



# MONOBLOCK VALVES

45LS



## Features

HYDRA Part compact and heavy duty designed Monoblock valves from 1 to 7 sections for open and closed centre hydraulic systems.

- Fitted with a main pressure relief valve and a load check valve.
- Available with parallel, series or tandem circuit.
- Optional carry-over port (only for parallel or tandem circuit).
- Diameter 16 mm -- 0.63 in interchangeable spools.
- Actuation is manual, pneumatic, electro-pneumatic, hydraulic, electro-hydraulic, with solenoid and remote with flexible cables spool control kits.

### Additional information

This catalogue shows the product in the most standard configurations.  
Please contact Sales Dpt. for more detailed information or special request  
All specifications of this catalogue refer to the standard product at this date.

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## Working Conditions

This catalogue shows technical specifications and diagrams measured with mineral oil of 46 mms - 46 cSt viscosity at 40°C temperature.

<b>Nominal flow rating</b>		45 /min	
<b>Operating pressure (max.)</b>	parallel pr tandem circuit	315 bar	4600 psi
	series circuit	250 bar	3600 psi
<b>Max. back pressure</b>	on outlet port T	25 bar	360 psi
<b>Internal leakage A(B)∅T</b>	4p=100 bar - 1450psi with fluid and valve at 40 °C	3 cm <sup>3</sup> /min	0.18 in <sup>3</sup> /min
<b>Hydraulic fluid</b>		Mineral base oil	
<b>Fluid temperature</b>	with NBR seals	From -20°10 80°C	
	with FPM seals	from -20° to 100°C	
<b>Viicosity</b>	operating range	from 15 to 75 mm <sup>2</sup> /s	from 15 to 75 cSt
	minimum	12 mm <sup>2</sup> /s	12 cSt
	maximum	400 mm <sup>2</sup> /s	400 cSt
<b>Max. level of contamination</b>		19/16 - ISO 4406	
<b>Ambient temperature</b>	with mechanical, pneumatic and hydraulic devices	from -40° to 60°C	
	with electric devices	from -20° to 60°C	

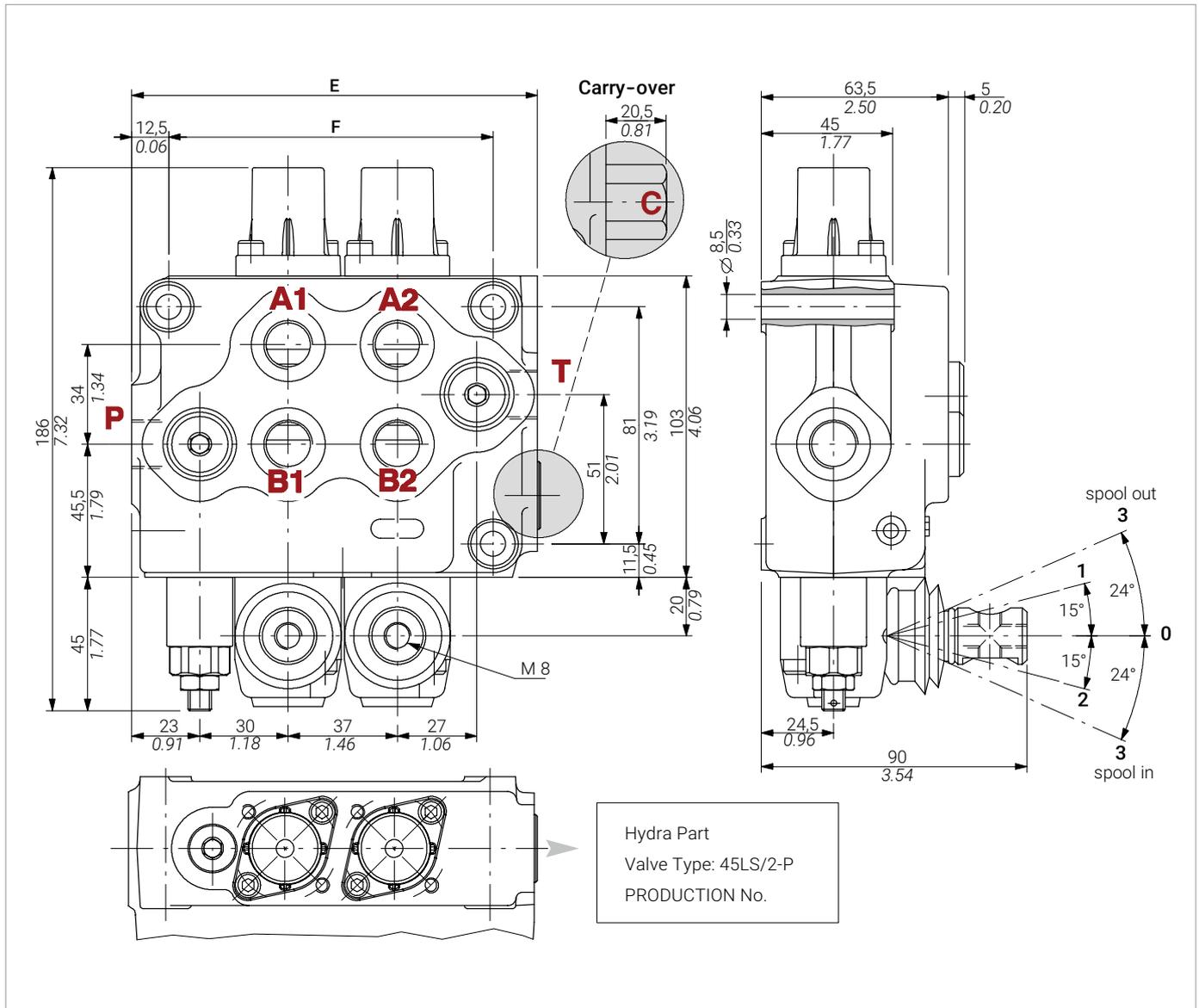
Note - For different conditions please contact Sales Dept.

Reference Standards					
		BSP	UN- UNF	METRIC	NPTF
<b>Thread according to</b>		ISO 228/1	ISO 263	ISO 262	ANSI B1.20.3
		BS 2779	ANSI B1.1 unified		
<b>Cavity according to</b>	<b>ISO</b>	1179	11926	9974-1	
	<b>SAE</b>		J1926	J2244	J476a
	<b>DIN</b>	3852-2 shape Xo Y		3852-1 shape Xo Y	

Ports Thread			
Main ports	BSP	UN- UNF	METRICA
<b>Inlet P and carry-over C</b>	G 3/8	3/4-16 (SAE 8)	M18x1,5
<b>Ports A and B</b>	G 3/8	9/16-18 (SAE 6)	M18x1,5
<b>Outlet T</b>	G 1/2	3/4-16 (SAE 8)	M18x1,5 M22x1,5 *
Control pilot ports			
<b>Pneumatics</b>	NPTF 1/8-27	NPTF 1/8-27	NPTF 1/8-27
<b>Hydraulics</b>	G 1/4	9/16-18 (SAE 6)	G 1/4

(\*) - Only for series circuit.

