

Directional valve with parallel circuit

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Valve general informations

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

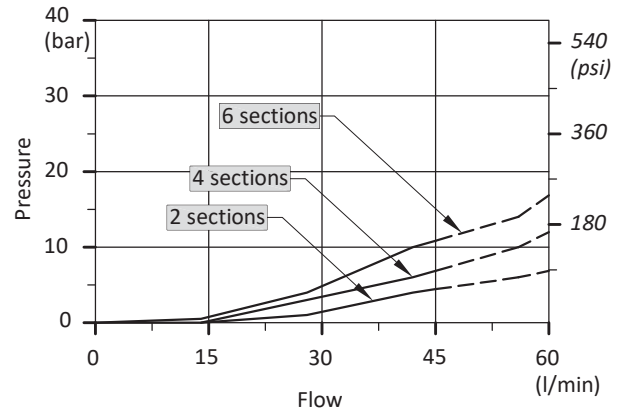
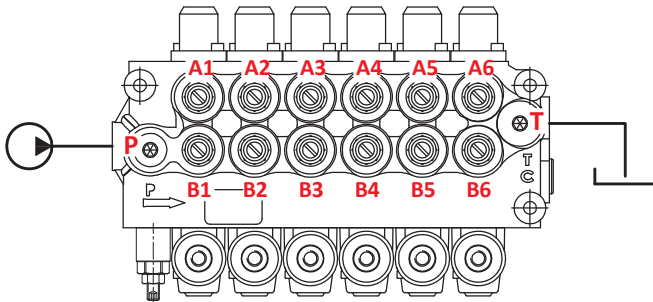
PORTS THREAD

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)

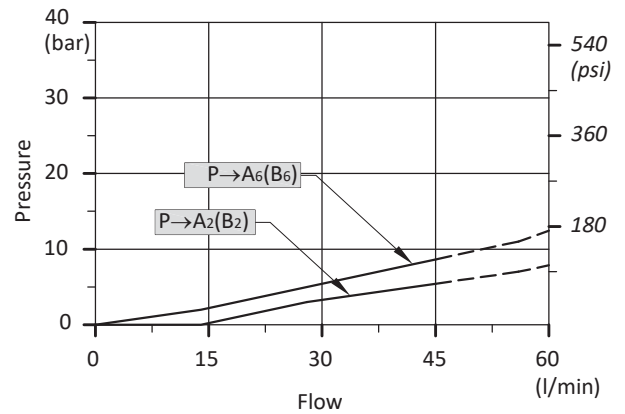
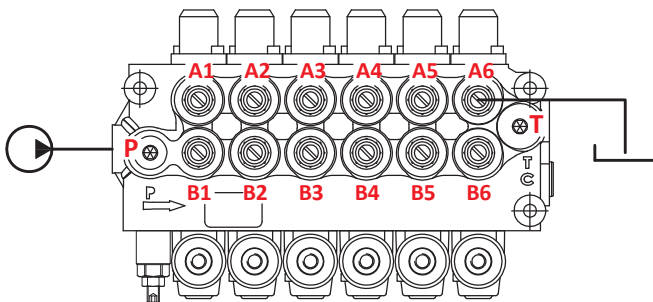
Open centre

From side inlet to side outlet.



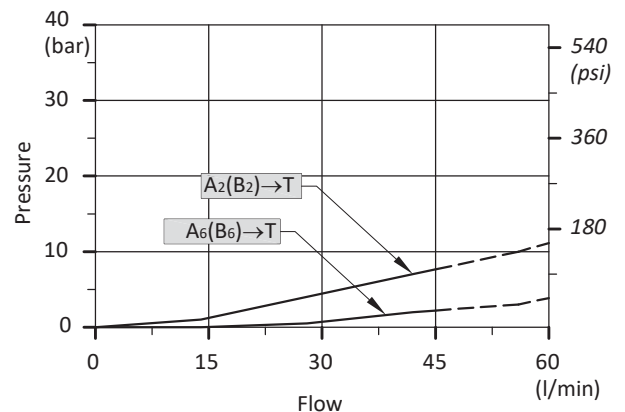
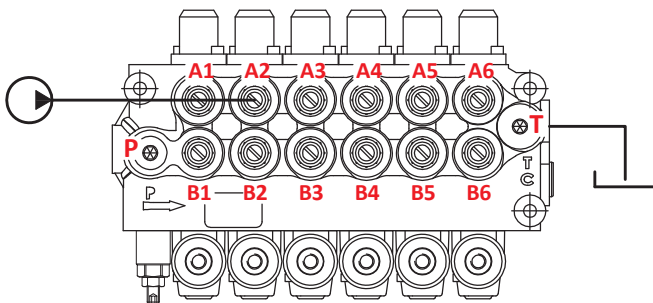
Inlet to work port

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



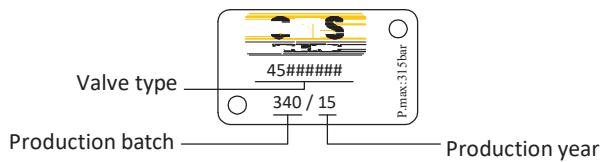
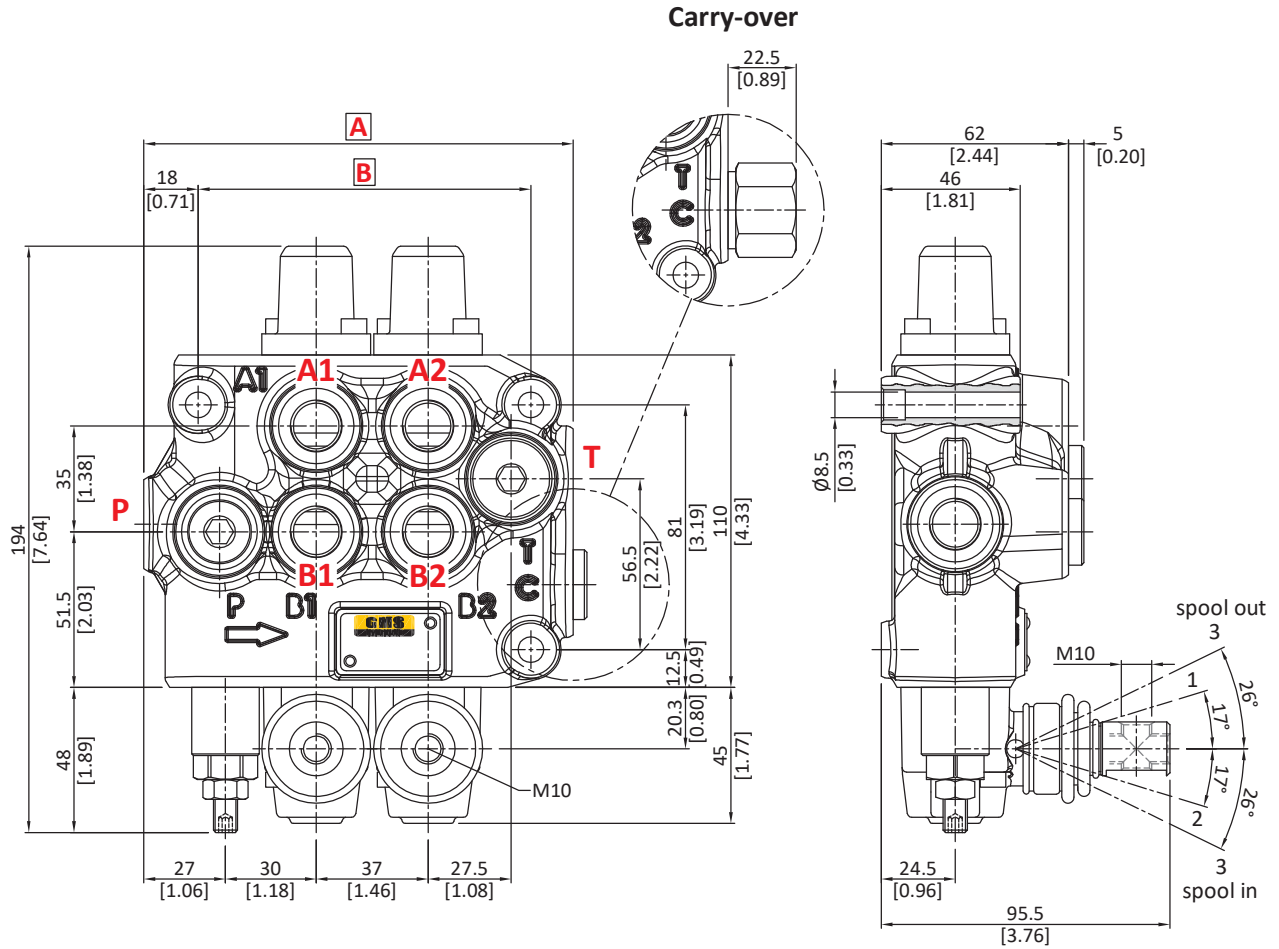
Work port to outlet

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



directional valve with left inlet

Dimensional data (parallel circuit)



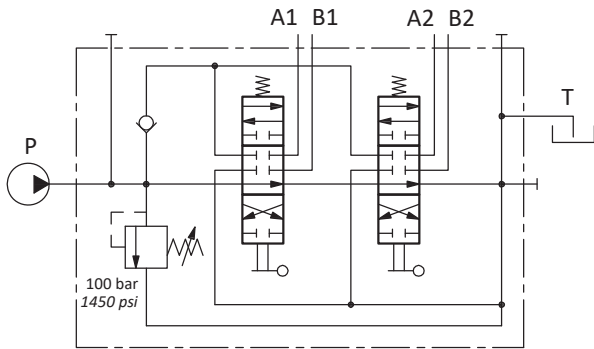
TYPE	A		B		Weight	
	mm	in	mm	in	kg	lb
45L GM 08/1-P	105	4.13	73	2.87	3.1	6.83
45L GM 08/2-P	142	5.60	110	4.33	4.4	9.70
45L GM 08/3-P	179	7.05	147	5.79	5.7	12.57

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

directional valve with left inlet

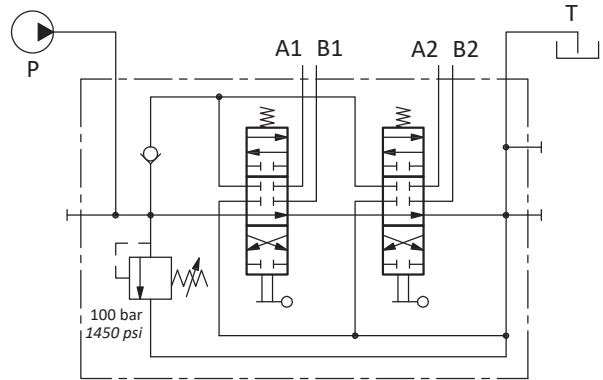
Hydraulic circuit

Standard configuration



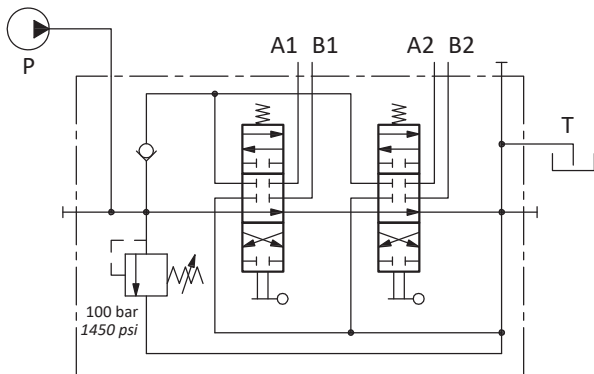
Description example
45L GM08/2-P(X-100)/18L/18L/AET-PSL2

Configuration with upper inlet and outlet



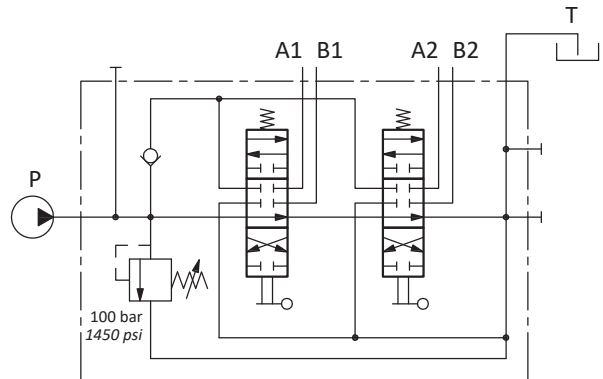
Description example
45L GM08/2-P(X-100)/18L/18L/AET-PSA2

Configuration with upper inlet and side outlet



Description example
45L GM08/2-P(X-100)/18L/18L/AET-PSV2

Configuration with side inlet and upper outlet



Description example
45L GM08/2-P(X-100)/18L/18L/AET-PSB2

directional valve with left inlet

Ordering codes

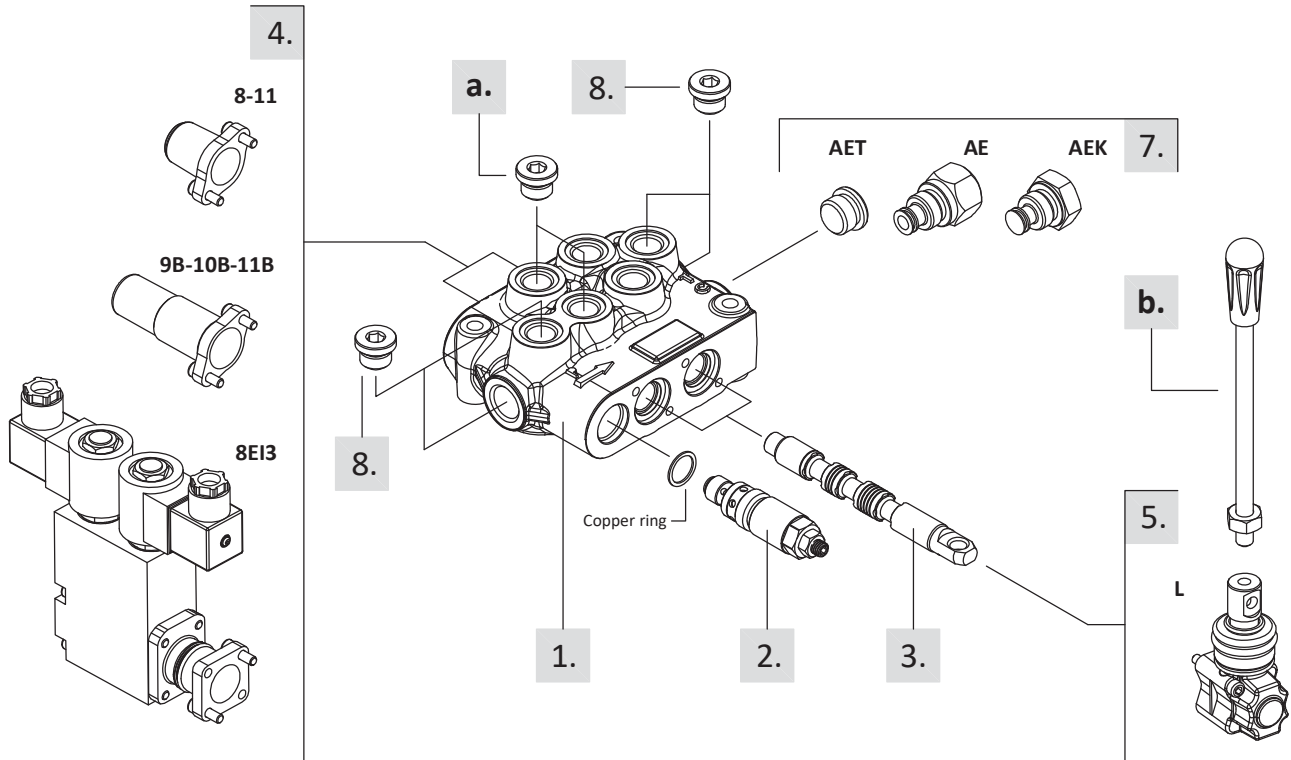
Description example:

45L GM08 / 2 - P (X - 100) / 1 8 L / 8IM / AET - PSL2

1st section following section

1. 2. 3. 4. 5. 6. 7. 8.

Valve setting (bar)



1. Body kits

TYPE	CODE	DESCRIPTION
1-P	-	Parallel, 1 section
2-P	-	Parallel, 2 sections
3-P	-	Parallel, 3 sections
4-P	-	Parallel, 4 sections
5-P	-	Parallel, 5 sections
6-P	-	Parallel, 6 sections

Include body, seals and load check valve.

2. Inlet relief options page 10

TYPE	CODE	DESCRIPTION
KE08K01 : direct pressure relief valve type X (X-100)	30 05 4917	Range 20 to 315 bar / 290 to 4600 psi standard setting 100 bar / 1450 psi

Standard setting is referred to 6 l/min flow.

V	30 05 5004	Relief valve blanking plug
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3. Spool options page 11

TYPE	CODE	DESCRIPTION
1	30 01 3501	Double acting, 3 positions, with A and B closed in neutral position
1A	30 01 3647	Double acting, 3 positions, with A open to tank in neutral position
1B	30 01 3648	Double acting, 3 positions, with B open to tank in neutral position
2	30 01 3503	Double acting, 3 positions, with A and B open to tank in neutral position
2H	30 01 3504	Double acting, 3 positions, with A and B partially open to tank in neutral position
3	30 01 3507	Single acting on A, 3 positions, B plugged requires G3/8 plug (see part a.)
4	30 01 3508	Single acting on B, 3 positions, A plugged requires G3/8 plug (see part a.)
1CS	30 01 3502	As type 1, sensitive type
J6	30 01 3505	
J7	30 01 3506	

directional valve with left inlet

Ordering codes

3. Spool options

TYPE	CODE	DESCRIPTION
Special spools for particular positioner kits page 12		
5BY	30 01 3509	Double acting, 4 positions, floating circuit in 4 th position with spool out
5DY	30 01 3511	Double acting, 4 positions, floating circuit in 4 th position with spool in
5PY	30 01 3512	Double acting, 4 positions, floating circuit in 4 th position with spool out, with check valve
8	30 01 3513	Double acting, 4 positions, regenerative circuit in 4 th position with spool in

4. "A" side spool positioners [page 13](#)

TYPE	CODE	DESCRIPTION
8	30 07 5300	With spring return in neutral position
8D	30 07 5307	With spring return in neutral position and pin with M6 female thread for dual control
8D2	30 07 5308	With spring return in neutral position and pin with M8 male thread for dual control
8T	30 07 5301	With spring return in neutral position, for single acting spool type 3 and 4
8F2	30 07 5302	With spring return in neutral position and adjustable flow limiter
8D3	-	As type 8 and pin with M8 female thread for dual control
8TL	30 07 5327	As type 8 and pin control with flexible cable
19	30 07 5410	2 positions, with spring return in neutral position from position 1
20	30 07 5411	2 positions, with spring return in neutral position from position 2
11	30 07 5303	Detent in positions neutral, 1 and 2
12	30 07 5334	Detent in positions 1 and 2
15	30 07 5304	2 positions, detent in positions 1 and neutral
16	30 07 5408	2 positions, detent in positions 2 and neutral
11NZ	30 07 5317	Detent in positions neutral, 1, 2 and 3
17	30 07 5412	With spring return position 1
18	30 07 5305	With spring return position 2
17D	30 07 5413	With spring return position 1 and pin with M6 female thread for dual control
18D	30 07 5306	With spring return position 2 and pin with M6 female thread for dual control
9B	30 07 5309	With detent in position 1 and spring return in neutral position
10B	30 07 5310	With detent in position 2 and spring return in neutral position
11B	30 07 5311	Detent in positions 1 and 2 and spring return in neutral position
9BT	-	With detent in position 1 and spring return in neutral position, For single acting spool type 3 and 4
10BT	-	With detent in position 2 and spring return in neutral position, For single acting spool type 3 and 4
11BT	-	Detent in positions 1 and 2 and spring return in neutral position, For single acting spool type 3 and 4
8MG3(NO)	30 07 5319	With spring return in neutral position and microswitch in positions 1 and 2
8P	30 07 5329	ON/OFF pneumatic kit
8PF	-	Proportional pneumatic kit
8IZ	30 07 5432	Proportional hydraulic control
8EP3	30 07 5420	12 VDC ON/OFF electropneumatic kit
	30 07 5330	24 VDC ON/OFF electropneumatic kit

4. "A" side spool positioners [page 13](#)

TYPE	CODE	DESCRIPTION
8EP4	30 07 5343	12 VDC ON/OFF electropneumatic kit with manifold
	30 07 5344	24 VDC ON/OFF electropneumatic kit with manifold
8EI3	30 07 5331	12 VDC ON/OFF electrohydraulic kit
	30 07 5332	24 VDC ON/OFF electrohydraulic kit
8EI3F2	-	12 VDC ON/OFF electrohydraulic kit with adjustable stroke limiter
	-	24 VDC ON/OFF electrohydraulic kit with adjustable stroke limiter
Particular positioner kits for special spools page 27		
13NZ	30 07 5316	4 pos. with spring return in neutral position and detent in 4 th pos.: for spool 5DY
13QN	30 07 5315	4 pos. with spring return in neutral position and detent in 4 th pos.: for spool 5BY and 5PY
13FZ	30 07 5318	4 positions with spring return in neutral position: for spool 8

5. "B" side options [page 29](#)

TYPE	CODE	DESCRIPTION
L	30 07 5335	Standard lever box
LF1	30 07 5337	Lever box with adjustable flow limiter
SLP	30 07 5338	Without lever box, with dust-proof plate
LEB	30 07 5340	Safety lever box, vertical configuration
LUP	30 07 5341	Safety lever box, horizontal configuration
SL	-	Without lever box
SLCZ	-	Without lever box, with endcap.
TQ	30 07 5328	Flexible cable connection; for CG cables
LCB	30 07 5426	Joystick lever for 2 sections operation

6. Complete controls [page 37](#)

TYPE	CODE	DESCRIPTION
Proportional hydraulic control type 8IM and ON/OFF solenoid controls type 8ES and rotative control type R .		

7. Outlet port options [page 41](#)

TYPE	CODE	DESCRIPTION
AET	30 05 4923	Open centre plug
AEK	30 05 4927	Closed centre plug
AE	30 05 6002	G3/8 carry-over sleeve
AE1	30 05 4926	G1/2 carry-over sleeve

8. Inlet and outlet selection * [page 7](#)

TYPE	CODE	DESCRIPTION
PSL2	30 05 4918	G3/8 plug for upper inlet
	30 05 4919	G1/2 plug for upper outlet
PSA2	30 05 4918	G3/8 plug for side inlet
	30 05 4919	G1/2 plug for side outlet

a. "A" and "B" ports plugs

TYPE	CODE	DESCRIPTION
G3/8	30 05 4918	For single acting spools type 3 and 4

b. Optional handlevers

TYPE	CODE	DESCRIPTION
AL01/M10x200	30 05 4989	Lenght L = 200mm / 7.87in

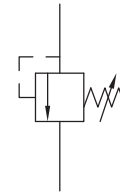
directional valve with left inlet

Inlet relief options

Direct pressure relief valve

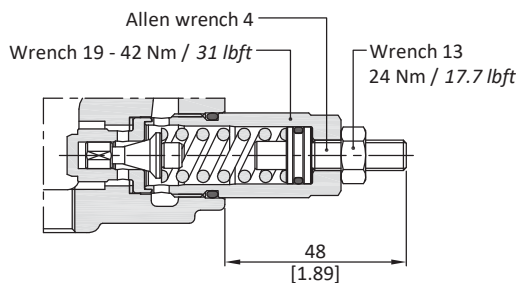
KE08K01 (X - 100)

Standard setting in bar
Adjustment type (X, XH)

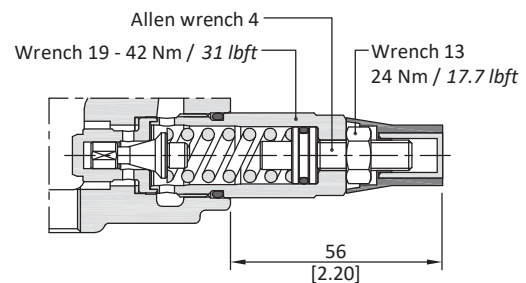


Adjustment type

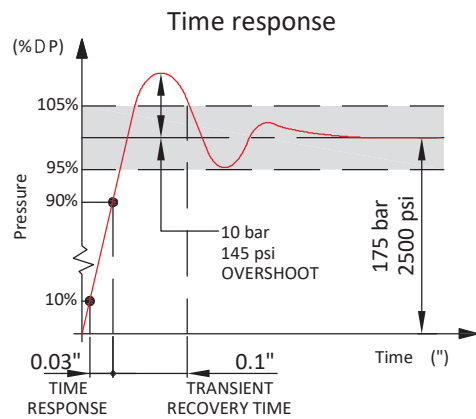
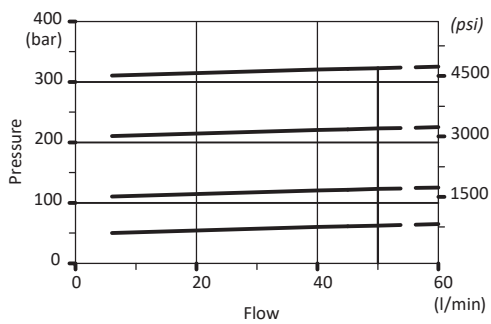
X: with screw



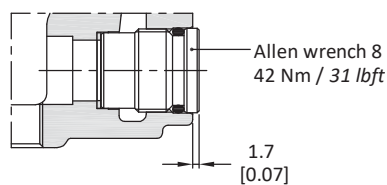
XH: valve set and locked



Performance data



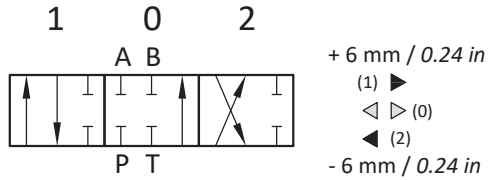
V: relief valve blanking plug



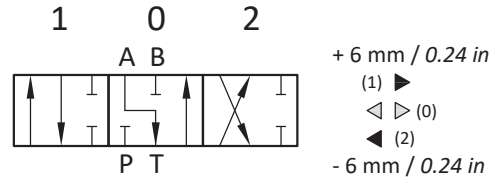
directional valve with left inlet

Spools options

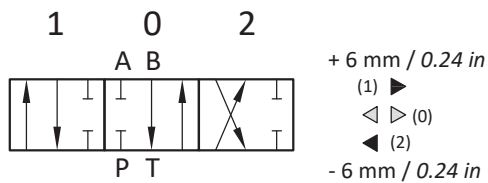
Type 1 (30 01 3501)



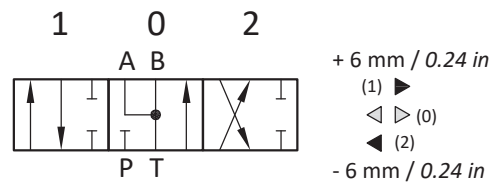
Type 1A (30 01 3647)



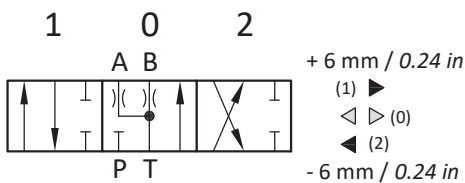
Type 1B (30 01 3648)



Type 2 (30 01 3503)

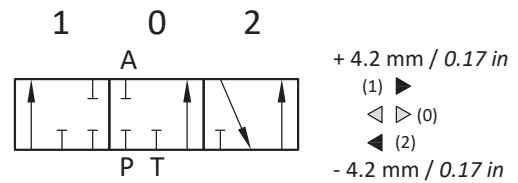


Type 2H (30 01 3504)



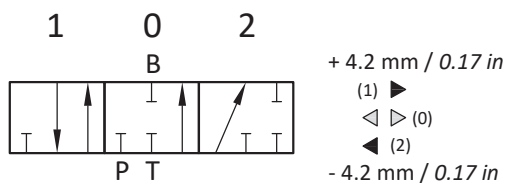
Type 3 (30 01 3507)

For 8T kit

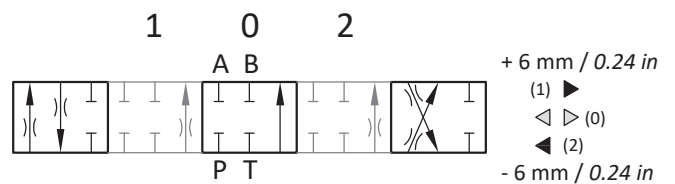


Type 4 (30 01 3508)

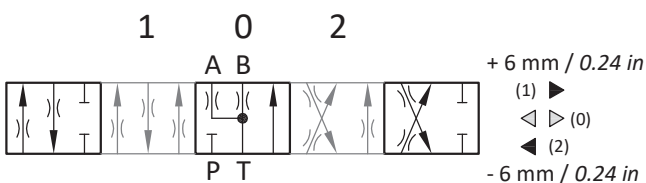
For 8T kit



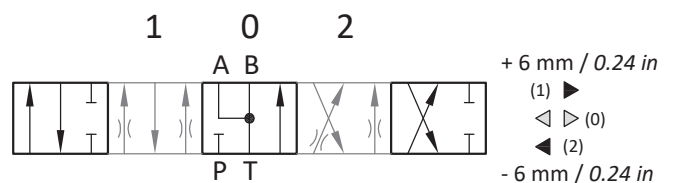
Type 1CS (30 01 3502)



