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

Ref. No. D04909
Release 02 / 2024

ENGINEERING - 1 of 5

A Polyhydron Group Company

Description

Completely encapsuiated mechanism for protection against dirt. Five chember 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.

Operting Head can be rotated by 90° x 4 around spool axis for flexibility in mounting.

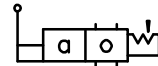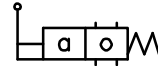All spool and bodies are interchangable, simplifying maintenance.

Section

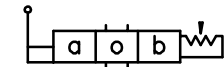Spring centered

T A P B T
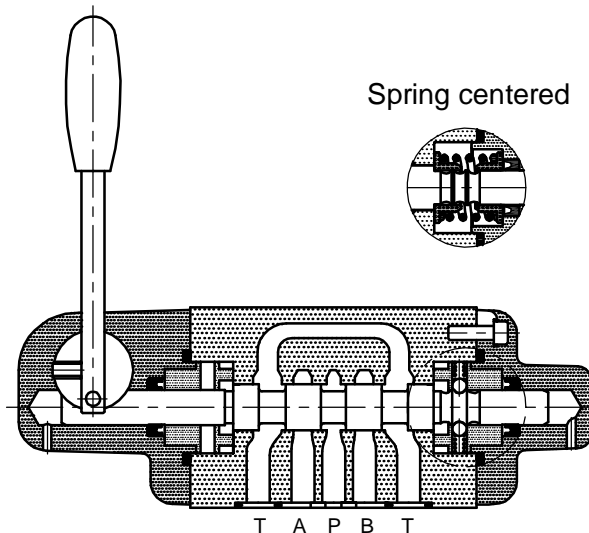
Hydraulic symbol

2 position detented

2 position spring offset

3 position detented

3 position spring centred
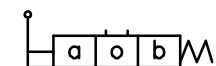
Technical specifications

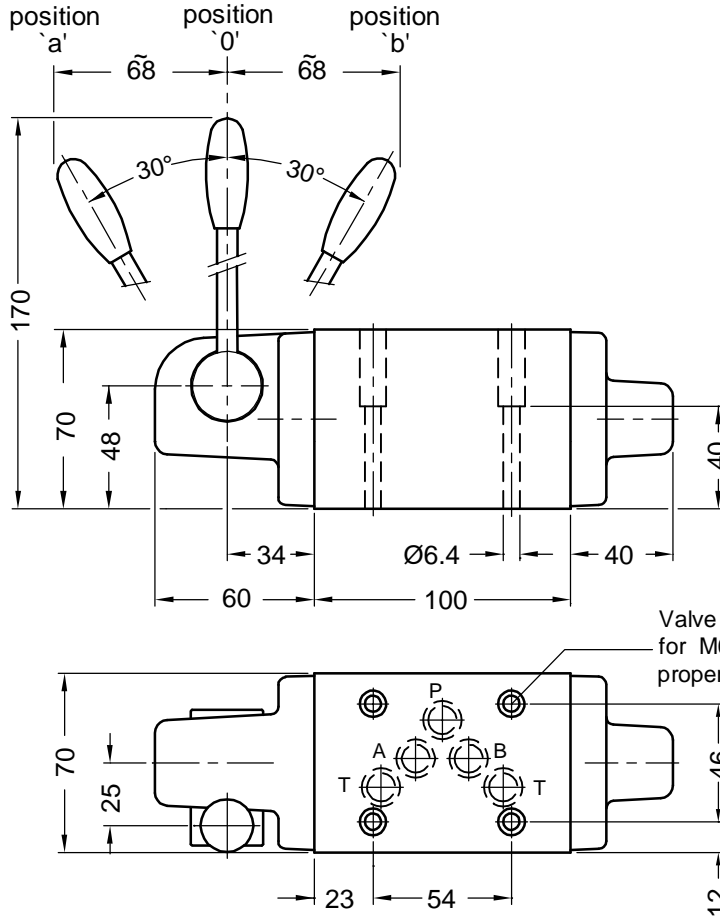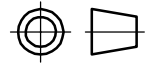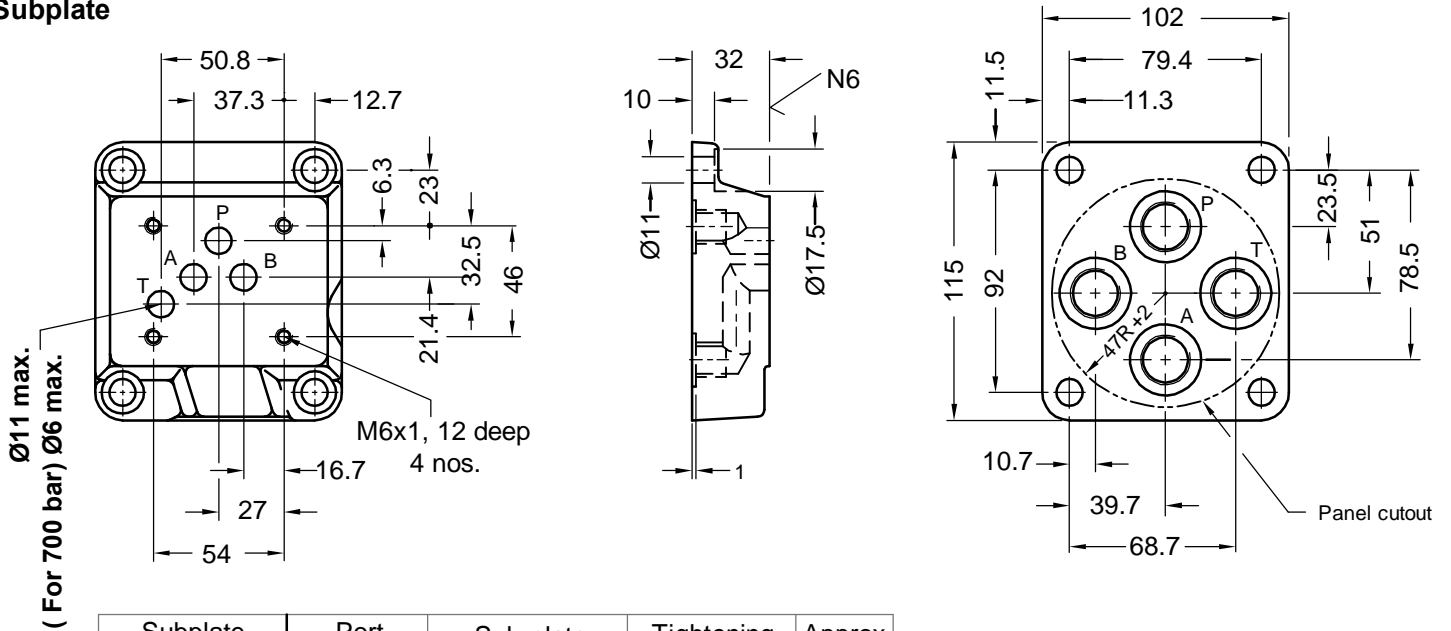|		
Construction	:	Spool type.
Mounting / Standard	:	Subplate & Threaded body.
		Subplate body Interface as per ISO 4401 - AC - 05 - 4 - A and
		IS 10187 -10 mm diameter nominal port.
Mounting position	:	Optional, horizontal spool axis preferred.
Flow direction	:	As per spool type .
Maximum operating 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.

