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A Polyhydron Group Company

LEVER OPERATED DIRECTION CONTROL VALVE Model : 4DL10****10

Ref. No. D04909

Release 05 / 2022

ENGINEERING - 1 of 5

Description

Completely encapsulated mechanism for protection against dirt. Five chamber design for better reduction in dynamic force and longer valve life.

Valve mounting interface confirms to National and International standards.

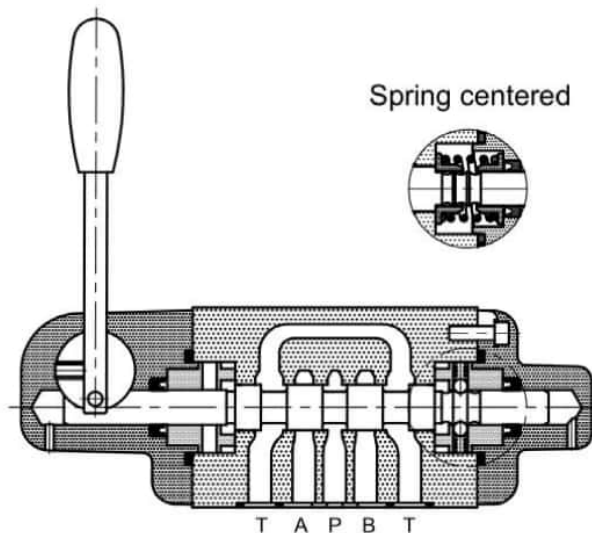
Mounting style - Subplate & Threaded body. Available as spring centered, spring off-set or detented model.

Operating Head can be rotated by $90^\circ \times 4$ around spool axis for flexibility in mounting.

All spool and bodies are interchangeable, simplifying maintenance.

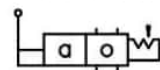


Section

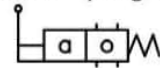


Hydraulic symbol

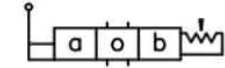
2 position detented



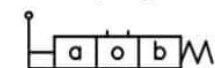
2 position spring offset



3 position detented



3 position spring centred



Technical specifications

Construction	:	Spool type.
Mounting / Standard	:	Subplate & Threaded body. Subplate body Interface as per ISO 4401 - AC - 05 - 4 - A and IS 10187 -10 mm diameter nominal port.
Mounting position	:	Optional, horizontal spool axis preferred.
Flow direction	:	As per spool type .
Maximum operating pressure	:	For port P, A, and B.....350 bar. (Standered valve) For port P, A, and B.....700 bar. (High Pressure valve) For port T.....100 bar. Pressure drop in the tank line adversely affect the returning speed of the cylinder, Hence must be kept as low as possible
Hydraulic medium	:	Mineral oil.
Viscosity range	:	10 cSt to 380 cSt.
Fluid temperature range	:	-20°C to +70°C.
Fluid cleanliness requirement	:	ISO 4406 20/18/15 or better.
Nominal flow handling capacity	:	Refer performance curve.
Mass (approx)	:	5.6 kg

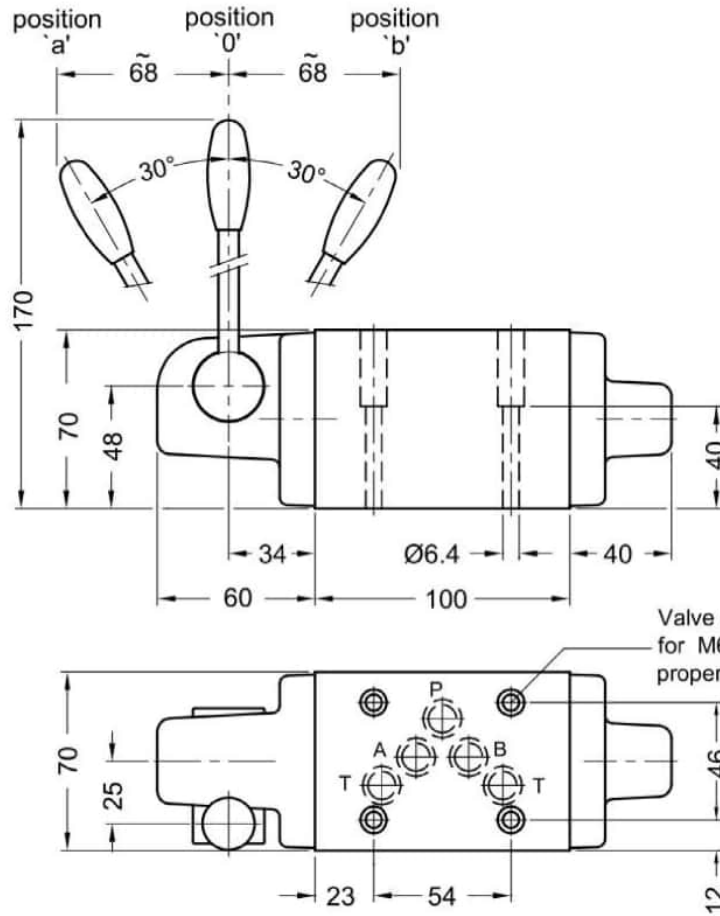
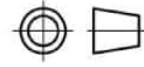