Type J6 (30 01 3505)



Type J7 (30 01 3506)

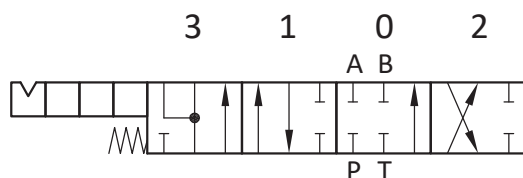


directional valve with left inlet

Spools options

Type 5BY (30 01 3509)

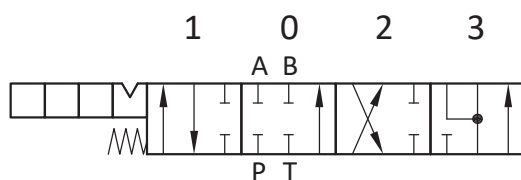
For 13QN kit



- + 9 mm / 0.35 in
(3) ▶▶
- + 4.5 mm / 0.18 in
(1) ▶
- ◁ ▷ (0)
- ◀ (2)
- 4.5 mm / 0.18 in

Type 5DY (30 01 3511)

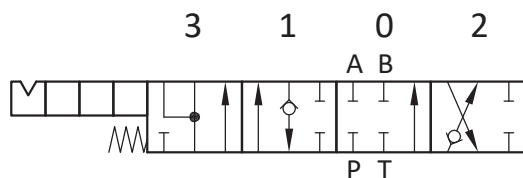
For 13NZ kit



- + 4.5 mm / 0.18 in
(1) ▶
- ◁ ▷ (0)
- ◀ (2)
- 4.5 mm / 0.18 in
- ◀◀ (3)
- 9 mm / 0.35 in

Type 5PY (30 01 3512)

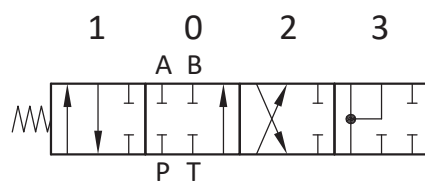
For 13QN kit



- + 9 mm / 0.35 in
(3) ▶▶
- + 4.5 mm / 0.18 in
(1) ▶
- ◁ ▷ (0)
- ◀ (2)
- 4.5 mm / 0.18 in

Type 8 (30 01 3513)

For 13FZ kit



- + 4.5 mm / 0.18 in
(1) ▶
- ◁ ▷ (0)
- ◀ (2)
- 4.5 mm / 0.18 in
- ◀◀ (3)
- 7.5 mm / 0.30 in

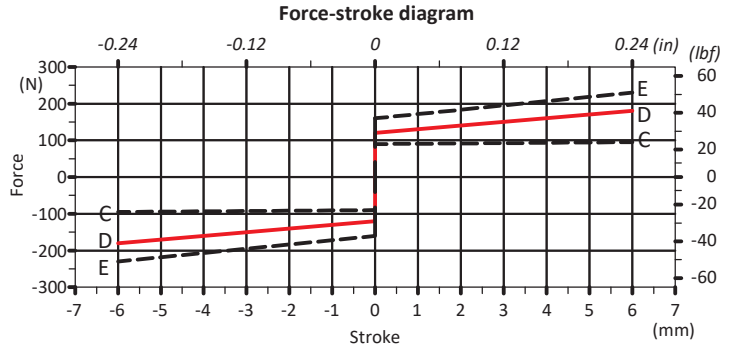
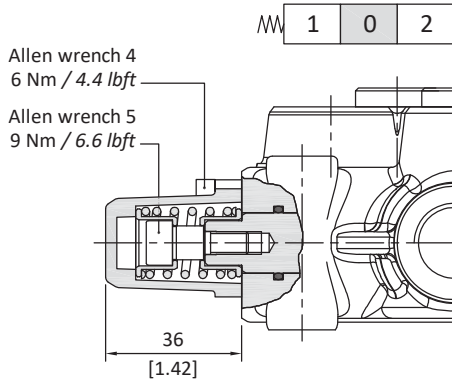
directional valve with left inlet

"A" side spool positioners

With spring return in neutral position

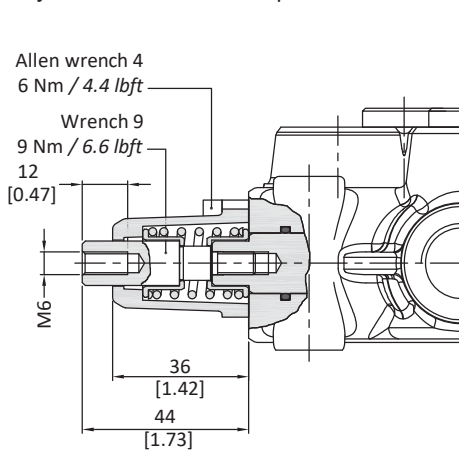
8 kit (30 07 5300)

It's supplied with standard spring type D (see force-stroke diagram) and available with lighter spring type C (8MC) or heavier type E (8ME).

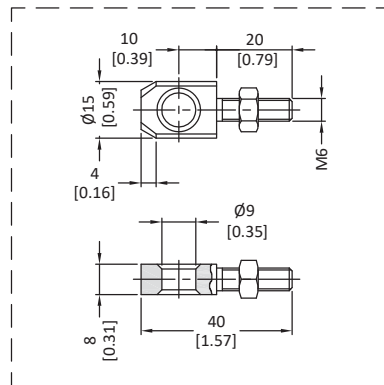


8D kit (30 07 5307)

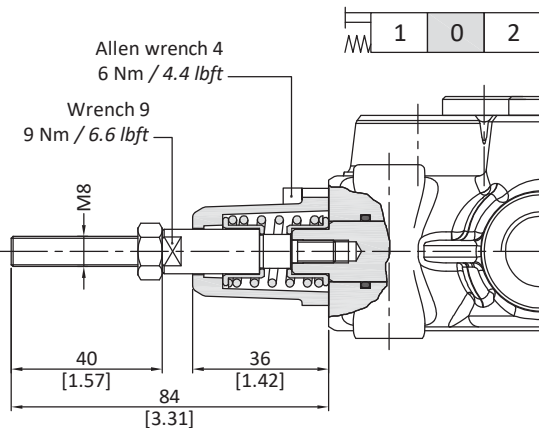
Spool end joint is available on request in order to screw onto pin.



Spool end joint dimensions (optional)

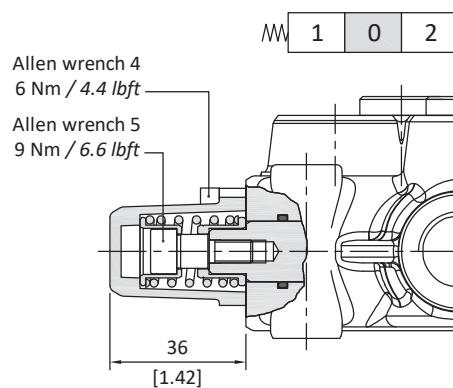


8D2 kit (30 07 5308)



8T kit (30 07 5301)

Stroke : 4.2mm

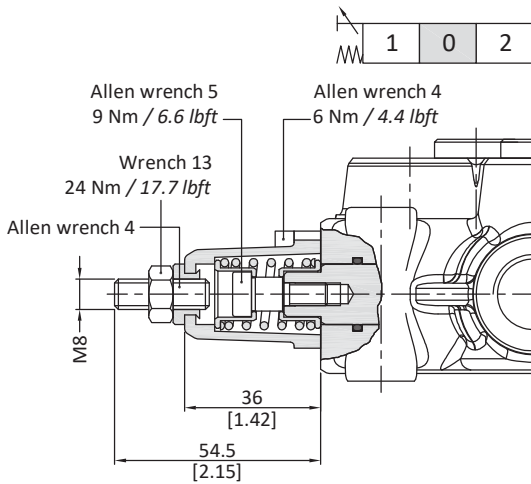


directional valve with left inlet

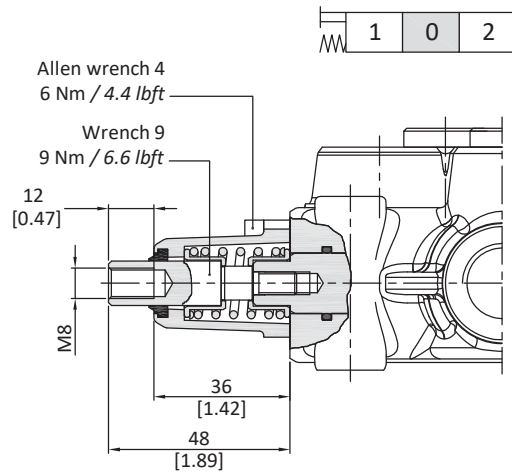
"A" side spool positioners

With spring return in neutral position

8F2 kit (30 07 5302)

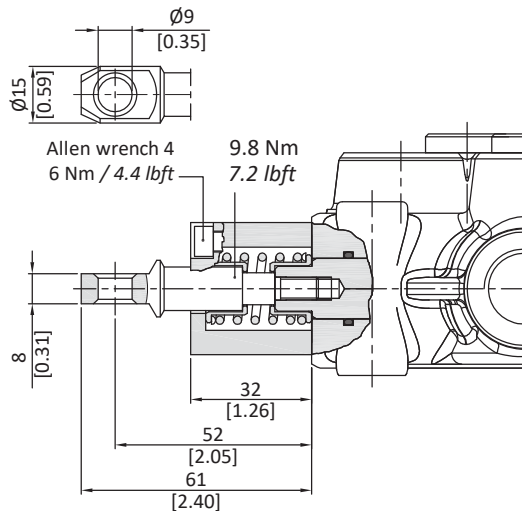


8D3 kit

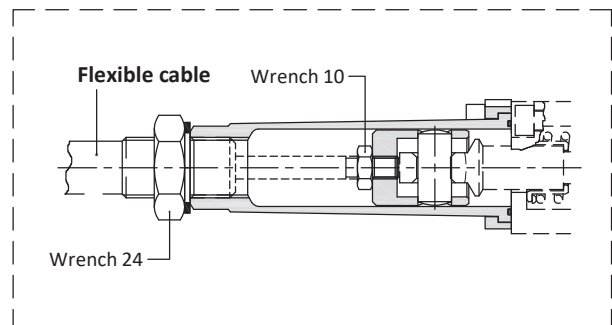


8TL kit (30 07 5327)

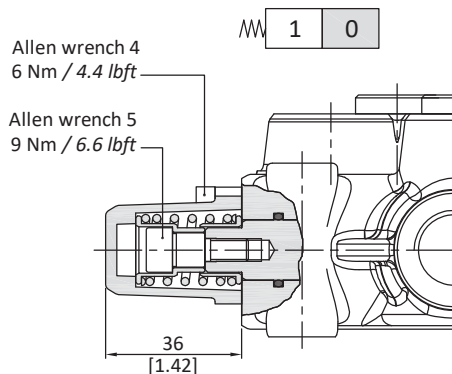
For connection with flexible cables it's necessary to couple 8TL kit with TQ kit



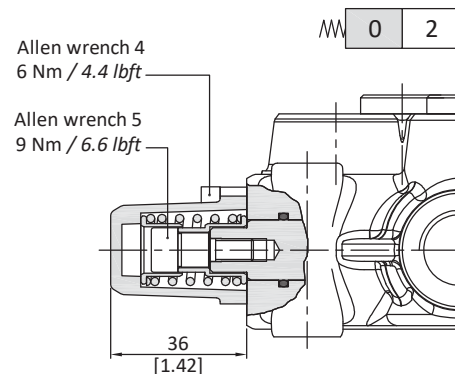
TQ kit



19 kit (30 07 5410)



20 kit (30 07 5411)

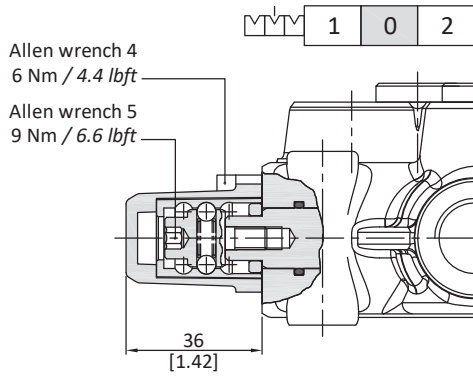


directional valve with left inlet

"A" side spool positioners

With detent

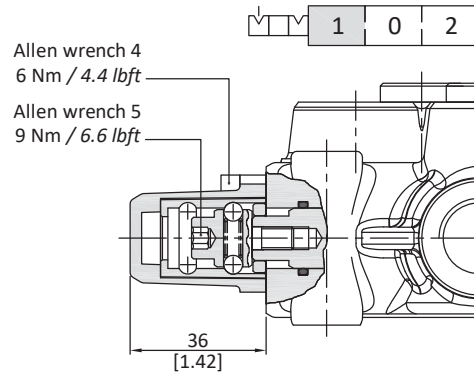
11 kit (30 07 5303)



Operating features

Locking and release force : 120 N / 27 lbf ±10%

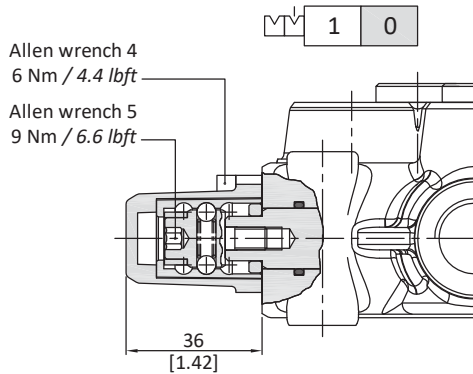
12 kit (30 07 5334)



Operating features

Locking and release force : 100 N / 22.5 lbf ±10%

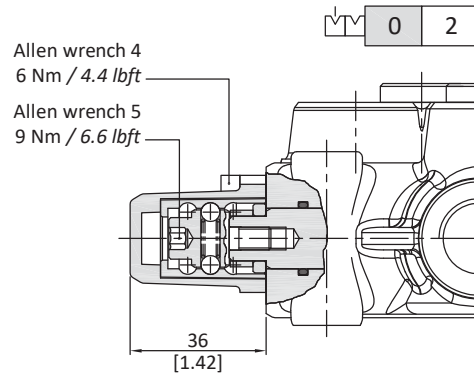
15 kit (30 07 5304)



Operating features

Locking and release force : 100 N / 22.5 lbf ±10%

16 kit (30 07 5408)

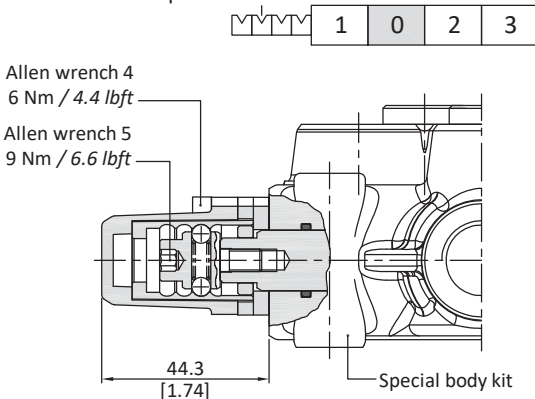


Operating features

Locking and release force : 100 N / 22.5 lbf ±10%

11NZ kit (30 07 5317)

Suitable to 5DY spool

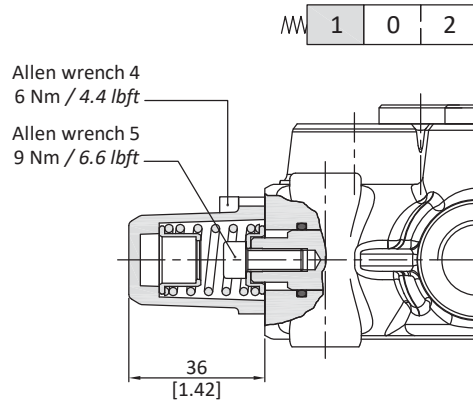


directional valve with left inlet

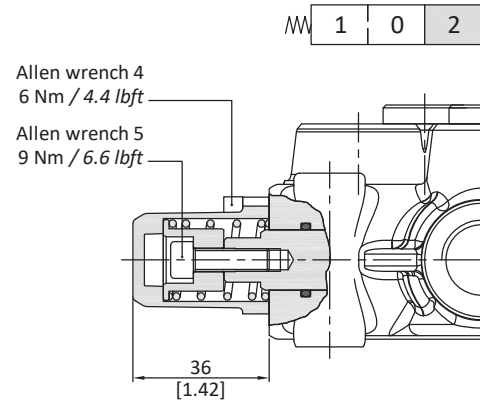
"A" side spool positioners

With spring return

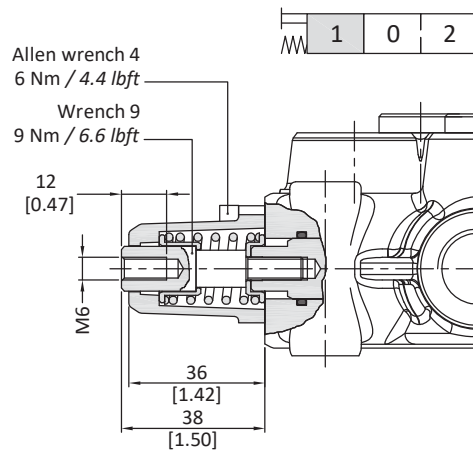
17 kit (30 07 5412)



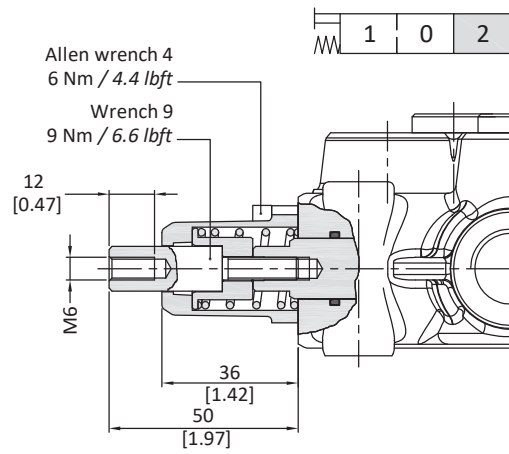
18 kit (30 07 5305)



17D kit (30 07 5413)



18D kit (30 07 5306)

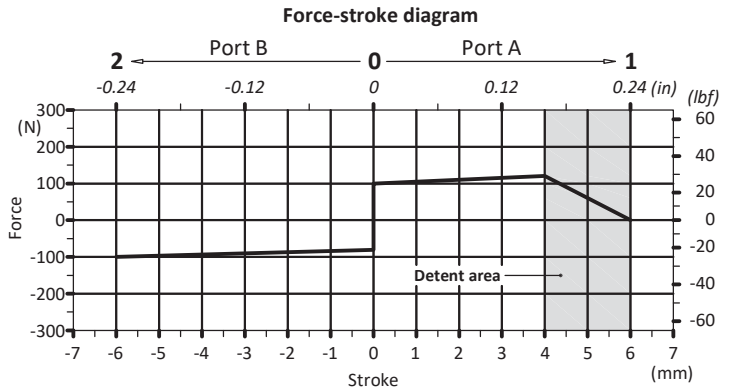
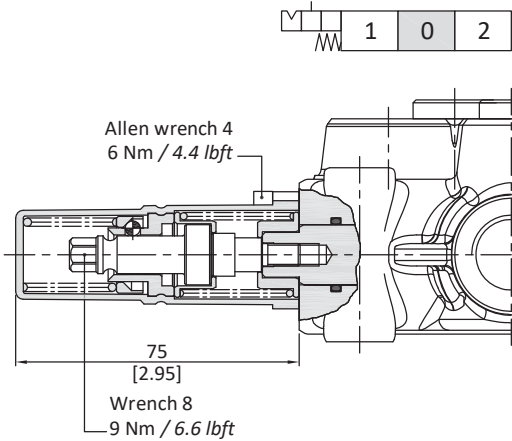


directional valve with left inlet

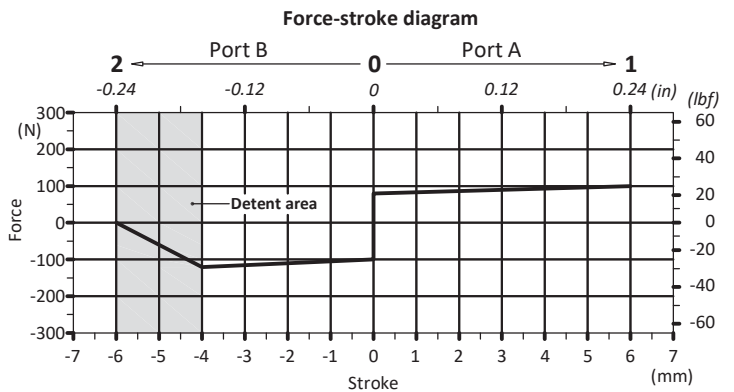
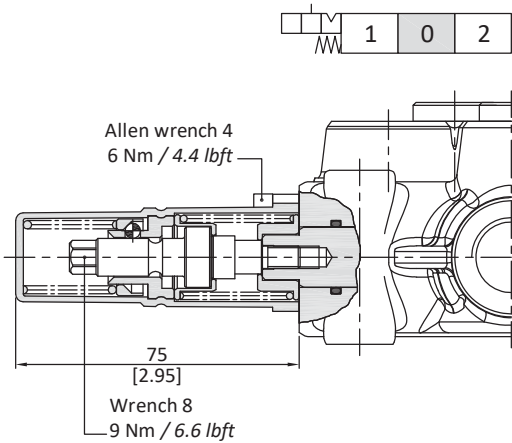
"A" side spool positioners

With detent and spring return to neutral position from either directions

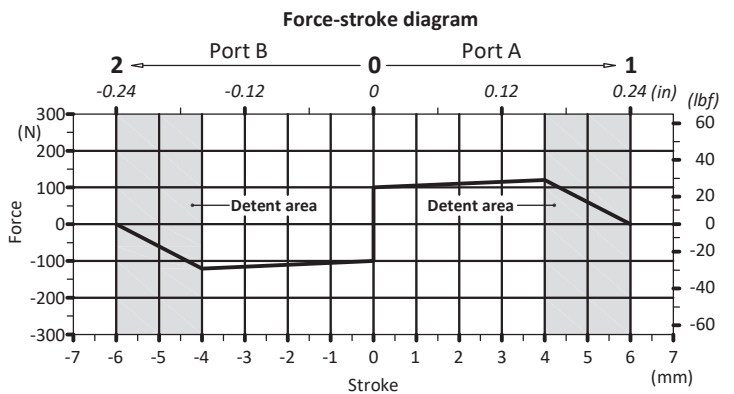
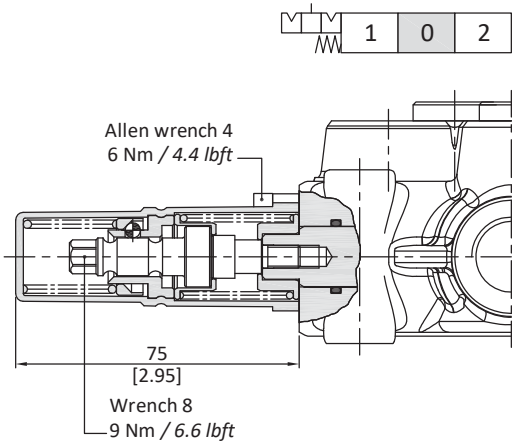
9B kit (30 07 5309)



10B kit (30 07 5310)



11B kit (30 07 5311)



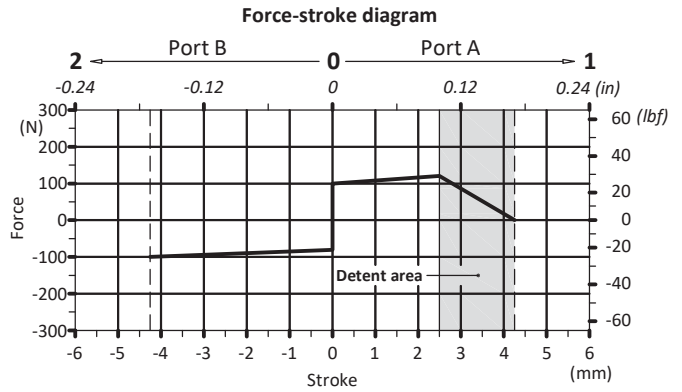
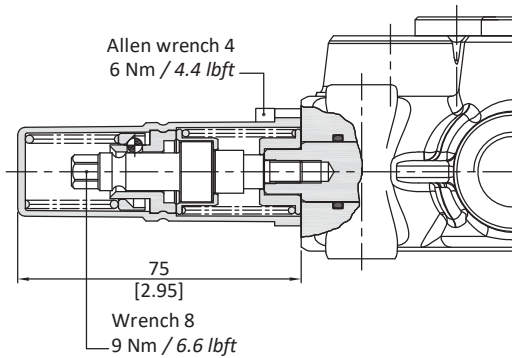
directional valve with left inlet

"A" side spool positioners

With detent and spring return to neutral position from either directions

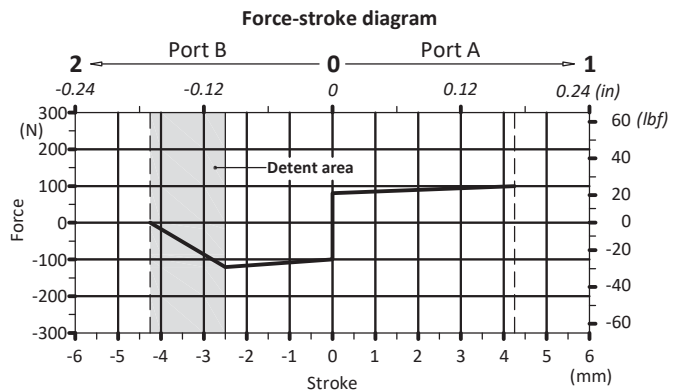
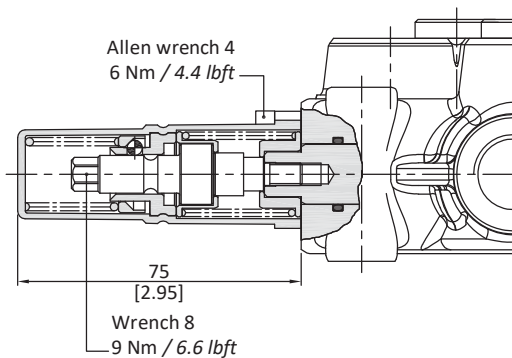
9BT kit

For single acting spool
Stroke : 4.2mm



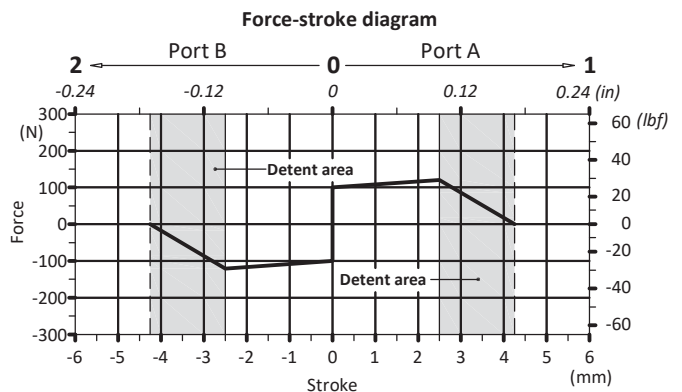
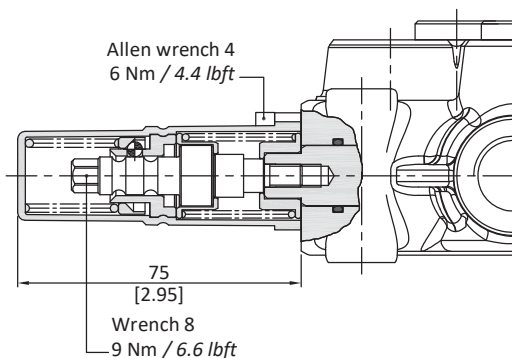
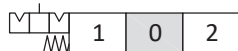
10BT kit

For single acting spool
Stroke : 4.2mm



11BT kit

For single acting spool
Stroke : 4.2mm



directional valve with left inlet

"A" side spool positioners

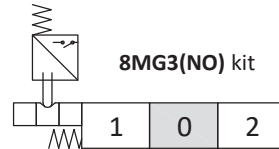
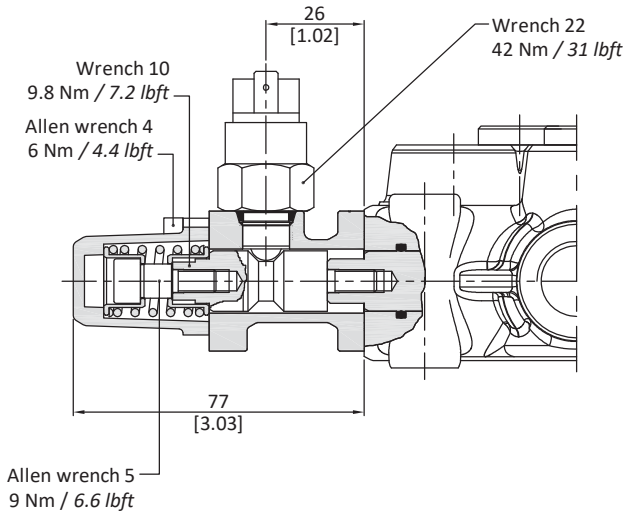
With microswitch type 8MG3(NO) (30 07 5319)

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

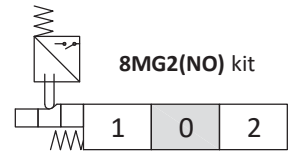
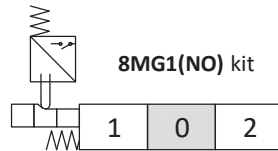
Also available **8MG1(NO)** configuration (microswitch operated in position 1) and **8MG2(NO)** configuration (microswitch operated in position 2); dimensions are the same of **8MG3(NO)** configuration.

