

**TAON**

Hydraulik Komponenter

**90L GM****GMS**

hydraulic

**Specifications****Spool:** 1,2,3,4,5,6 / Double - Single - Closed Center - Motor - Floating - Regenerative Spool .....**Liter:** 90L Nominal - 100L Max**Ports:** 1/2 Standard - 3/4 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****TAON**

Hydraulik Komponenter

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## Valve general informations

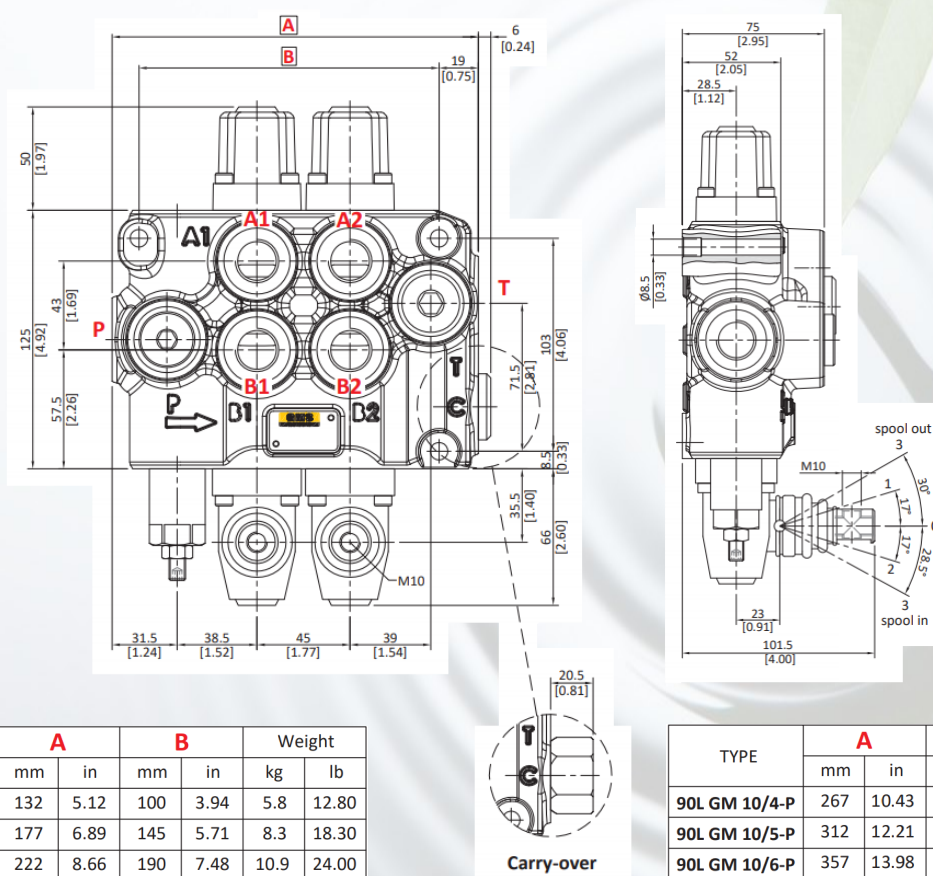
### Working conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mm<sup>2</sup>/s - 46cSt viscosity at 40°C temperature.

Nominal flow rating	90 l/min.		
Max. flow	100 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 <sup>3</sup> /min.	0.18 in <sup>3</sup> /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 <sup>2</sup> /s	from 15 to 75 cSt
	Min.	12 mm <sup>2</sup> /s	12 cSt
	Max.	400 mm <sup>2</sup> /s	400 cSt
Max. level of contamination	19/16 – ISO 4406		

### Dimensional data (parallel circuit)

*Directional valve with left inlet*



TYPE	A		B		Weight	
	mm	in	mm	in	kg	lb
90L GM 10/1-P	132	5.12	100	3.94	5.8	12.80
90L GM 10/2-P	177	6.89	145	5.71	8.3	18.30
90L GM 10/3-P	222	8.66	190	7.48	10.9	24.00

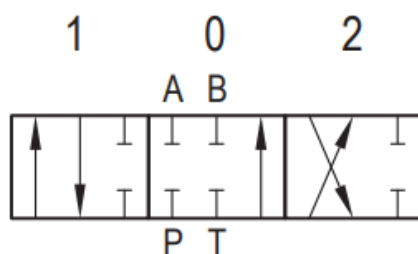
TYPE	A		B		Weight	
	mm	in	mm	in	kg	lb
90L GM 10/4-P	267	10.43	235	9.25	13.4	29.50
90L GM 10/5-P	312	12.21	280	11.02	16.5	36.40
90L GM 10/6-P	357	13.98	325	12.80	19.2	42.30

## Spools options

*Directional valve with left inlet*

### Type 1

**Standard**



+ 7 mm / 0.28 in

(1) ►

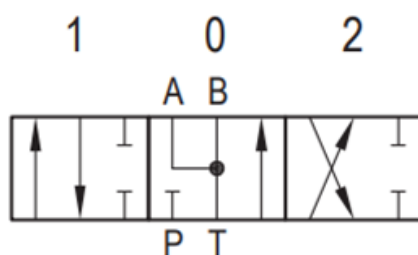
◄ (0) ►

◄ (2)

- 7 mm / 0.28 in

### Type 2

**Motor spool**



+ 7 mm / 0.28 in

(1) ►

◄ (0) ►

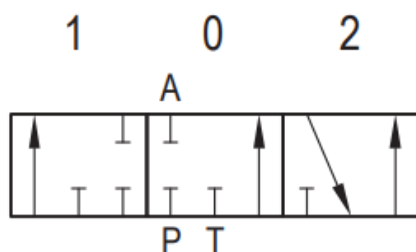
◄ (2)