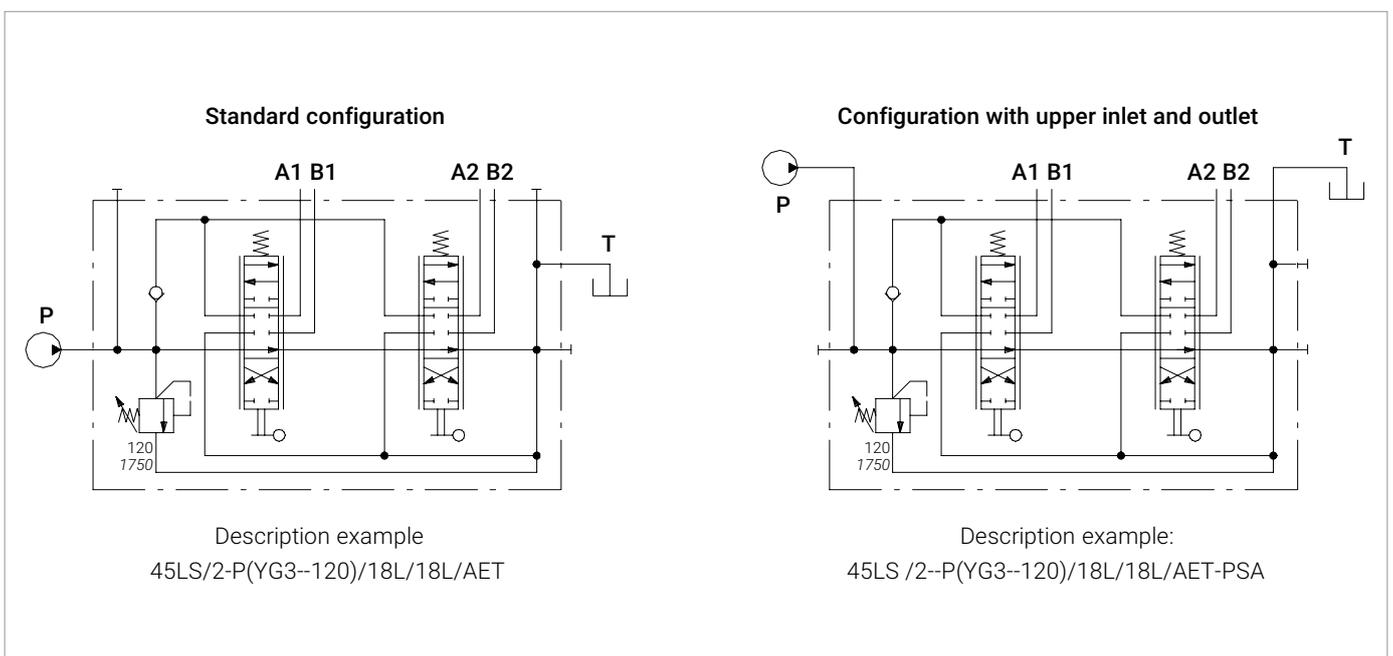
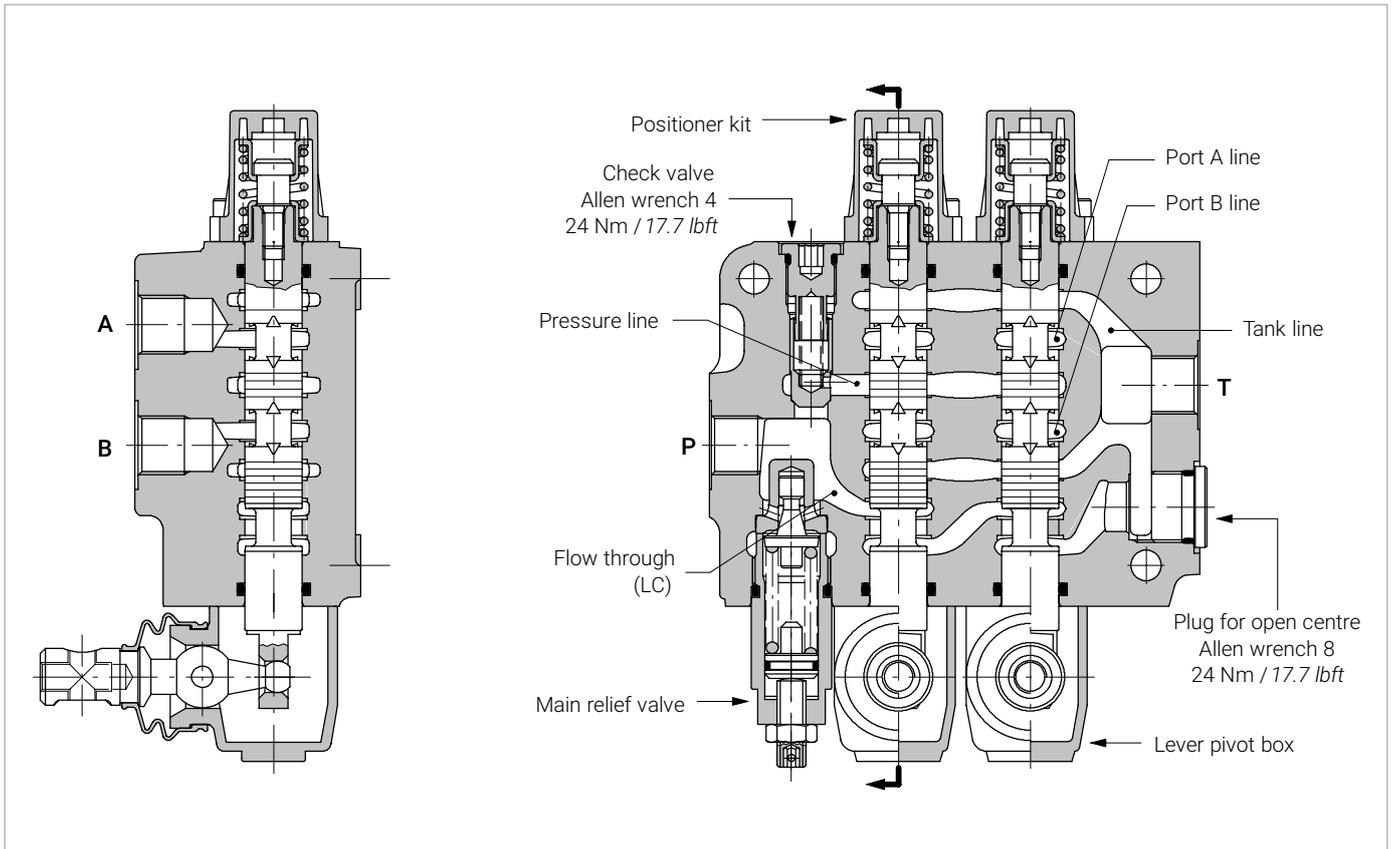
## Dimensional Data



Type	E		F		Weight	
	mm	in	mm	in	kg	lb
45LS/1-P	100.5	3.96	73	2.87	3.5	7.7
45LS/2-P	137.5	5.41	110	4.33	5.2	11.5
45LS/3-P	174.5	6.87	147	5.79	6.9	15.2
45LS/4-P	211.5	8.33	184	7.24	8.1	17.9

Type	E		F		Weight	
	mm	in	mm	in	kg	lb
45LS/5-P	248.5	9.78	221	8.70	10.1	22.3
45LS/6-P	285.5	11.24	258	10.16	11.7	25.8
45LS/7-P	322.5	12.70	295	11.61	13.2	29.1