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

For more information contact Sales Department.



Other configurations



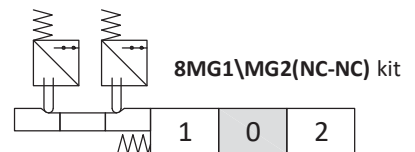
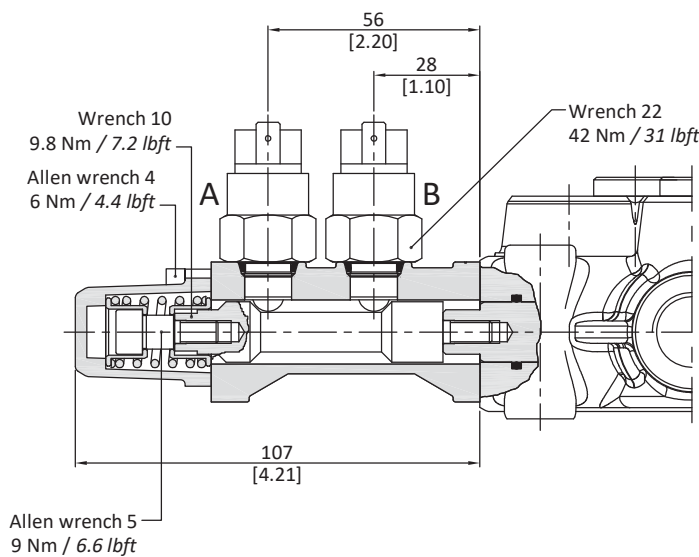
Operating features

MICROSWITCH

- Mechanical life : 5x10⁵ operations
- Electrical life (resistive load) : 5x10⁴ operations 10A / 12VDC
- : 5x10⁴ operations 3A / 24VDC

Type 8MG1\MG2(NC-NC) (30 07 5326)

With double microswitch in position 1 and 2.



Positions	A	B
1	⏏	⏏
0	⏏	⏏
2	⏏	⏏

Operating features

MICROSWITCH

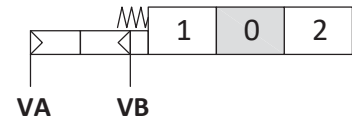
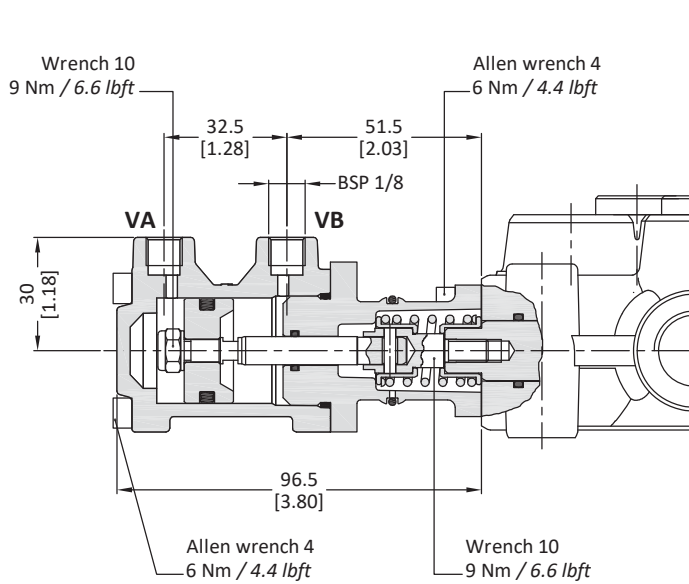
- Mechanical life : 5x10⁵ operations
- Electrical life (resistive load) : 5x10⁴ operations 10A / 12VDC
- : 5x10⁴ operations 3A / 24VDC

directional valve with left inlet

"A" side spool positioners

ON/OFF pneumatic kit type 8P (30 07 5329)

With spring return to neutral position.



Operating features

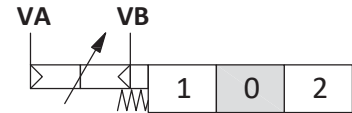
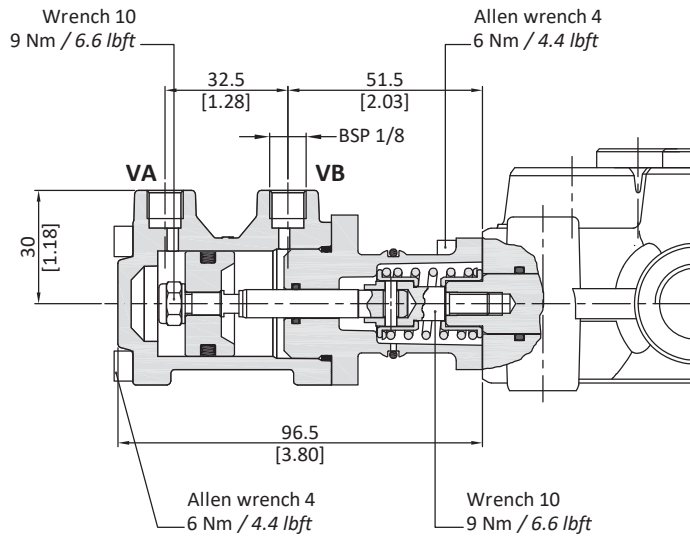
Pilot pressure.....: min. 5.5 bar / 80 psi
: max.10 bar / 145 psi

directional valve with left inlet

"A" side spool positioners

8PF pneumatic proportional kit

With spring return to neutral position.

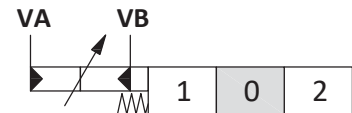
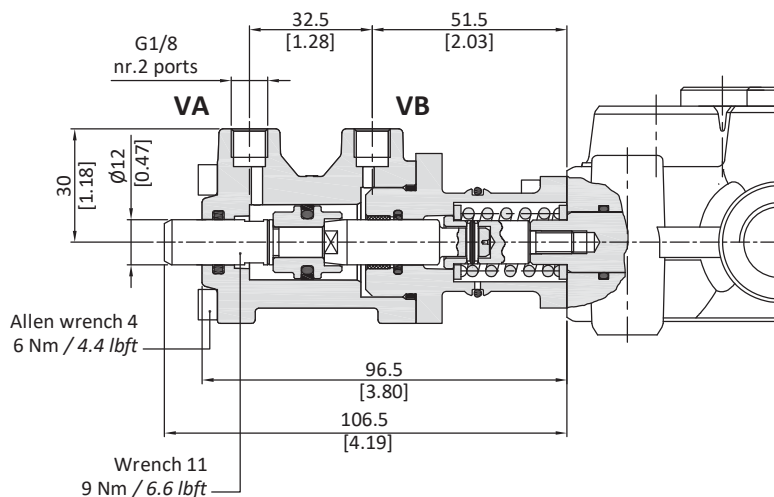


Operating features

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

8IZ proportional hydraulic control (30 07 5432)

It can be used with body kit without seals and ring on spool (standard body) on side



Operating features

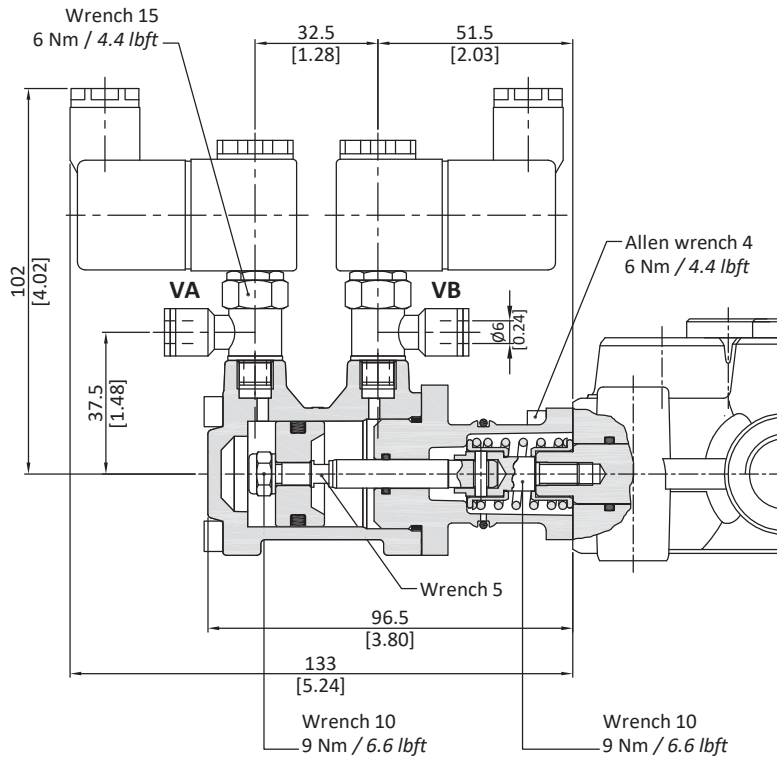
Max. pilot pressure.....: 50 bar / 725 psi

directional valve with left inlet

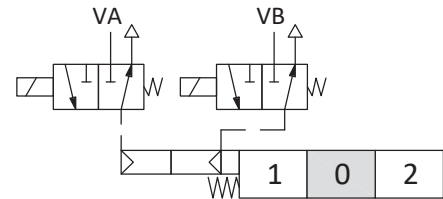
"A" side spool positioners

ON/OFF electropneumatic kit type 8EP3 - 30 07 5420 (12V) - 30 07 5330 (24V)

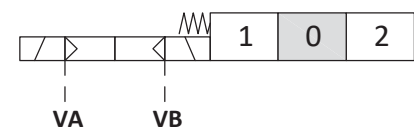
With spring return to neutral position.



Scheme



Scheme ISO 1219



Operating features

CONTROL

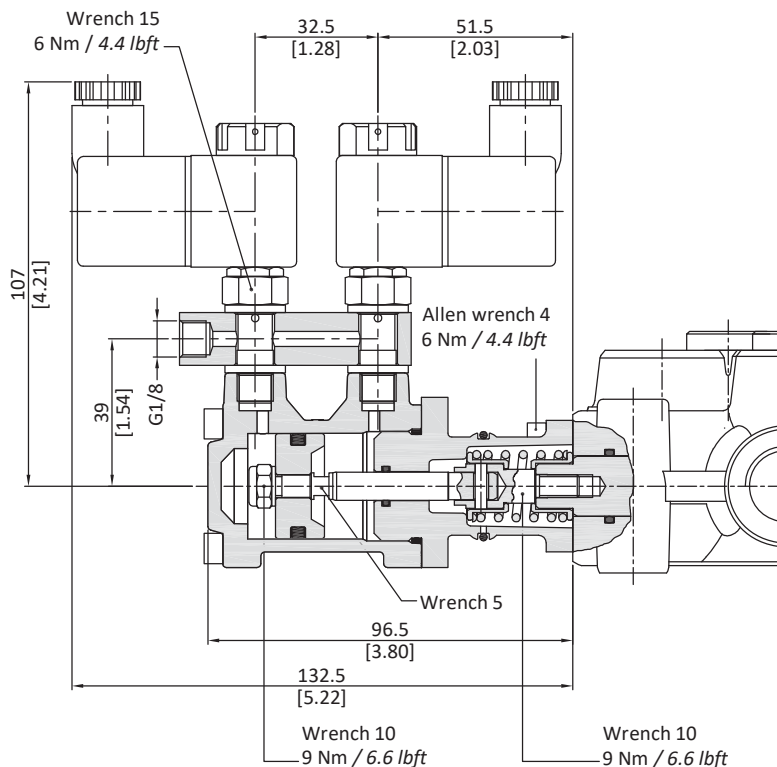
Pilot pressure : 6 bar / 87 psi
: max. 15 bar / 218 psi

COIL

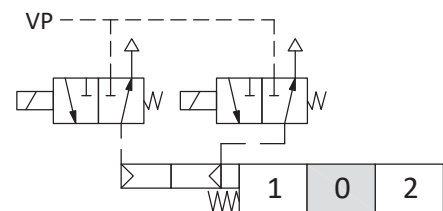
Nominal voltage tolerance : $\pm 10\%$
Power rating : 8 W
Nominal current : 12 VDC
: 24 VDC

Coil insulation : Class H
Weather protection : IP65

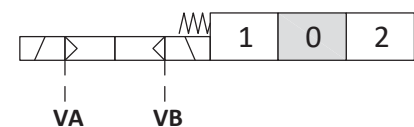
ON/OFF electropneumatic kit type 8EP4 - 30 07 5343 (12V) - 30 07 5344 (24V)



Scheme



Scheme ISO 1219

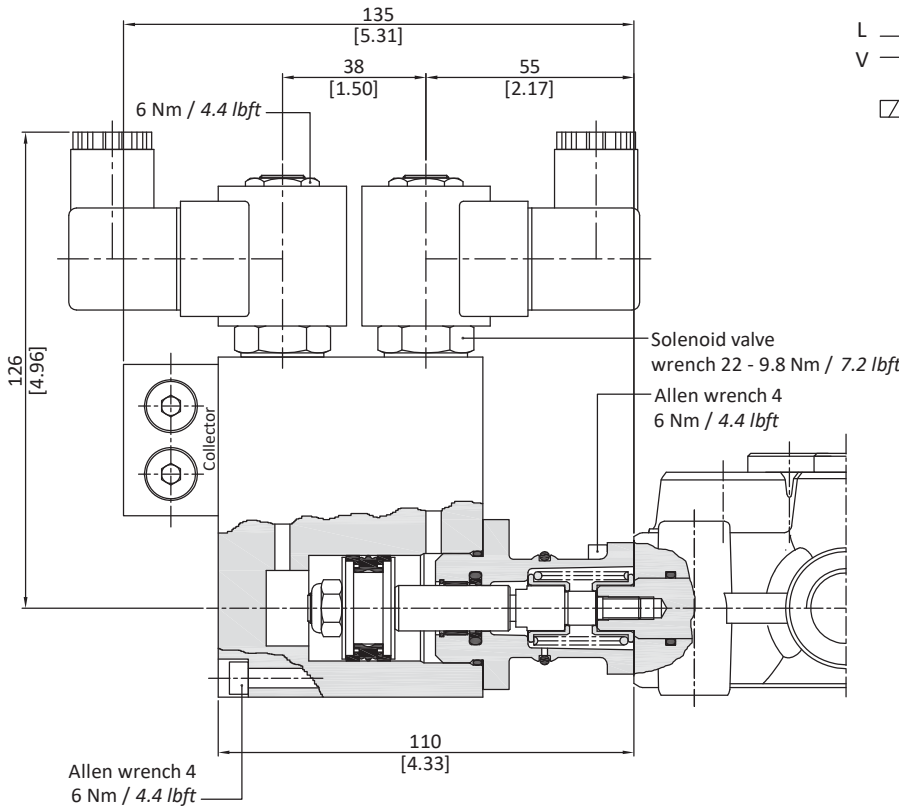


directional valve with left inlet

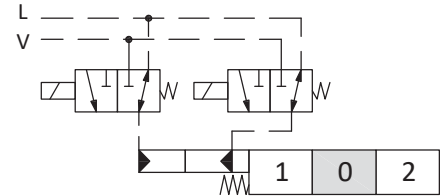
"A" side spool positioners

ON/OFF electrohydraulic kit type 8E13 - 30 07 5331 (12V) - 30 07 5332 (24V)

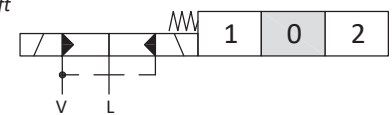
With external pilot and drain.



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

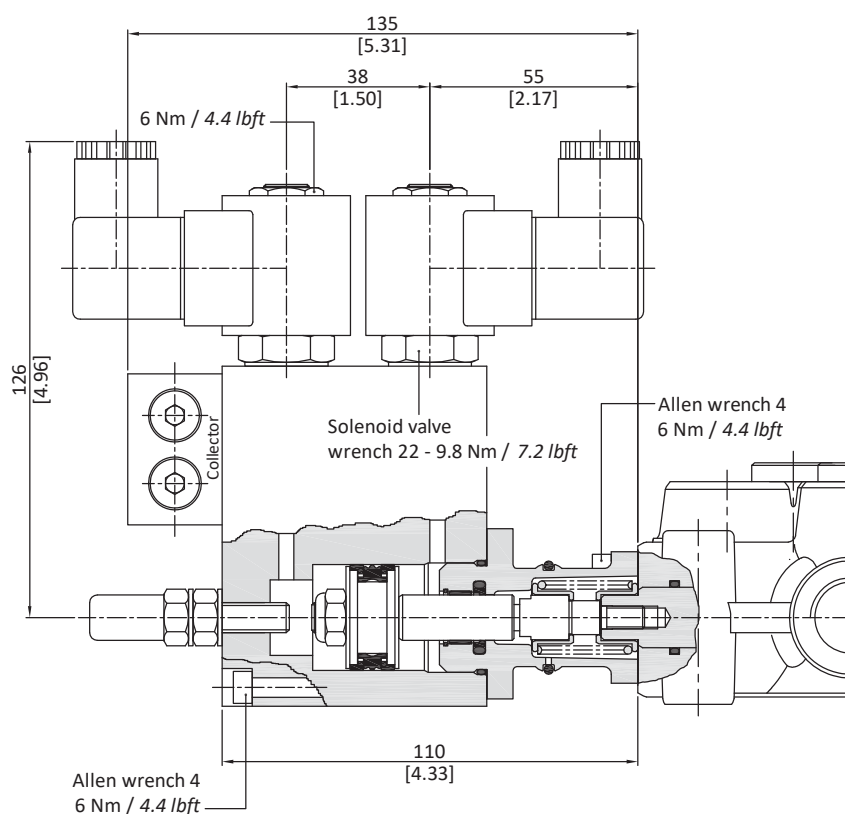
Nominal voltage tolerance : ±10%
 Power rating : 21 W
 Nominal current : 1.75 A - 12 VDC / 0.87 A - 24 VDC
 Coil insulation : Class F
 Weather protection : IP65

directional valve with left inlet

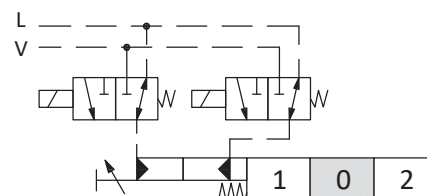
"A" side spool positioners

ON/OFF electrohydraulic kit type 8EI3F2

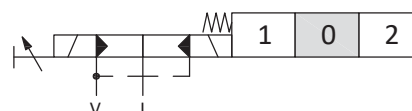
Collector kit with pilot and drain lines with stroke limiter



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

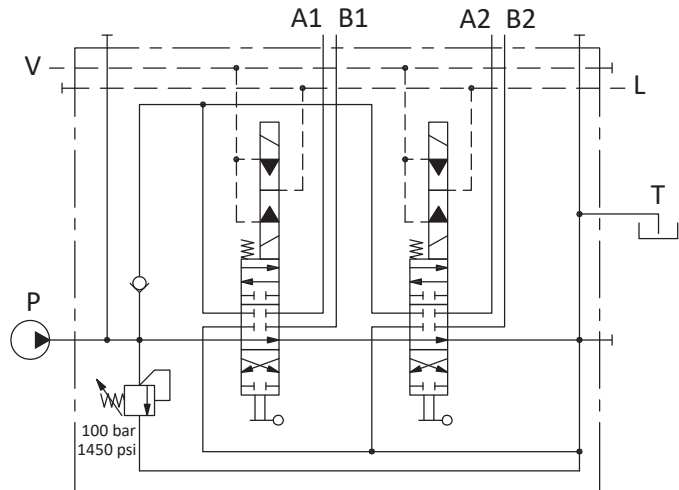
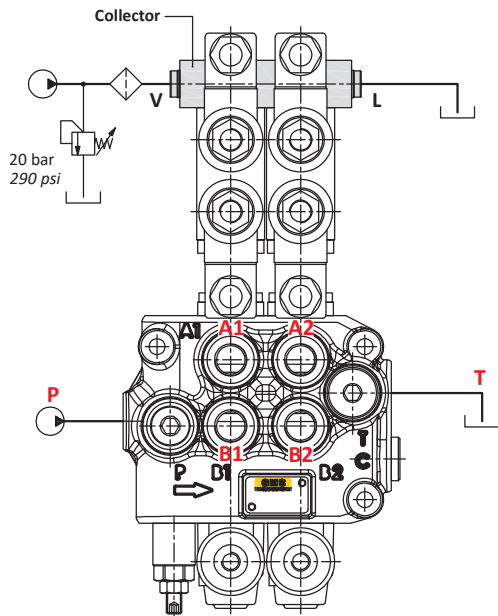
Nominal voltage tolerance : $\pm 10\%$
 Power rating : 21 W
 Nominal current : 1.75 A - 12 VDC / 0.87 A - 24 VDC
 Coil insulation : Class F
 Weather protection : IP65

directional valve with left inlet

"A" side spool positioners

ON/OFF electrohydraulic kit type 8E13

Collector kit for external pilot and drain



Description example :
 45L GM08/2-P(X-100)/18E13L/18E13L/
 AET-PSL2-KE2S0-24VDC

COLLECTOR KIT CODES

Type	Code	Description
KE1S0	30 07 5537	Kit one section
KE2S0	30 07 5512	Kit for 2 sections
KE3S0	30 07 5513	Kit for 3 sections
KE4S0	30 07 5514	Kit for 4 sections
KE5S0	30 07 5515	Kit for 5 sections
KE6S0	30 07 5516	Kit for 6 sections

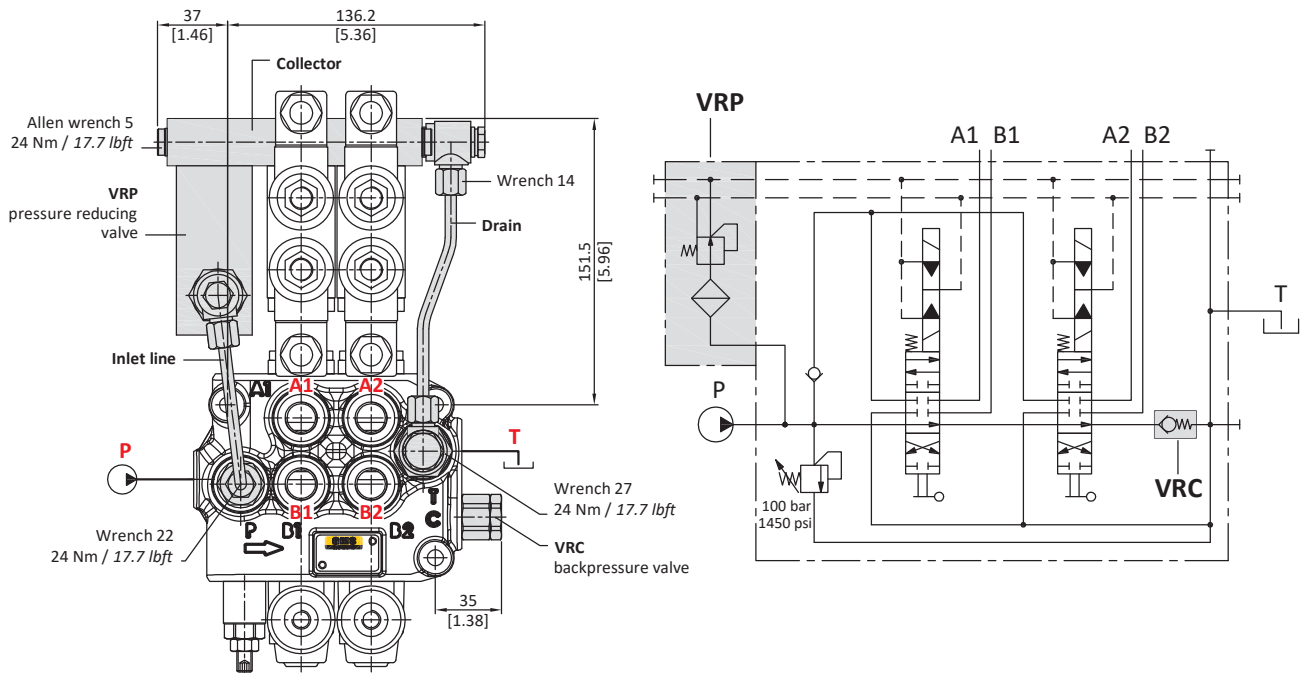
directional valve with left inlet

"A" side spool positioners

ON/OFF electrohydraulic kit type 8EI3

Collector kit with pilot and drain lines

The kit is made of collector, VRP pressure reducing valve and pipes.



Description example :

45L GM08/2-P(X-100)/18EI3L/18EI3L/
VRC-PSL2-KE2R0-24VDC

Operating features

VRP VALVE

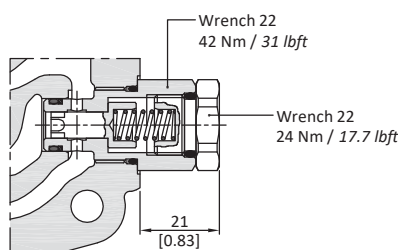
Output pressure : 20 bar / 290 psi
Max. flow : 8 l/min
Filtering : 80 μ

COLLECTOR KIT CODES

Type	Code	Description
KE1R0	30 07 5476	Kit one section
KE2R0	30 07 5477	Kit for 2 sections
KE3R0	30 07 5478	Kit for 3 sections
KE4R0	30 07 5479	Kit for 4 sections
KE5R0	30 07 5480	Kit for 5 sections
KE6R0	30 07 5481	Kit for 6 sections

VRC valve:

Valve assembled on flow through passage provides pilot pressure to the actuator.



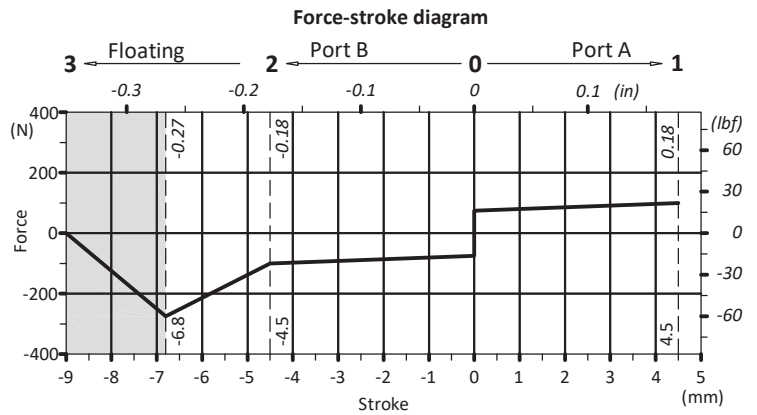
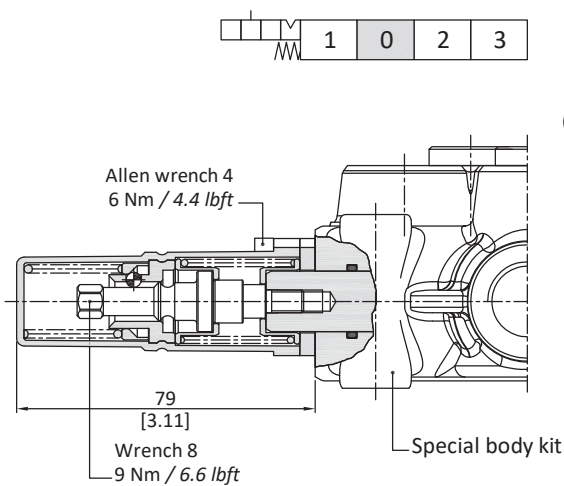
directional valve with left inlet

"A" side spool positioners

Particular positioner kits for special spools

13NZ kit (30 07 5316)

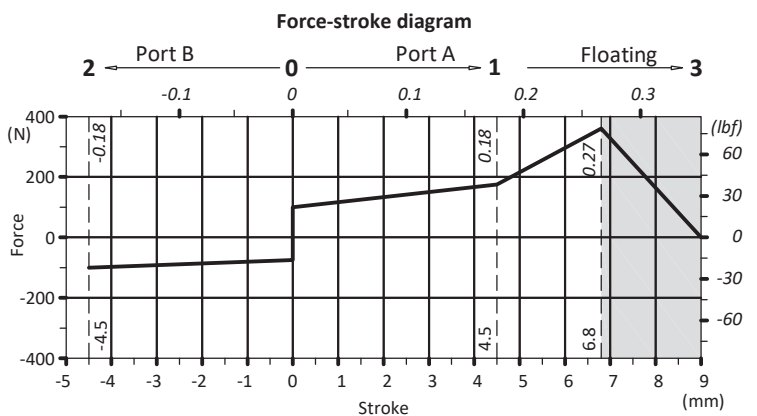
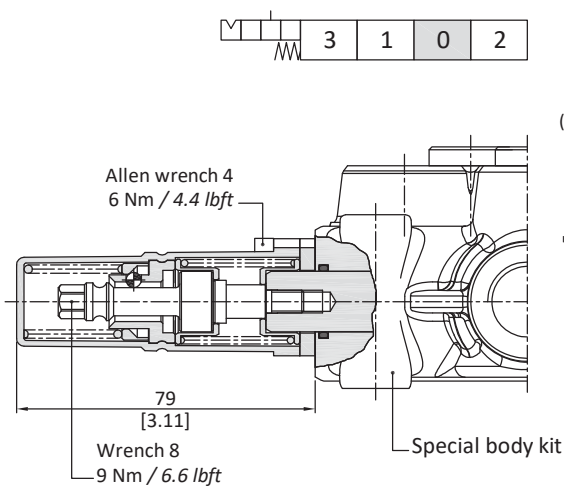
Detent in 4th position with spool in: available only for spool type 5DY



Detent area
 Locking force: 280 N / 63 lbf ±10%
 Release force: 300 N / 67.4 lbf ±10%

13QN kit (30 07 5315)

Detent in 4th position with spool out: available only for spool type 5BY, 5PY



Detent area
 Locking force: 360 N / 81 lbf ±10%
 Release force: 390 N / 87.7 lbf ±10%

directional valve with left inlet

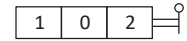
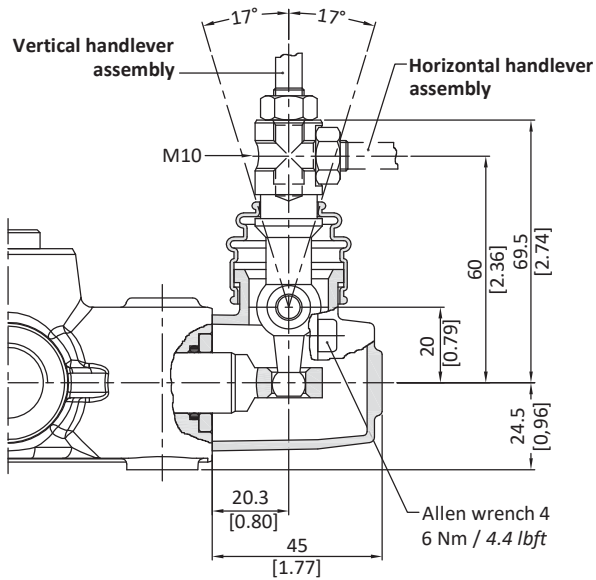
"B" side options

Lever control

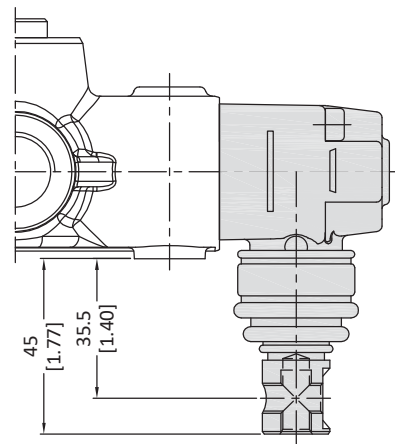
Type L (30 07 5335)

Type L180 (30 07 5336)

Alluminium with protection boot lever pivot box; it can be rotated 180° (execution LM10180).

