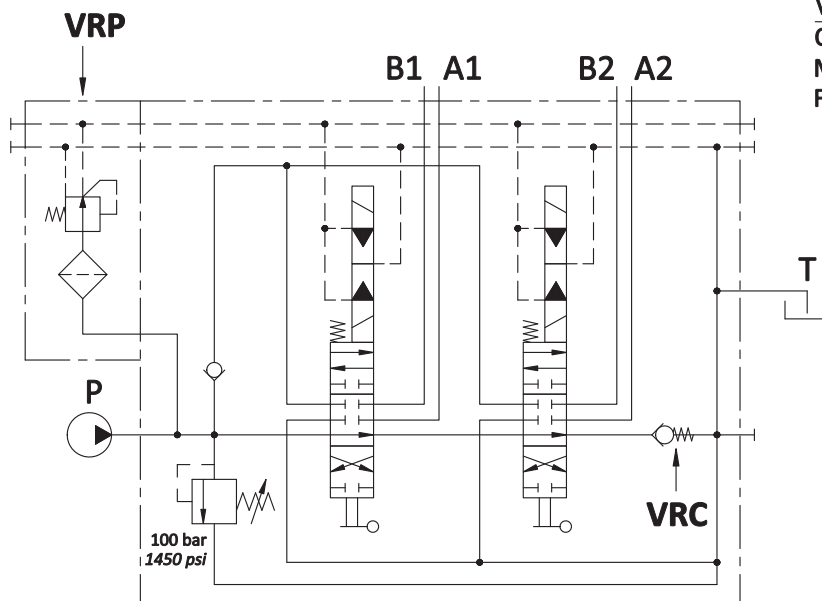
Collector kit with pilot and drain lines



Operating features

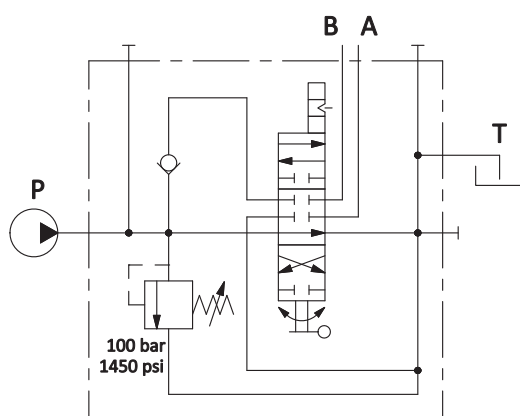
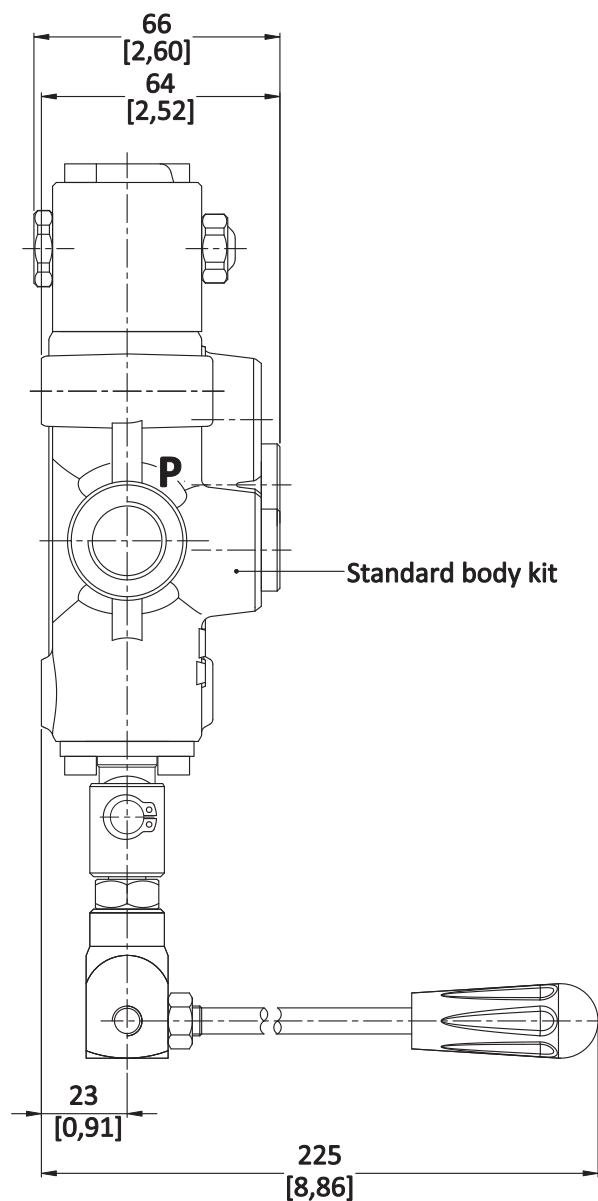
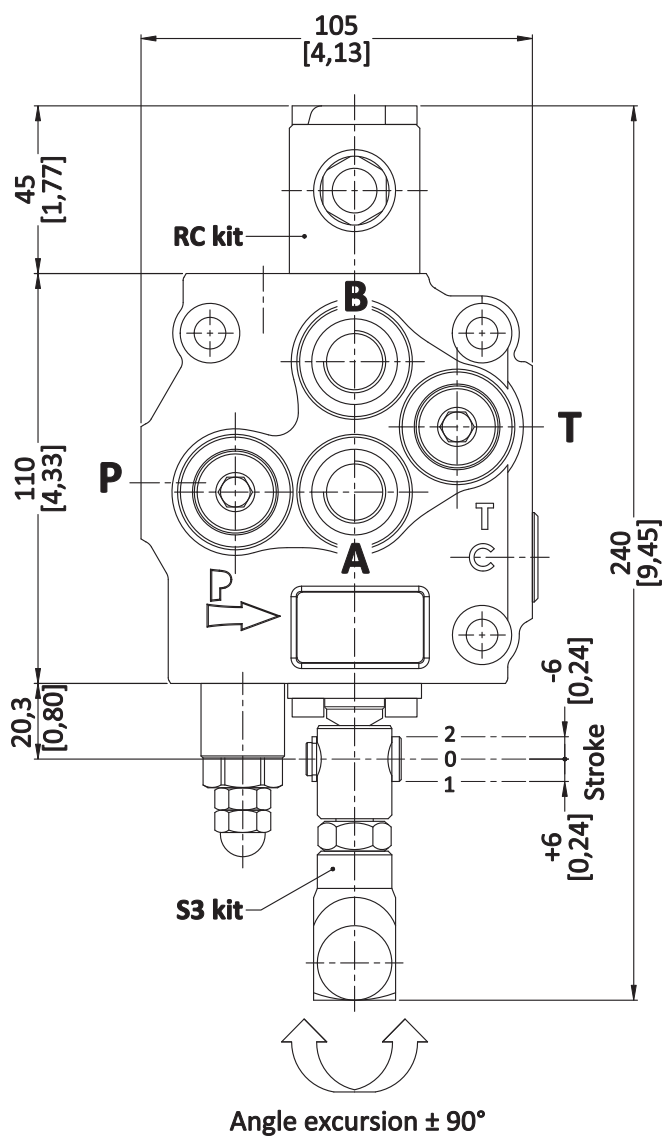
VRP VALVE