## Parallel Circuit



# 45LS Monoblock Control Valves Coding

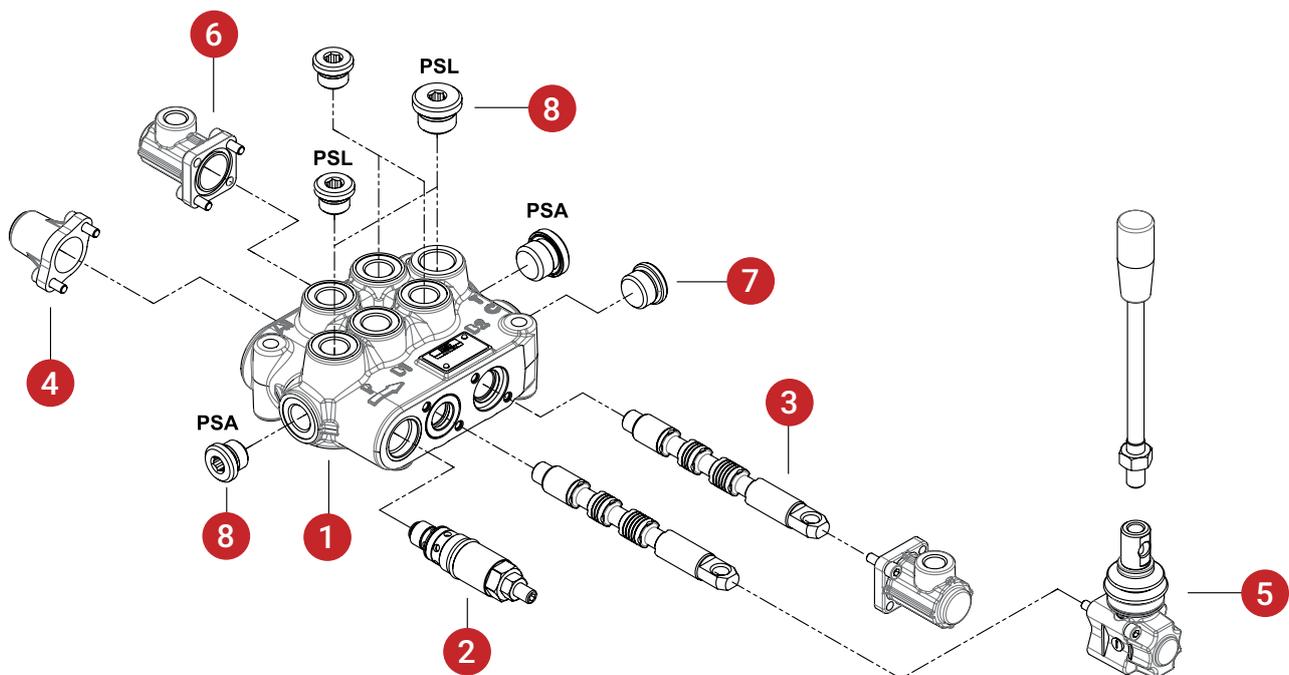
Description example:

Valve setting (bar)

45LS / 2-P (YG3-160) / 1 8 L / 2 8P L / AE-38 / PSA

1 2 3 4 5 3 4 5 7 8

first section following section



## 1 Body kits - Ordering codes

Type	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
7-P	Parallel, 7 sections

## 2 Inlet relief options

Type	Description
YG25	Range 40 to 63 bar / 580 to 900 psi
YG3	Range 50 to 200 bar / 725 to 2900 psi
YG4	Range 160 to 315 bar / 2300 to 4600 psi
SV	Relief valve blanking plug

## 45LS Monoblock Control Valves Coding *(continued)*

<b>3 Spools</b>		
Type	Code	Description
<b>1</b>	P0101011622	45LS Double acting, 3 positions, with A and B closed in neutral position.
<b>1CS</b>	P0101011753	45LS Double acting 3 position metered spool type CS, with A and B closed in neutral position
<b>2</b>	P0101011289	45LS Motor spool D/Acting, 3 positions, with A and B open to tank in neutral position
<b>3</b>	P0101011293	45LS Single acting on A, 3 positions, B plugged (requires G3/8 plug)
<b>4</b>	P0101011292	45LS Single acting on B, 3 positions, A plugged (requires G3/8 plug)
<b>6</b>	**	Double acting, 3 positions with A open to tank in neutral position (On request)
<b>7</b>	P0101011735	Single acting on A open to tank in neutral positions 3 positions (B plugged) - On request
<b>9</b>	**	Double acting, 3 positions with PTAB closed in neutral position (Closed centre)
<b>5DY</b>	P0101011737	45LS Double acting, 4 positions, On Request float in position 4th position with spool in
<b>5PY</b>	P0101011736	45LS Double acting, 4 positions, floating circuit in 4th position with spool out, with check

<b>4 Spool 'A' Side Positioners</b>		
Type	Code	Description
<b>8</b>	P0101011625	35LS & 45LS 3 Position Spring kit type 8
<b>8D</b>	P0101011612	45LS - spring return in neutral position and pin with M6 female thread for dual control
<b>19</b>	P0101011731	45LS - 2 position with spring return in neutral position from position 1 - Kit 19
<b>20</b>	P0101011730	45LS - 2 position with spring return in neutral position from position 2 - Kit 20
<b>8D2</b>	P0101011729	45LS - Control Valve Dual control connector Kit with 8mm Male Kit 8D2
<b>9</b>	P0101011728	35LS & 45LS With detent in position 1 and spring return in neutral position Kit 9
<b>10</b>	P0101011727	35LS - 45LS - With detent in position 2 and spring return in neutral position Kit 10
<b>11</b>	P0101011590	35LS & 45LS - 3 position detent in Position Neutral - 1 and 2 - Kit type 11
<b>12</b>	P0101011682	35LS & 45LS - Detent in positions 1 and 2 Kit 12
<b>15</b>	P0101011681	35LS and 45LS 2 positions, detent in positions 1 and neutral Kit 15
<b>16</b>	P0101011680	35LS - 45LS - 2 positions, detent in positions 2 and neutral Kit 16
<b>9BZ</b>	P0101011618	45LS - Detent in position 1 and spring return in neutral position 9BZ
<b>10BZ</b>	P0101011619	45LS - Detent in position 2 and spring return in neutral position 10BZ
<b>11BZ</b>	P0101011726	45LS - Detent in positions 1 and 2 and spring return in neutral position 11BZ
<b>8P</b>	P0101011697	45LS - Pneumatic actuator Kit 8P
<b>8EP3(12V)</b>	P0101011298	45LS - On / Off Electro Pneumatic actuator Kit 8EP3 (12 VDc)
<b>8EP3(24V)</b>	P0101011725	45LS - On / Off Electro Pneumatic actuator Kit 8EP3 (24 VDc)
<b>8ED3(12V)</b>	***	45LS - On/Off Electro Hydraulic kit (12VDc)
<b>8ED3(24V)</b>	***	45LS - On/Off Electro Hydraulic kit

## 45LS Monoblock Control Valves Coding *(continued)*

5 'B' Side Positioners Options		
Type	Code	Description
L	P0101011717	35LS & 45LS Standard Lever Box
R	P0101011717	35LS & 45LS Standard Lever Box Rotated through 180 degrees
SL	**	Without any cover
SLP	P0101011716	35LS and 45LS Without lever, with dust proof plate (SLP)
LR	P0101011591	45LS - Rotary Lever Kit LR
TQ	P0101011715	35LS & 45LS Cable connection Kit TQ
LCB	P0101011714	45LS - 2 Axis Joy stick control

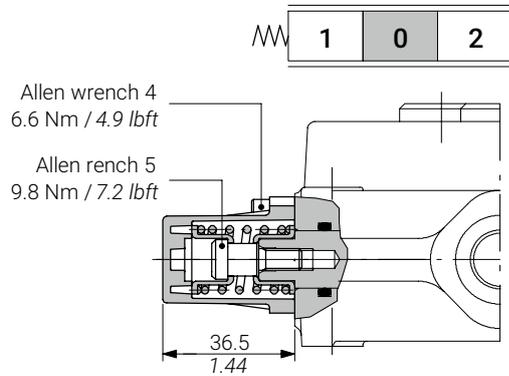
6 Complete controls		
Type	Code	Description
8IM	P0101011613	45LS - Hydraulic Pilot Kit Type 8IM

7 Outlet Port Options		
Type	Code	Description
AE-38	P0101011623	45LS - High Pressure Carry Over 3/8" Type AE-38
AE-12	P0101011624	45LS - High Pressure Carry Over 1/2" Type AE-12
AEK	P0101011702	45LS - Closed centre plug Type AEK
AET	P0101011752	45LS - Open centre plug Type AET