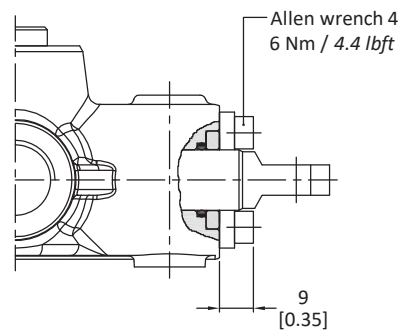
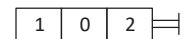
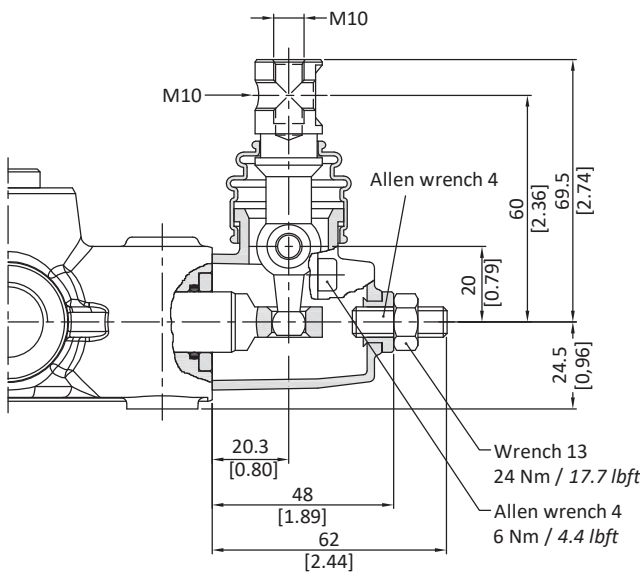
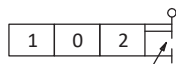


Execution L180



Type LF1 (30 07 5337)

Type SLP (30 07 5338)



directional valve with left inlet

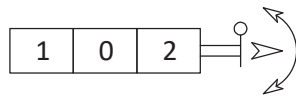
"B" side options

Special lever controls

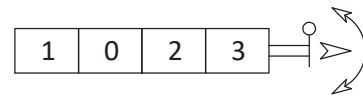
Safety levers with lock in neutral complete with handlever; lift handlever knob to operate.
With insulated handlever type **LEBP, LEBS**

Type LEB

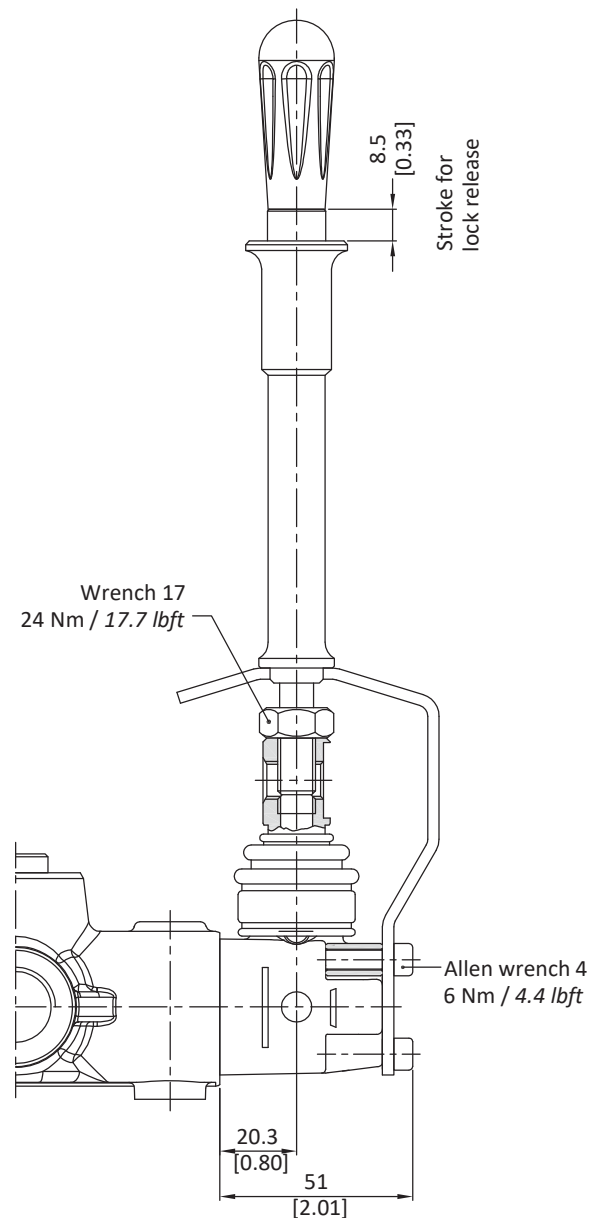
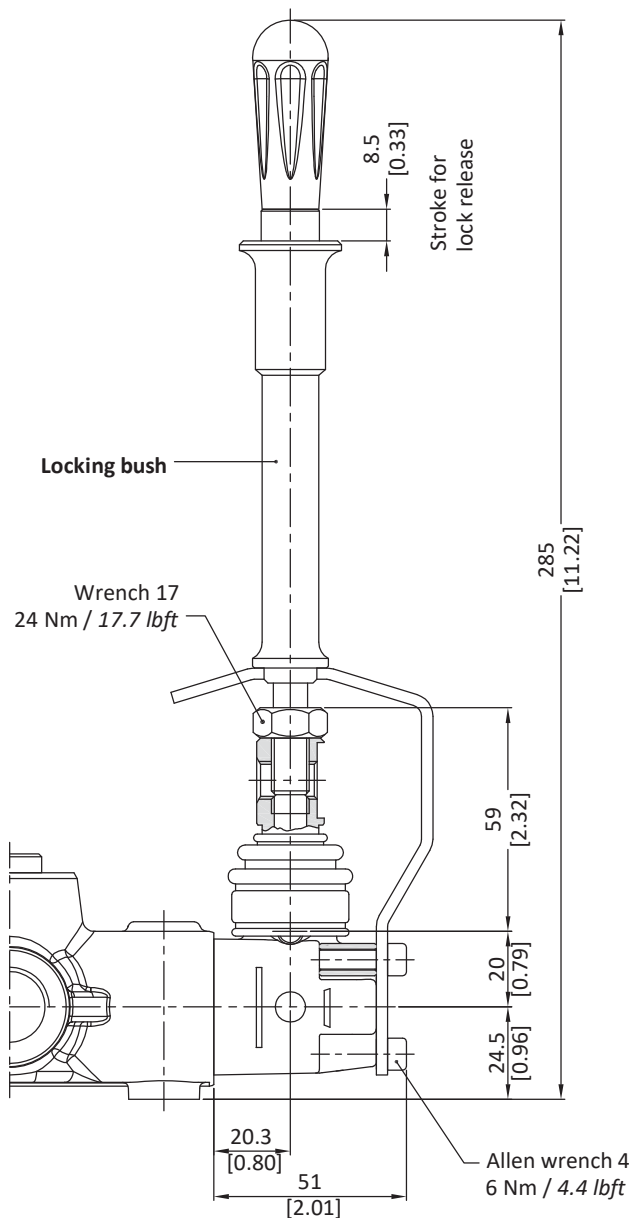
To be used with body valves without auxiliary relief valves flanged on the working ports.



LEB (30 07 5340)



LEBS



directional valve with left inlet

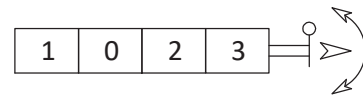
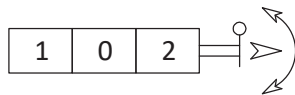
"B" side options

Special lever controls

Safety levers with lock in neutral complete with handlever; lift handlever knob to operate.
With insulated handlever type **LEB1P, LEBS1P**

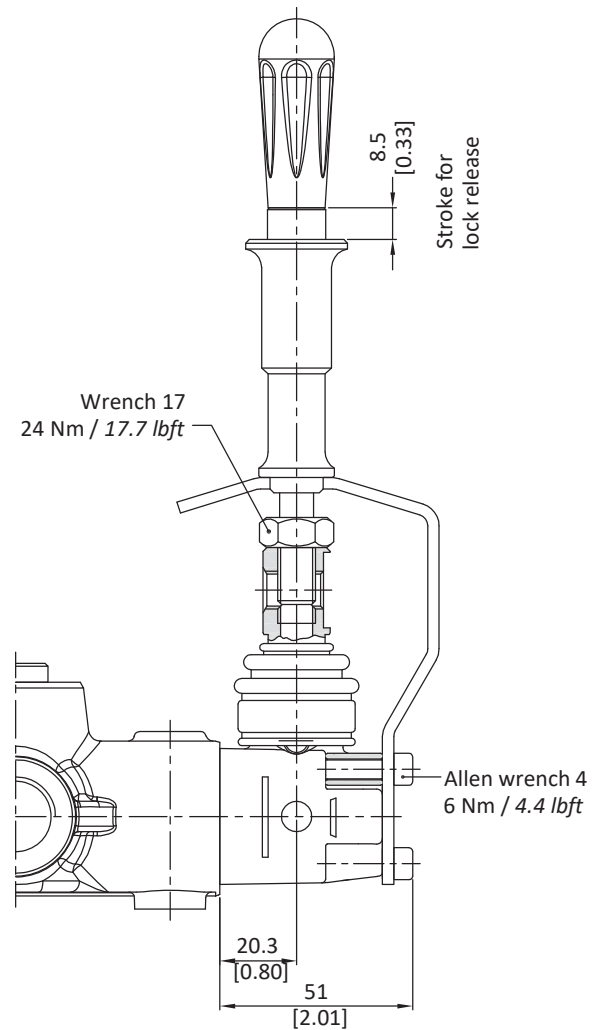
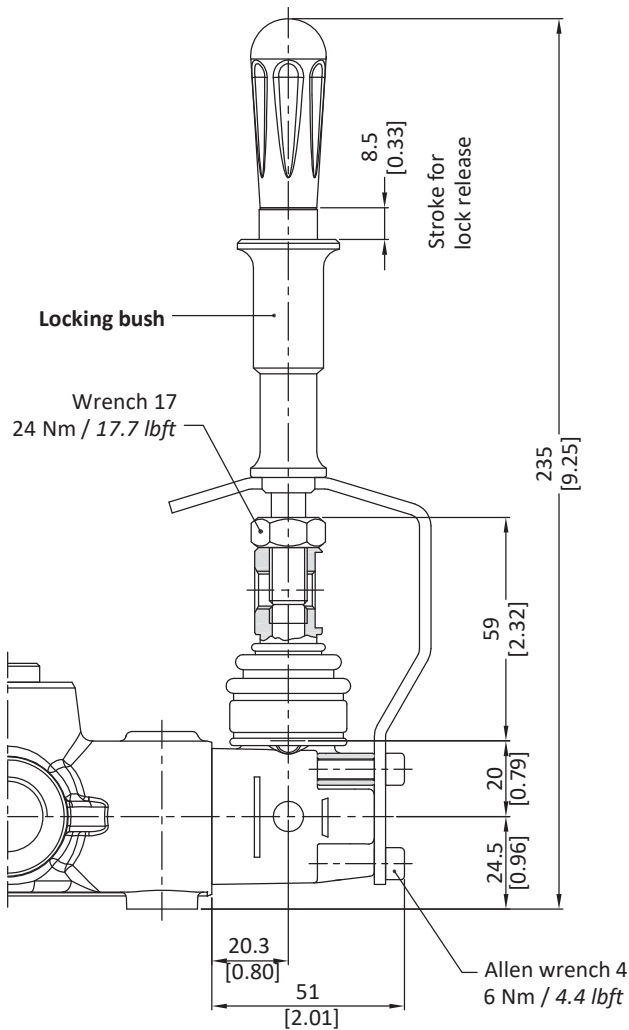
Type LEB

To be used with body valves without auxiliary relief valves flanged on the working ports.



LEB1 (30 07 5339)

LEBS1



directional valve with left inlet

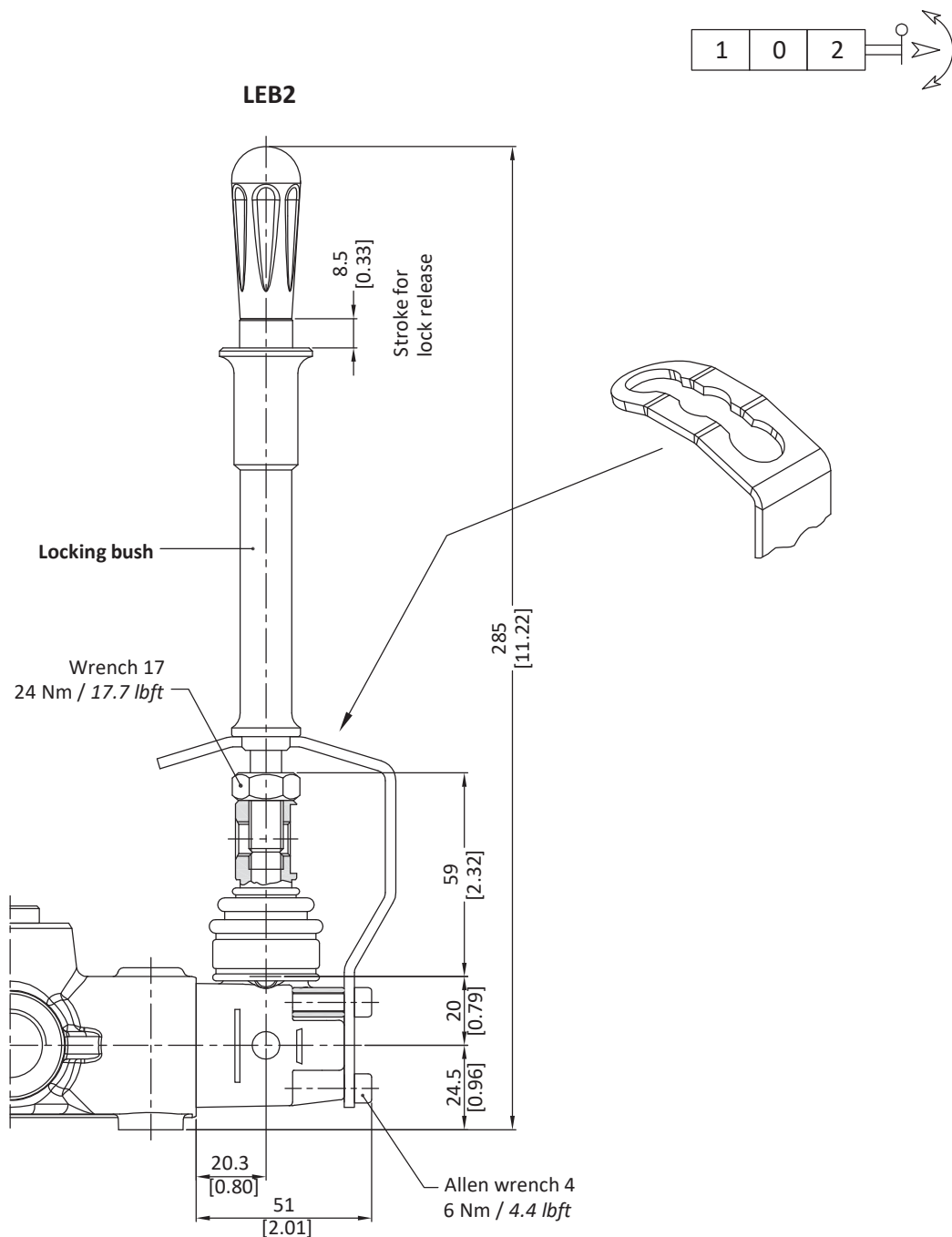
"B" side options

Special lever controls

Safety levers with lock in neutral complete with handlever; lift handlever knob to operate.
With insulated handlever type **LEB2P**

Type LEB

To be used with body valves without auxiliary relief valves flanged on the working ports.



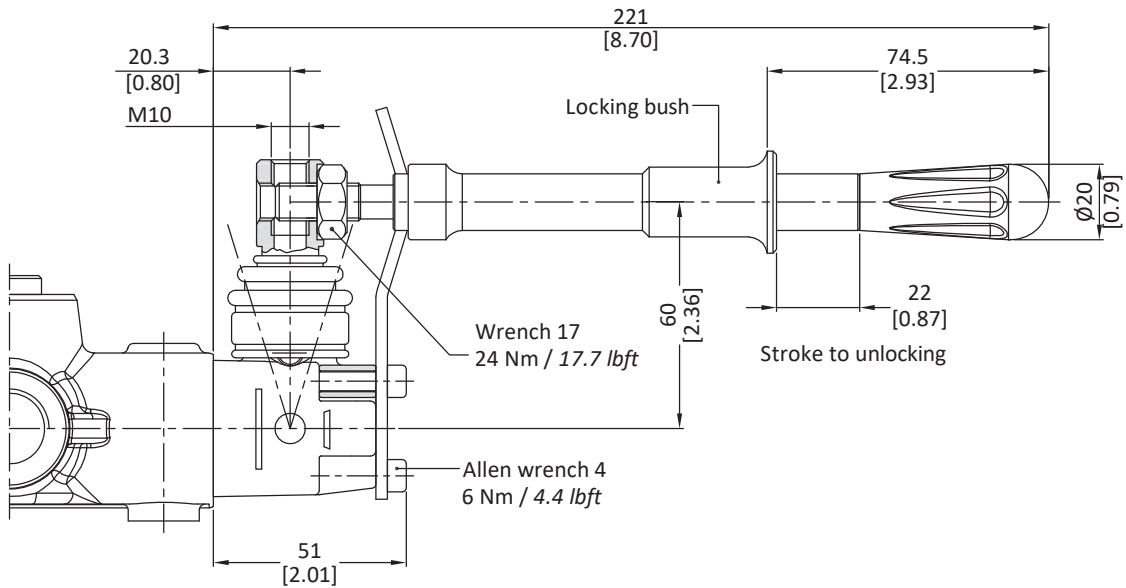
directional valve with left inlet

"B" side options

Special lever controls

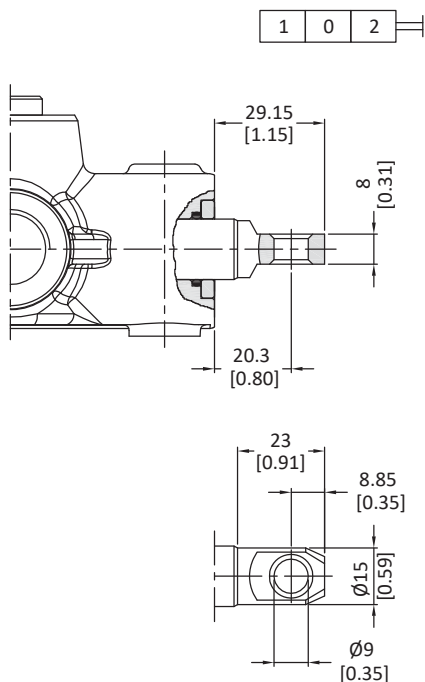
Safety levers with lock in neutral complete with handlever; lift handlever knob to operate.
With insulated handlever type **LUPP**

Type LUP (30 07 5341)

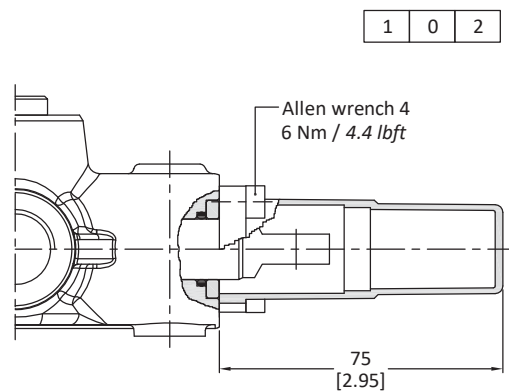


Controls arrangement

Type SL



Type SLCZ



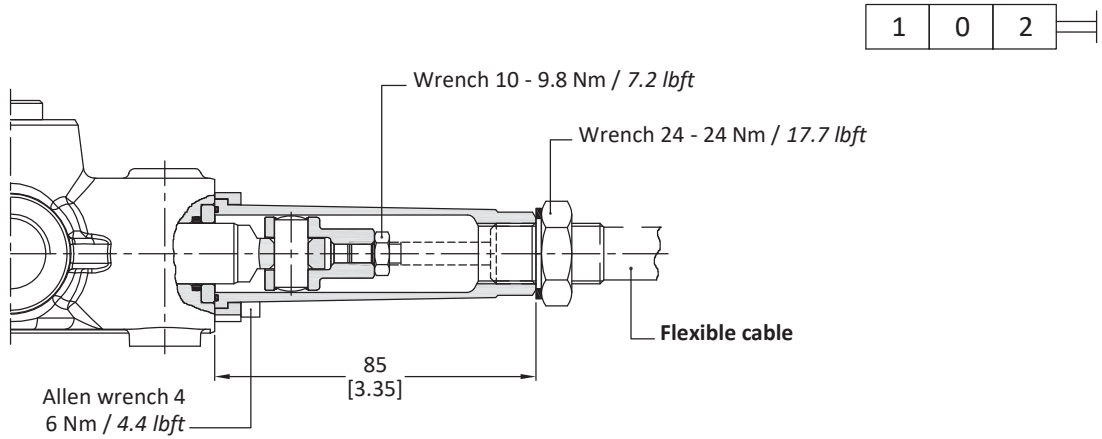
Protection cap usable with pneumatic, electropneumatic, and electrohydraulic spool positioners.

directional valve with left inlet

"B" side options

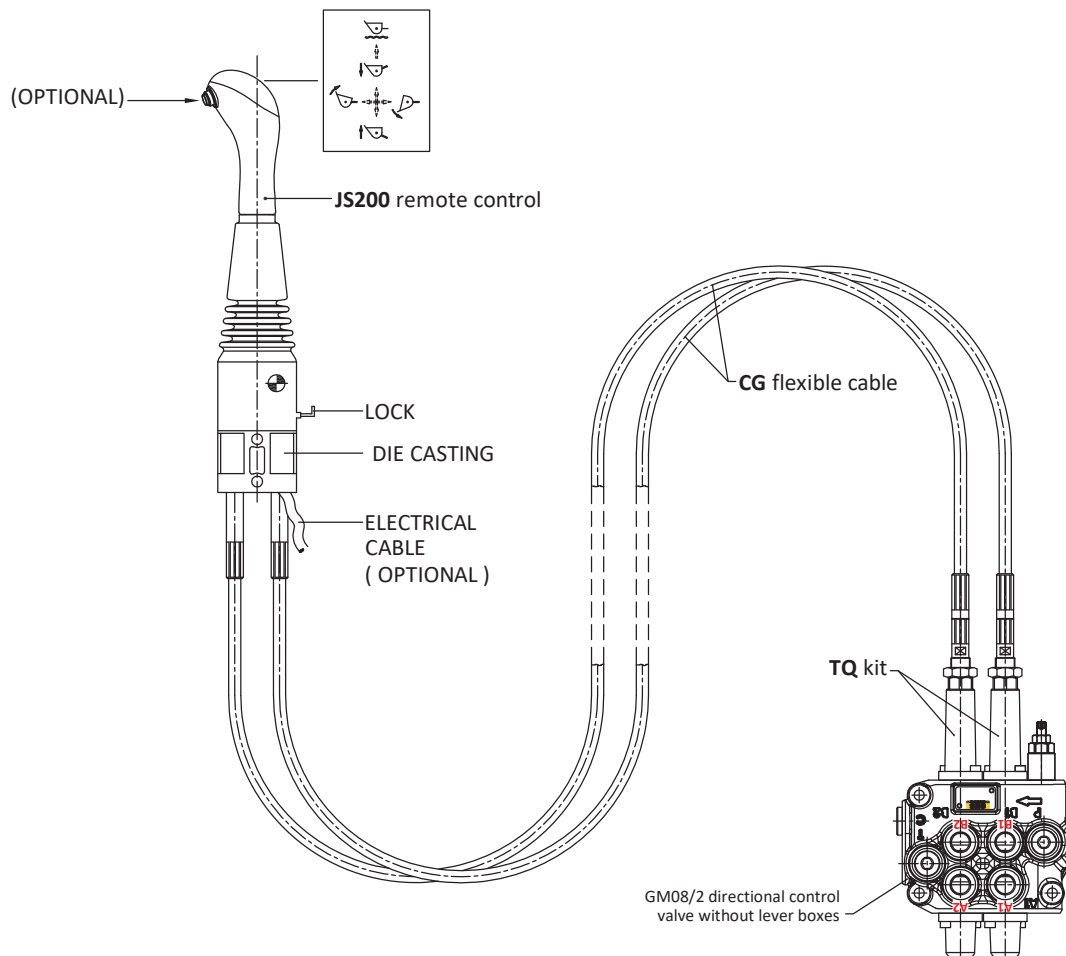
TQ cable remote control kit (30 07 5328)

Waterproof cap prearranged for remote control with flexible cable.



NOTE - For more information about remote cable control, require appropriate documentation.