position `a'`   position `0'`   position `b'`

~68   ~68

30°   30°

170
70
48
34
60
100
40
Ø6.4
40

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

P
A   B
T   T

70
25
46
23
54
12

Subplate

50.8
37.3
12.7
6.3
23
32.5
46
21.4

P
A   B
T

Ø11 max.
(For 700 bar) Ø6 max.

M6x1, 12 deep
4 nos.

16.7
27
54

32
10
N6
Ø11
Ø17.5
1

102
79.4
11.3
11.5
115
92
23.5
51
78.5

P
B   T
A

47R +2

10.7
39.7
68.7

Panel cutout

Subplate Ordering Code	Port A, B, P, T	Sub-plate Fixing Screws	Tightening Torque	Approx Mass
G101	G ¼"			
G102	G ⅜"	M10 x 25 L	70 N-m	2.5 kg
G103	G ½"			

Note
Sub-plate to be ordered separately.

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Threaded mounting body

position `a'`   position `0'`   position `b'`

~68   ~68

30°   30°

170

Ø7 thru, 4 nos

A   P

49   48

T   B

70

21

34 ─ L1

60   39

40

L2

61

15   70

70   52   25   9

A   B

T   P
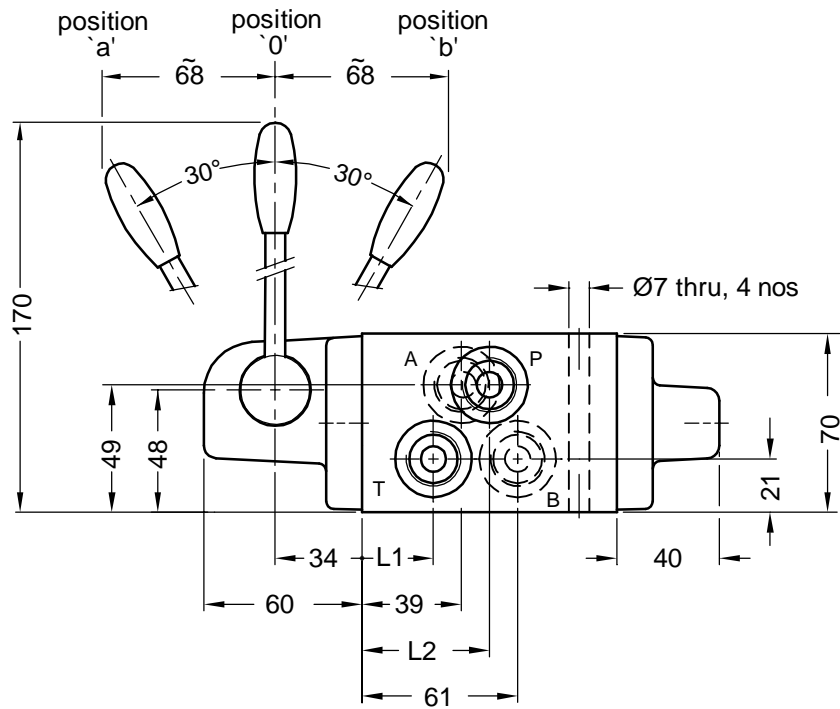
Valve mounting Clearance hole,
for M6 x 80L S.H. Capscrew. 4 Nos.
property class 10.9, tightening torque 16 Nm.