- 7 mm / 0.28 in

### Type 3

**Single action**

For 8T kit



+ 4.5 mm / 0.18 in

(1) ►

◄ (0) ►

◄ (2)

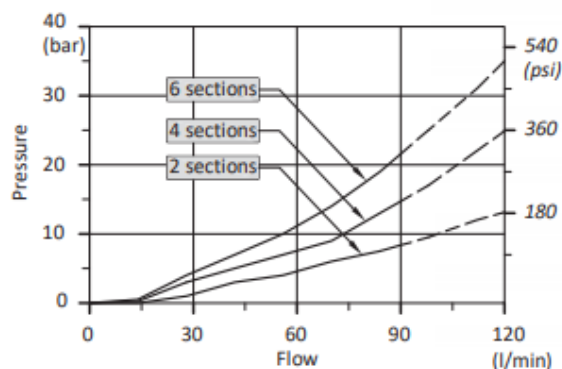
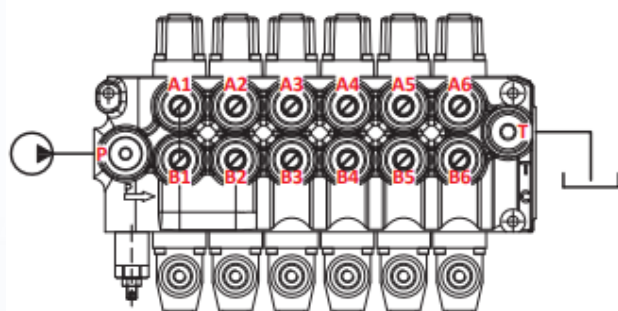
- 4.5 mm / 0.18 in



## Performance data (pressure drop vs. flow)

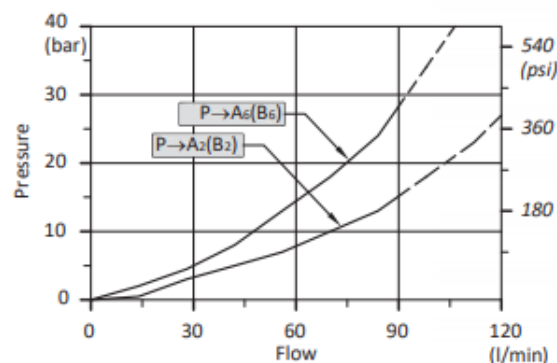
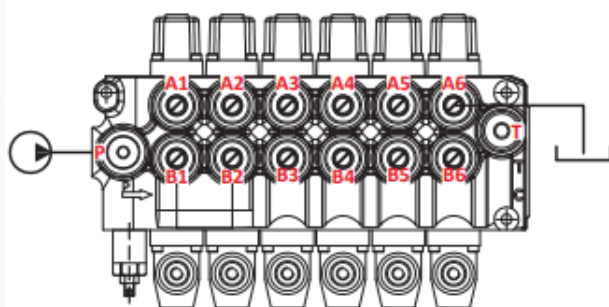
### Open centre

From side inlet to side outlet.



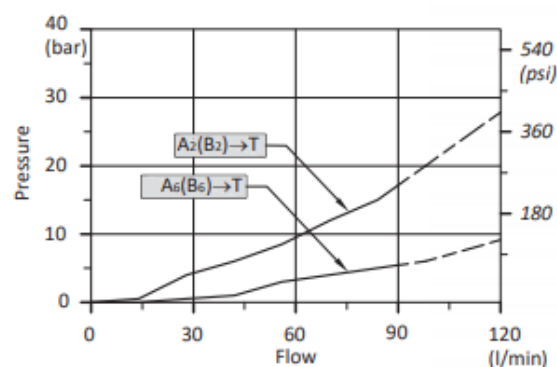
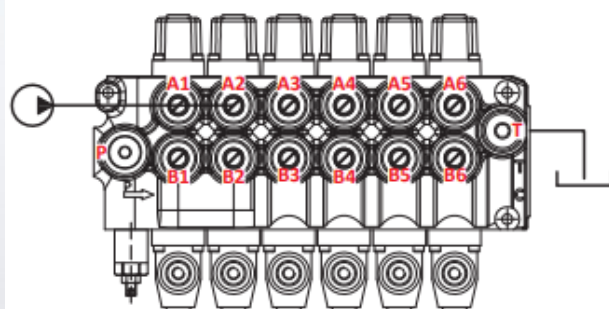
### Inlet to work port

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.



## "A" side spool positioners

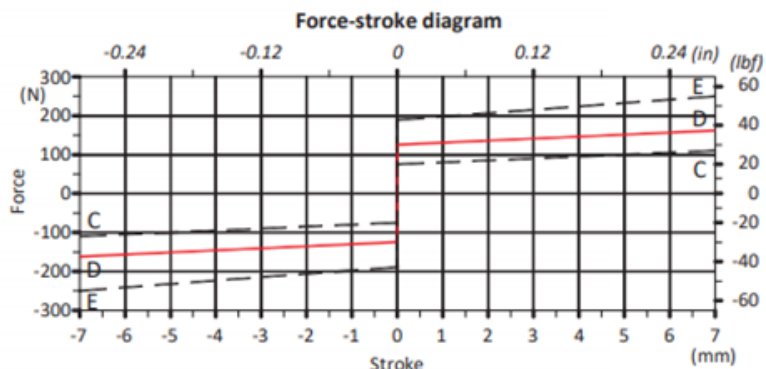
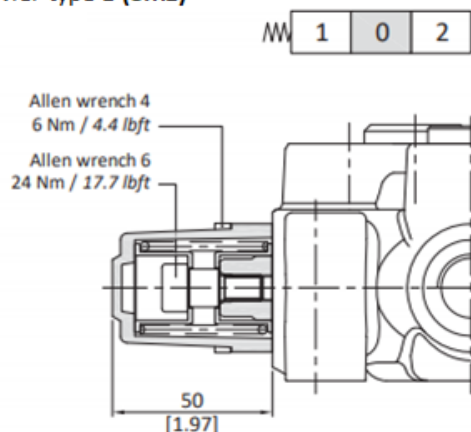
directional valve with left inlet