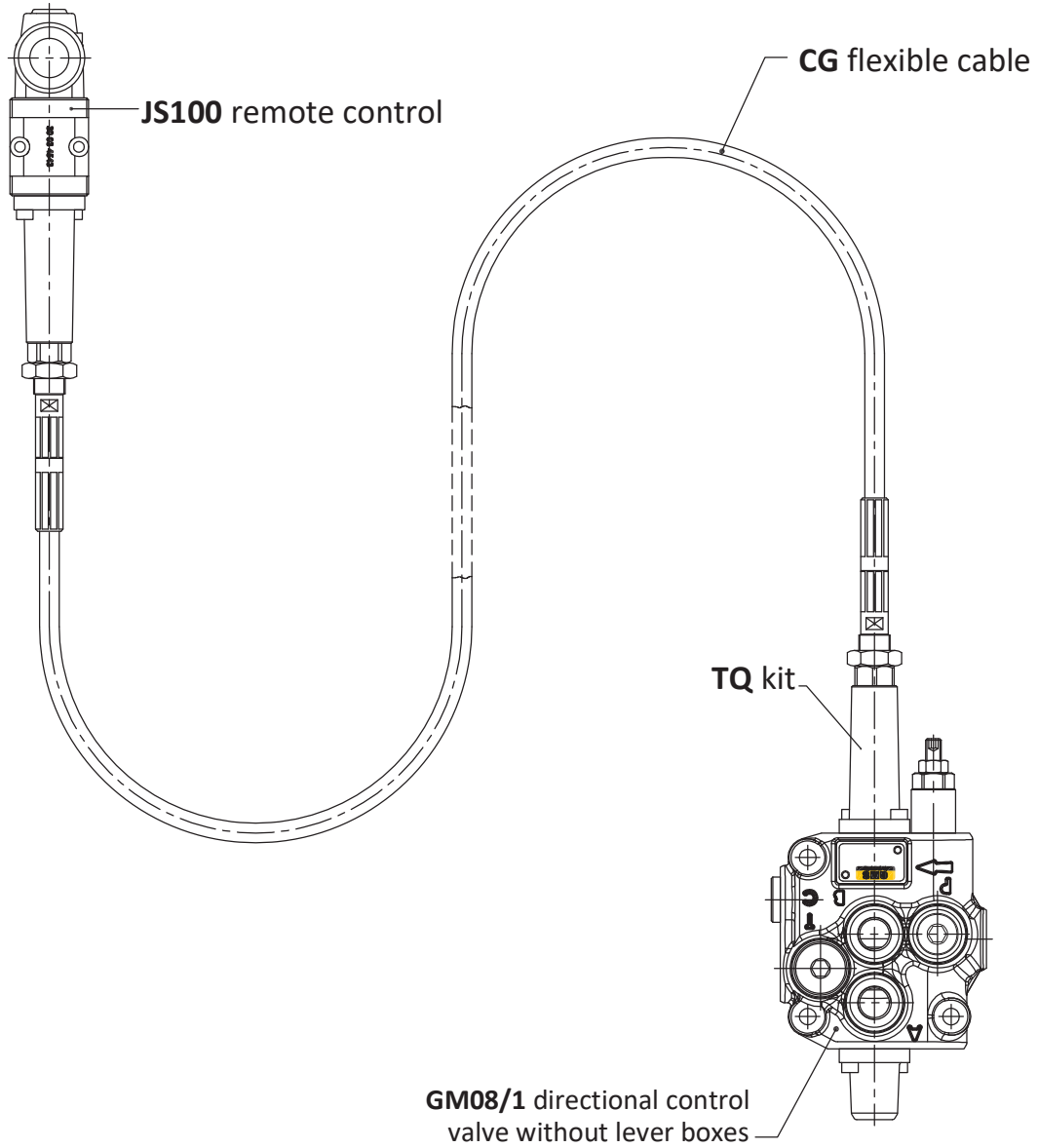
Connection example



directional valve with left inlet

"B" side options

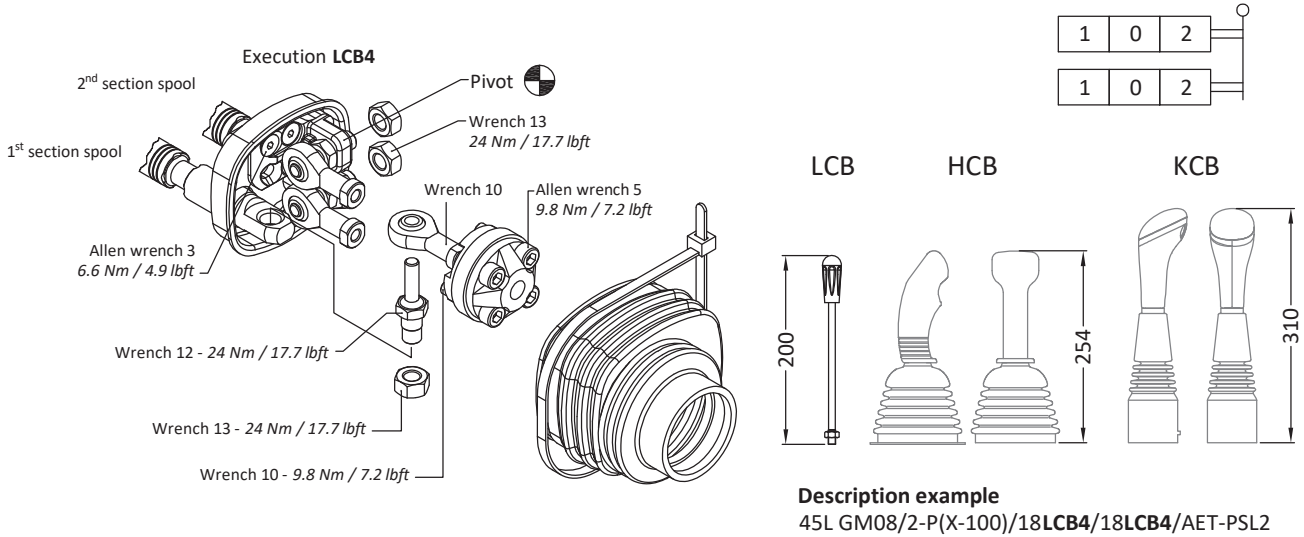
Connection example



directional valve with left inlet

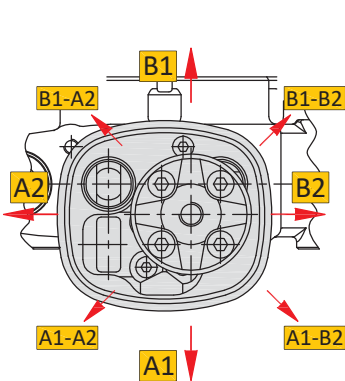
"B" side options

LCB mechanical joystick for two sections control (30 07 5426)

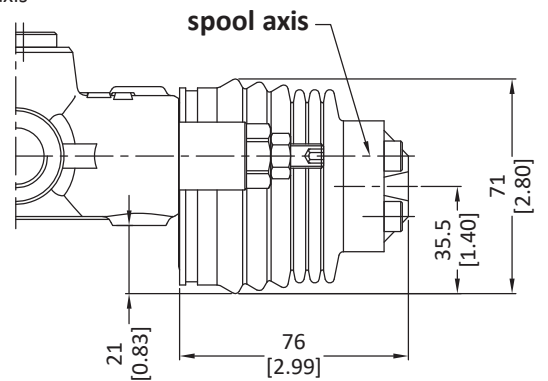
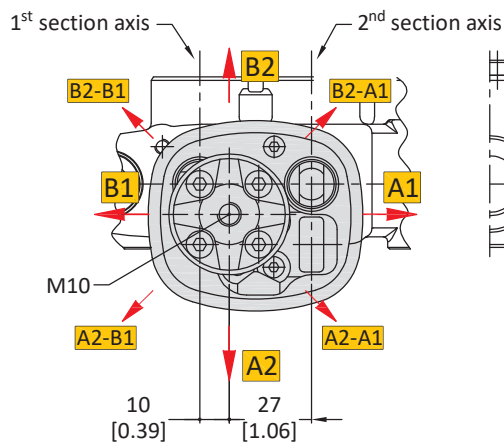


Dimensions and movement scheme

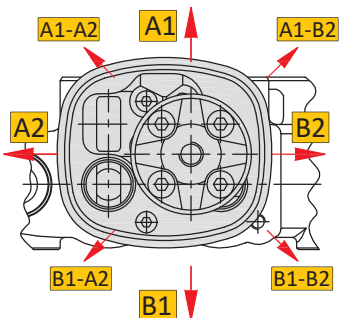
Execution LCB1
pivot placed down on the left



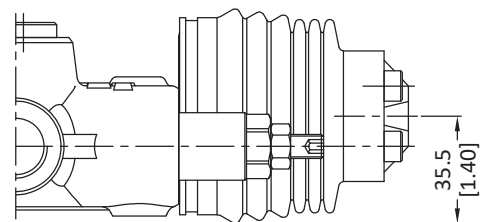
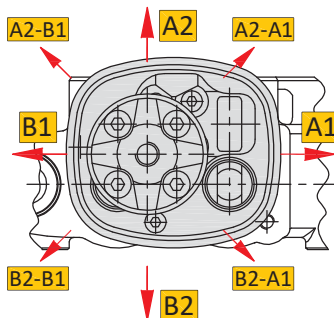
Execution LCB2
pivot placed down on the right



Execution LCB3
pivot placed above on the left



Execution LCB4
pivot placed above on the right



directional valve with left inlet

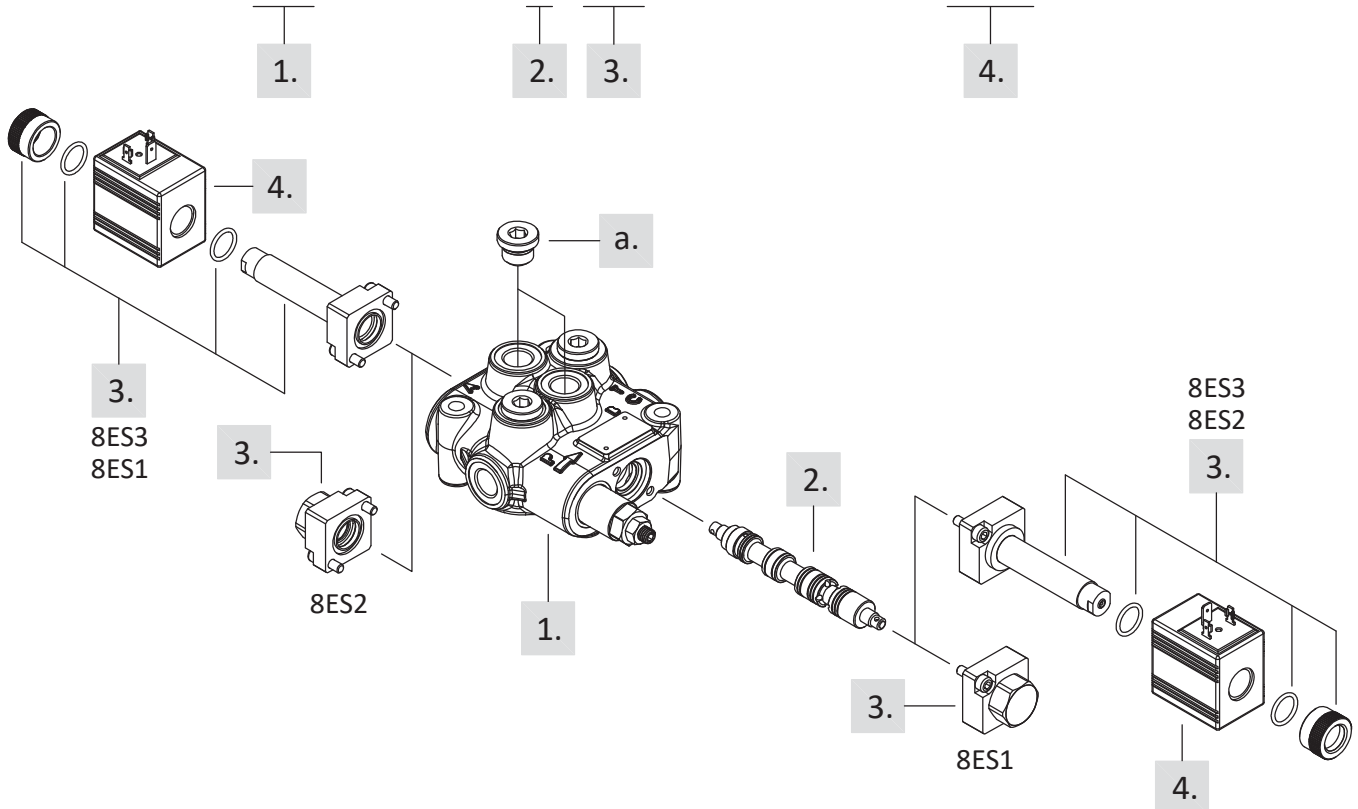
Complete controls

8ES solenoid control

Solenoid direct control with spring return to neutral position.
It needs special spools and standard body (body kit without seals on spool).

Description example:

45L GM08 / 1 - P (X - 100) / 1 8ES3 / AET - PSL2 - 24VDC



1. Body kit		
TYPE	CODE	DESCRIPTION
45L GM08/1-P	-	1 section
45L GM08/2-P	-	2 section
45L GM08/3-P	-	3 section
45L GM08/4-P	-	4 section
45L GM08/5-P	-	5 section
45L GM08/6-P	-	6 section

2. Spool options		
TYPE	CODE	DESCRIPTION
1(ES)	30 01 3643	Double acting, 3 positions, with A and B closed in neutral position
2(ES)	30 01 3644	Double acting, 3 positions, with A and B open to tank in neutral position

3. Control kit		
TYPE	CODE	DESCRIPTION
8ES1	30 07 5474	Single acting P→ A, with spring return to neutral position
8ES2	30 07 5474	Single acting P→ B, with spring return to neutral position
8ES3	30 07 5475	Double acting, with spring return to neutral position

4. Coils		
TYPE	CODE	DESCRIPTION
With ISO4400 connector		
12VDC	20 03 2295	Nominal voltage 12VDC
24VDC	20 03 2296	Nominal voltage 24VDC

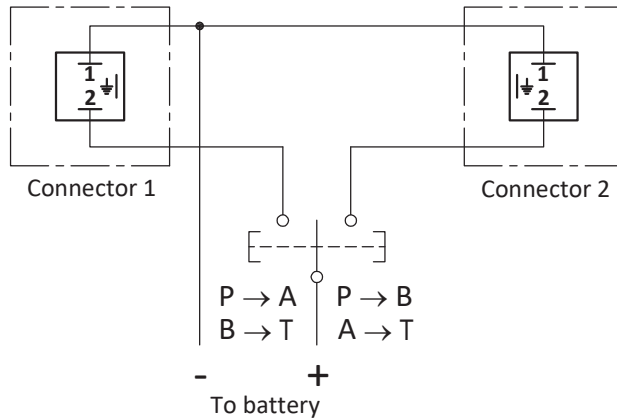
a. "A" and "B" ports plugs		
TYPE	CODE	DESCRIPTION
G3/8	30 05 4918	For single acting controls type 8ES1 and 8ES2

directional valve with left inlet

Complete controls

8ES solenoid control

Electric wiring example



Operating features

CONTROL

Internal leakage A(B) → T

($\Delta p = 100 \text{ bar} - 1450 \text{ psi} / T = 40^\circ\text{C}$) : max. $15 \text{ cm}^3/\text{min} - 0.91 \text{ in}^3/\text{min}$

COIL

Nominal voltage tolerance : $\pm 10\%$

Power rating : 36 W

Coil insulation : class H

Duty cycle : 100%

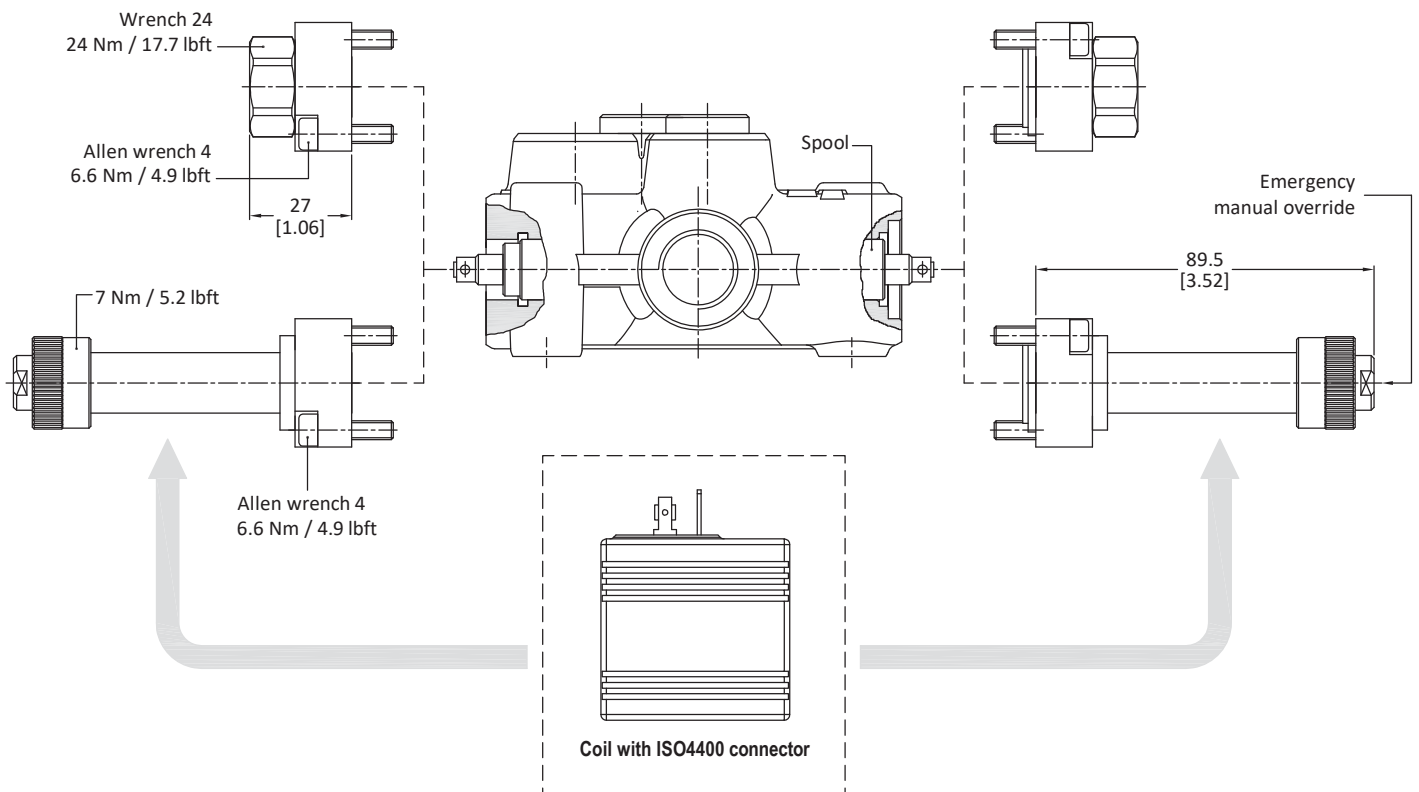
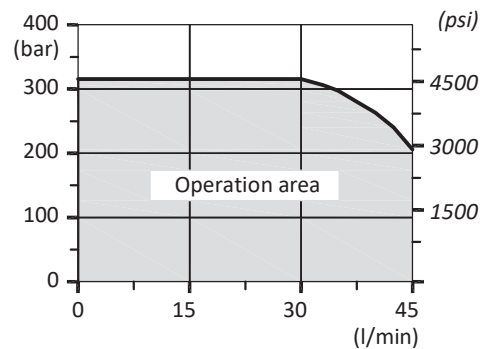
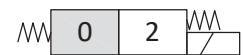
8ES3 kit
double acting



8ES1 kit
single acting on A



8ES2 kit
single acting on B

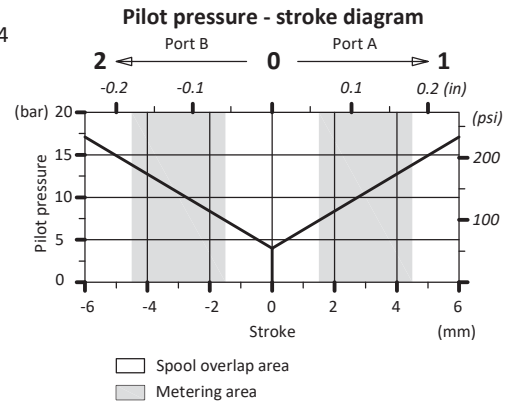
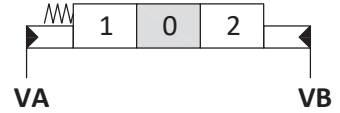
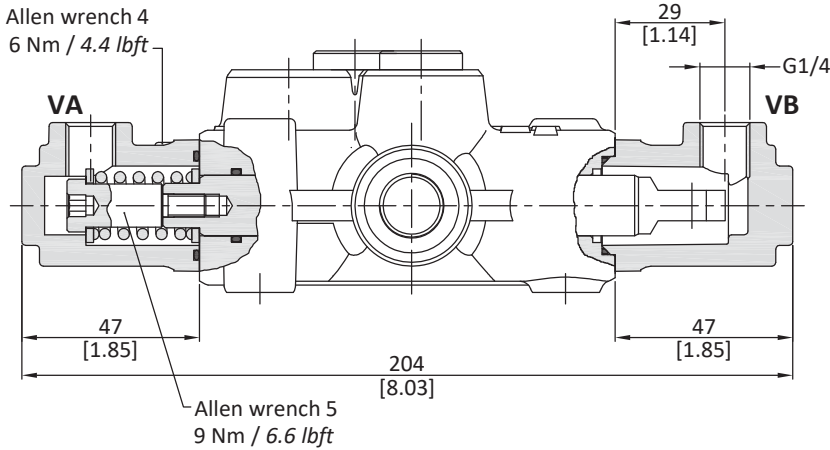


directional valve with left inlet

Complete controls

Proportional hydraulic control type 8IM (30 07 5348)

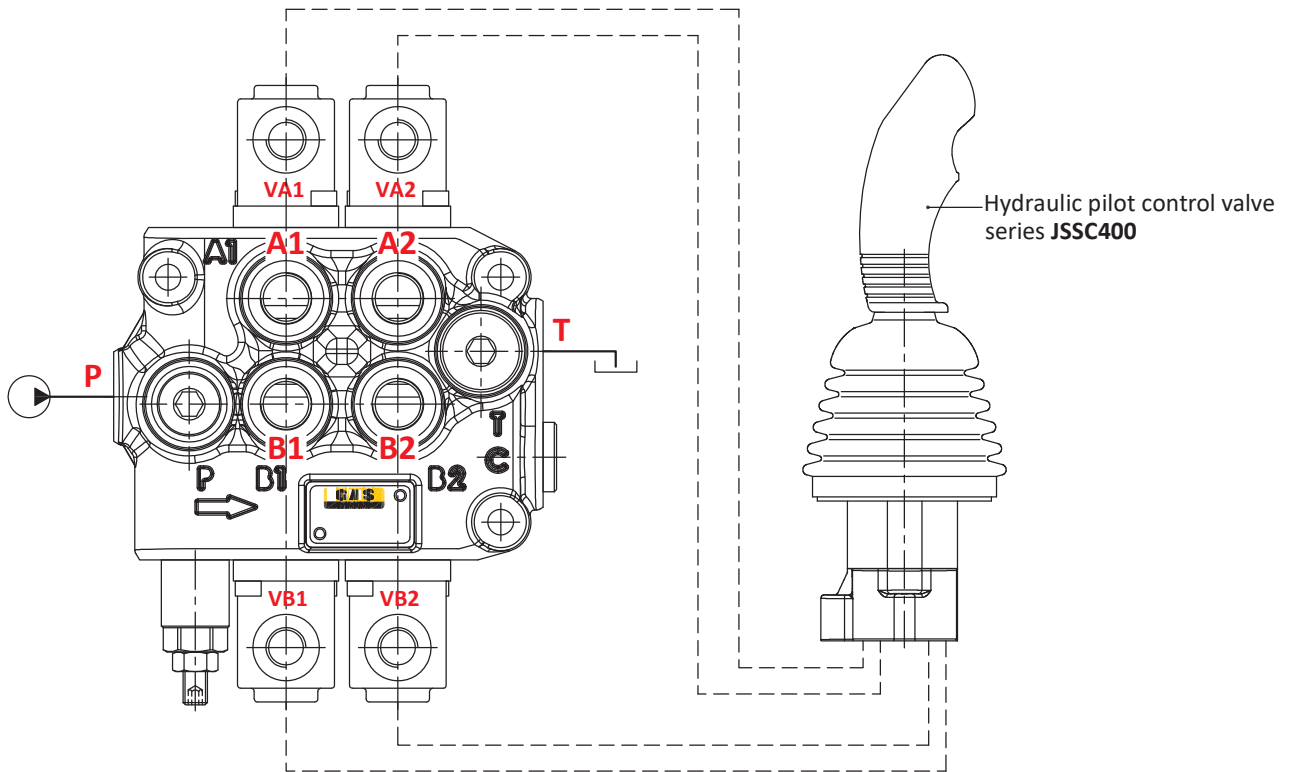
It can be used with standard spools and body



Operating features

- Pilot pressure : max. 50 bar / 725 psi
- Internal leakage A(B) → T ($\Delta p = 100 \text{ bar} - 1450 \text{ psi} / T = 40^\circ\text{C}$)
- : max. 6cm³/min - 0.37 in³/min

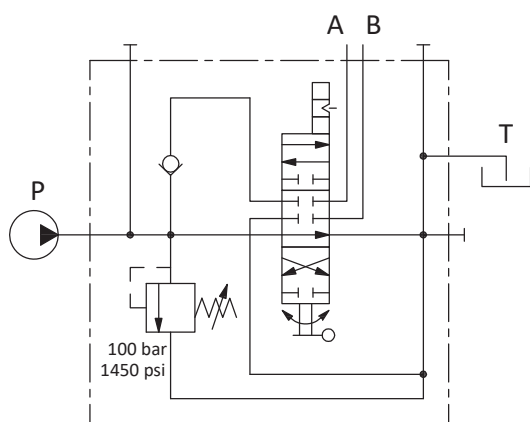
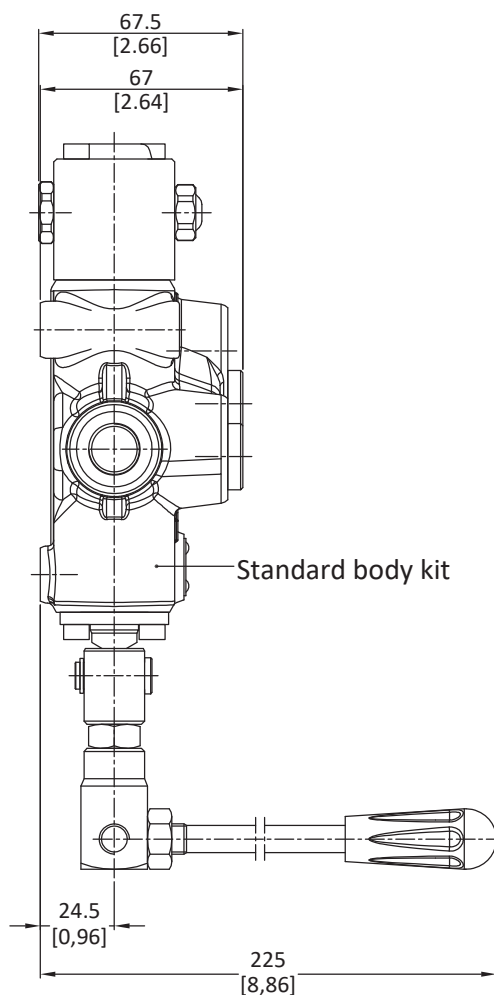
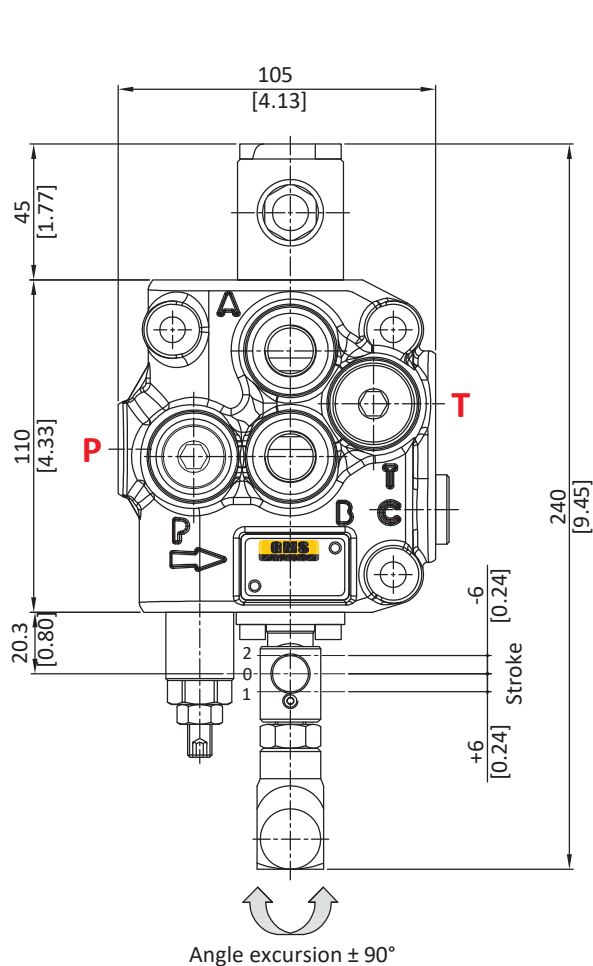
Connection example



directional valve with left inlet

Special configurations

Directional valve with rotary control kit (30 07 5333)



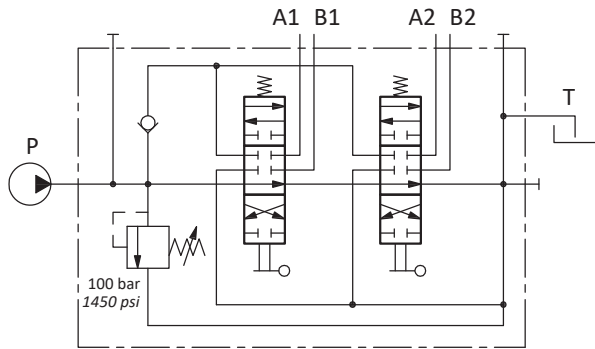
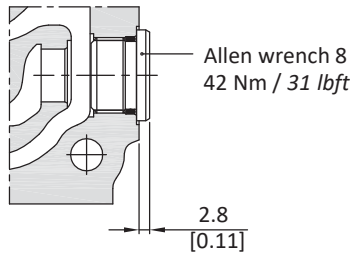
Description example
45L GM08/1(X-100)/1 R SLP/AET-PSL2

directional valve with left inlet

Outlet port options

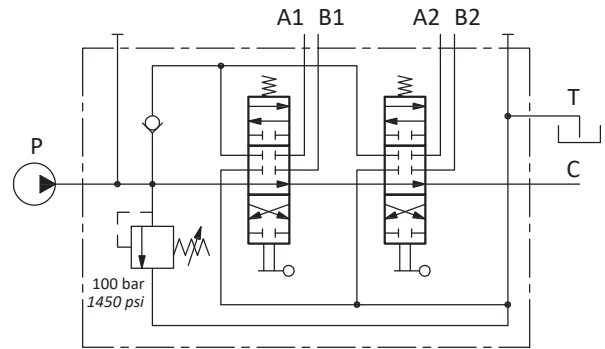
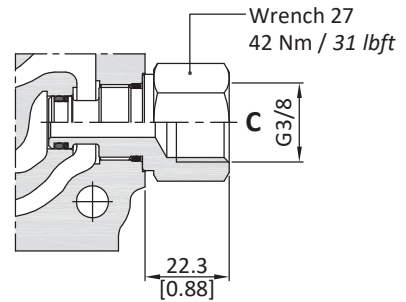
It's possible to have open centre, closed centre and carry-over.