T1

G

1

ØD

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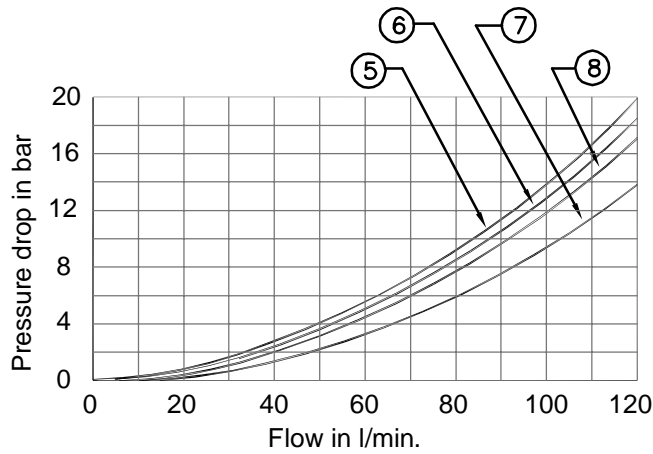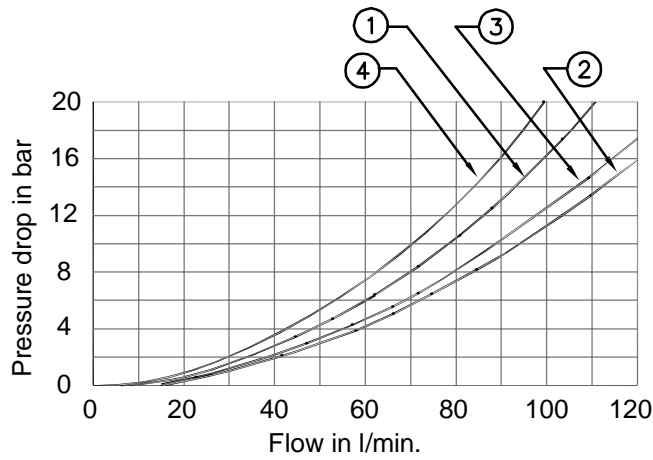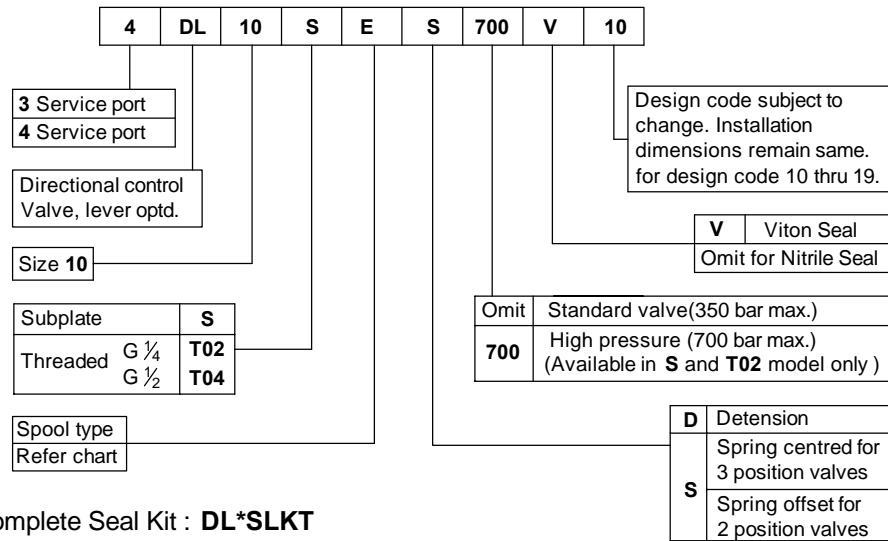(Pressure drop related to flow, with oil viscosity 46 cSt at 40°C)

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

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Ordering code

| 4 | DL | 10 | S | E | S | 700 | V | 10 |

3 Service port
4 Service port

Directional control Valve, lever optd.

Size **10**

Subplate		**S**
Threaded	G ¼	**T02**
	G ½	**T04**

Spool type
Refer chart

Design code subject to change. Installation dimensions remain same. for design code 10 thru 19.

| **V** | Viton Seal |
| | Omit for Nitrile Seal |

| Omit | Standard valve(350 bar max.) |
| **700** | High pressure (700 bar max.) (Available in **S** and **T02** model only) |

D	Detension
	Spring centred for 3 position valves
S	Spring offset for 2 position valves

Note
Ordering code for a complete Seal Kit : **DL*SLKT**

Spool Chart