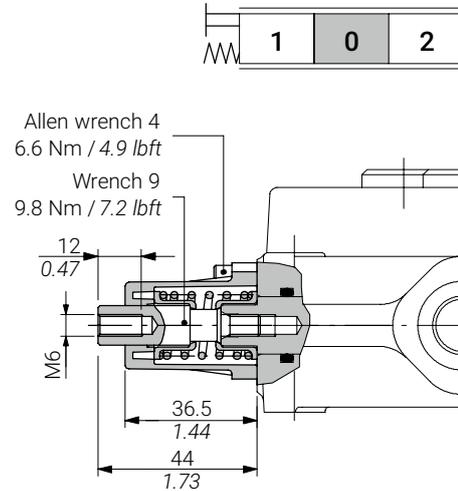
8 Inlet & Outlet Selection	
Type	Description
PSL	Side ports need 2 x G 3/8 plugs (Standard configuration omit in valve description)
PSA	Upper ports; need 2 x G 3/8 plugs

# 'A' Side Spool Positioners

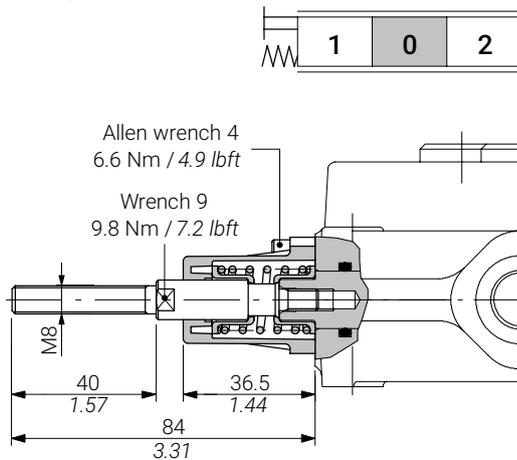
**8 Kit**



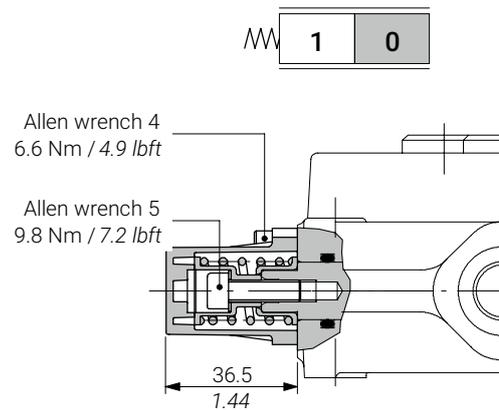
**8D Kit**



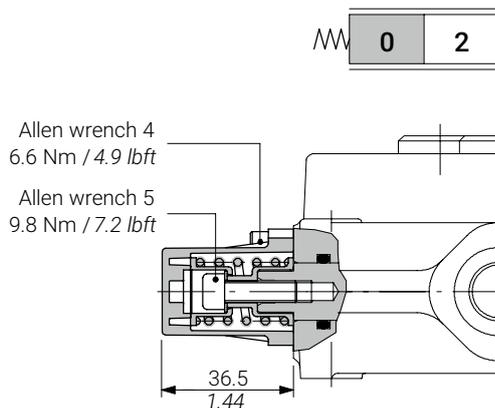
**8D2 Kit**



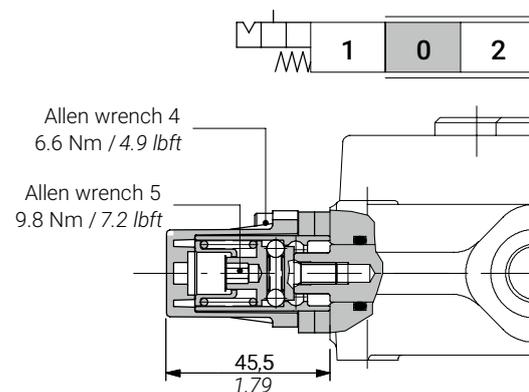
**19 Kit**



**20 Kit**

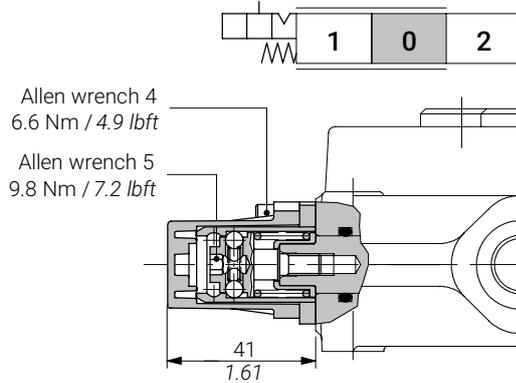


**9 Kit**

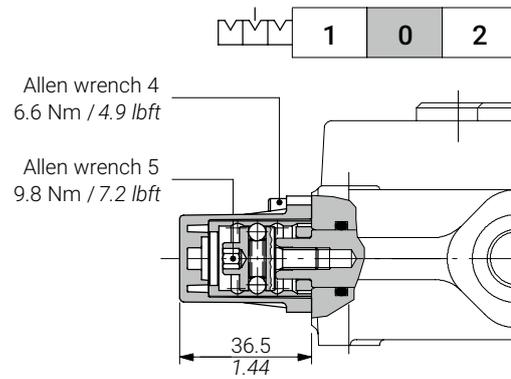