AET: open centre (standard)



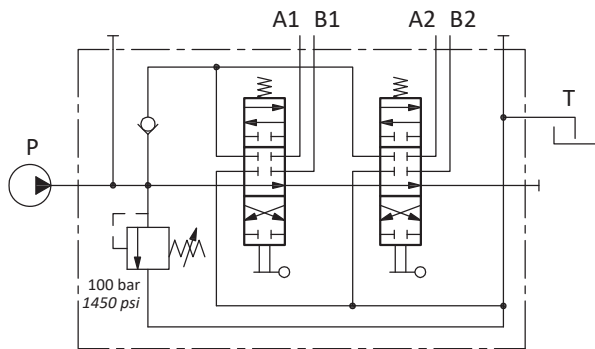
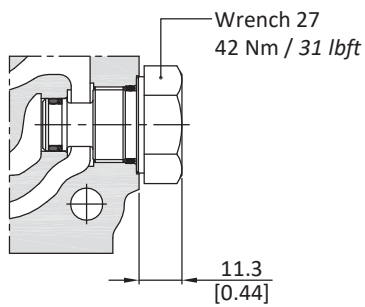
Description example
45L GM08/2-P(X-100)/18L/18L/AET-PSL2

AE: with carry-over



Description example
45L GM08/2-P(X-100)/18L/18L/AE-PSL2

AEK: closed centre



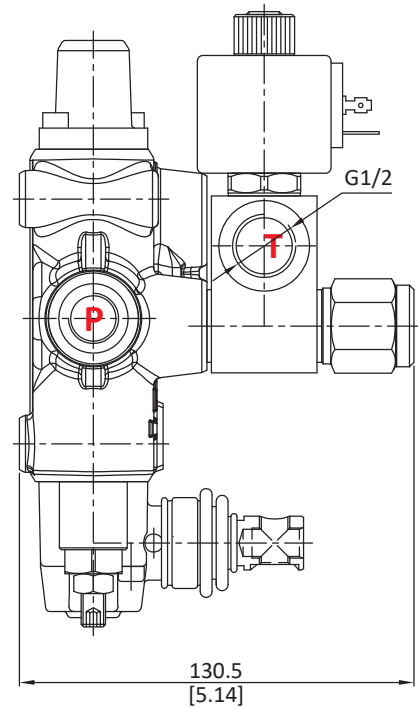
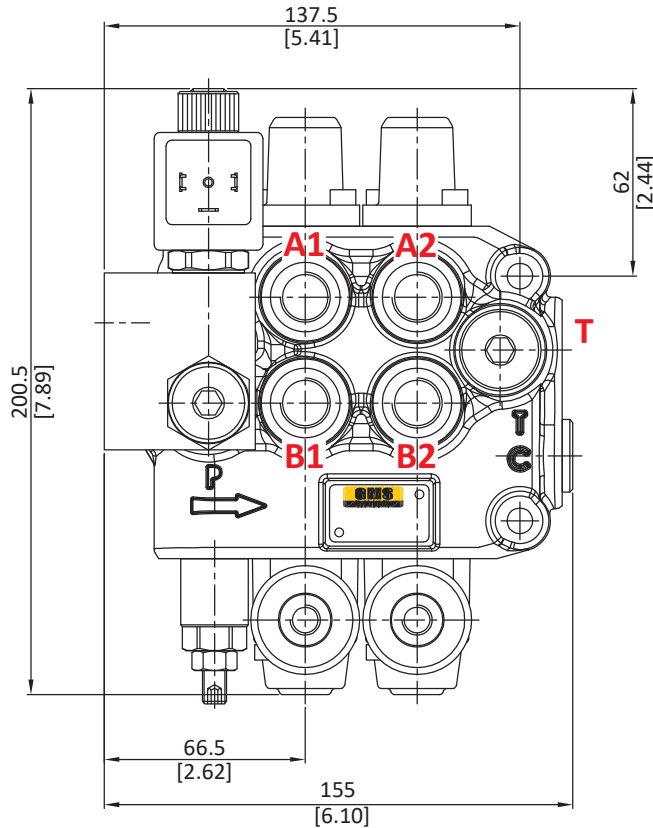
Description example
45L GM08/2-P(X-100)/18L/18L/AEK-PSL2

directional valve with left inlet

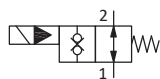
Inlet port options

With solenoid pilot unloader valve

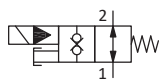
With push button for manual override.



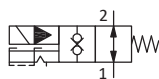
ELN: without emergency



ELP: push button type



ELT: "push & twist" type



Operating features

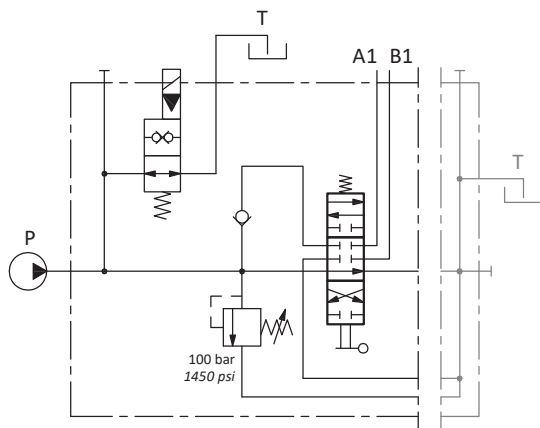
VALVE

Maximum operating pressure : 250 bar

Maximum flow : 15 l/min

Internal leakage: max 5 drops/min @ 250bar

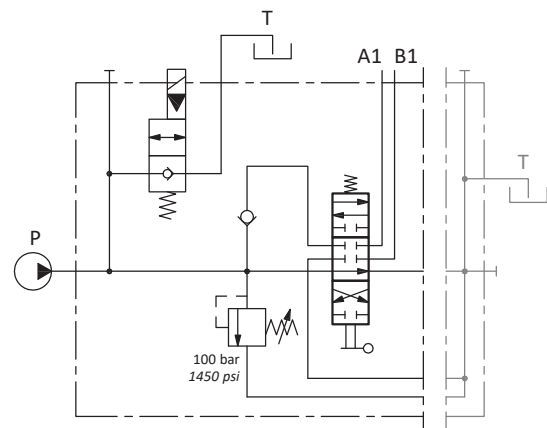
Normally open configuration type ELN



Description example

45L GM08/2-P(X-100)/18L/...../AET-PSL2-ELN-12VDC

Normally closed configuration type ELN(NC)

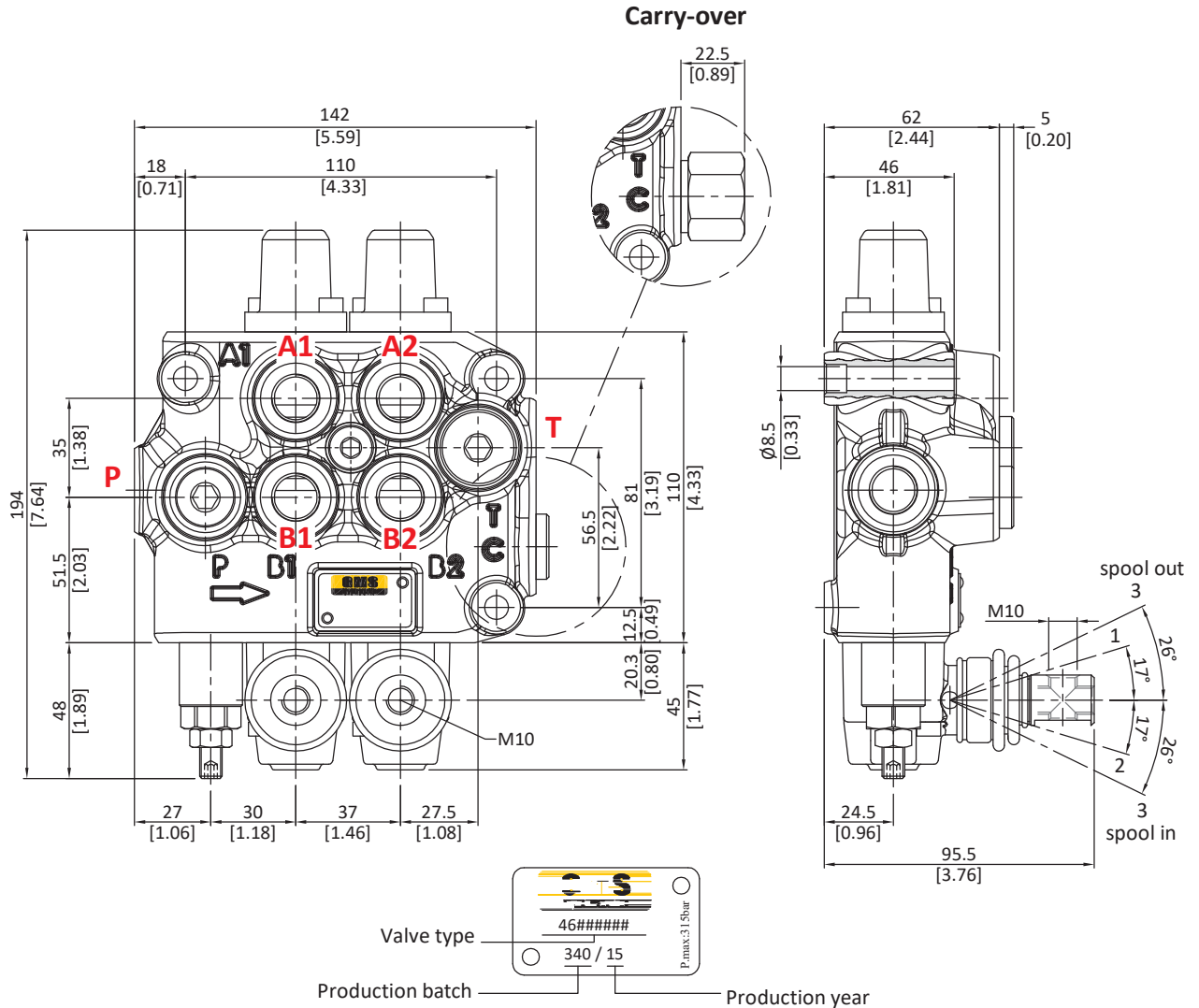


Description example

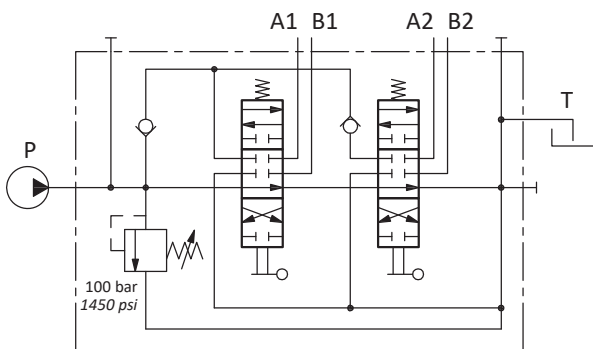
45L GM08/2-P(X-100)/18L/...../AET-PSL2-ELN(NC)-12VDC

directional valve with left inlet

Dimensional data



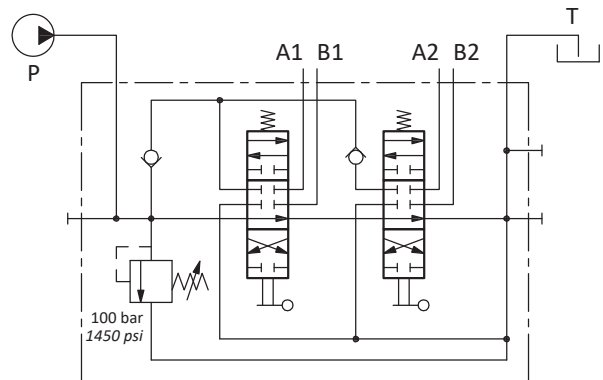
Standard configuration



Description example

45L GMC08/2-P(X-100)/18L/18L/AET-PSL2

Configuration with upper inlet and outlet

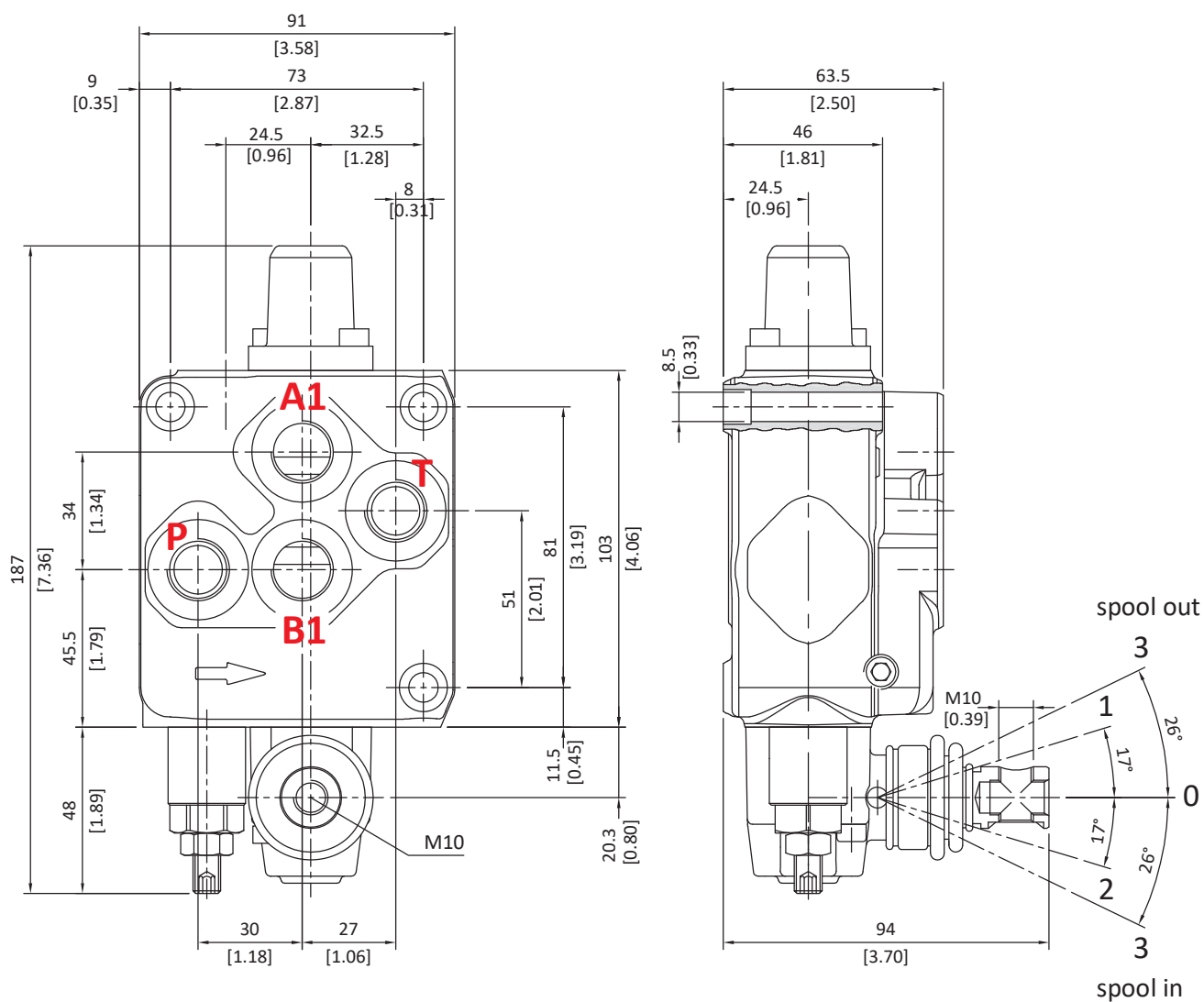


Description example

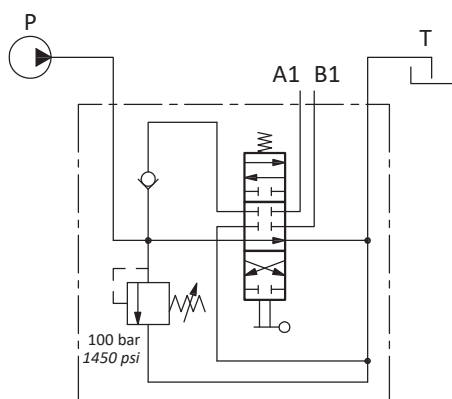
45L GMC08/2-P(X-100)/18L/18L/AET-PSA2

directional valve with left inlet

Dimensional data



Configuration with upper inlet and outlet

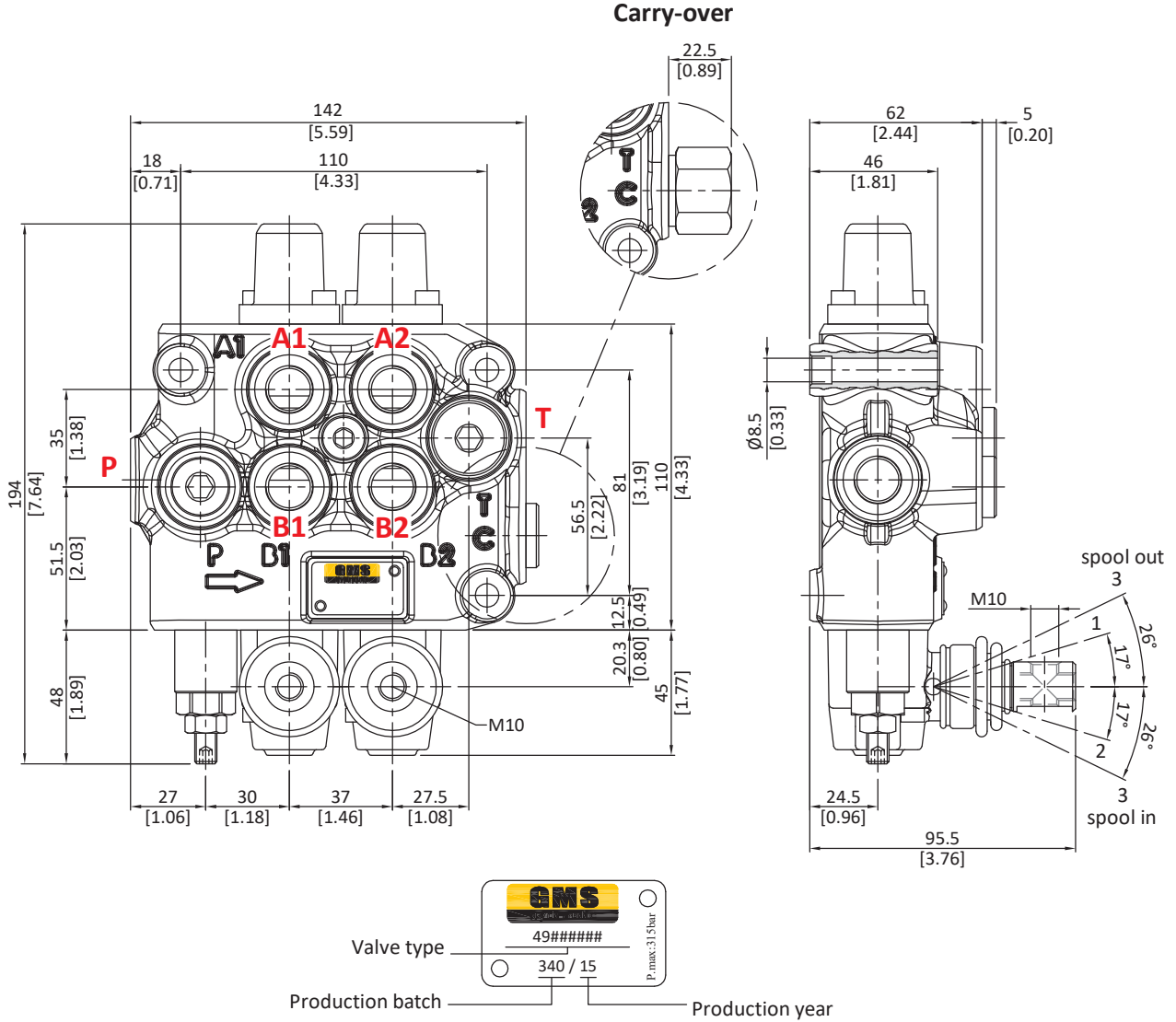


Description example
45L GMT08/1-N(X-100)/18L

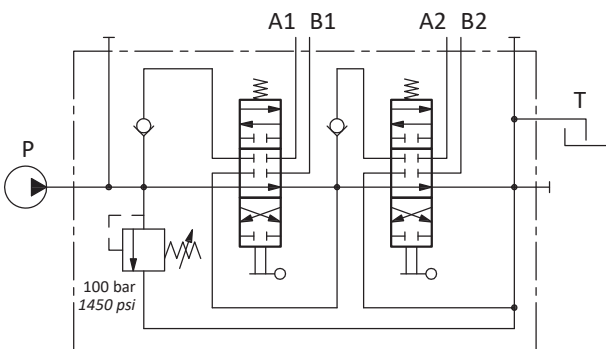
directional valve with left inlet

Dimensional data (series circuit)

The description of 45L GMCS valve with series circuit is marked with letter "S" and one figure which indicate the downstream sections from series connection.



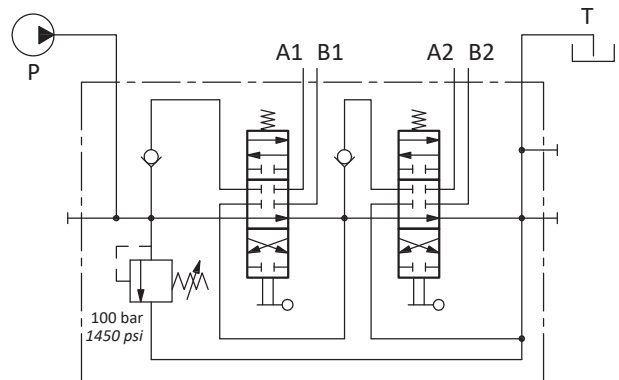
Standard configuration



Description example

45L GMCS08/2-S1(X-100)/18L/18L/AET-PSL2

Configuration with upper inlet and outlet



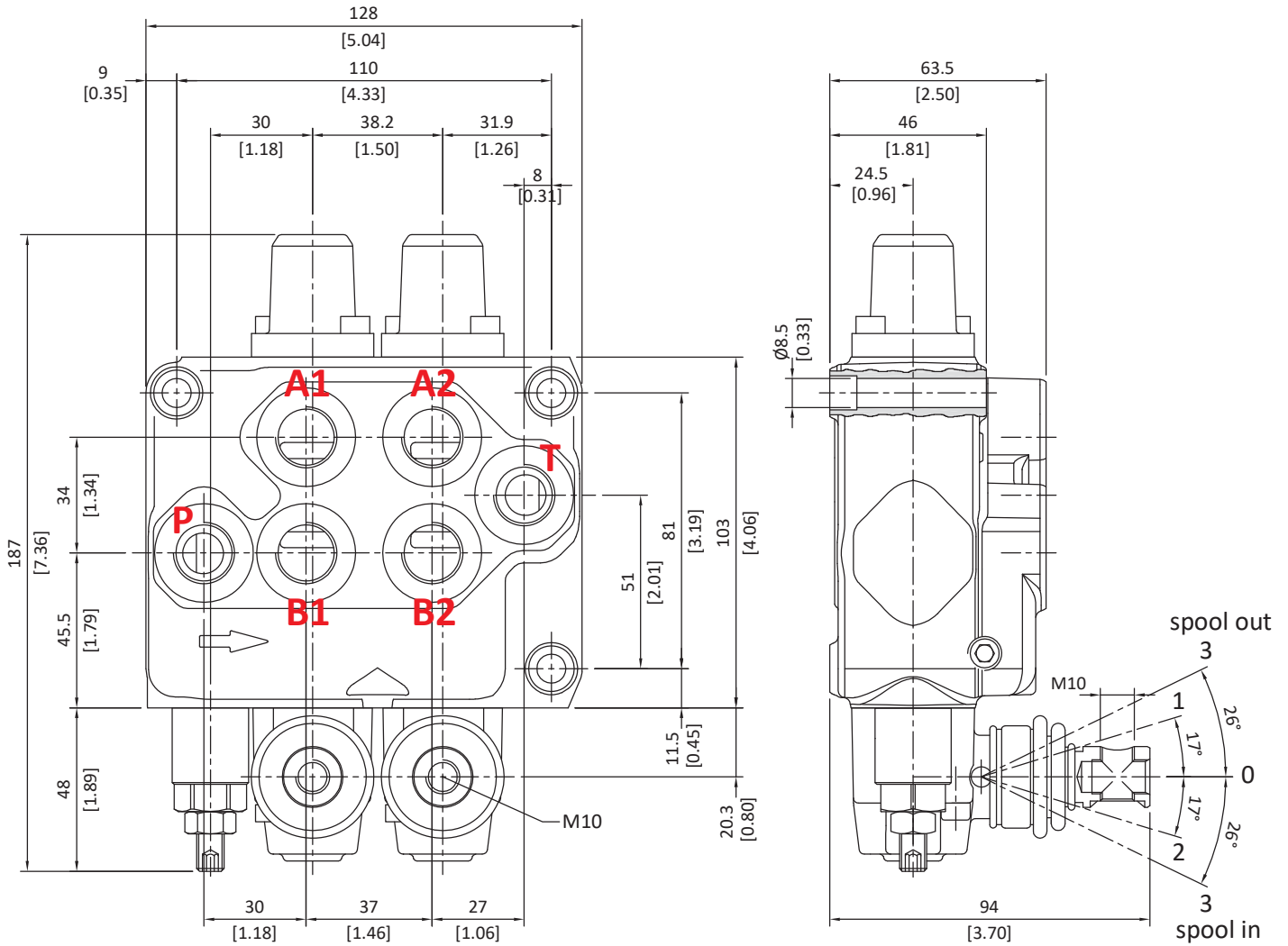
Description example

45L GMCS08/2-S1(X-100)/18L/18L/AET-PSA2

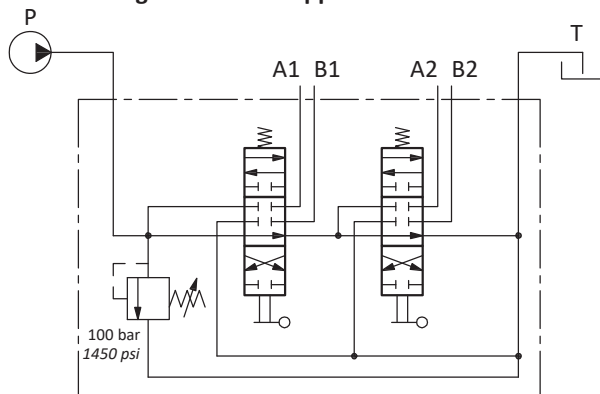
directional valve with left inlet

Dimensional data (with tandem circuit)

The description of 45L GMT valve with tandem circuit is marked with letters "SP" and one figure which indicate the downstream sections from tandem connection.