Output pressure	: 20 bar / 290 psi
Max. flow	: 8 l/min
Filtering	: 80 µ



Special configurations

Directional valve with rotary control kit



Description example
45L GM08/1/RCS3D-X

directional valve with left inlet

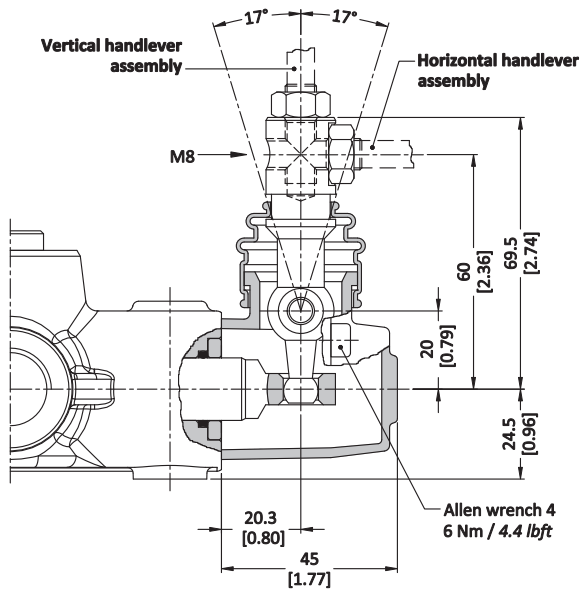
Front cap options

Lever control

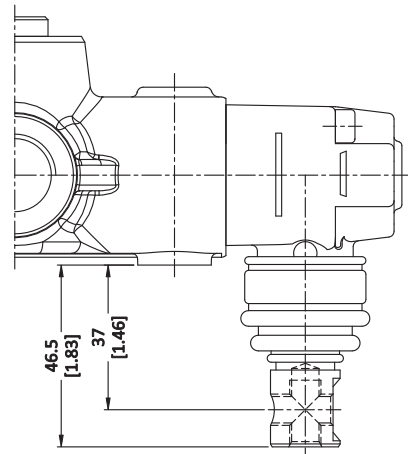
Type S

Type S18

Alluminium with protection boot lever pivot box; it can be rotated 180° (execution S18)

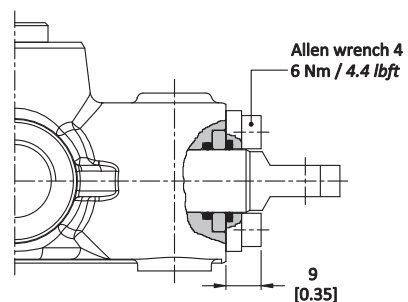
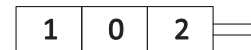
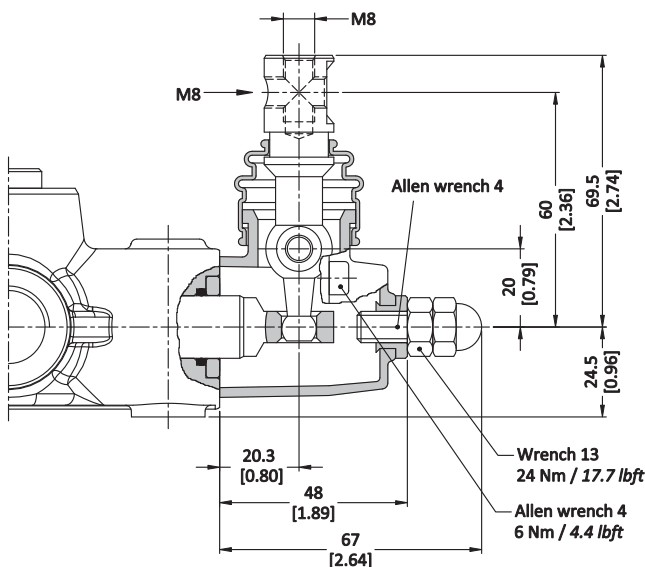
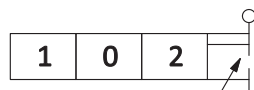


Execution S18



Type SL

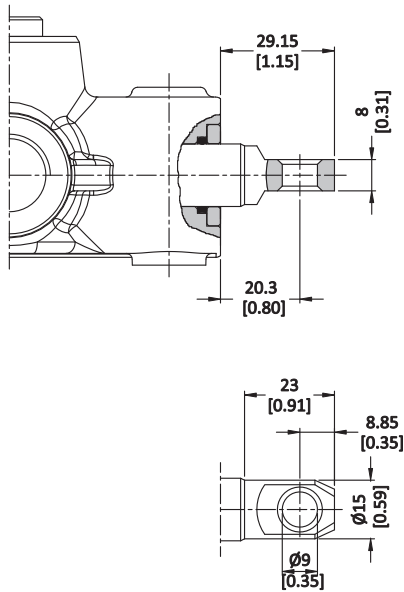
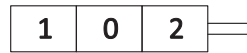
Type S2



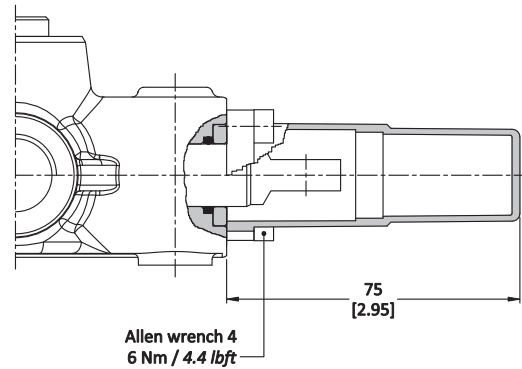
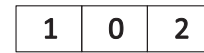
Front cap options

Controls prearrangement

Type S4



Type S5



Protection cap usable with pneumatic, electropneumatic, and electrohydraulic spool positioners.