Subplate mounting body

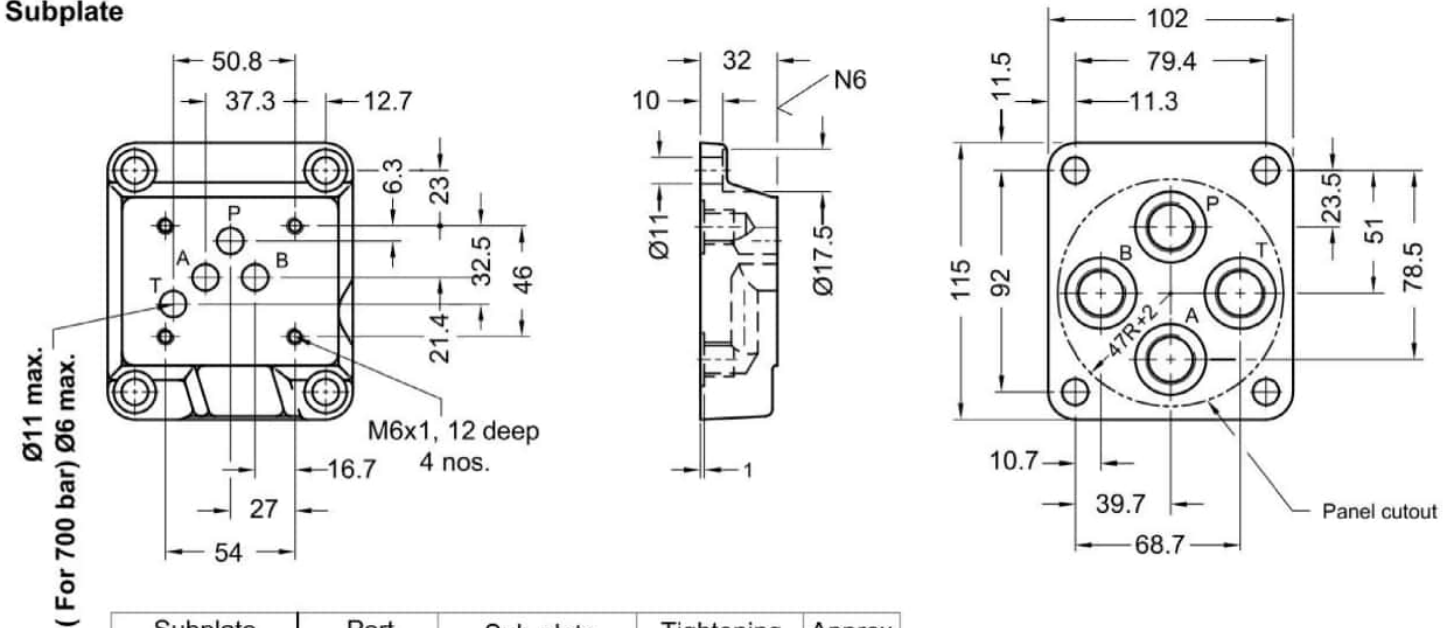
Unit dimensions

Dimensions in mm.



Valve mounting Clearance hole,
for M6 x 50L S.H. Capscrew. 4 Nos.
property class 10.9, tightening torque 16 Nm.