Configuration with upper inlet and outlet



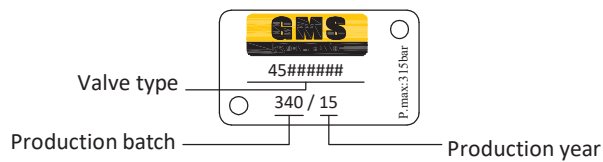
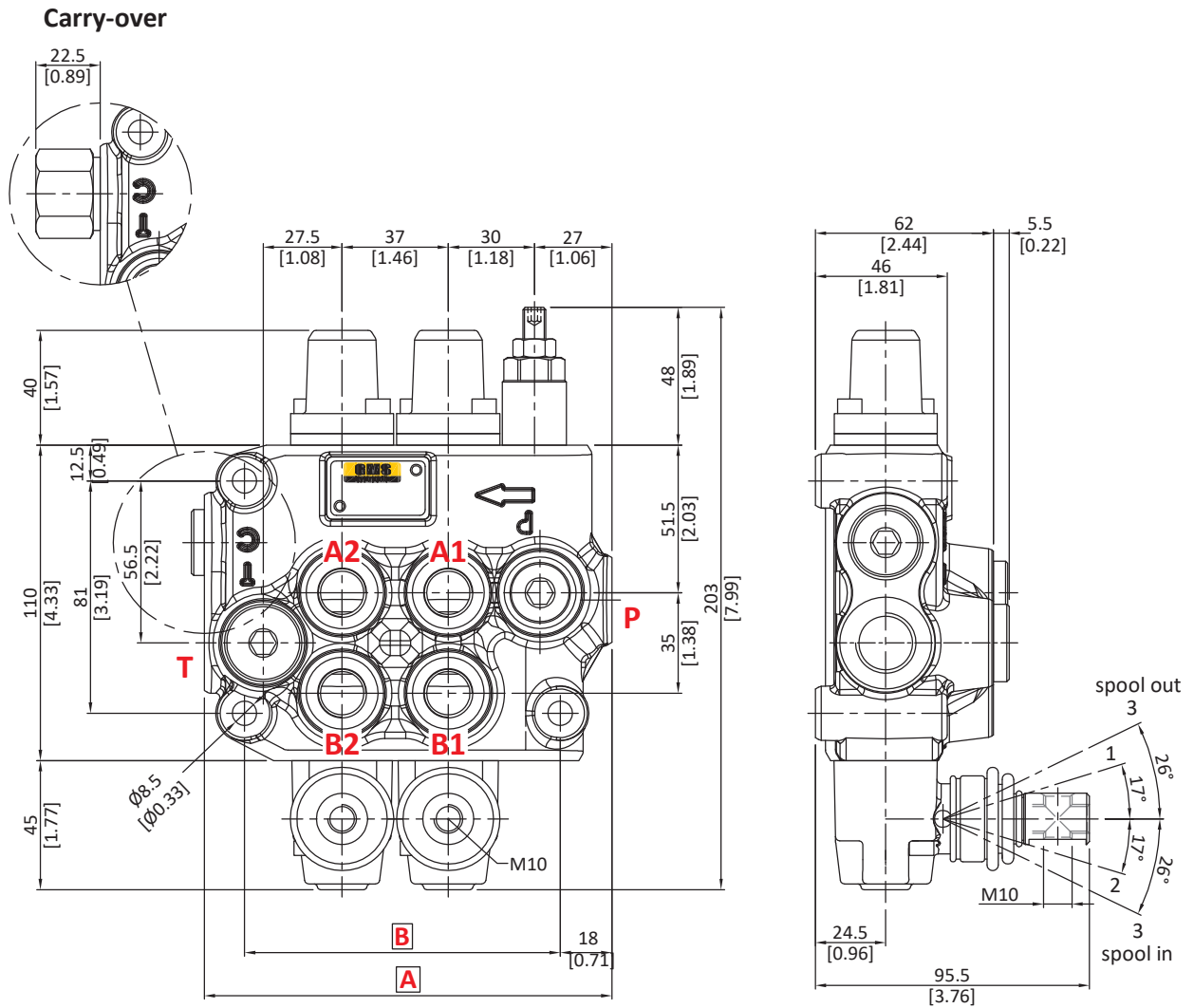
Description example
45L GMT08/2-SP1(X-100)/18L/18L

Directional valve with parallel circuit

Dimensional data	B-48
Hydraulic circuit	B-49
Ordering codes	B-50
Inlet relief options	B-10
Spools	B-52
“A” side spool positioners	B-53
“B” side options	B-29
Complete controls	B-37
Outlet port options	B-41
Inlet port options	B-42

directional valve with right inlet

Dimensional data (parallel circuit)



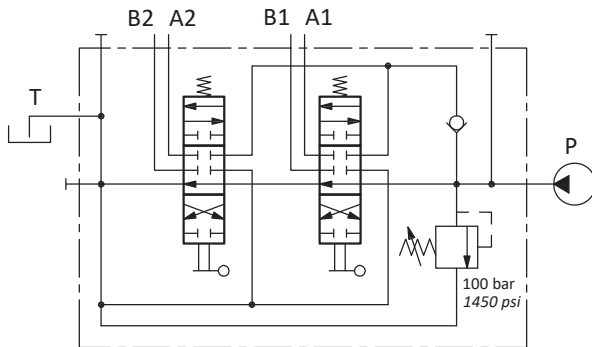
TYPE	A		B		Weight	
	mm	in	mm	in	kg	lb
45L GM 08/1-P	105	4.13	73	2.87	3.1	6.83
45L GM 08/2-P	142	5.60	110	4.33	4.4	9.70
45L GM 08/3-P	179	7.05	147	5.79	5.7	12.57

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

directional valve with right inlet

Hydraulic circuit

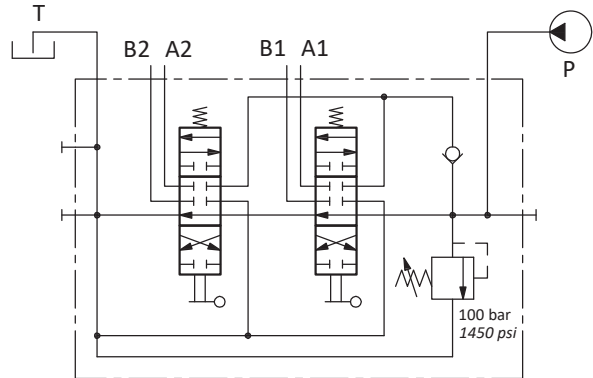
Standard configuration



Description example

45L GM08/2-P(X-100)/ED-18L/ED-18L/AET-PSL2

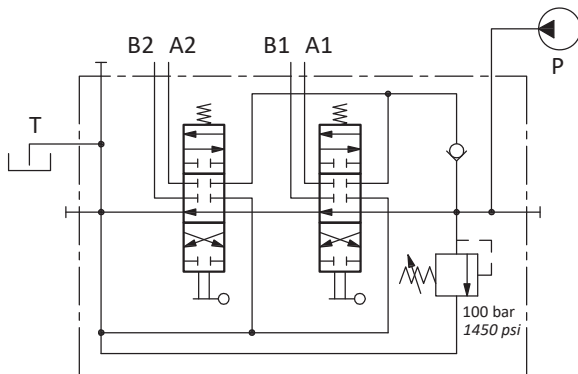
Configuration with upper inlet and outlet



Description example

45L GM08/2-P(X-100)/ED-18L/ED-18L/AET-PSA2

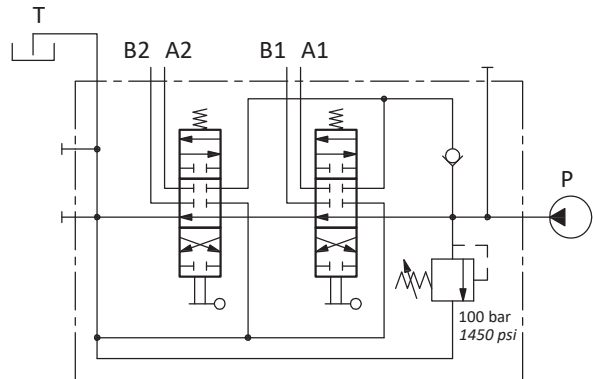
Configuration with upper inlet and side outlet



Description example

45L GM08/2-P(X-100)/ED-18L/ED-18L/AET-PSV2

Configuration with side inlet and upper outlet



Description example

45L GM08/2-P(X-100)/ED-18L/ED-18L/AET-PSB2

directional valve with right inlet

Ordering codes

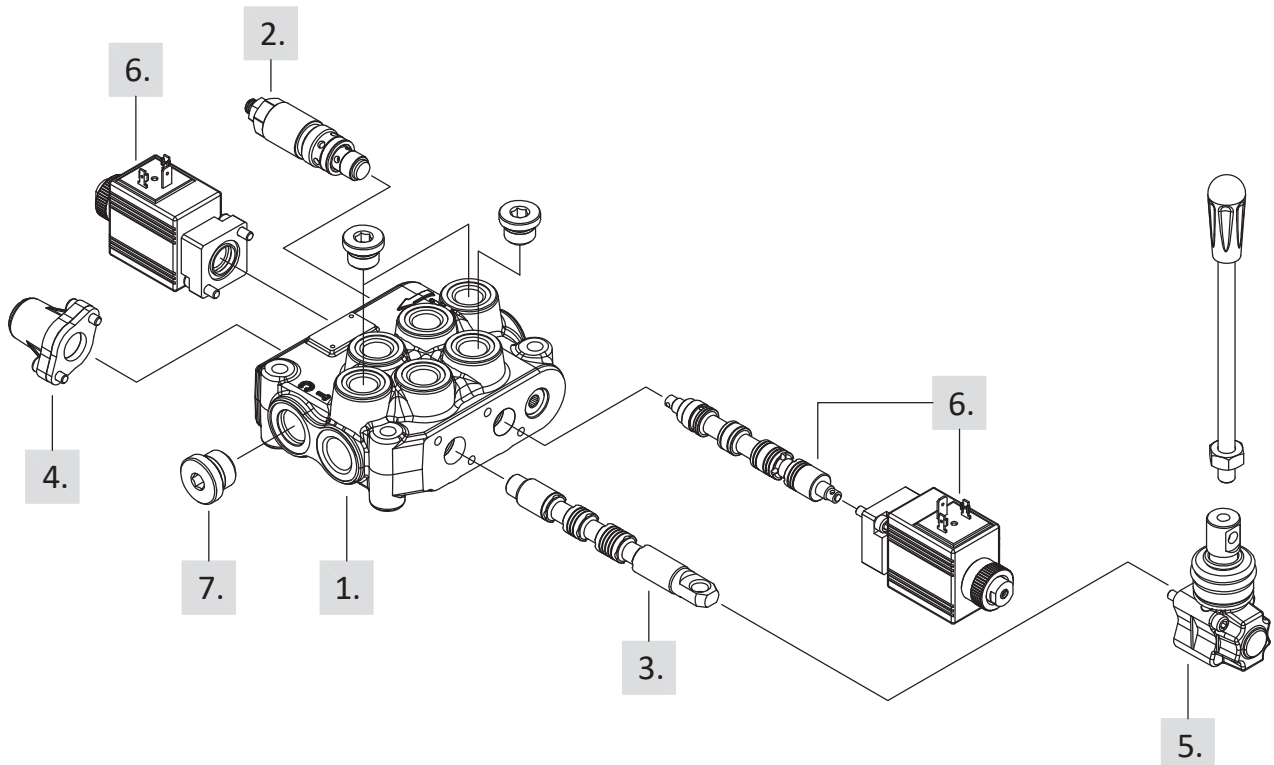
Description example:

45L GM08 / 2 - P (X - 100) / ED - 1 8 L / ED - 18ES3 / AET - PSL2

1st section following section

1. 2. 3. 4. 5. 6. 7. 8.

Valve setting (bar)



1. Body kits

TYPE	CODE	DESCRIPTION
1-P	-	Parallel, 1 section
2-P	-	Parallel, 2 sections
3-P	-	Parallel, 3 sections
4-P	-	Parallel, 4 sections
5-P	-	Parallel, 5 sections
6-P	-	Parallel, 6 sections

Include body, seals and load check valve.

2. Inlet relief options page 10

TYPE	CODE	DESCRIPTION
KE08K01 : direct pressure relief valve type X (X-100)	30 05 4917	Range 20 to 315 bar / 290 to 4600 psi standard setting 100 bar / 1450 psi

Standard setting is referred to 6 l/min flow.

SV	30 05 5004	Relief valve blanking plug
----	------------	----------------------------

3. Spool options page 52

TYPE	CODE	DESCRIPTION
ED-1	30 01 3516	Double acting, 3 positions, with A and B closed in neutral position
ED-1A	-	Double acting, 3 positions, with A open to tank in neutral position
ED-1B	-	Double acting, 3 positions, with B open to tank in neutral position
ED-2	30 01 3517	Double acting, 3 positions, with A and B open to tank in neutral position
ED-2H	-	Double acting, 3 positions, with A and B partially open to tank in neutral position
ED-3	30 01 3514	Single acting on A, 3 positions, B plugged requires G3/8 plug (see part a.)
ED-4	30 01 3515	Single acting on B, 3 positions, A plugged requires G3/8 plug (see part a.)
Special spools for particular positioner kits		
ED-5BY	-	Double acting, 4 positions, floating circuit in 4 th position with spool out

directional valve with right inlet

Ordering codes

4. "A" side spool positioners *page 53*

TYPE	CODE	DESCRIPTION
8	30 07 5427	With spring return in neutral position
8D	30 07 5449	With spring return in neutral position and pin with M6 female thread for dual control
8D2	30 07 5450	With spring return in neutral position and pin with M8 male thread for dual control
8T	-	With spring return in neutral position, for single acting spool type 3 and 4
8F2	30 07 5444	With spring return in neutral position and adjustable flow limiter
19	30 07 5471	2 positions, with spring return in neutral position from position 1
20	30 07 5472	2 positions, with spring return in neutral position from position 2
11	30 07 5445	Detent in positions neutral, 1 and 2
12	30 07 5446	Detent in positions 1 and 2
15	30 07 5447	2 positions, detent in positions 1 and neutral
16	30 07 5448	2 positions, detent in positions 2 and neutral
17	30 07 5467	With spring return position 1
18	30 07 5468	With spring return position 2
17D	30 07 5469	With spring return position 1 and pin with M6 female thread for dual control
18D	30 07 5470	With spring return position 2 and pin with M6 female thread for dual control
9B	30 07 5451	With detent in position 1 and spring return in neutral position
10B	30 07 5452	With detent in position 2 and spring return in neutral position
11B	30 07 5453	Detent in positions 1 and 2 and spring return in neutral position
8MG3(NO)	30 07 5455	With spring return in neutral position and microswitch in positions 1 and 2
8P	30 07 5463	ON/OFF pneumatic kit
8EP3	30 07 5473	12 VDC ON/OFF electropneumatic kit
	30 07 5464	24 VDC ON/OFF electropneumatic kit
8EI3	30 07 5465	12 VDC ON/OFF electrohydraulic kit
	30 07 5466	24 VDC ON/OFF electrohydraulic kit
Particular positioner kits for special spools <i>page 64</i>		
13QN	30 07 5315	4 pos. with spring return in neutral position and detent in 4 th pos.: for spool ED-5B Y

5. "B" side options *page 29*

TYPE	CODE	DESCRIPTION
L	30 07 5335	Standard lever box
LF1	30 07 5337	Lever box with adjustable flow limiter
SLP	30 07 5338	Without lever box, with dust-proof plate
LEB	30 07 5340	Safety lever box, vertical configuration
LUP	30 07 5341	Safety lever box, horizontal configuration
SL	-	Without lever box
SLCZ	-	Without lever box, with endcap.
TQ	30 07 5328	Flexible cable connection; for CG cables

6. Complete controls *page 37*

TYPE	CODE	DESCRIPTION
Proportional hydraulic control type 8IM and ON/OFF solenoid controls type 8ES and rotative control type R .		

7. Outlet port options *page 41*

TYPE	CODE	DESCRIPTION
AET	30 05 4923	Open centre plug
AEK	30 05 4927	Closed centre plug
AE	30 05 6002	G3/8 carry-over sleeve
AE1	30 05 4926	G1/2 carry-over sleeve

8. Inlet and outlet selection * *page 49*

TYPE	CODE	DESCRIPTION
PSL2	30 05 4918	G3/8 plug for upper inlet
	30 05 4919	G1/2 plug for upper outlet
PSA2	30 05 4918	G3/8 plug for side inlet
	30 05 4919	G1/2 plug for side outlet

a. "A" and "B" ports plugs

TYPE	CODE	DESCRIPTION
G3/8	30 05 4918	For single acting spools type 3 and 4

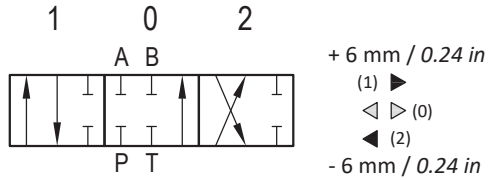
b. Optional handlevers

TYPE	CODE	DESCRIPTION
AL01/M10x200	30 05 4989	Lenght L = 200mm / 7.87in

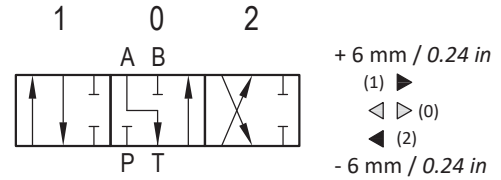
directional valve with right inlet

Spools options

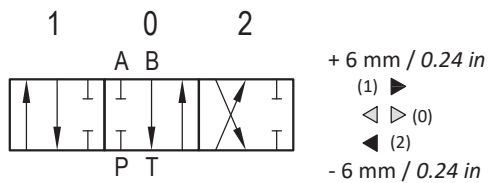
Type ED-1 (30 01 3516)



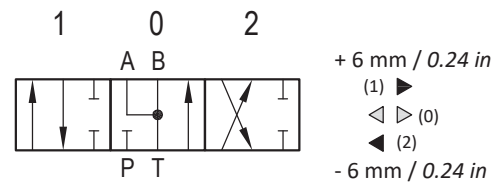
Type ED-1A



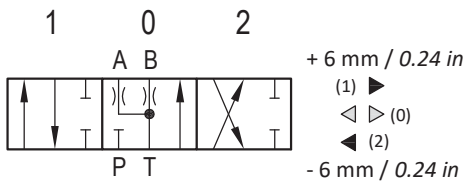
Type ED-1B



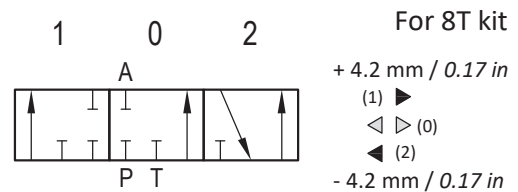
Type ED-2 (30 01 3517)



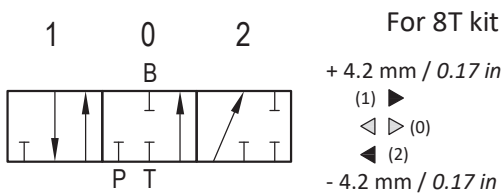
Type ED-2H



Type ED-3 (30 01 3514)

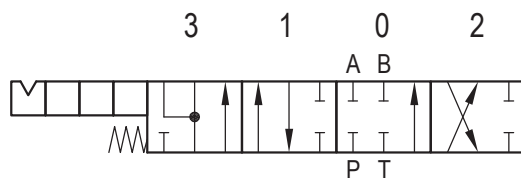


Type ED-4 (30 01 3515)



Type ED-5BY

For 13QN kit



+ 9 mm / 0.35 in
(3) ►►
+ 4.5 mm / 0.18 in
(1) ►
◄ ► (0)
◄ (2)
- 4.5 mm / 0.18 in

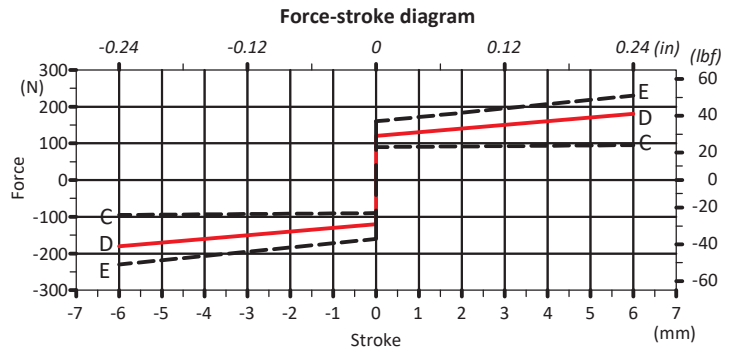
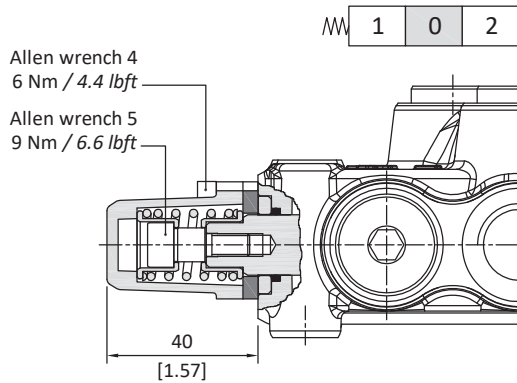
directional valve with right inlet

"A" side spool positioners

With spring return in neutral position

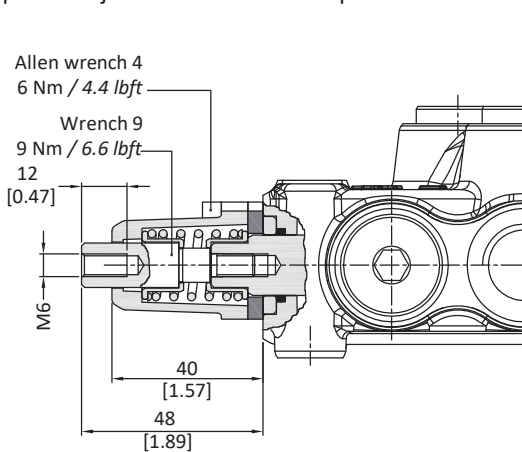
8 kit (30 07 5427)

It's supplied with standard spring type D (see force-stroke diagram) and available with lighter spring type C (8MC) or heavier type E (8ME).

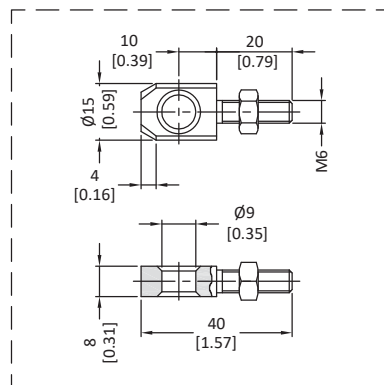


8D kit (30 07 5449)

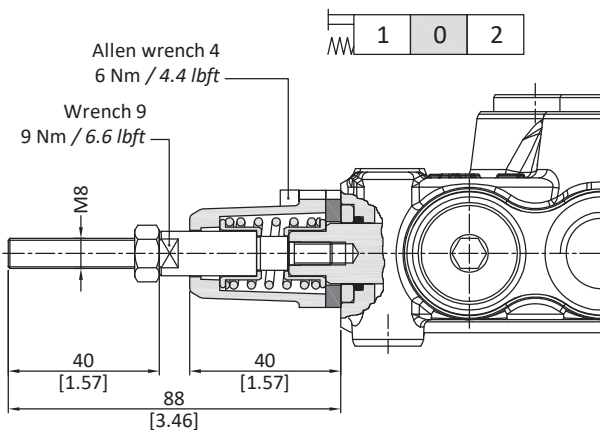
Spool end joint is available on request in order to screw onto pin.



Spool end joint dimensions (optional)

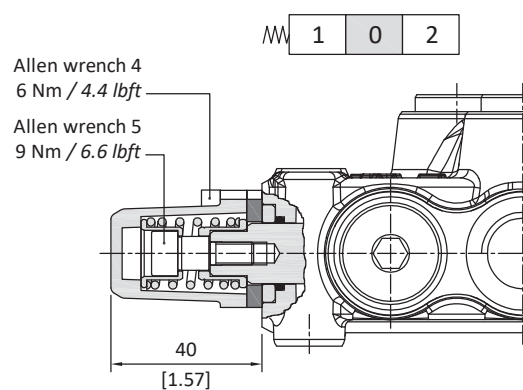


8D2 kit (30 07 5450)



8T kit

Stroke : 4.2mm

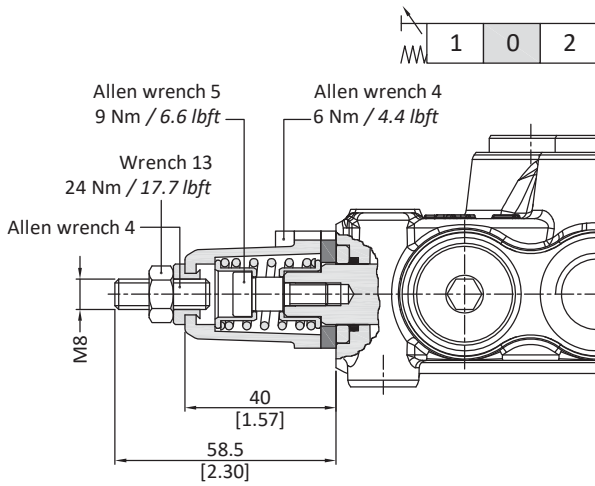


directional valve with right inlet

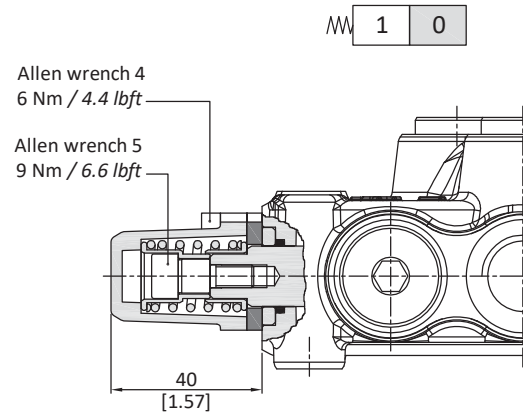
"A" side spool positioners

With spring return in neutral position

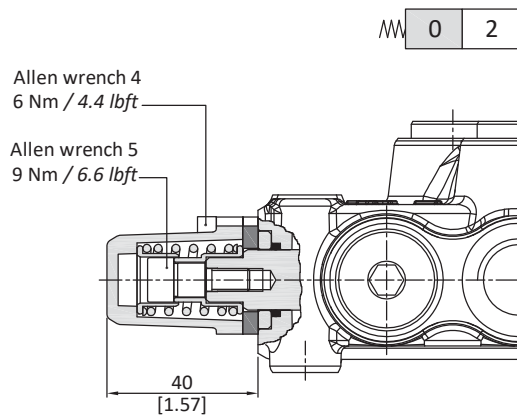
8F2 kit (30 07 5444)



19 kit (30 07 5471)



20 kit (30 07 5472)

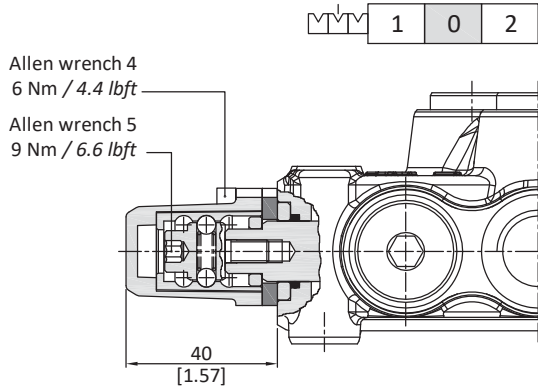


directional valve with right inlet

"A" side spool positioners

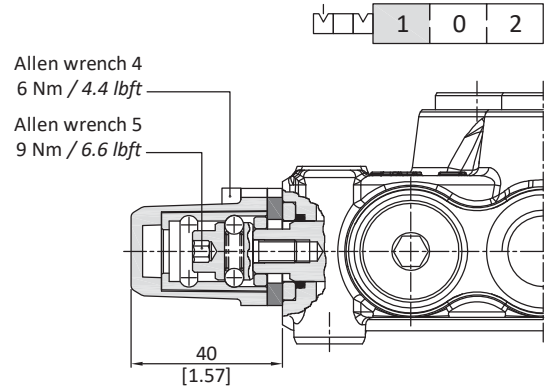
With detent

11 kit (30 07 5445)



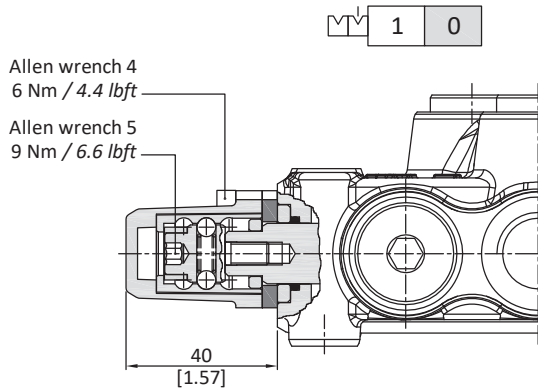
Operating features
 Locking and release force : 120 N / 27 lbf ±10%

12 kit (30 07 5446)



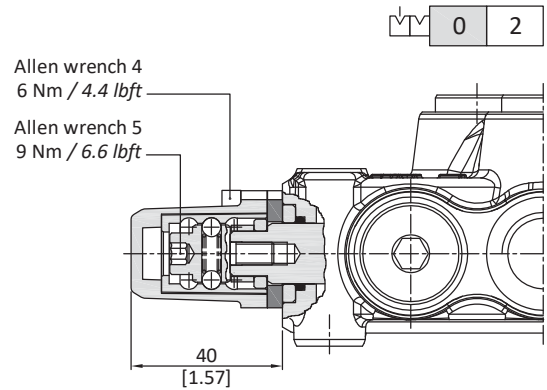
Operating features
 Locking and release force : 100 N / 22.5 lbf ±10%

15 kit (30 07 5447)



Operating features
 Locking and release force : 100 N / 22.5 lbf ±10%

16 kit (30 07 5448)