### With spring return in neutral position

**8 kit**

**Standard**

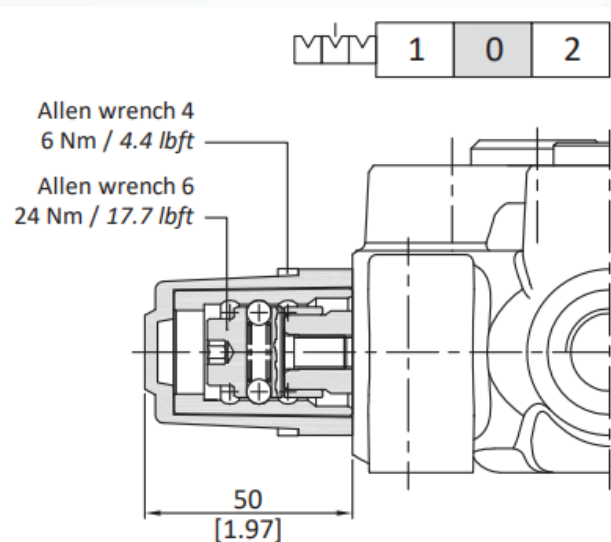
It's supplied with standard spring type D (see force-stroke diagram) and available with lighter spring type C (**8MC**) or heavier type E (**8ME**)



### With detent

**11 kit**

**"K"**

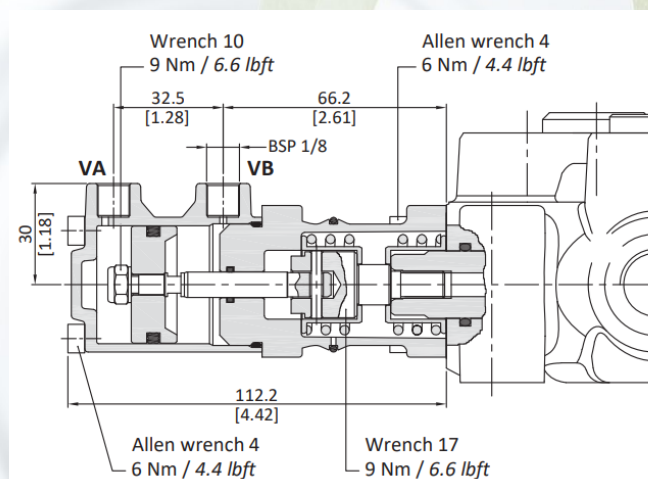


#### Operating features

Locking and release force . . . . . : 260 N / 58 lbf ±10%

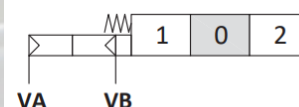
### ON/OFF pneumatic kit type 8P (30 07 5399)

With spring return to the neutral position.



#### Operating features

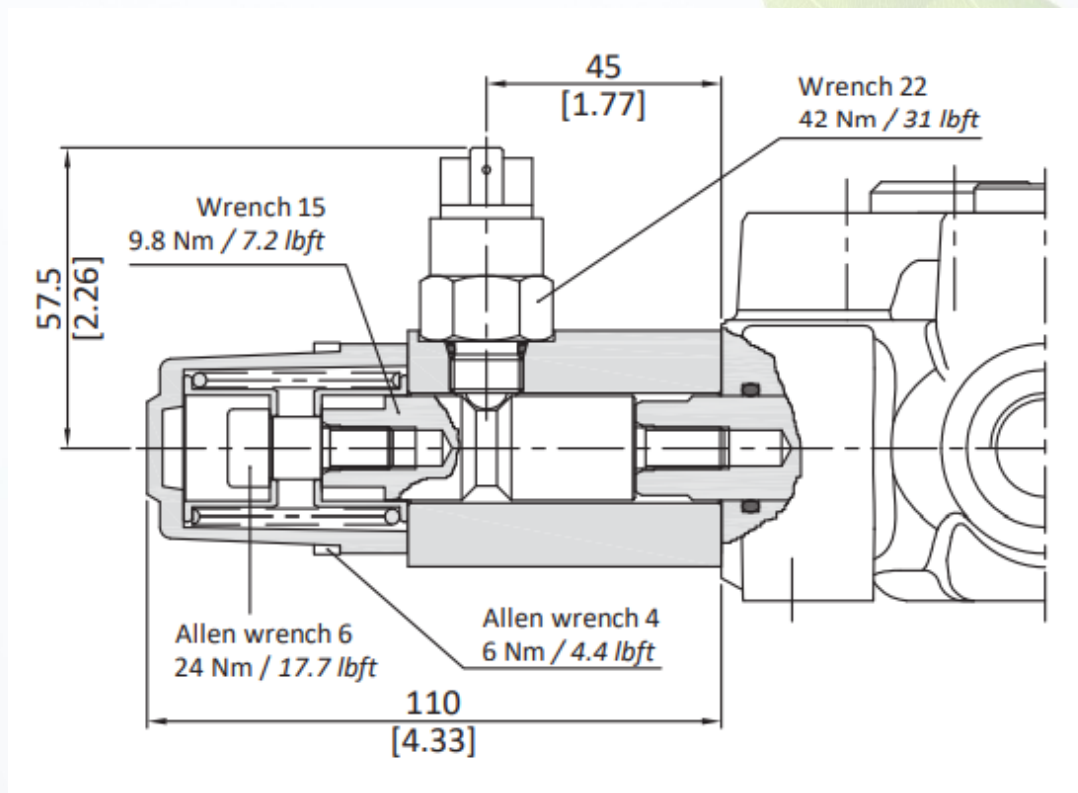
Pilot pressure.....: min. 5.5 bar / 80 psi  
: max.10 bar / 145 psi