Subplate



Subplate Ordering Code	Port A, B, P, T	Sub-plate Fixing Screws	Tightening Torque	Approx Mass
G101	G 1/4"	M10 x 25 L	70 N-m	2.5 kg
G102	G 1/2"			
G103	G 3/8"			

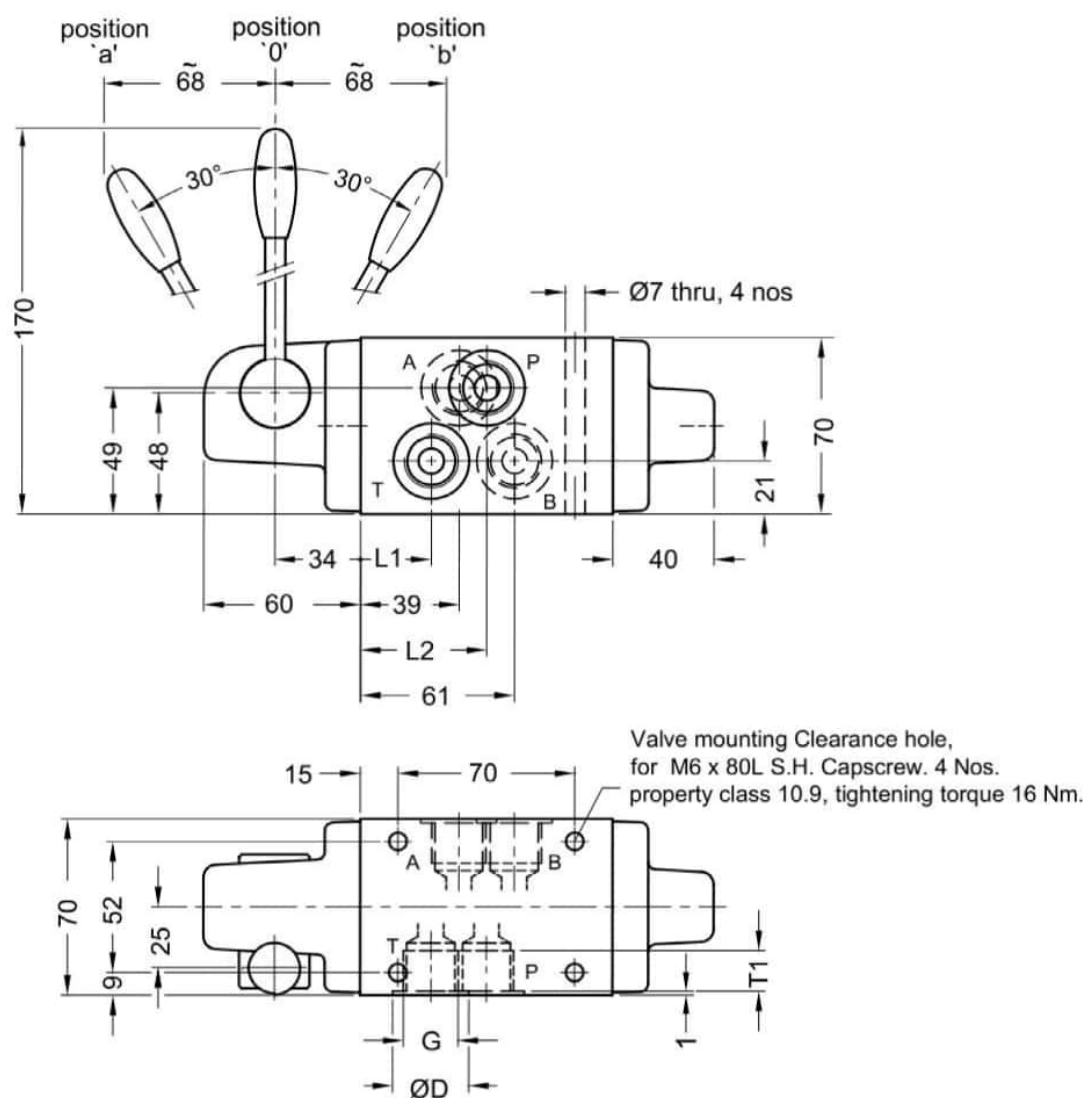
Note

Sub-plate to be ordered separately.