## 'A' Side Spool Positioners (continued)

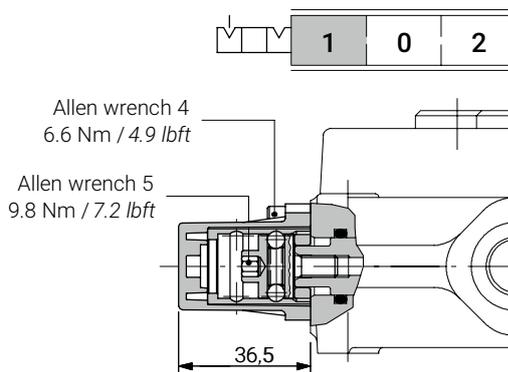
### 10 Kit



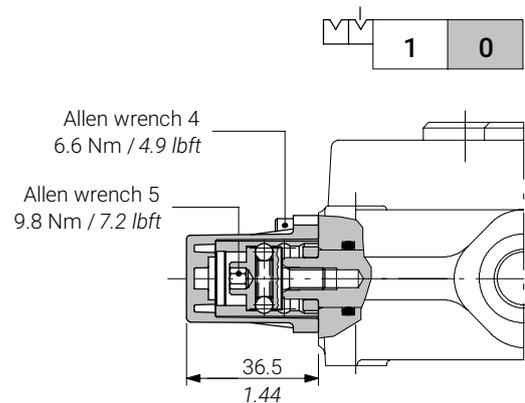
### 11 Kit



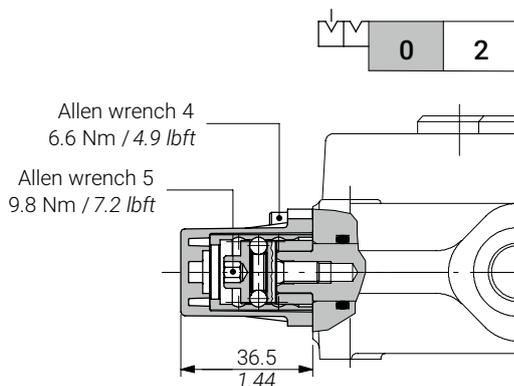
### 12 Kit



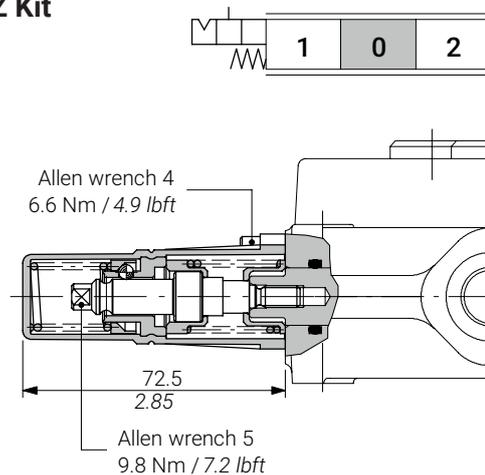
### 15 Kit



### 16 Kit

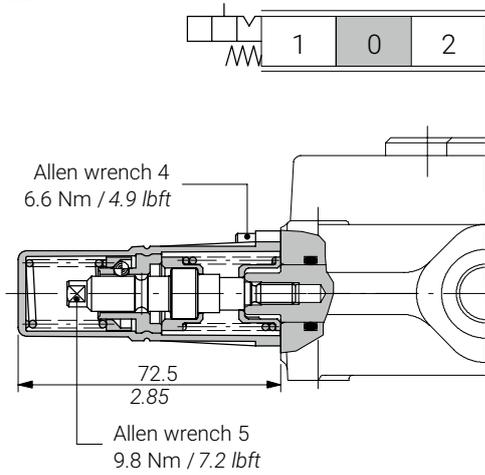


### 9BZ Kit

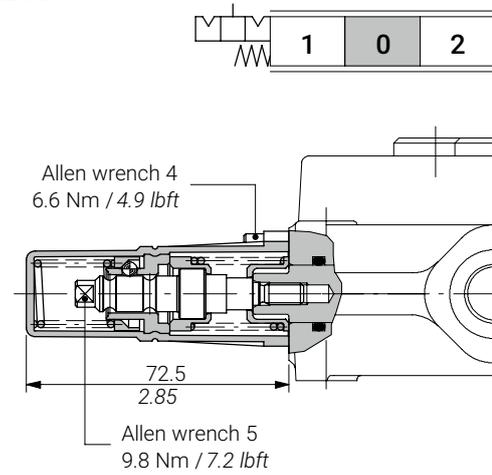


# 'A' Side Spool Positioners (continued)

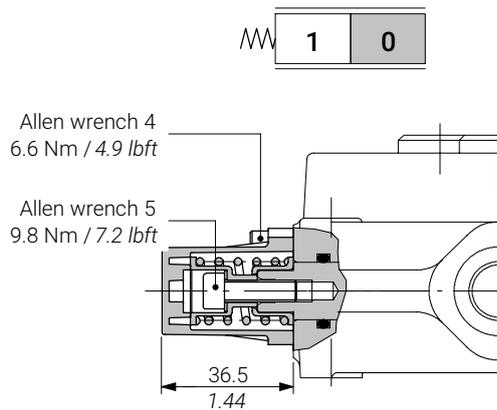
**10BZ Kit**



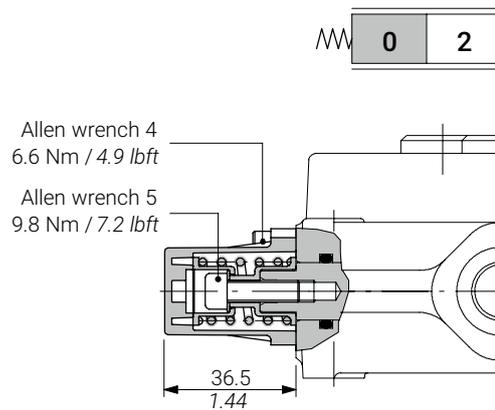
**11BZ Kit**



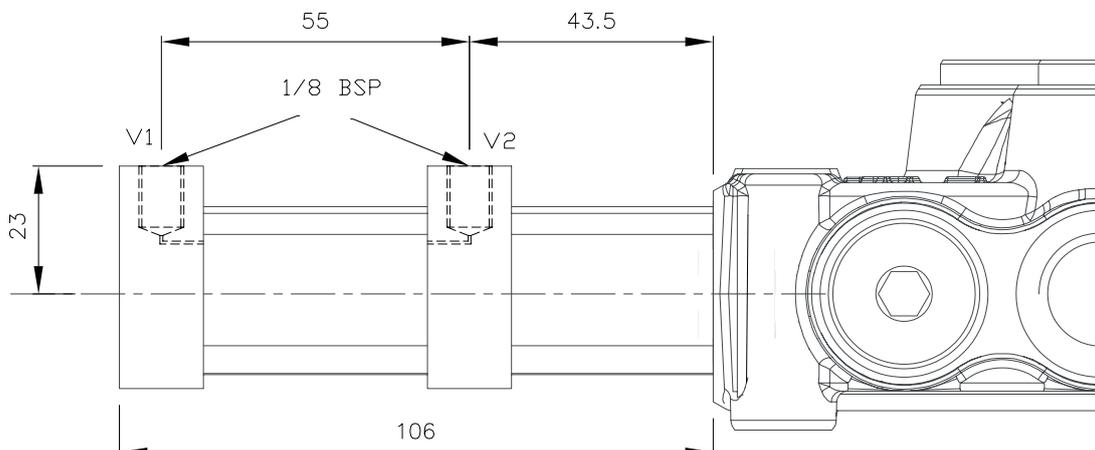