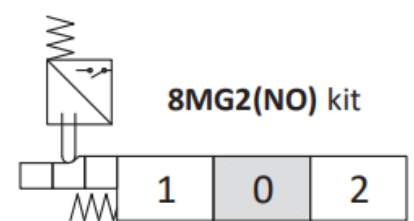
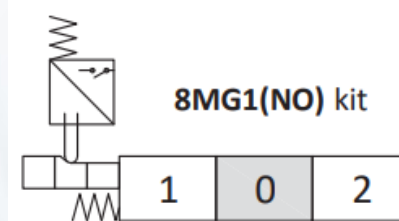
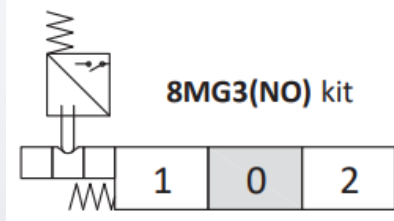
## "A" side spool positioners

With microswitch type **8MG3(NO)** (30 07 5435)

With spring return in neutral position and microswitch operated in both directions. Also available **BMG1(NO)** configuration (microswitch operated in position 1) and **8MG(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

Electrical life (resistive load)

: 5x10<sup>5</sup> operations

: 5x10<sup>4</sup> operations 10A / 12VDC

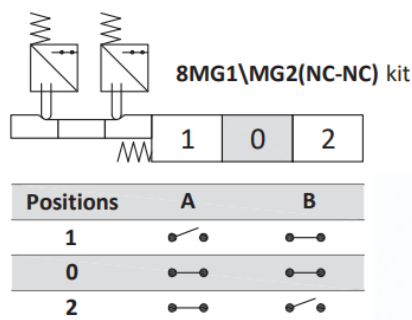
: 5x10<sup>4</sup> operations 3A / 24VDC

## "A" side spool positioners

directional valve with left inlet

### Type 8MG1\MG2(NC-NC) (30 07 5396)

With double microswitch in position 1 and 2.



#### Operating features

##### MICROSWITCH

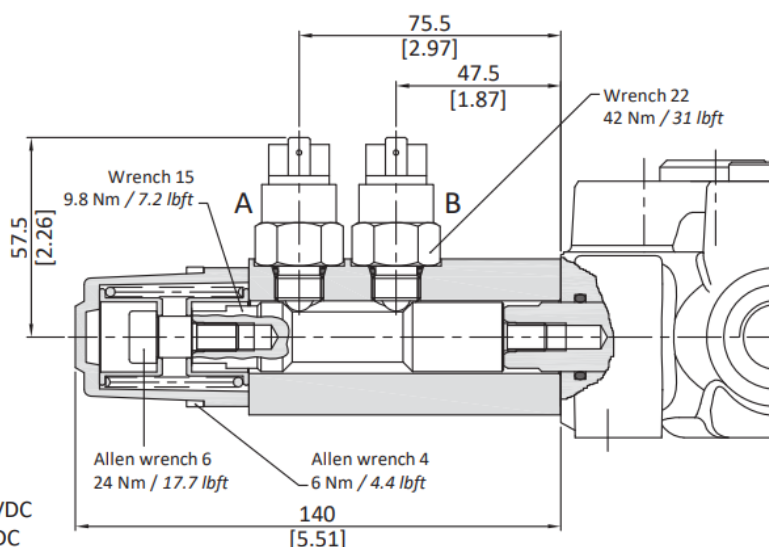
Mechanical life

:  $5 \times 10^5$  operations

Electrical life (resistive load)

:  $5 \times 10^4$  operations 10A / 12VDC

:  $5 \times 10^4$  operations 3A / 24VDC



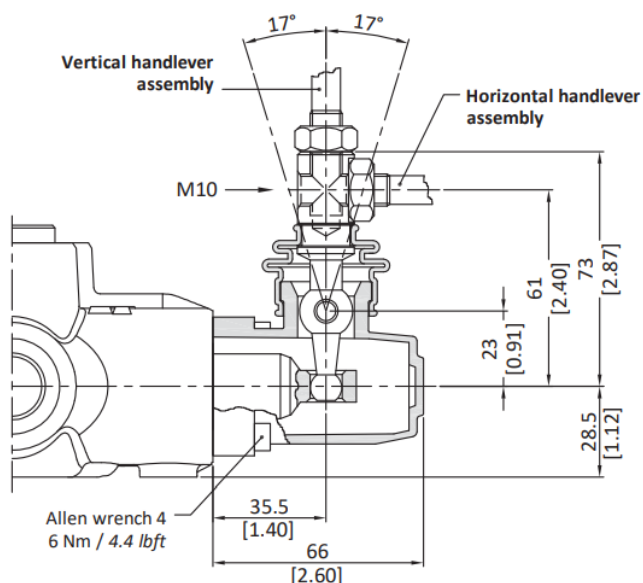
## Lever control

### Type L (30 07 5403)

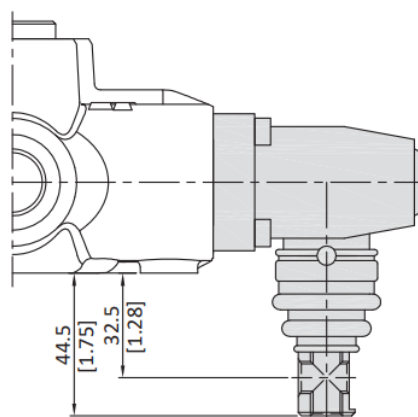
Alluminium with protection boot lever pivot box; it can be rotated 180° (execution LM10180).