directional valve with left inlet

Front cap options

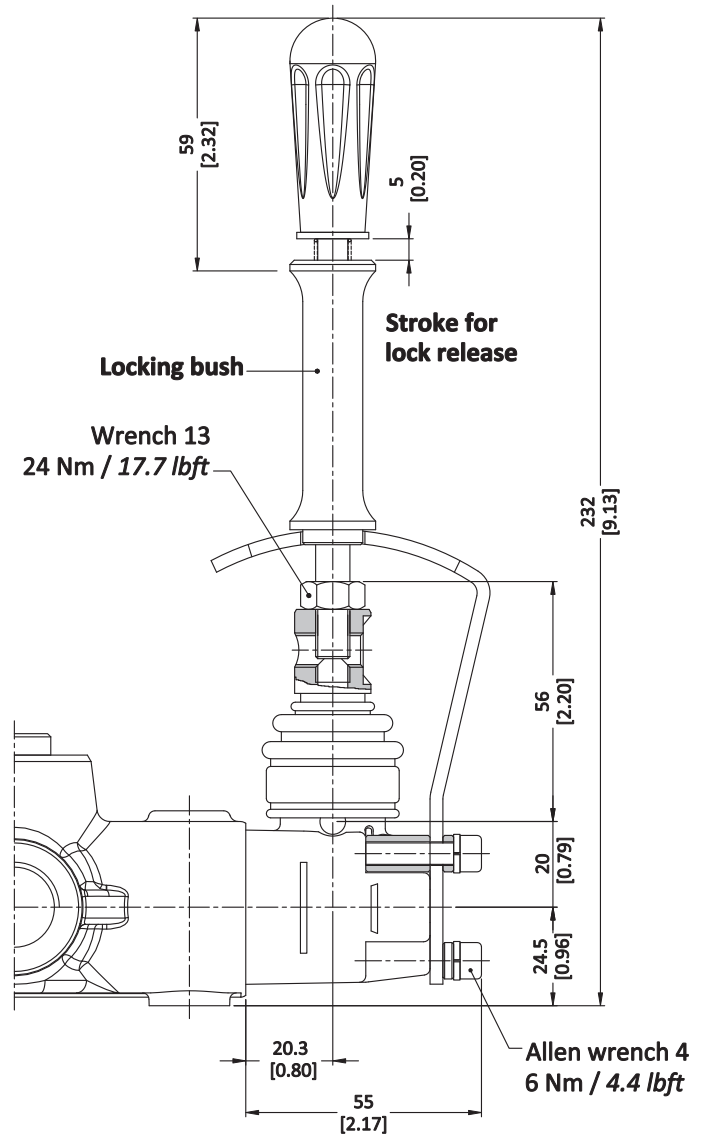
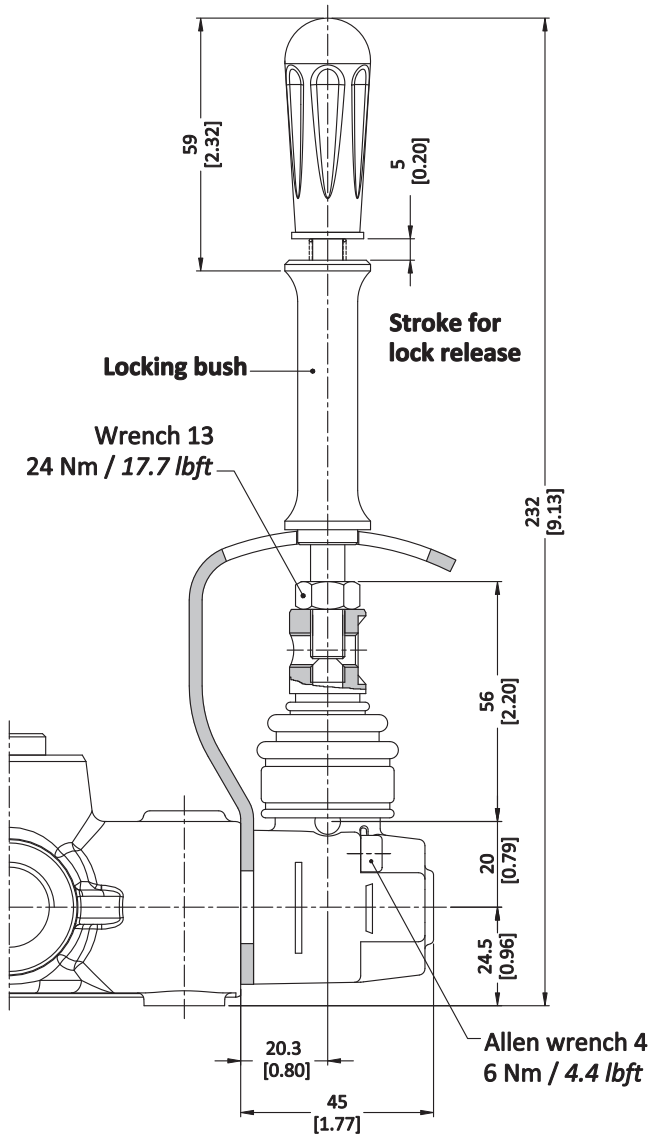
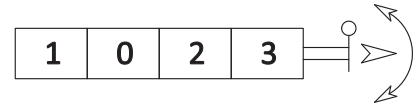
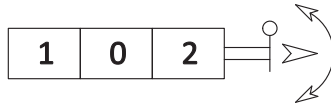
Safety lever control

Safety levers with lock in neutral complete with handlever; lift handlever knob to operate
Nonconductive hand levers are available.

Type G

Type G2

For 4 position spool



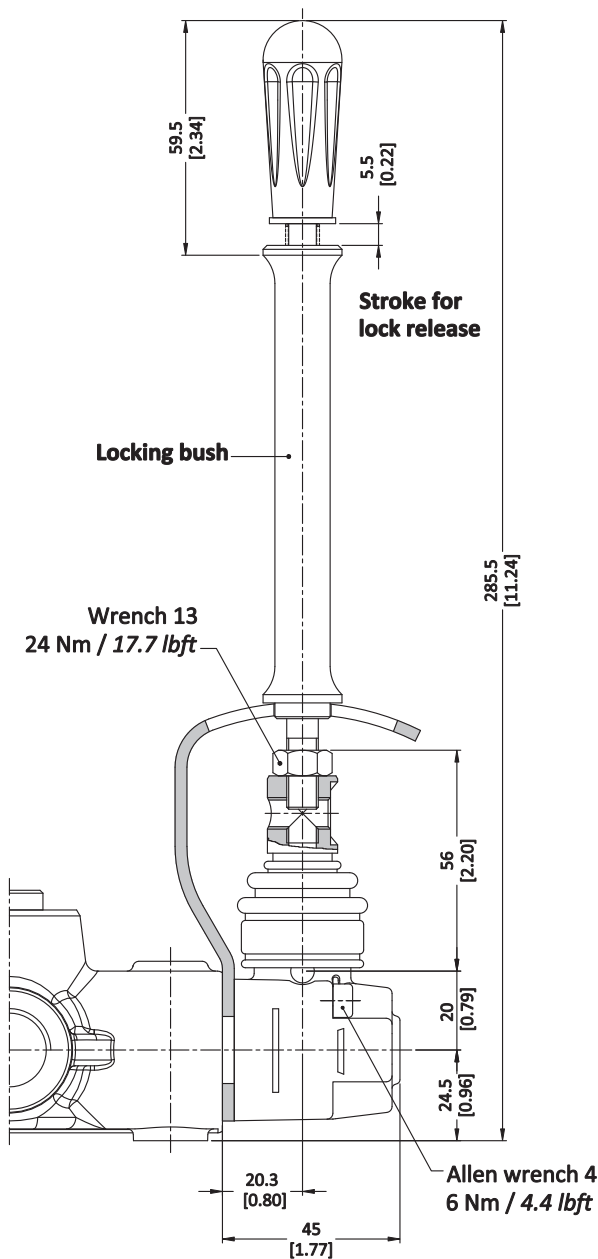
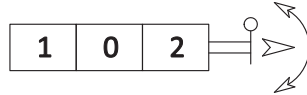
directional valve with left inlet