**19 Kit**



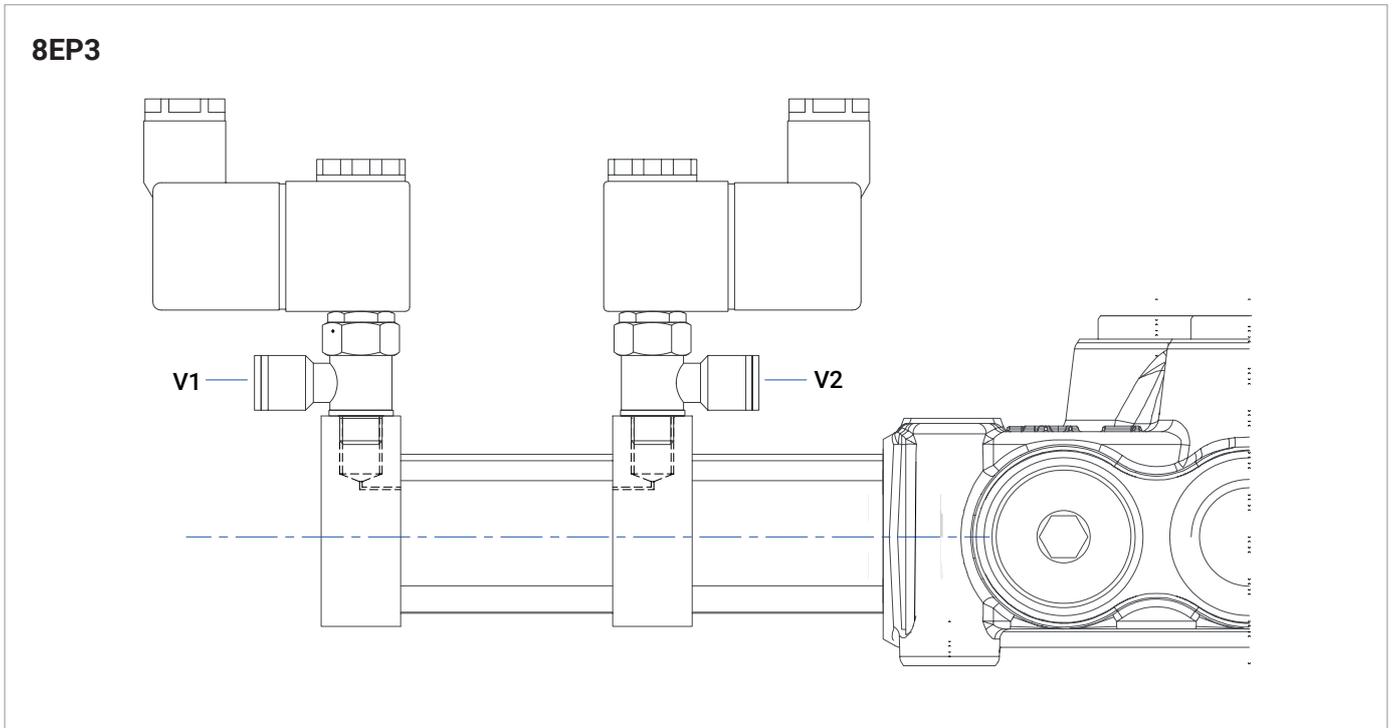
**20 Kit**



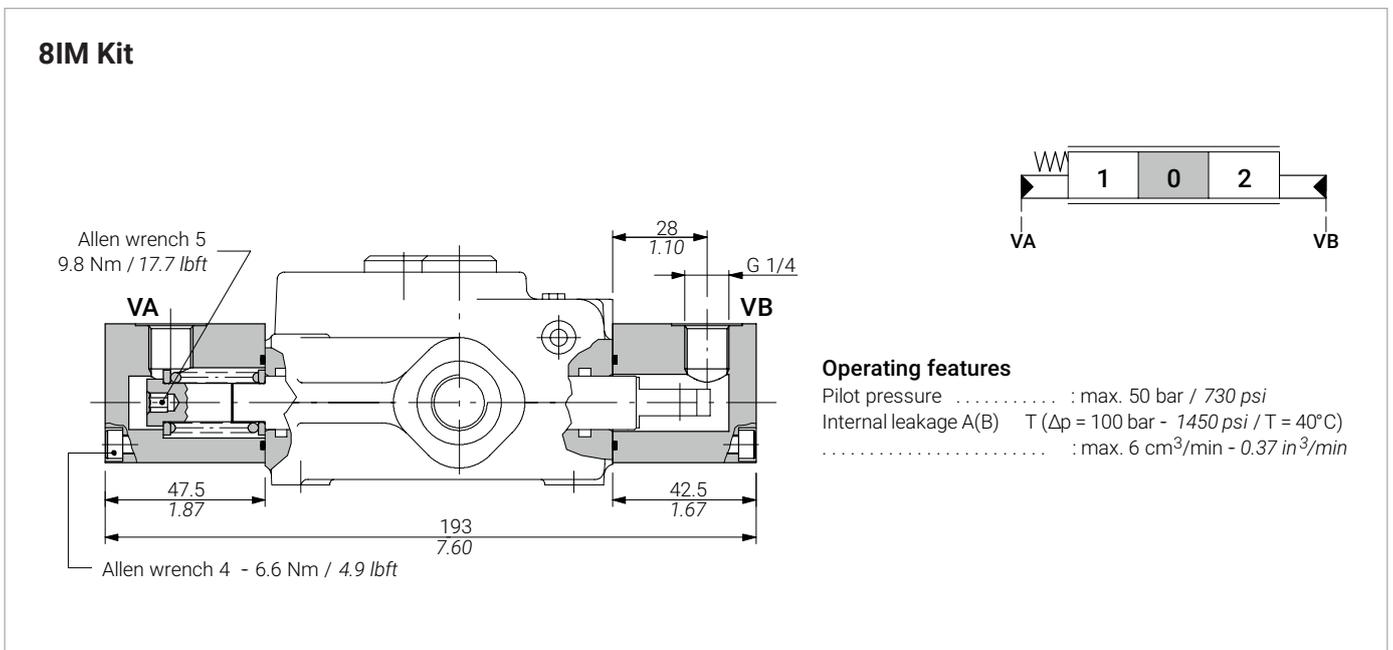
**8P**



## 'A' Side Spool Positioners (continued)

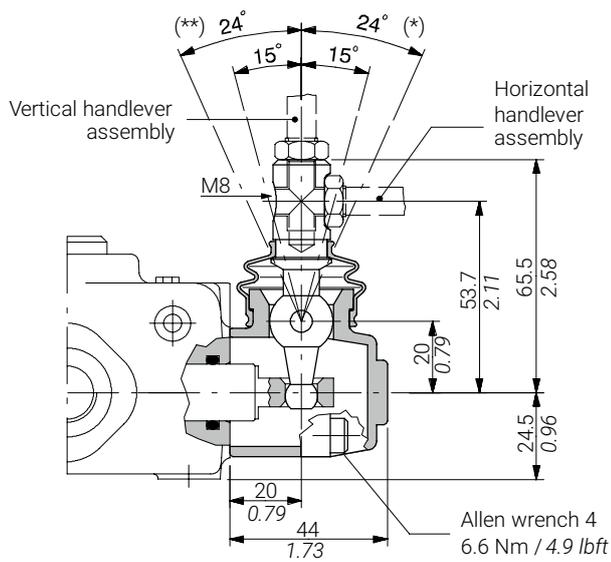


## 6. Complete Controls

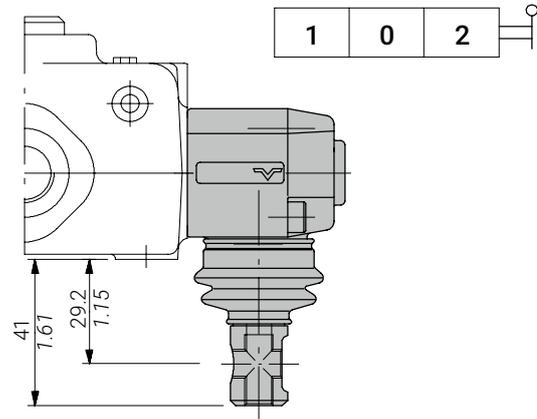


# 'B' Side Positioners Options

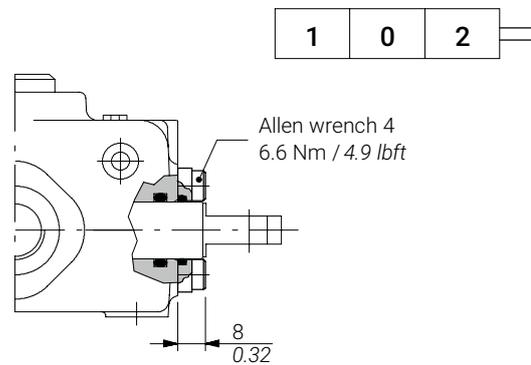
**Type L Standard Lever Box**



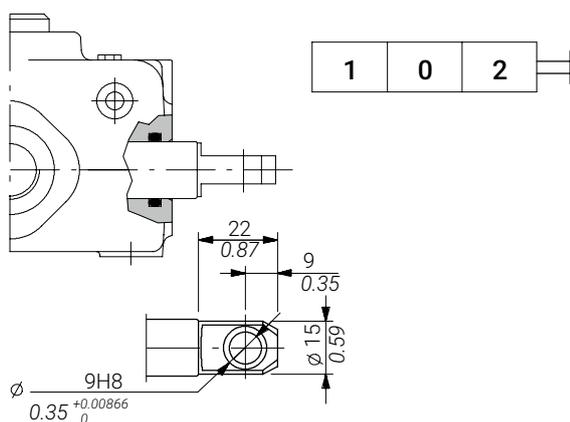
**Type R = 180 degrees inverted**



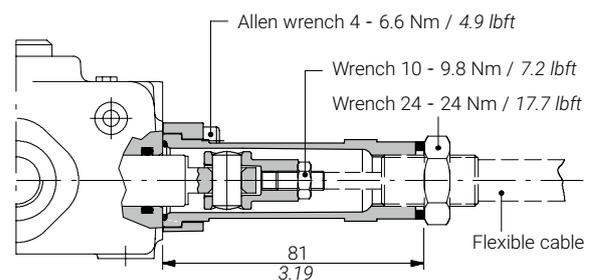
**Type SLP (Mec control with dust proof plate)**