### Type L180 (30 07 5404)

1 0 2



#### Execution L180



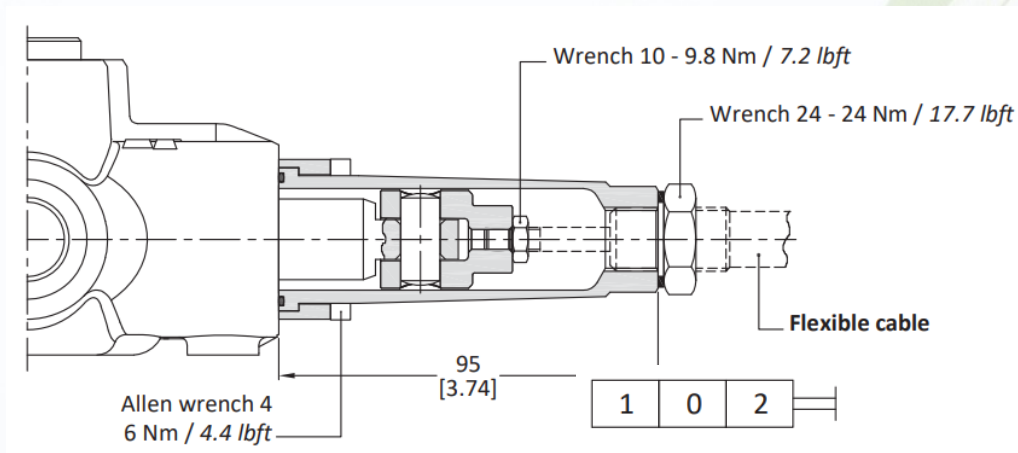


## "B" side options

Directional valve with left inlet

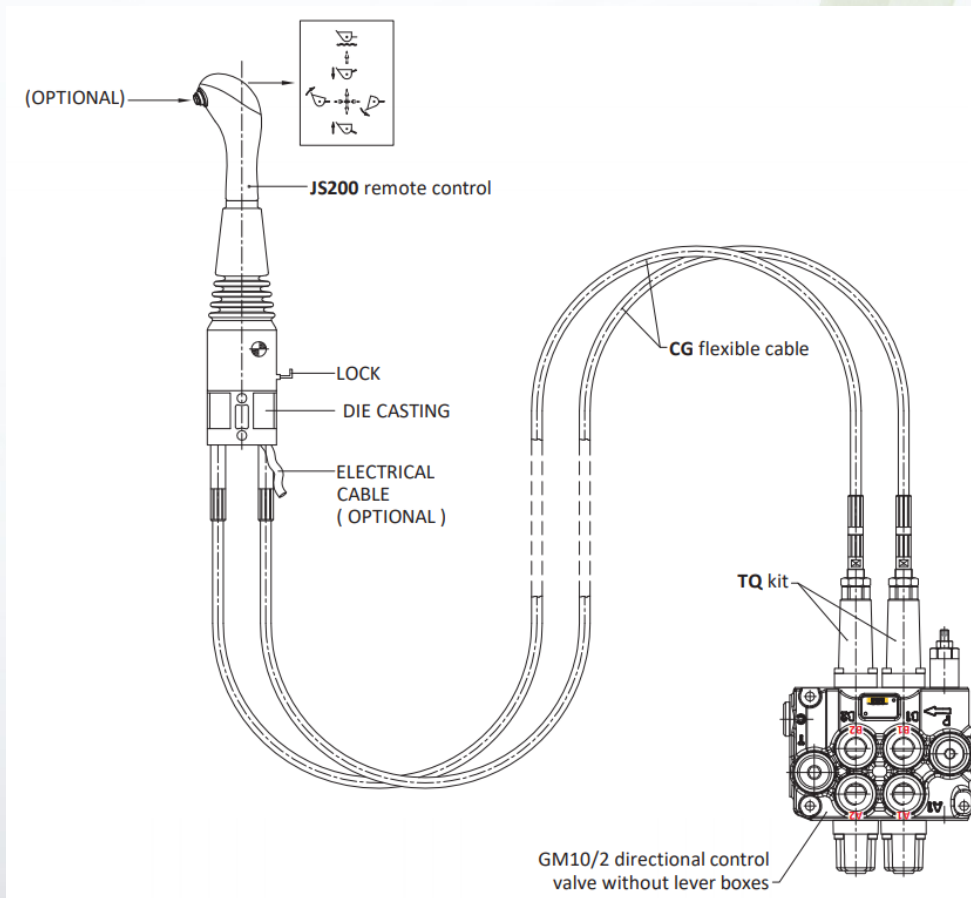
### TQ cable remote control kit (30 07 5398)

Waterproof cap prearranged for remote control with flexible cable.