Front cap options

Safety lever control

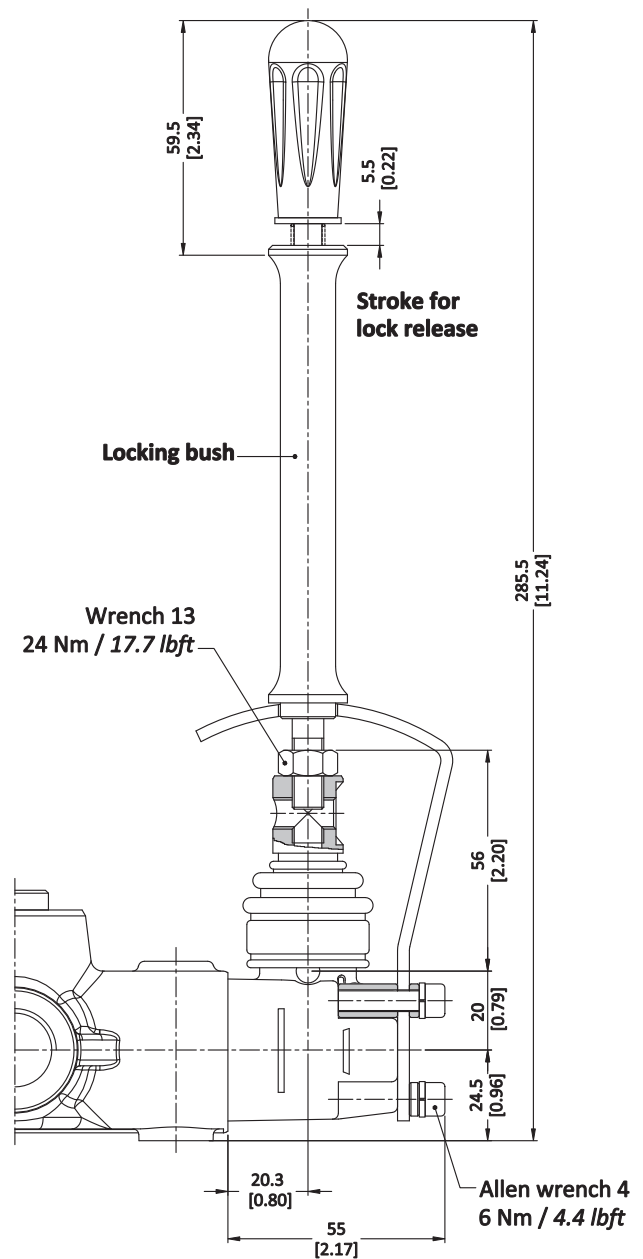
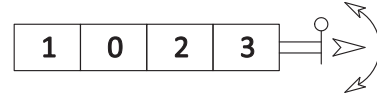
Safety levers with lock in neutral complete with handlever; lift handlever knob to operate
Nonconductive hand levers are available.

