4/3, 4/2 and 3/2 directional valve with mechanical, manual operation

2.1

Type WMD6...L6X

Size 6
Up to 315 bar
Up to 60L/min

Contents

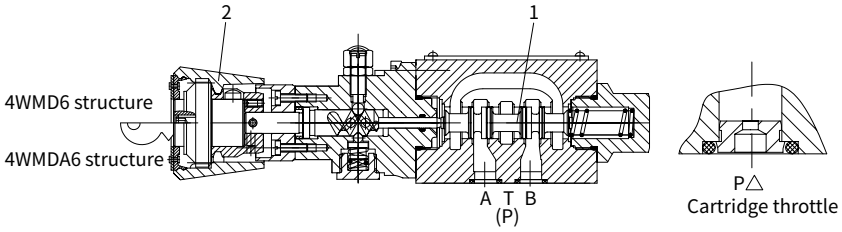
Features

- Direct operated directional spool valve
- Sub-plate mounting
- Rotary knob with or without lock
  45 versions standard spool
- Porting pattern confirms to DIN 24 340 form A and ISO 4401

Function and configurations

Directional valves type WMD... are mechanical, manual operated directional spool valves. They control the start, stop and direction of a flow.
The rotary knob (2) operates (2×90 °) the spool (1), the screw type rotation transforms into axial movement and direct acts on the spool (1). Then the spool (1) moves to the end position and gets the opening position as required.
Actual switch position of spool (1) can be controlled with rotary knob (2). All the switch positions can be orientated by locating device.

Throttle
The use of a throttle insert is required, when, operating, flows can occur during the switching processes that exceed the performance limit of the valve.
These throttles are to be inserted into the P-channel of the directional valve.



Ordering code

WMD | 6 | L6X / F | ★

3 ways (version A) =3
4 ways =4

Rotary knob

Without lock =No code
With lock = A

Nominal size 6 =6

Symbols e.g. C, E, EA, EB etc. see below

Series L60 to L69 =L6X
(L60 to L69:unchanged installation
and connection dimensions)

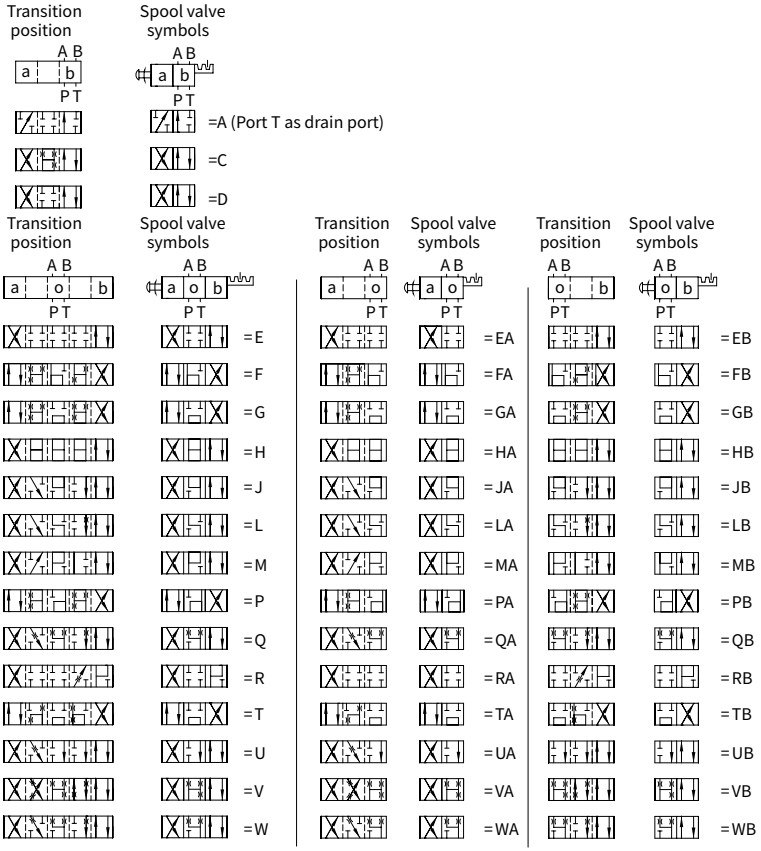
F = With detent

No code = Wthout cartridge throttle
B08 = Throttle - Φ0.8 mm
B10 = Throttle - Φ1.0 mm
B12 = Throttle - Φ1.2 mm

No code = NBR seals
V = FKM seals

Further details in clear text

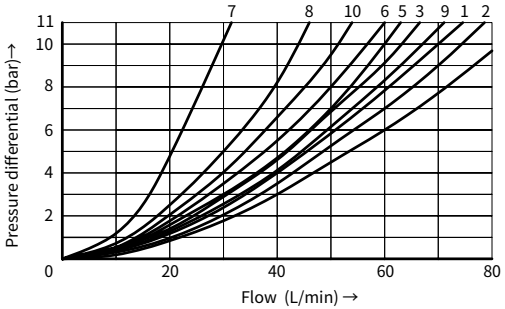
Symbols



Technical data

Fluid temperature range		°C	-30 to +80 (NBR seal)
			-20 to +80 (FKM seal)
Max.operating pressure	Port A,B,P	bar	315
	Port T	bar	160
Max. flow-rate		L/min	60
Flow cross section (switching neutral position)	Type Q	mm^2	for symbol Q 6% of nominal cross section
	Type W	mm^2	for symbol W 3% of nominal cross section
Fluid			Mineral oil, Phosphate ester
Viscosity range		mm^2/s	2.8 to 500
Degree of contamination			Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406
Weight		kg	1.5