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

### Connection example

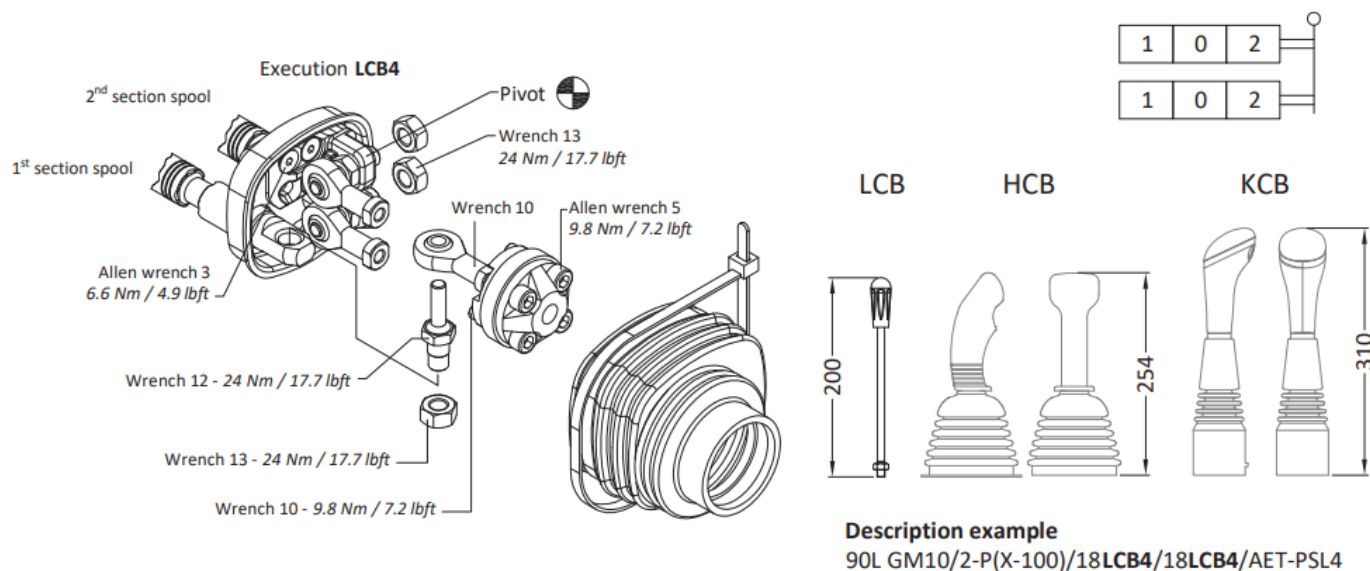




## "B" side options

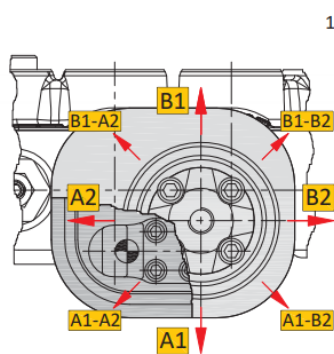
directional valve with left inlet

### LCB mechanical joystick for two sections control (30 07 5433)

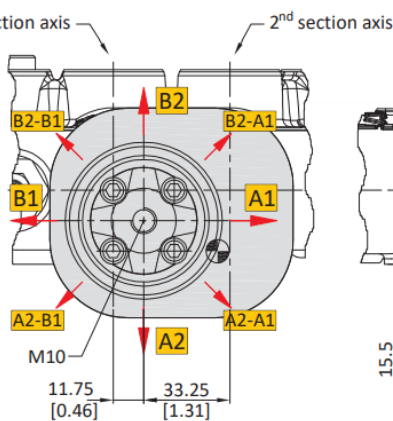


### Dimensions and movement scheme

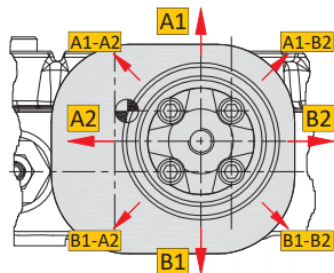
**Execution LCB1**  
pivot placed down on the left



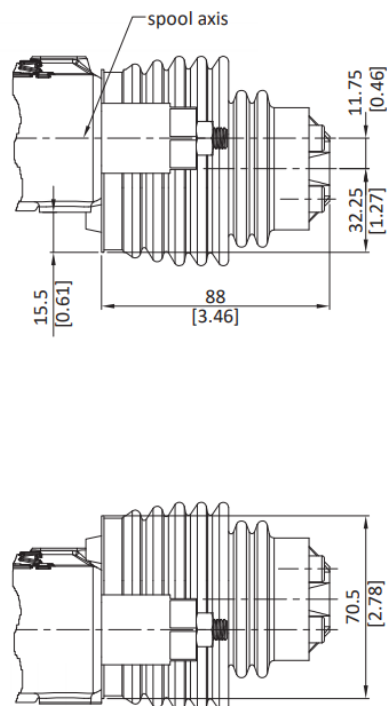
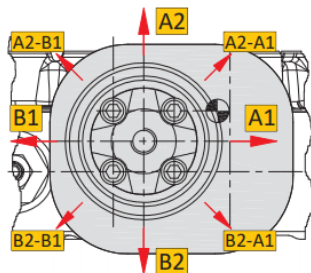
**Execution LCB2**  
pivot placed down on the right



**Execution LCB3**  
pivot placed above on the left



**Execution LCB4**  
pivot placed above on the right

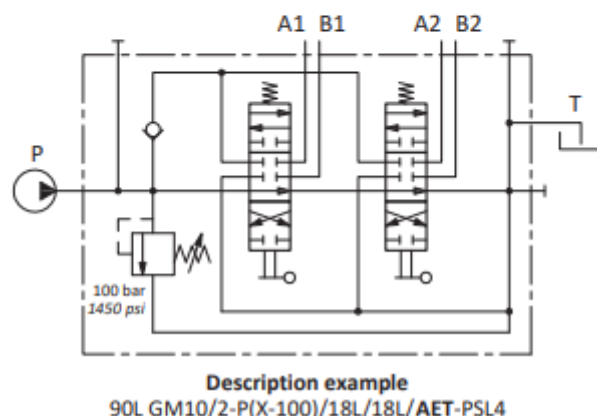
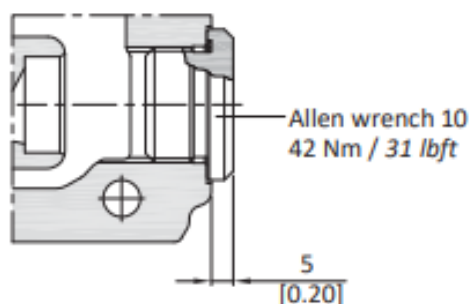