Type G1



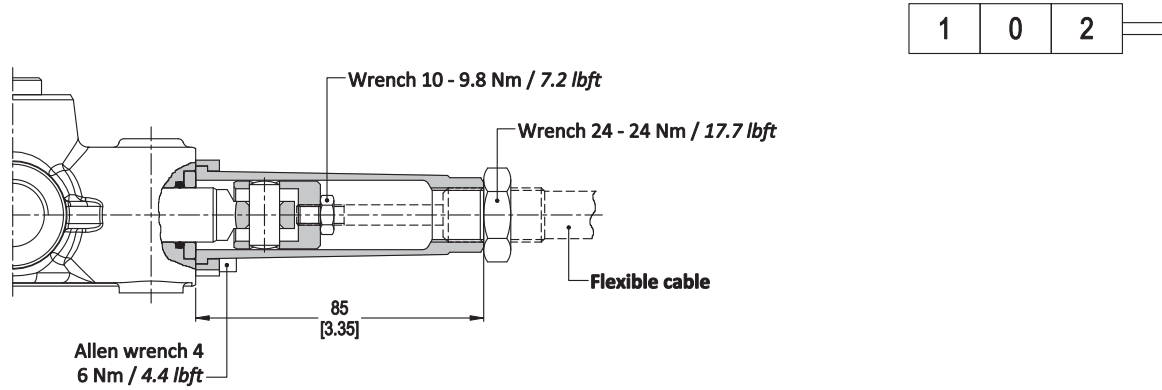
Type G3

For 4 position spool

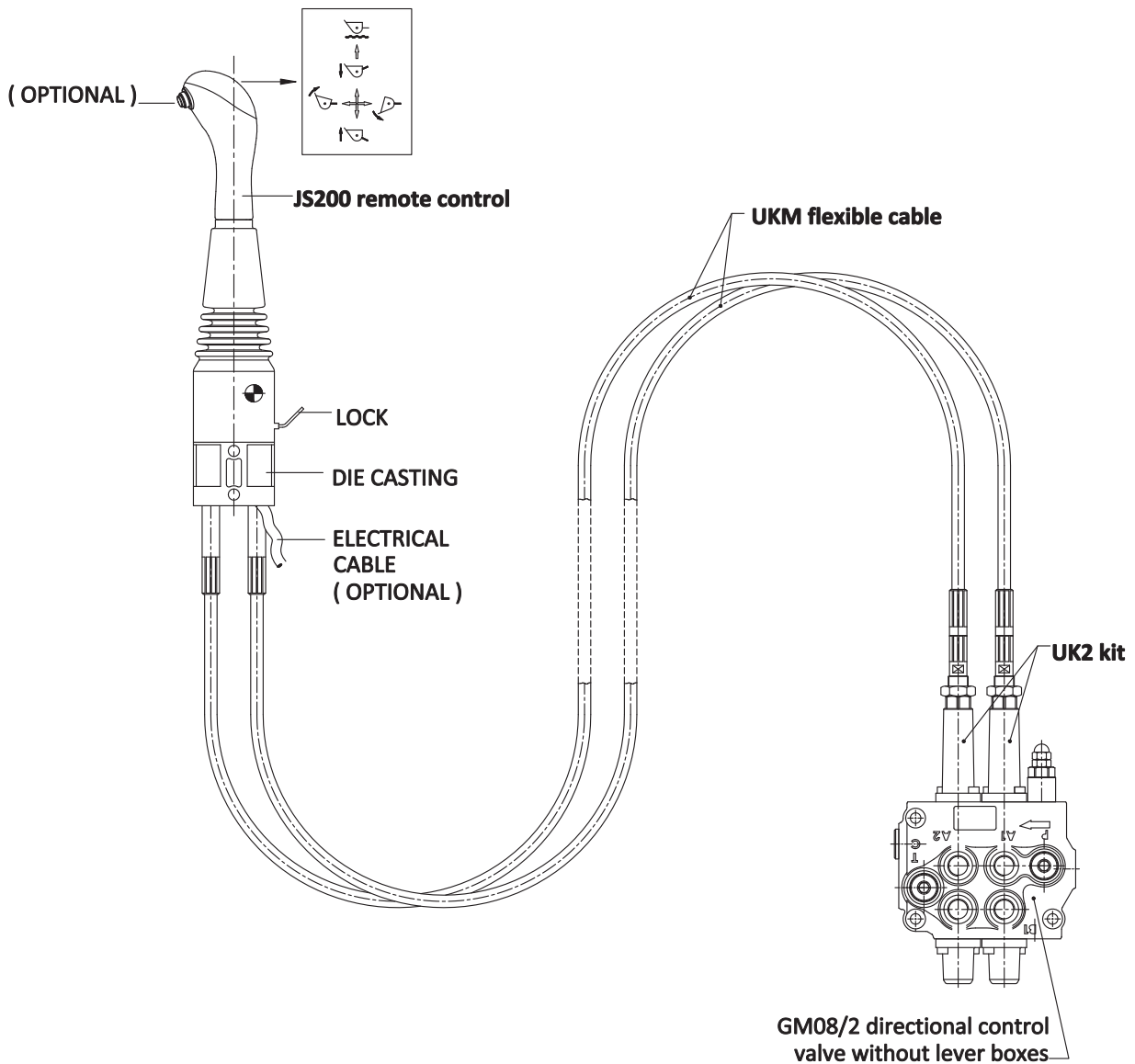


Front cap options

UK2 cable remote control kit

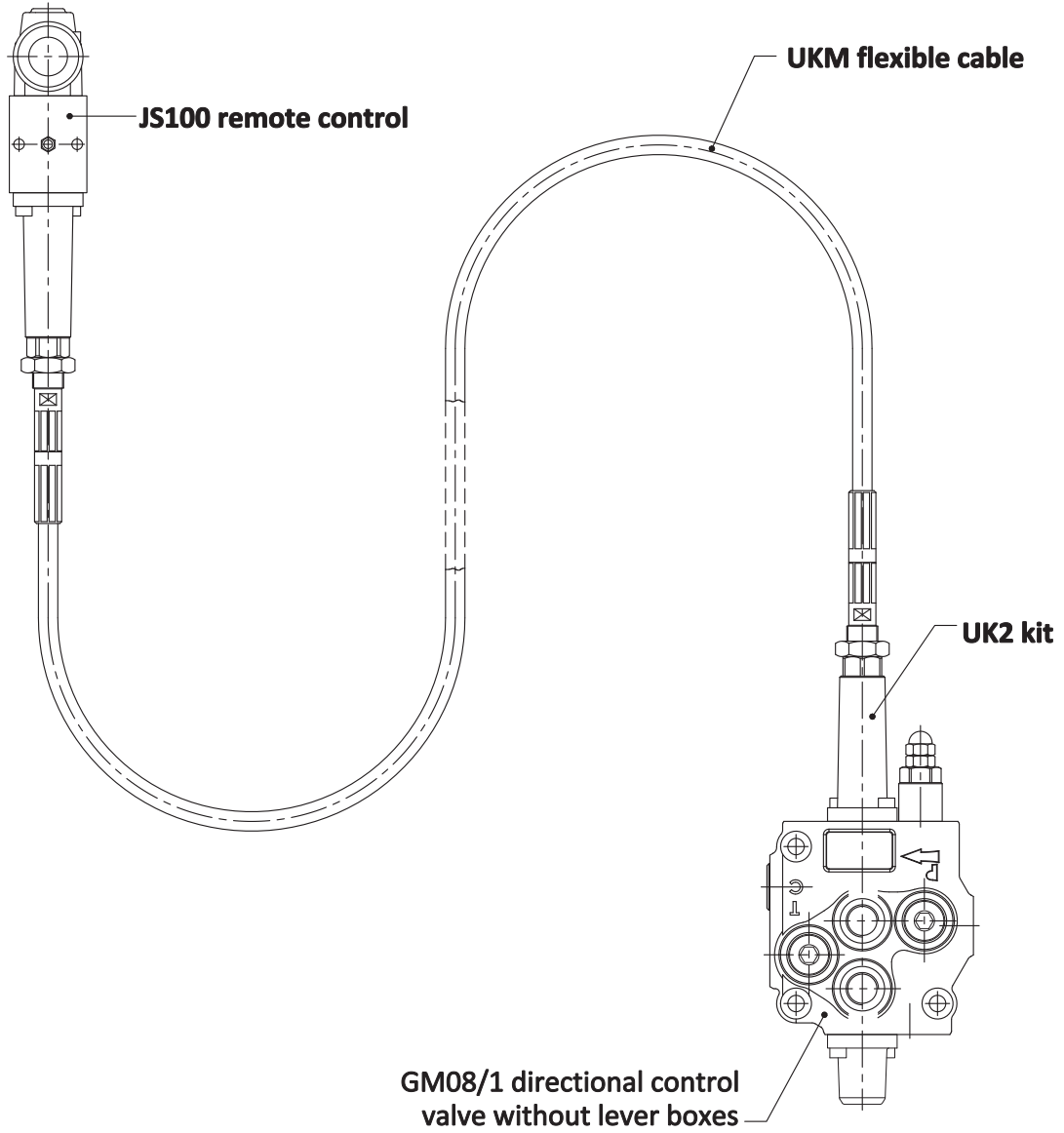


Connection example



Front cap options

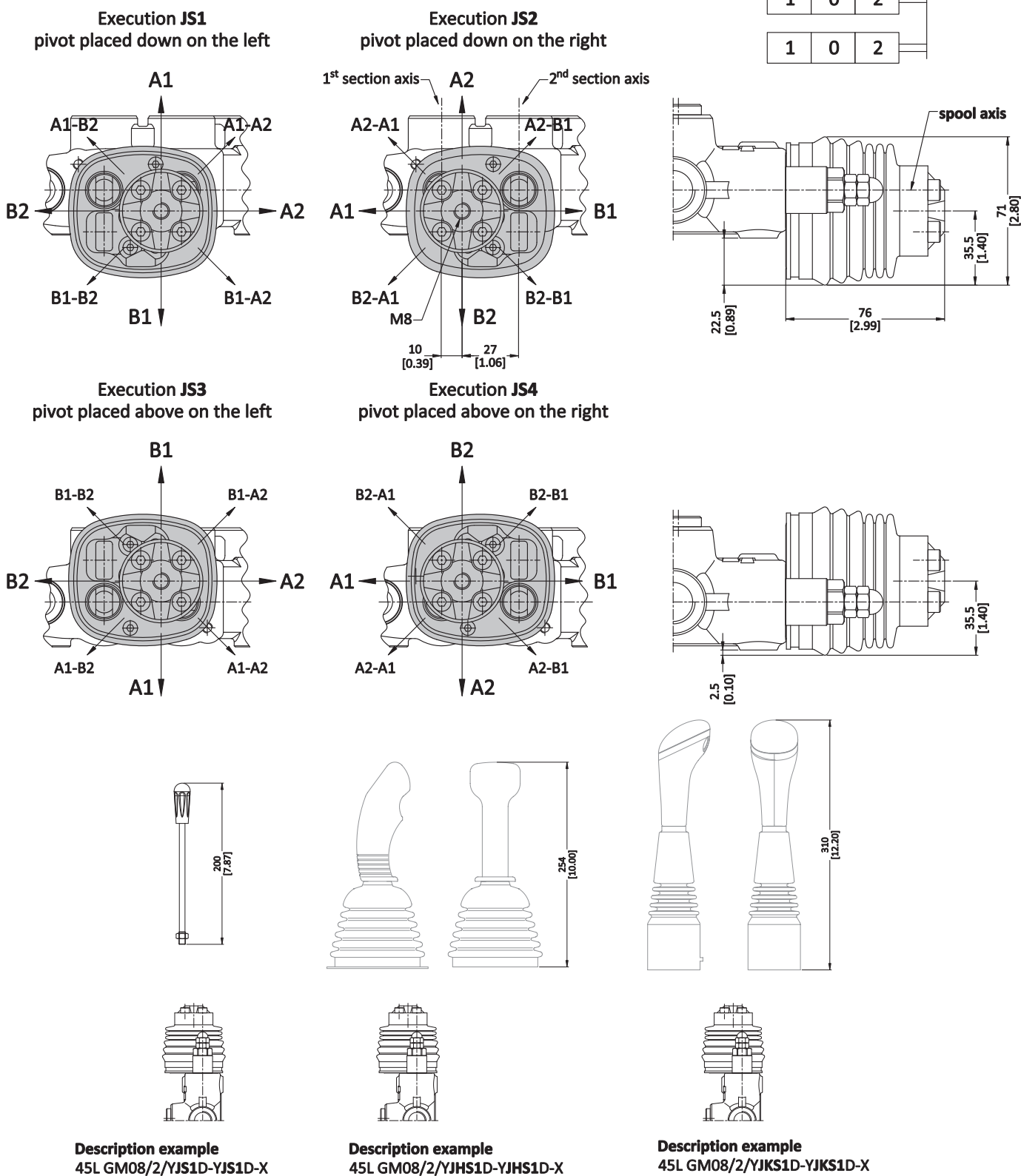
Connection example



Front cap options

JS mechanical joystick for two sections control

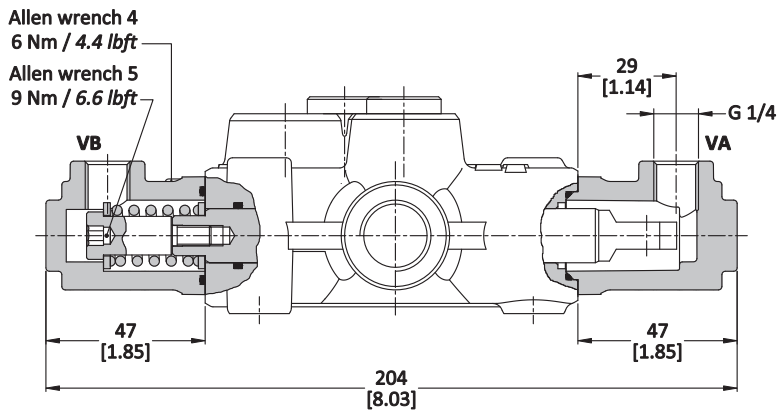
Dimensions and movement scheme