**Type SL (without cover)**

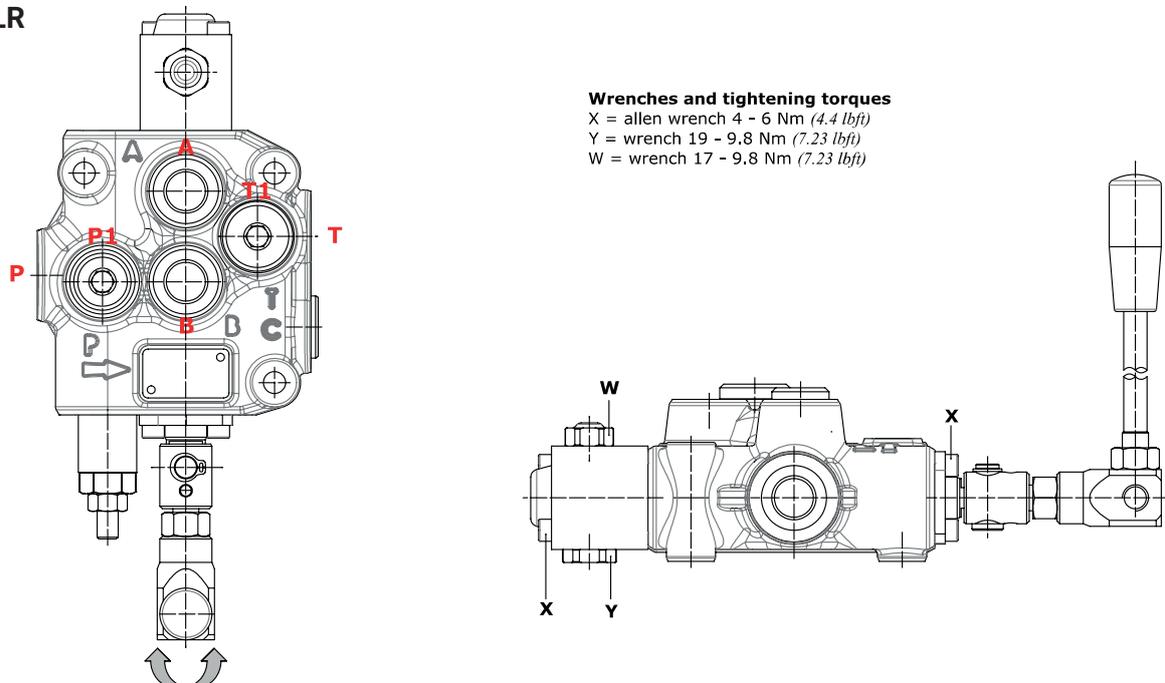


**Type TQ**



## 'B' Side Positioners Options (continued)

**Type LR**



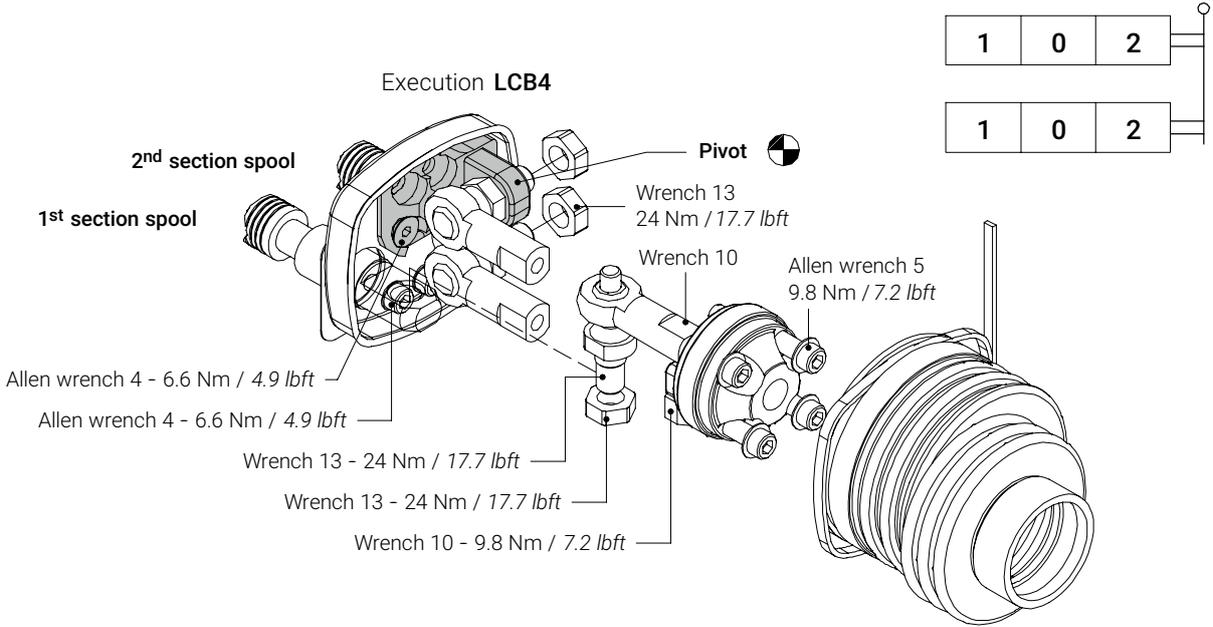
**Wrenches and tightening torques**  
 X = allen wrench 4 - 6 Nm (4.4 lbft)  
 Y = wrench 19 - 9.8 Nm (7.23 lbft)  
 W = wrench 17 - 9.8 Nm (7.23 lbft)

Angle rotation  $\pm 90^\circ$

Image for illustrative purposes only. Actual part may differ.