## Outlet port options

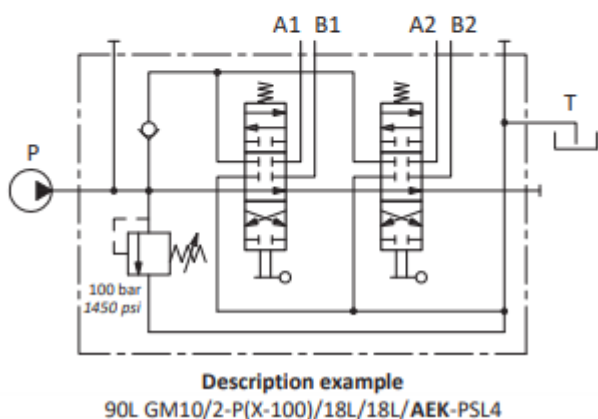
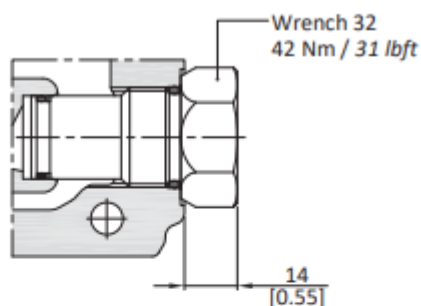
directional valve with left inlet

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

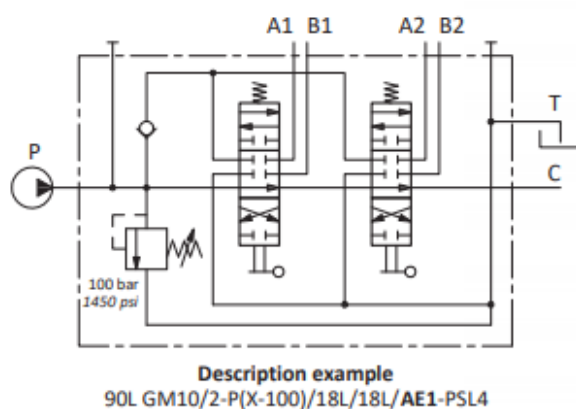
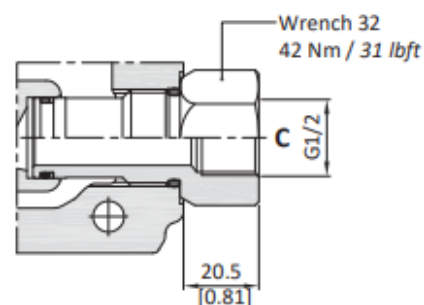
### AET: open centre (standard)



### AEK: closed centre



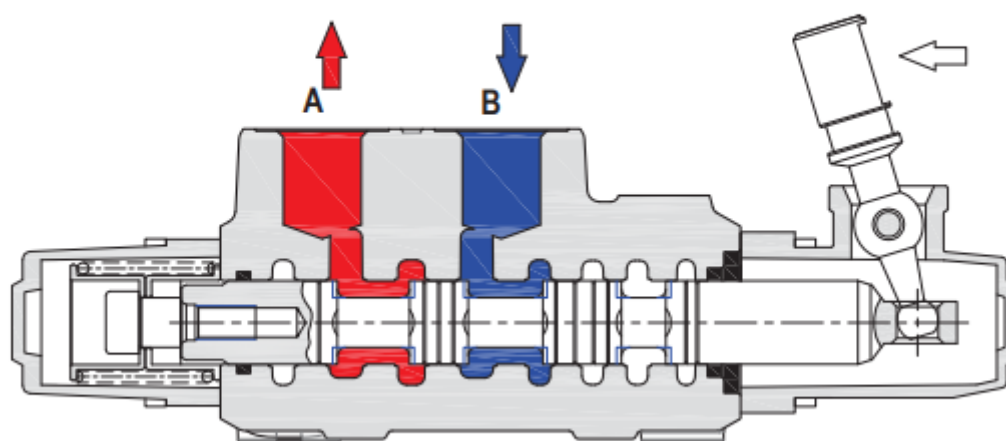
### AE: with carry-over



## Sectional drawing

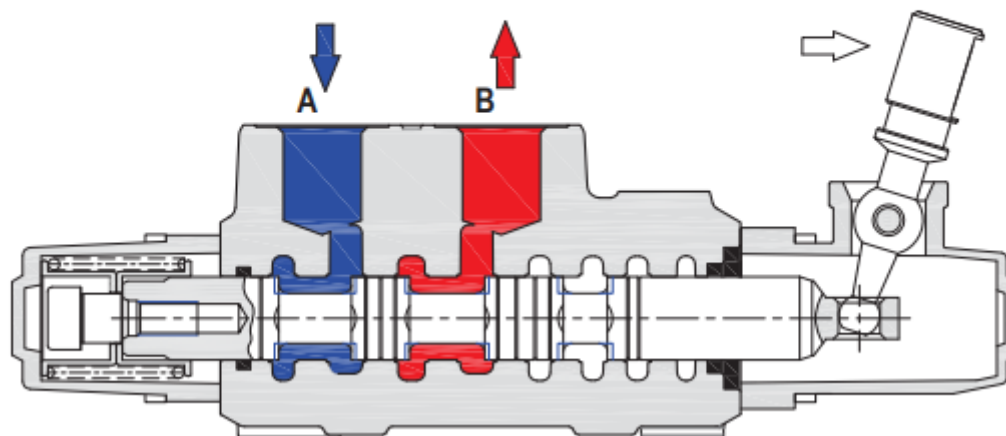
When hand lever pushed (spool out position) P to A port. B to T port.