directional valve with left inlet

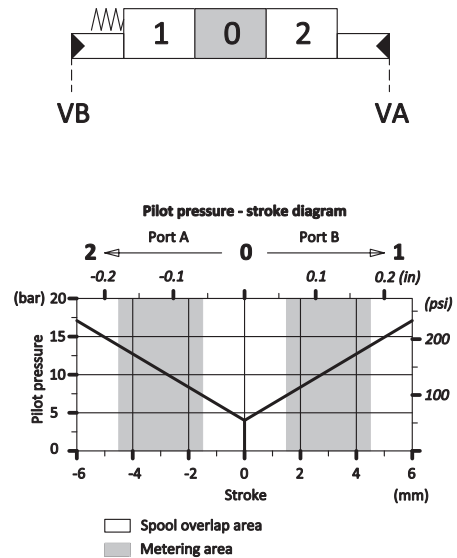
Proportional hydraulic kit type H

It can be used with standard spools and body

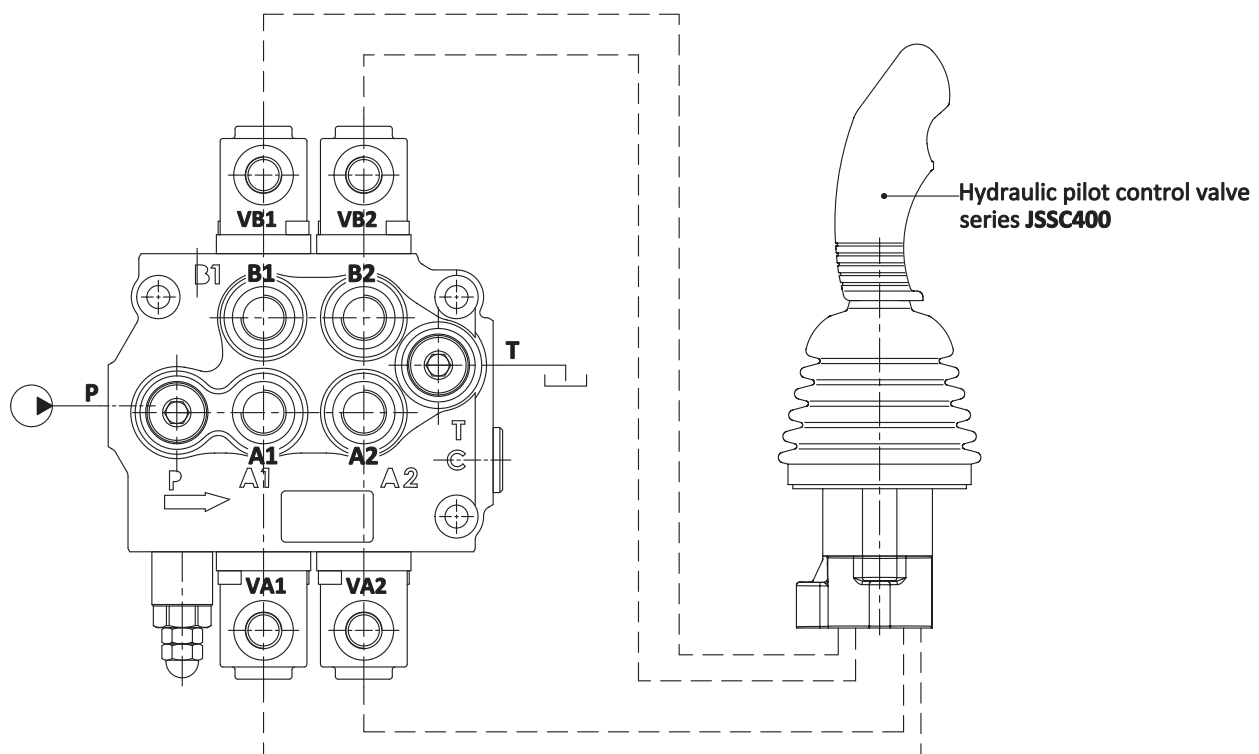


Operating features

Pilot pressure : max. 50 bar / 725 psi
Internal leakage A(B)* T (Dp = 100 bar - 1450 psi / T = 40°C)
: max. 6cm³/min - 0.37 in³/min

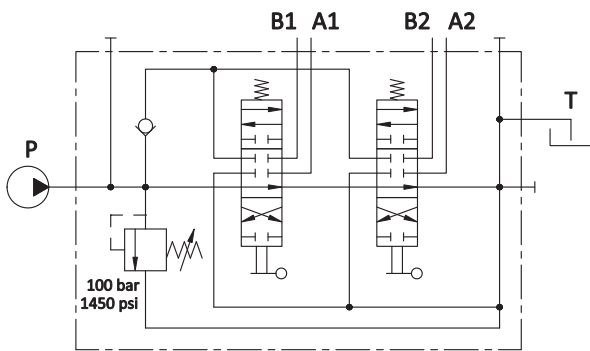
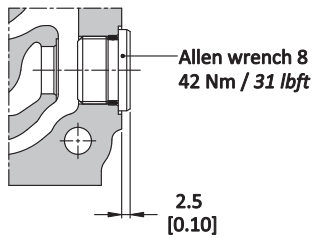