Threaded mounting body



Ordering Code	Port Size G	ØD	T1	L1	L2
T02	G ¼"	22	12	28	50
T04	G ½"	30	16	31	54



Performance Curves for 4DL 10

(Pressure drop related to flow, with oil viscosity 46 cSt at 40°C)

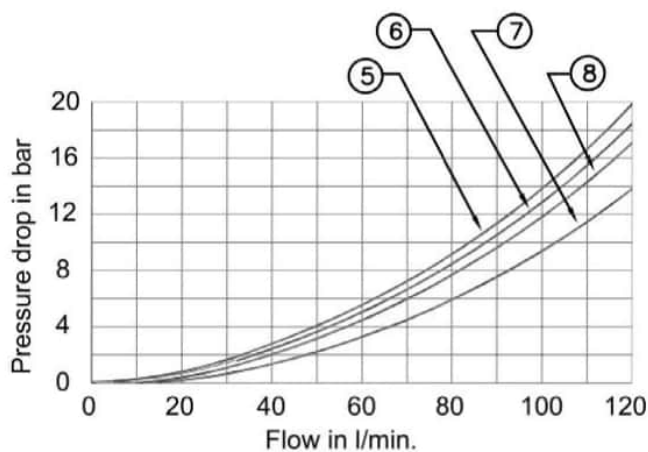
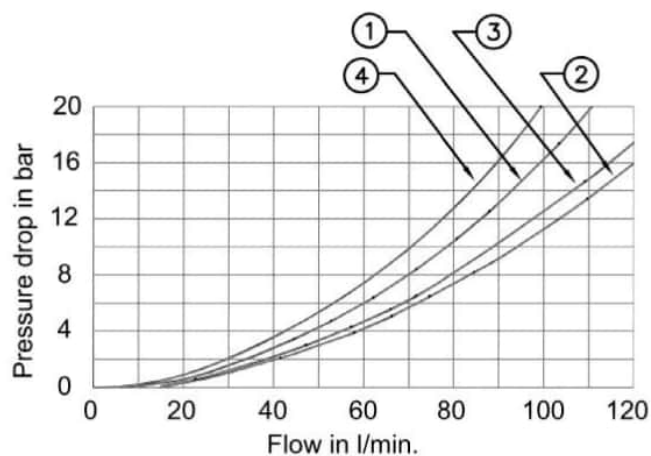
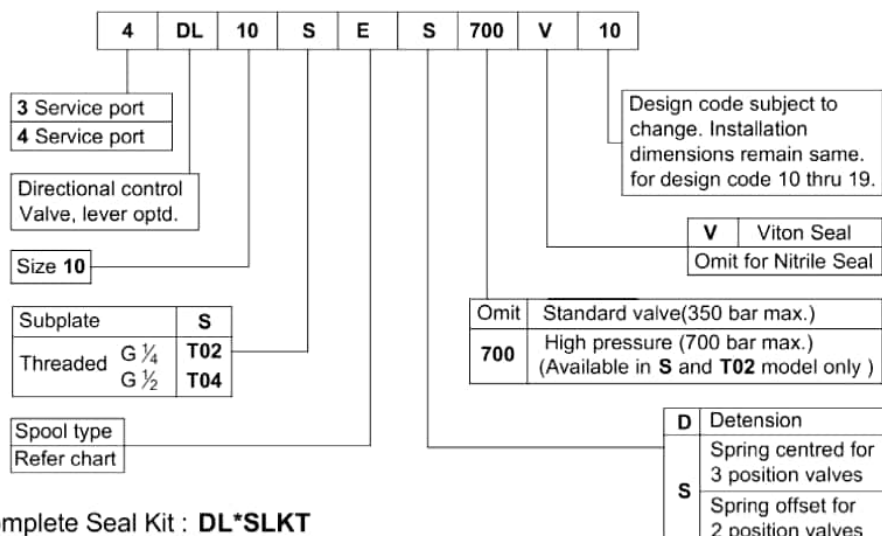


Table showing the relation between the spool type, direction of flow and curve graph to be referred to.

Spool type	Direction of flow / Curve no.				
	P to T	P to A	P to B	A to T	B to T
A	-	1	1	-	-
C	-	1	1	2	3
D	-	1	1	2	3
E	-	1	1	2	3
F	4	1	1	7	3
G	4	1	1	2	3
H	5	6	6	7	8
J	-	1	1	7	8
L	-	1	1	7	3
M	-	6	6	2	3
P	4	1	1	2	8
Q	-	1	1	2	3
U	-	1	1	7	8
W	-	1	1	2	3



Ordering code



Note

Ordering code for a complete Seal Kit : DL*SLKT

Spool Chart

Type	Symbol	Crossover	Type	Symbol	Crossover
	a 0 b A B P T	A B P T		a 0 b A B P T	A B P T
A			Q		
C			U		
D			W		
E					
F					
G					
H					
J					
L					
M					
P					