Position 1



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

Position 2





# 90L GM

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**GM Series**

Ordering codes

directional valve with left inlet

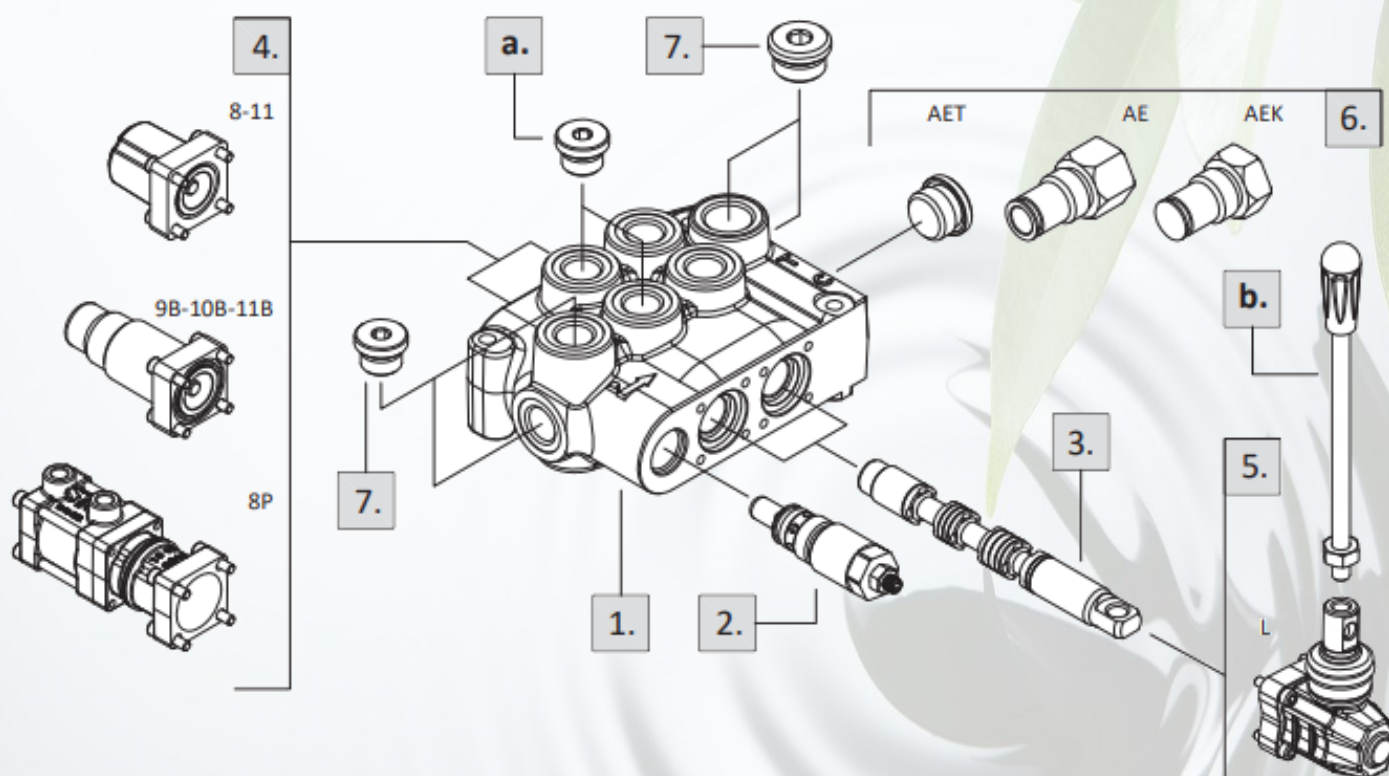
Description example:

90L GM10 / 2 - P ( X - 100 ) / 1 8 L / 18L / AET - PSL4

1<sup>st</sup> section      following section

1. 2.      3. 4. 5.      6. 7.

Valve setting (bar)



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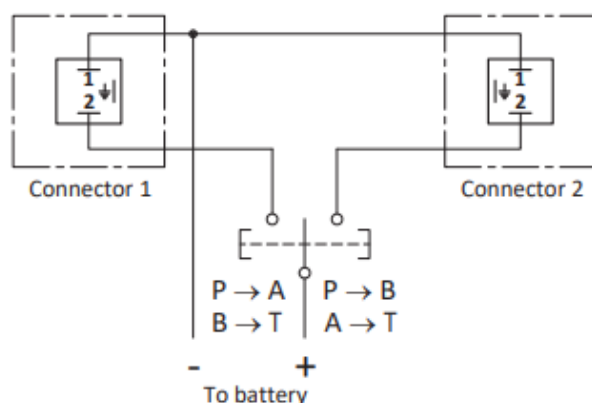
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## Complete controls

directional valve with left inlet

## 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

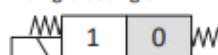
Coil insulation : class H

Duty cycle : 100%

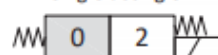
### 8ES3 kit double acting



### 8ES1 kit single acting on A



### 8ES2 kit single acting on B



### Operating condition diagram