Connection example

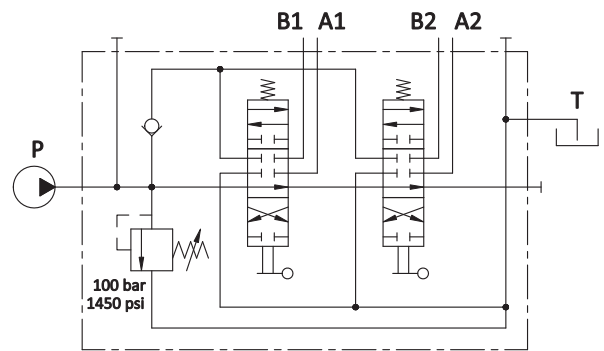
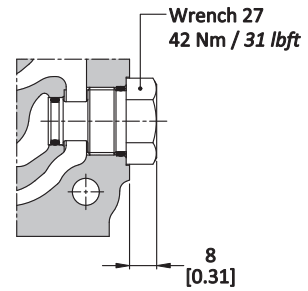


Outlet port options

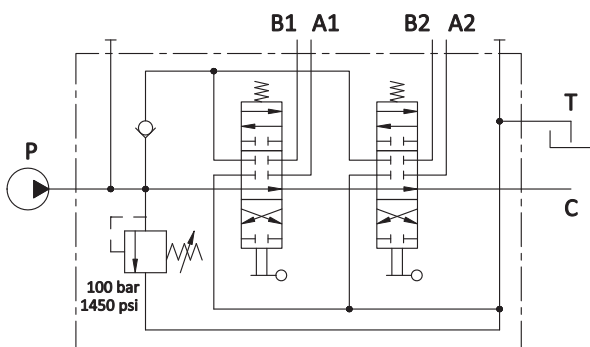
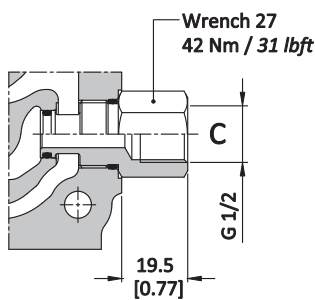
**n/a : open center
(no code)**



KCR : closed centre

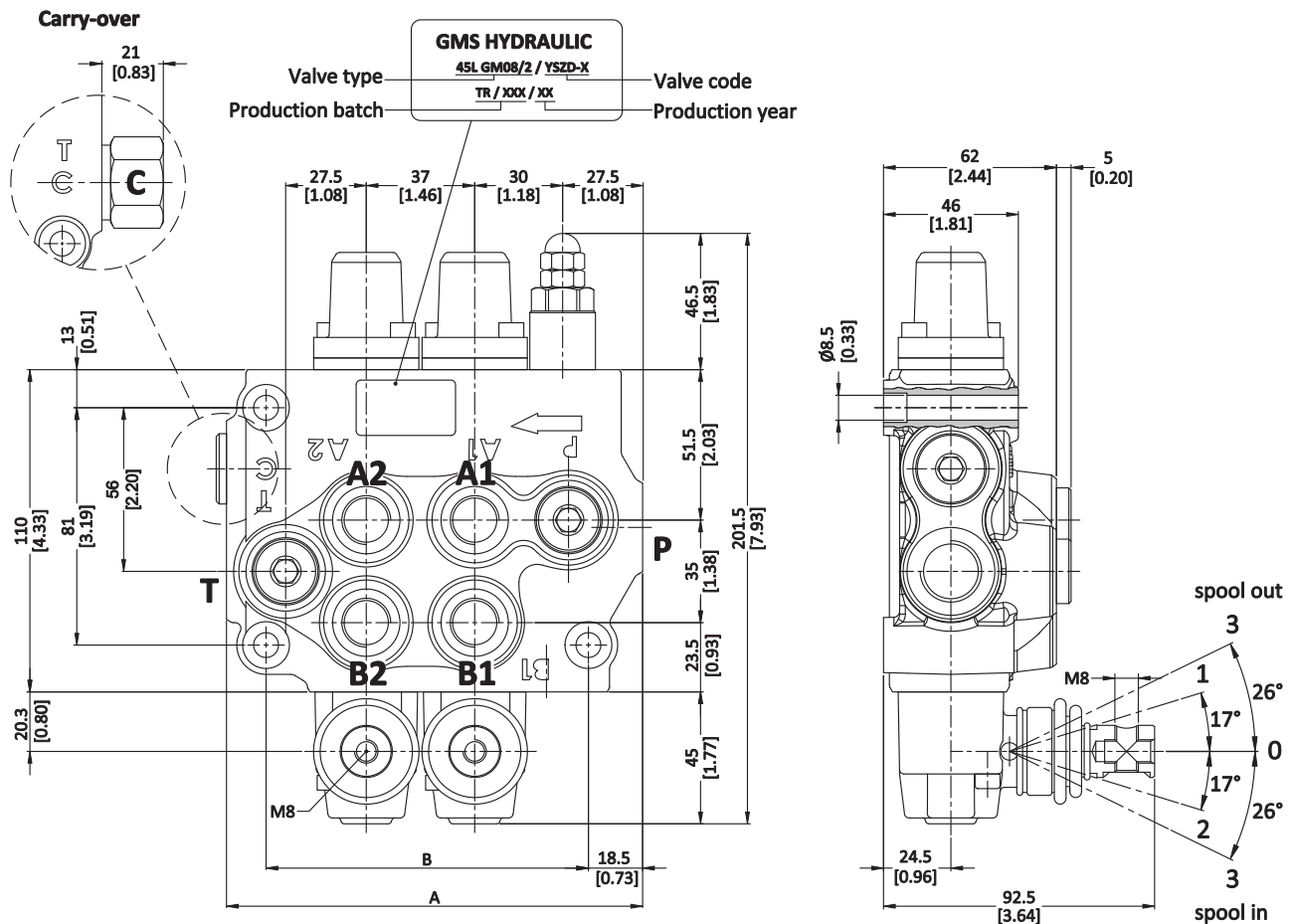


C : with carry-over

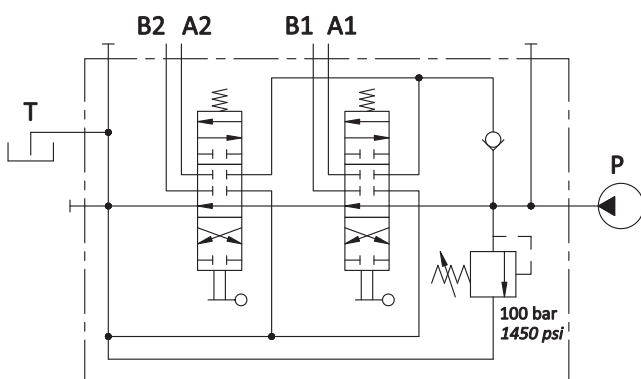


directional valve with right inlet

Dimensional data (parallel circuit)