Operating features
 Locking and release force : 100 N / 22.5 lbf ±10%

directional valve with right inlet

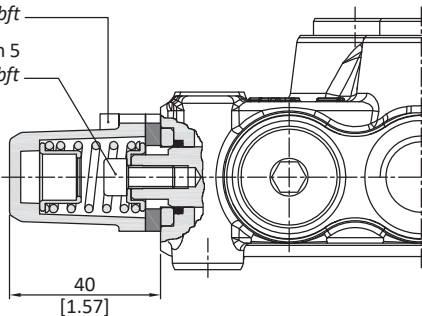
"A" side spool positioners

With spring return

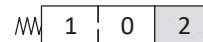
17 kit (30 07 5467)



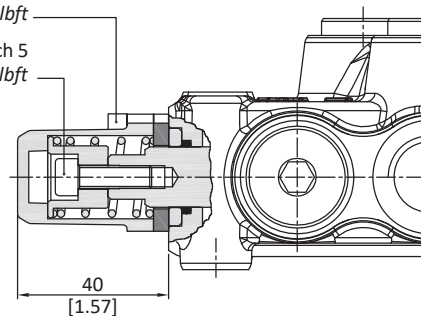
Allen wrench 4
6 Nm / 4.4 lbft
Allen wrench 5
9 Nm / 6.6 lbft



18 kit (30 07 5468)



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



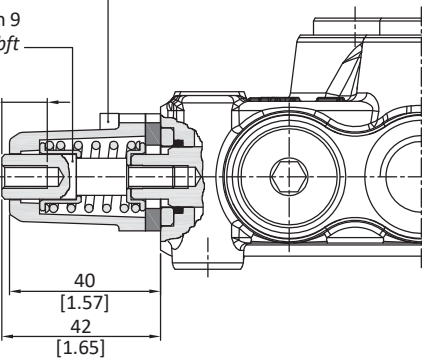
17D kit (30 07 5469)



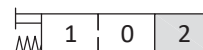
Allen wrench 4
6 Nm / 4.4 lbft
Wrench 9
9 Nm / 6.6 lbft

12
[0.47]

M6



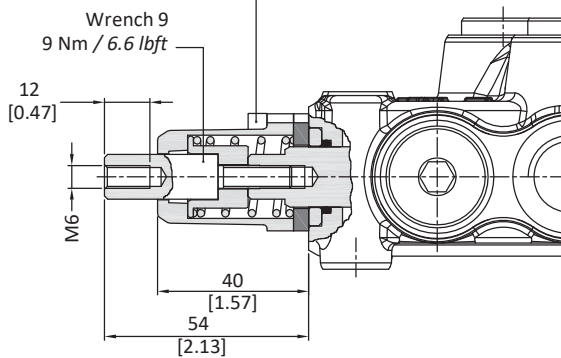
18D kit (30 07 5470)



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

12
[0.47]

M6

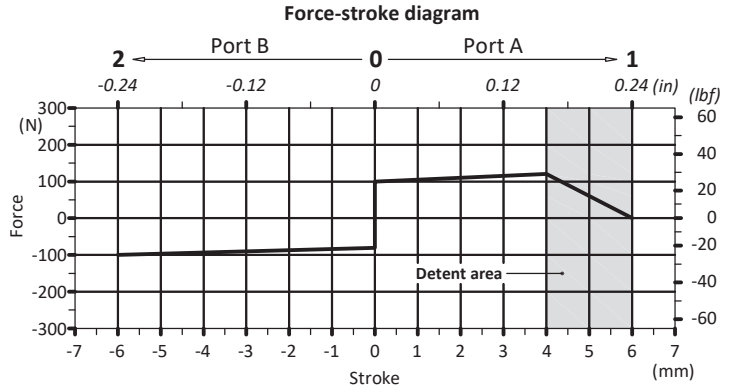
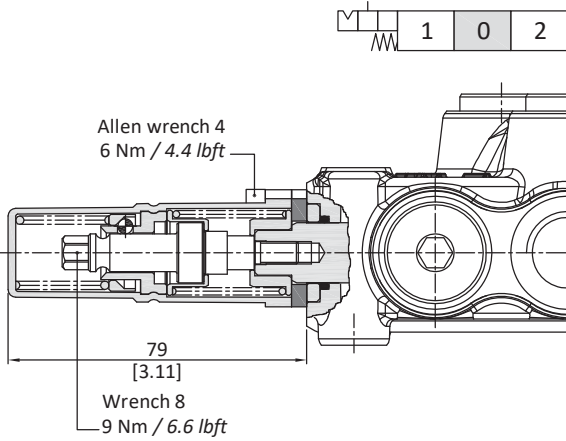


directional valve with right inlet

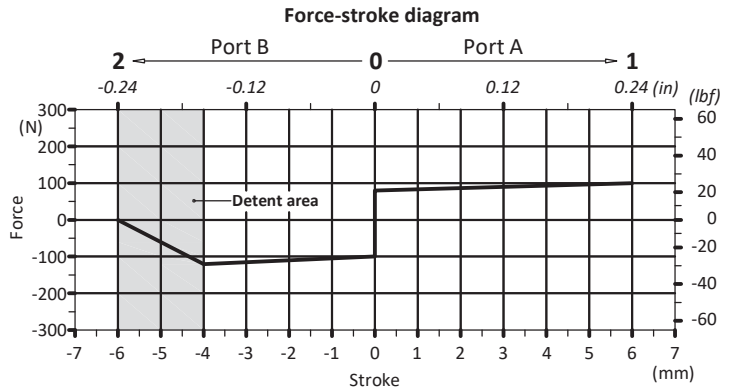
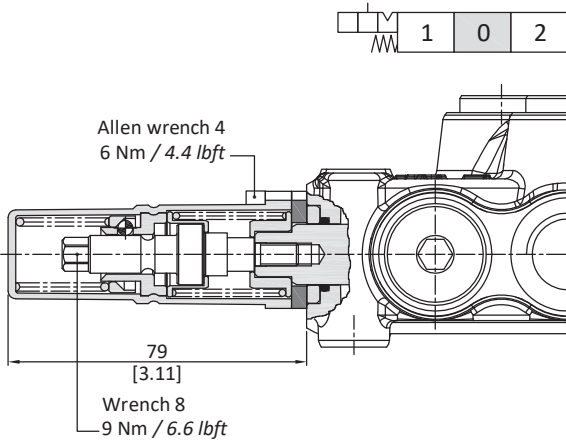
"A" side spool positioners

With detent and spring return to neutral position from either directions

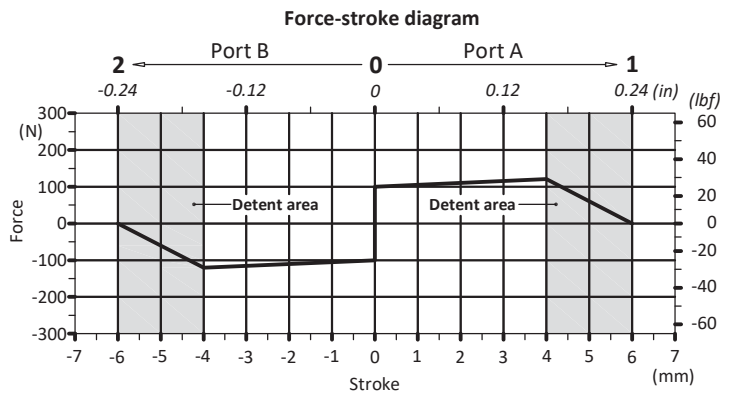
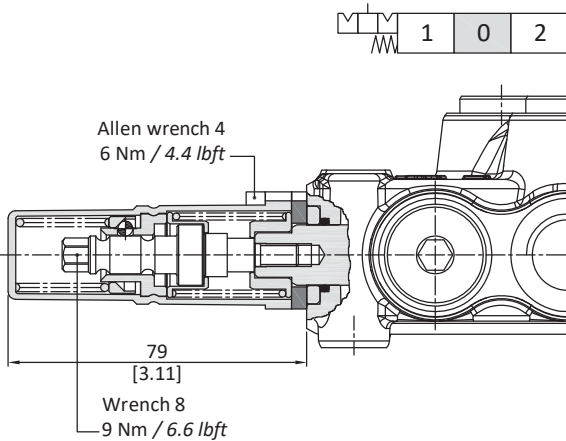
9B kit (30 07 5451)



10B kit (30 07 5452)



11B kit (30 07 5453)



directional valve with right inlet

"A" side spool positioners

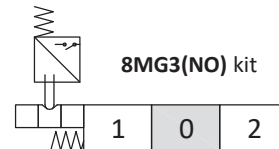
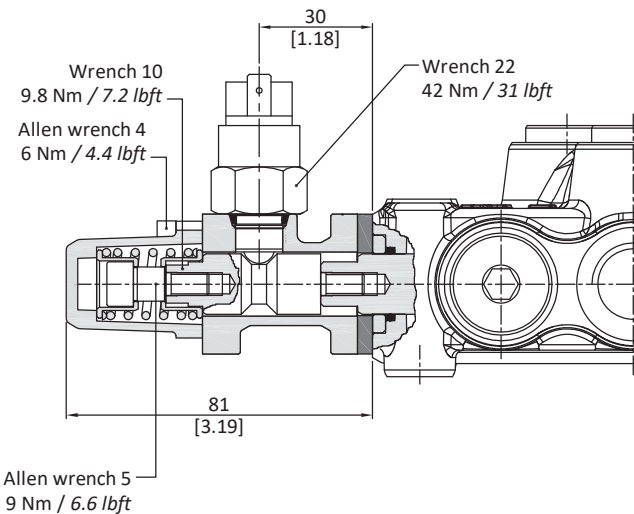
With microswitch type 8MG3(NO) (30 07 5455)

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

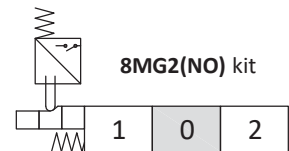
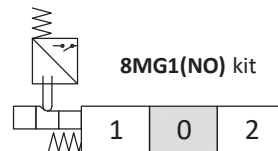
Also available **8MG1(NO)** configuration (microswitch operated in position 1) and **8MG2(NO)** configuration (microswitch operated in position 2); dimensions are the same of **8MG3(NO)** configuration.

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

For more information contact Sales Department.



Other configurations



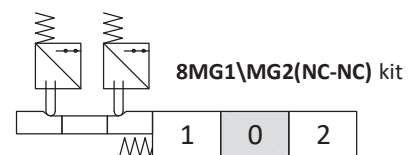
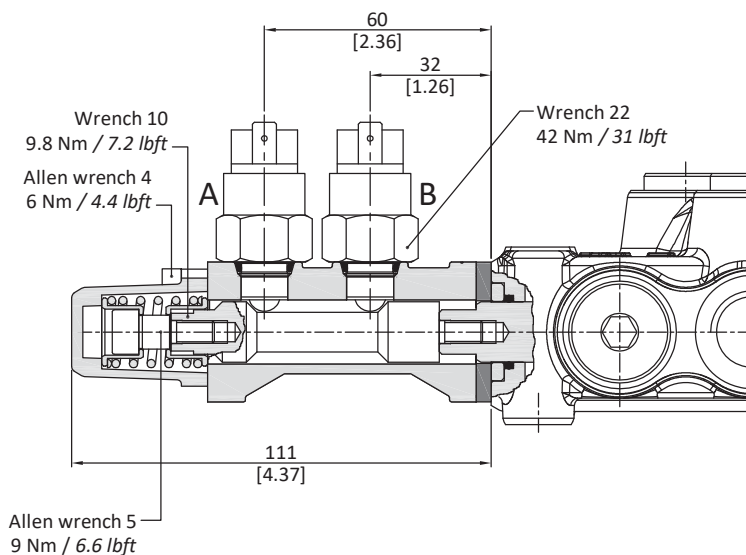
Operating features

MICROSWITCH

Mechanical life : 5x10⁵ operations
Electrical life (resistive load) : 5x10⁴ operations 10A / 12VDC
: 5x10⁴ operations 3A / 24VDC

Type 8MG1\MG2(NC-NC) (30 07 5462)

With double microswitch in position 1 and 2.



Positions	A	B
1		
0		
2		

Operating features

MICROSWITCH

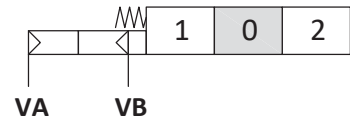
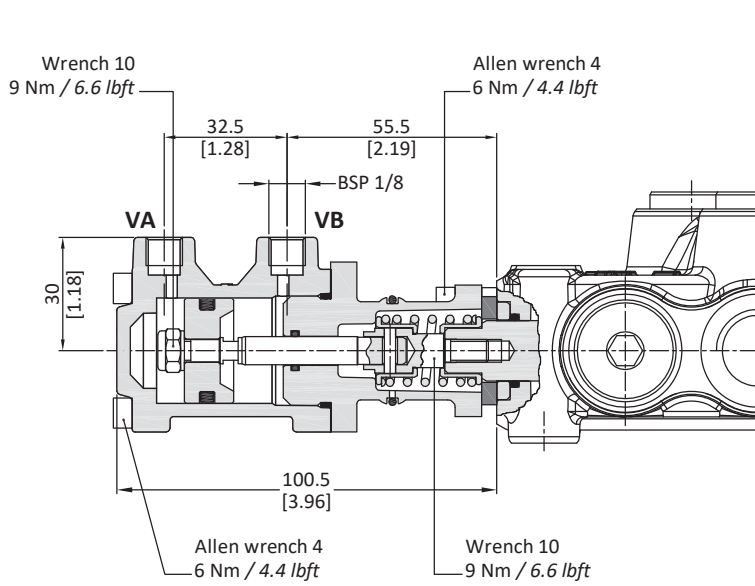
Mechanical life : 5x10⁵ operations
Electrical life (resistive load) : 5x10⁴ operations 10A / 12VDC
: 5x10⁴ operations 3A / 24VDC

directional valve with right inlet

"A" side spool positioners

ON/OFF pneumatic kit type 8P (30 07 5463)

With spring return to neutral position.



Operating features

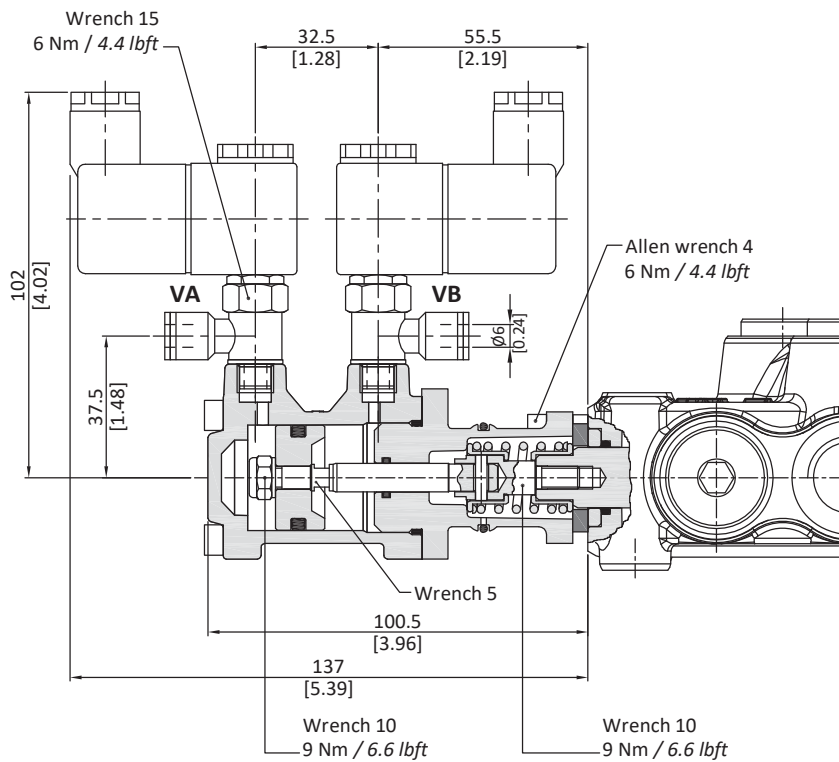
Pilot pressure.....: min. 5.5 bar / 80 psi
 : max.10 bar / 145 psi

directional valve with right inlet

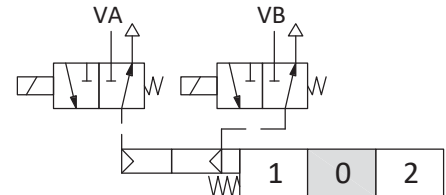
"A" side spool positioners

ON/OFF electropneumatic kit type 8EP3 - 30 07 5473 (12V) - 30 07 5464 (24V)

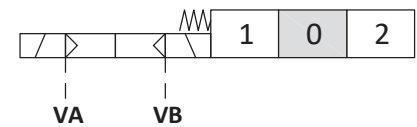
With spring return to neutral position.



Scheme



Scheme ISO 1219



Operating features

CONTROL

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

COIL

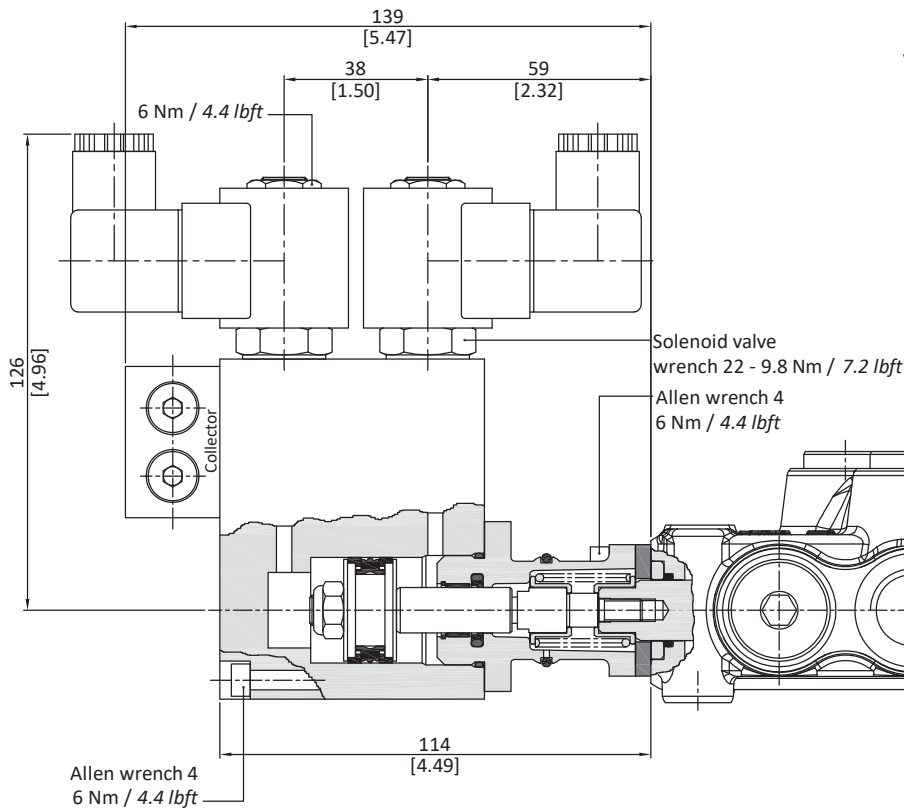
Nominal voltage tolerance : ±10%
Power rating : 8 W
Nominal current : 12 VDC
: 24 VDC
Coil insulation : Class H
Weather protection : IP65

directional valve with right inlet

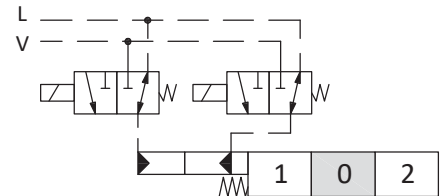
"A" side spool positioners

ON/OFF electrohydraulic kit type 8E13 - 30 07 5465 (12V) - 30 07 5466 (24V)

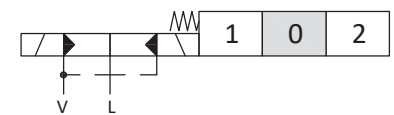
With external pilot and drain.



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

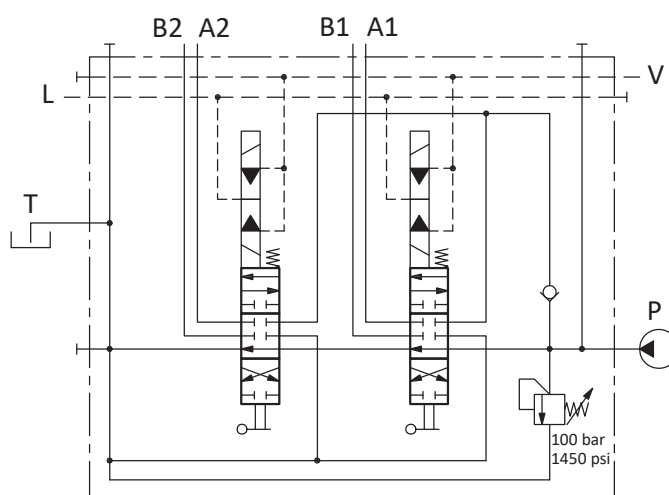
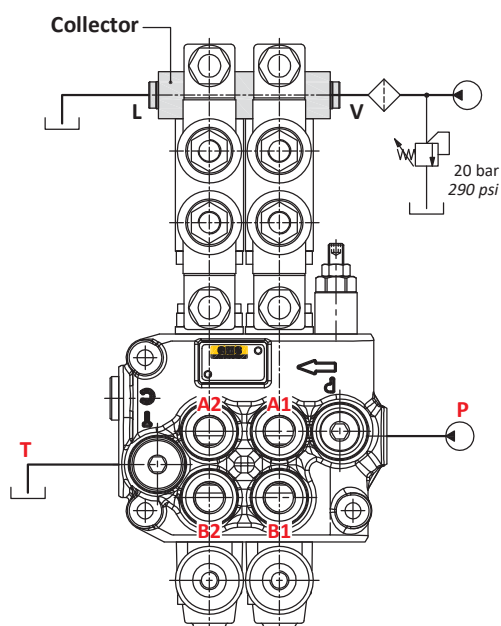
Nominal voltage tolerance	: $\pm 10\%$
Power rating	: 21 W
Nominal current	: 1.75 A - 12 VDC / 0.87 A - 24 VDC
Coil insulation	: Class F
Weather protection	: IP65

directional valve with right inlet

"A" side spool positioners

ON/OFF electrohydraulic kit type 8E13

Collector kit for external pilot and drain



Description example :
45L GM08/2-P(X-100)/ED-18E13L/ED-18E13L/
AET-PSL2-KE2S0-24VDC

COLLECTOR KIT CODES

Type	Code	Description
KE1S0	--	Kit one section
KE2S0	--	Kit for 2 sections
KE3S0	--	Kit for 3 sections
KE4S0	--	Kit for 4 sections
KE5S0	--	Kit for 5 sections
KE6S0	--	Kit for 6 sections

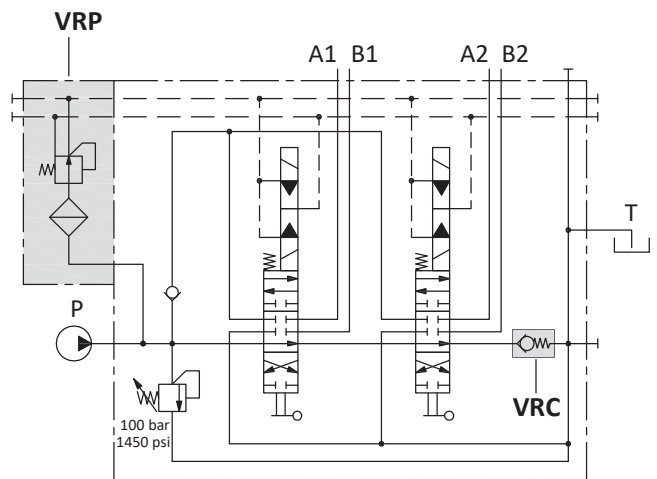
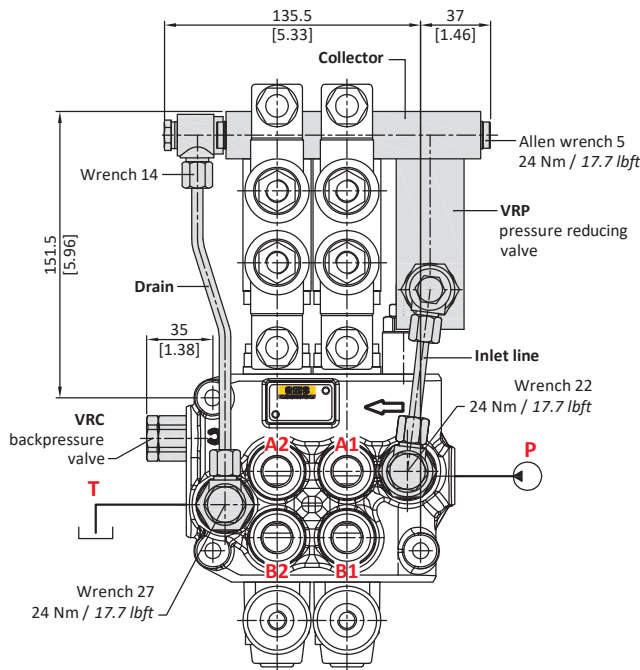
directional valve with right inlet

"A" side spool positioners

ON/OFF electrohydraulic kit type 8EI3

Collector kit with pilot and drain lines

The kit is made of collector, VRP pressure reducing valve and pipes.



Description example :

45L GM08/2-P(X-100)/ED-1 8EI3L/ED-18EI3L/
VRC-PSL2-KE2R0-24VDC

Operating features

VRP VALVE

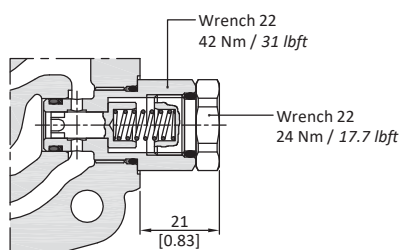
Output pressure : 20 bar / 290 psi
Max. flow : 8 l/min
Filtering : 80 μ

COLLECTOR KIT CODES

Type	Code	Description
KE1R0	--	Kit one section
KE2R0	--	Kit for 2 sections
KE3R0	--	Kit for 3 sections
KE4R0	--	Kit for 4 sections
KE5R0	--	Kit for 5 sections
KE6R0	--	Kit for 6 sections

VRC valve:

Valve assembled on flow through passage provides pilot pressure to the actuator.



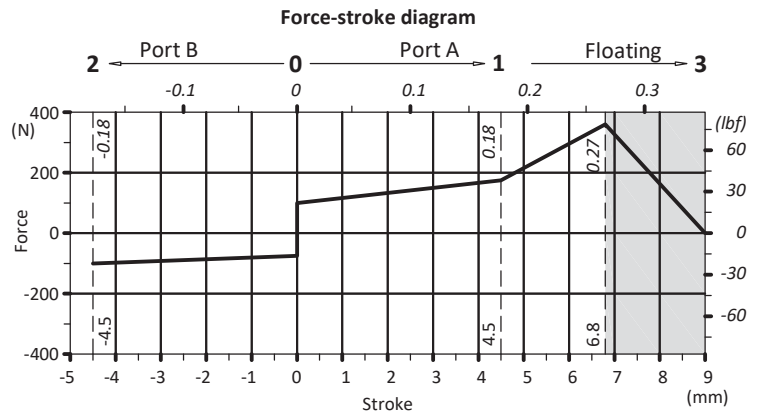
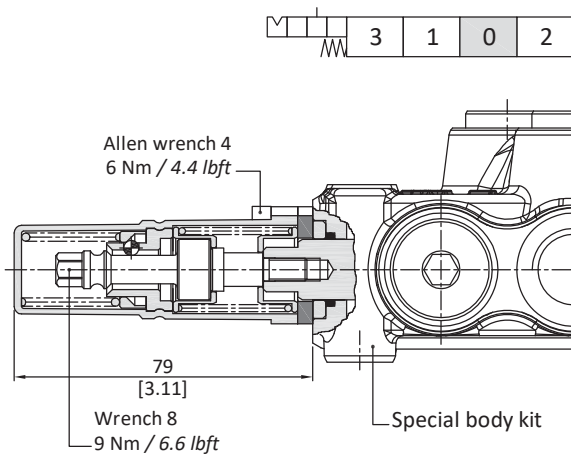
directional valve with right inlet

"A" side spool positioners

Particular positioner kits for special spools

13QN kit (30 07 5315)

Detent in 4th position with spool out: available only for spool type ED-5BY



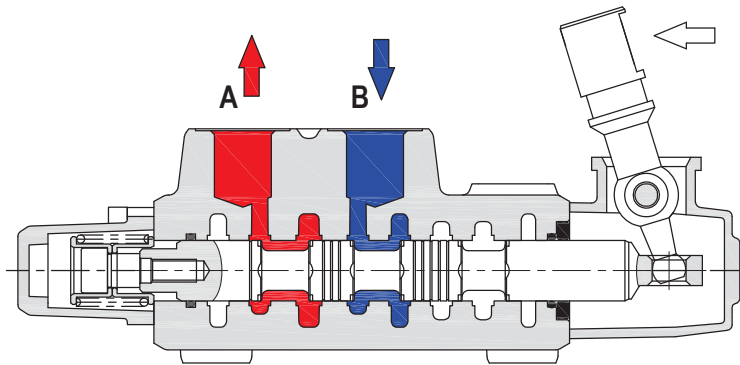
Detent area

Locking force: 360 N / 81 lbf ±10%

Release force: 390 N / 87.7 lbf ±10%

When hand lever pushed (spool out position) P to A port. B to T port.

Position 1



When hand lever pulled (spool in position) P to B port. A to T port.

Position 2