**Type LCB (2 Axis Joystick control)**

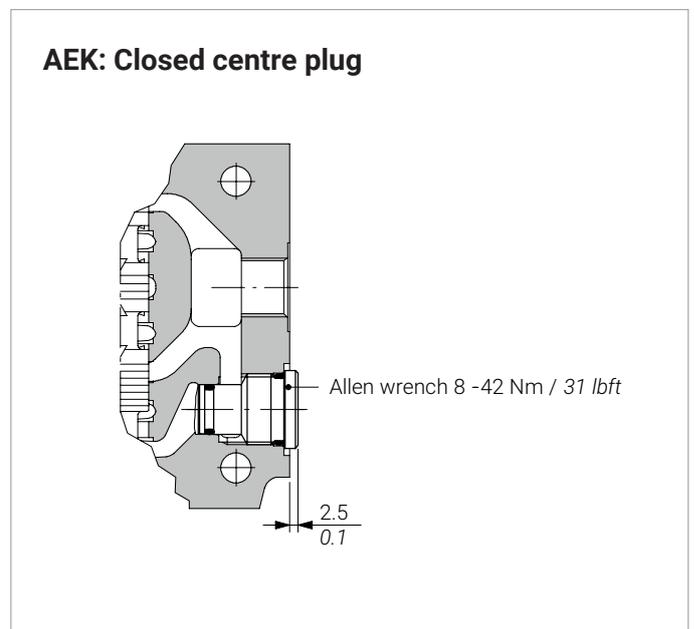
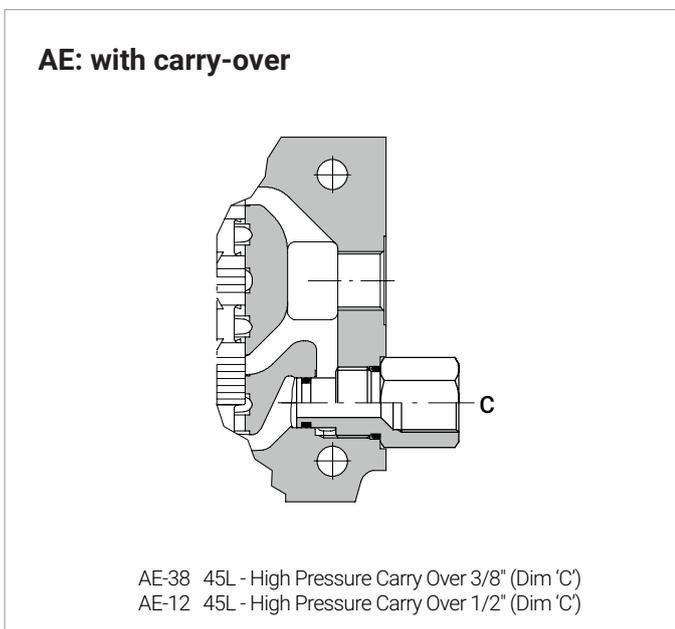
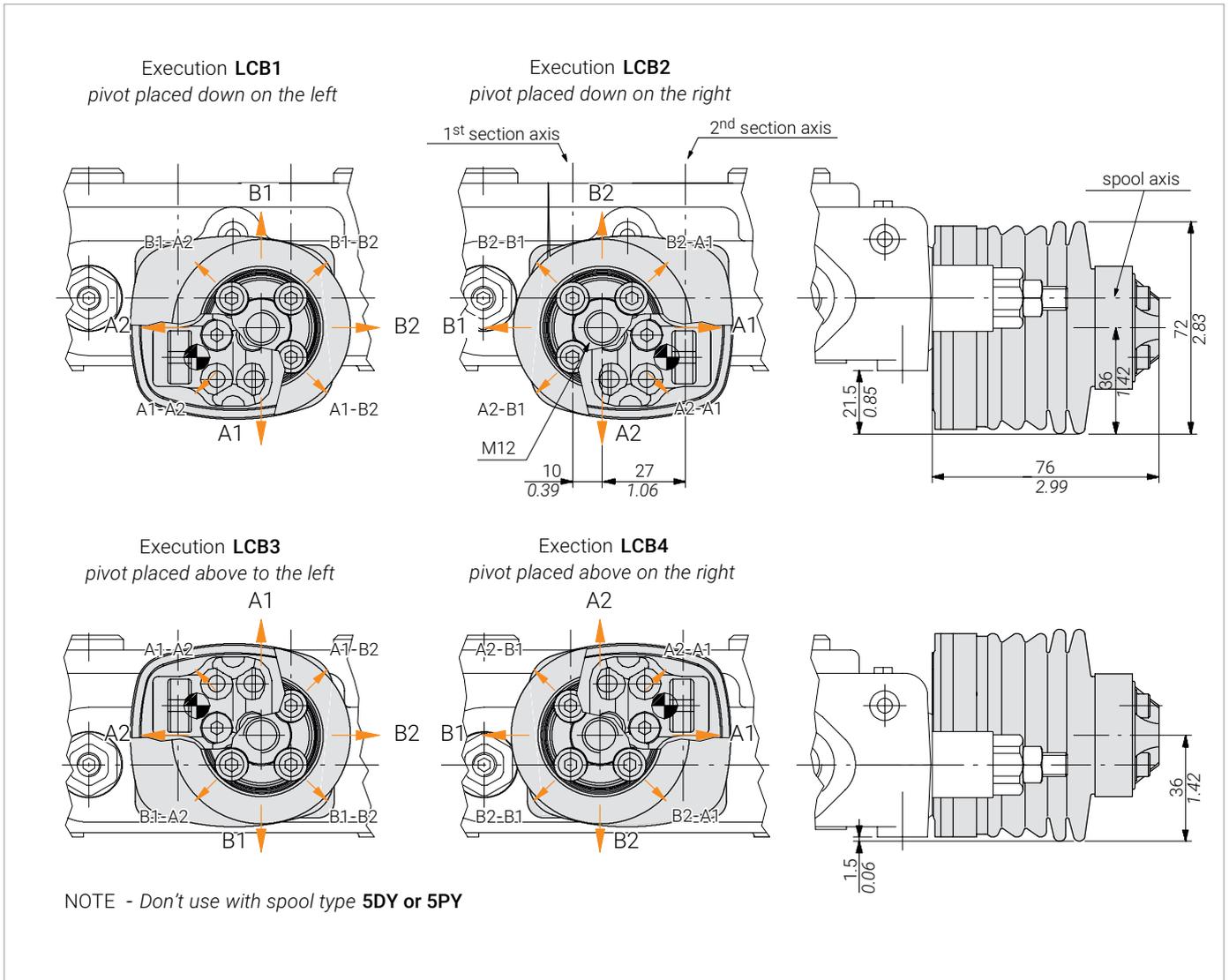
Execution LCB4



2<sup>nd</sup> section spool  
 1<sup>st</sup> section spool  
 Pivot  
 Wrench 13 24 Nm / 17.7 lbft  
 Wrench 10  
 Allen wrench 5 9.8 Nm / 7.2 lbft  
 Allen wrench 4 - 6.6 Nm / 4.9 lbft  
 Allen wrench 4 - 6.6 Nm / 4.9 lbft  
 Wrench 13 - 24 Nm / 17.7 lbft  
 Wrench 13 - 24 Nm / 17.7 lbft  
 Wrench 10 - 9.8 Nm / 7.2 lbft

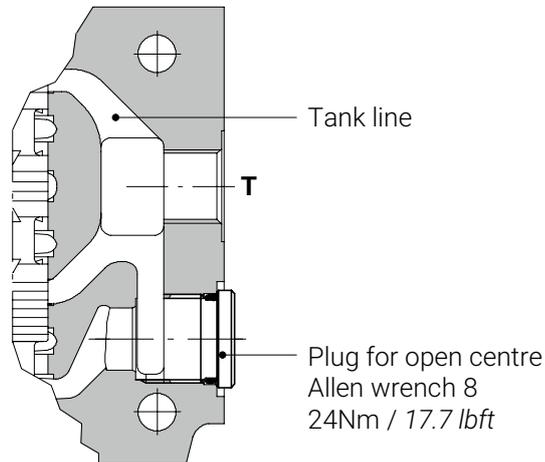
1	0	2
1	0	2

# Joystick Configuration Options



## Joystick Configuration Options *(continued)*

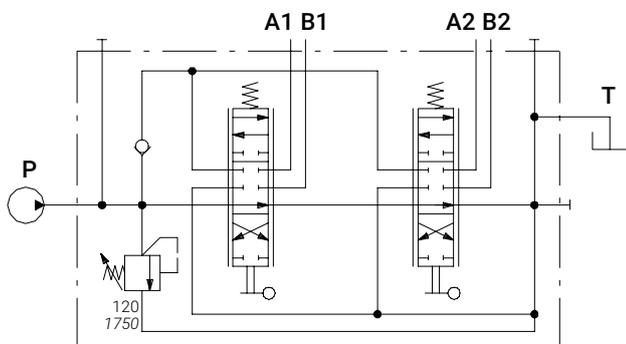
### AET Open Centre



## Inlet & Outlet Selection

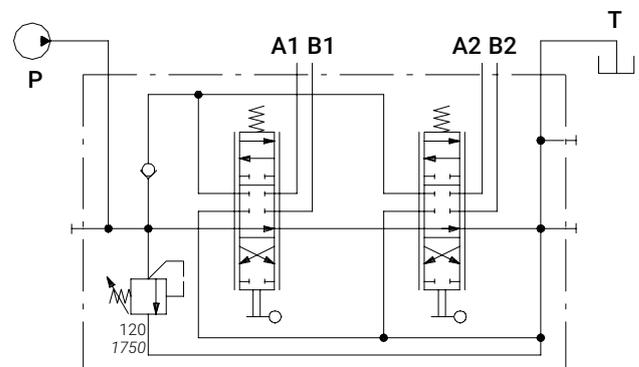
### Standard configuration

PSL Standard configuration – Inlet & Outlet from side ports (omit in valve description)



### Configuration with upper and outlet

PSA Inlet & Outlet from Upper (A & B face) ports - 2 x G 3/8 plugs need swapping over.





Your local dealer is