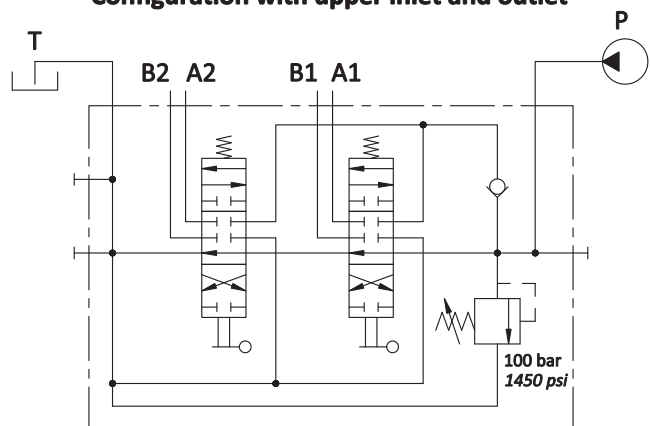


Standard configuration



Description example
45L GM08/2/YSZD-YSZD-X

Configuration with upper inlet and outlet



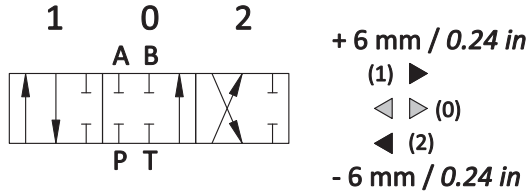
Description example
45L GM08/2/YSZD-YSZD-X-UC

TYPE	A		B		Weight	
	mm	in	mm	in	kg	lb
45L GM 08/1	105	4.13	73	2.87	3.1	6.83
45L GM 08/2	142	5.60	110	4.33	4.4	9.70
45L GM 08/3	179	7.05	147	5.79	5.7	12.57

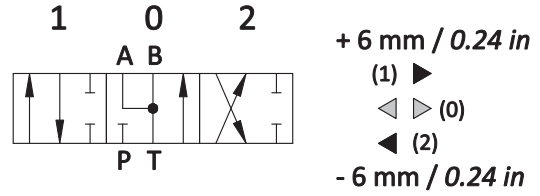
TYPE	A		B		Weight	
	mm	in	mm	in	kg	lb
45L GM 08/4	216	8.50	184	7.24	7.2	15.87
45L GM 08/5	253	9.96	221	8.70	8.7	19.18
45L GM 08/6	290	11.42	258	10.16	10.2	22.49

Spool options

Type ZD

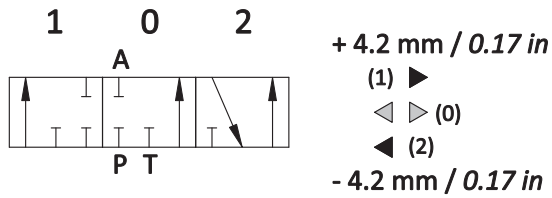


Type ZJ



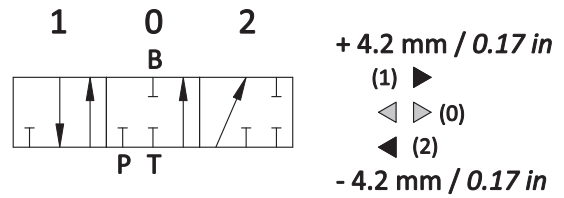
Type ZTA

For Y3 kit



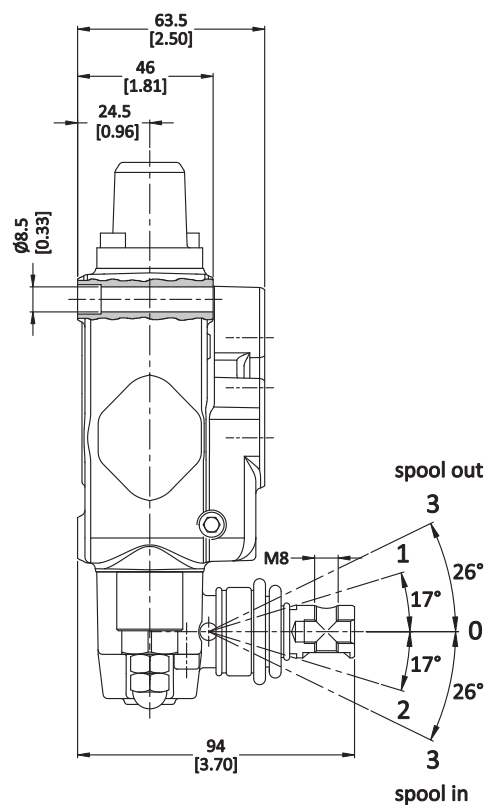
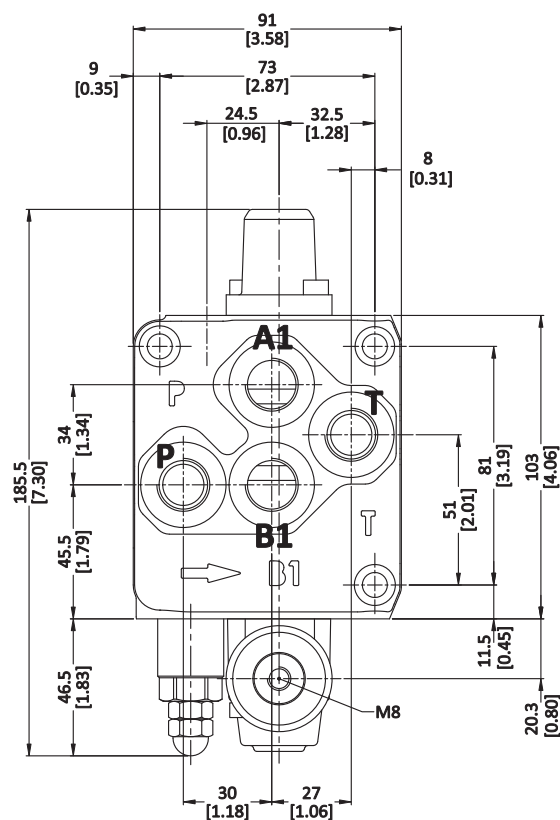
Type ZTB

For Y3 kit

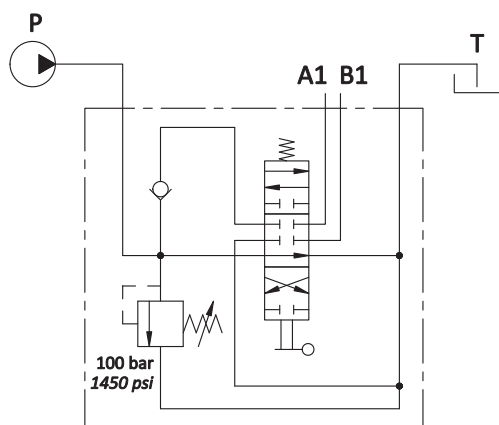


directional valve with left inlet

Dimensional data



Configuration with upper inlet and outlet



Description example
45L GMT08/1/YSD-X