Characteristic curves (Measured at ϑ_{oil}=40°C ±5°C , using HLP46)

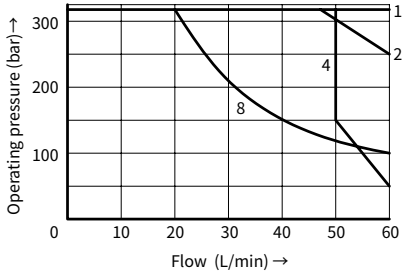


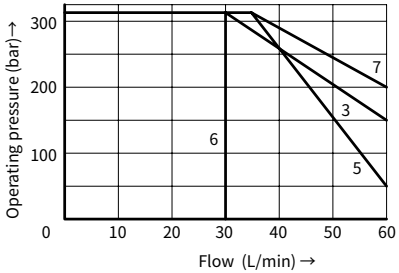
7 Symbol "R" in switched positions B → A
8 Symbol "G" and "T" in neutral position P → T
9 Symbol "H" in neutral position P → T

Spool symbols	Flow direction			
	P to A	P to B	A to T	B to T
A B	3	3	-	-
C	1	1	3	1
D Y	5	5	3	3
E	3	3	1	1
F	1	3	1	1
T	10	10	9	9
H	2	4	2	2
J Q	1	1	2	1
L	3	3	4	9
M	2	4	3	3
P	3	1	1	1
R	5	5	4	-
V	1	2	1	1
W	1	1	2	2
U	3	3	9	4
G	6	6	9	9

Operating limitations

The switching performance of the valves depends on the filtration. In order to achieve the specified admissible flow values, we recommend full flow filtration with 25 µm. The flow forces acting within the valves also affect the flow performance. With 4 way valves the specified flow data thus apply to normal operation with 2 volume flow directions (e.g. from P to A and at the same time return flow from B to T) (see table).
If only one flow direction is available, in certain cases, the admissible flow can be significantly smaller (e.g. when using a 4 way valve as 3 way valve, due to blocked connection A or B).



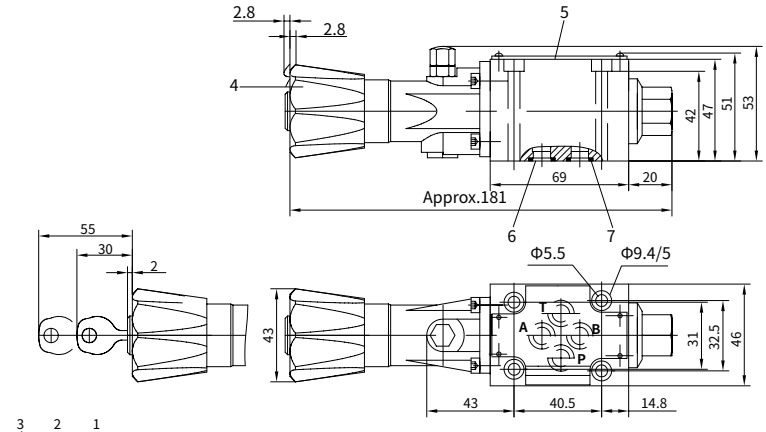


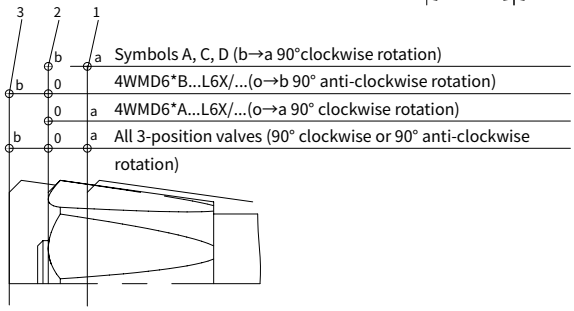
Curve	Spool symbol
1	E,M,H,C,D,Y,Q,U,W
2	J,L
4	G,P
8	T

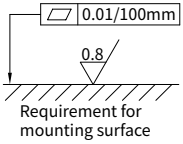
Curve	Spool symbol
3	A,B
5	F
6	V
7	R

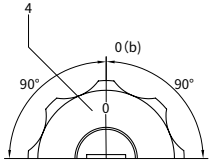
Unit dimensions

(Dimensions in mm)







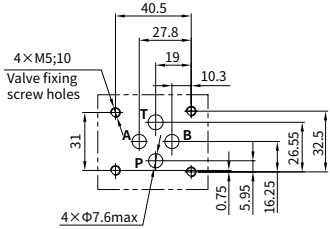


1 Switched position b → a,o → a
2 Switched position a → b,a → o,b → o
3 Switched position o → b
4 3-position valve(including spool *A and *B):
Switched position b
Operating valve 90° clockwise and 90° anti-clockwise
2-position valve(spool A,C,D):
Switched position b . Operating valve 90° clockwise
5 Nameplate
6 Fixing surface
7 O-ring 9.25×1.78 for ports A, B, P and T

It must be ordered separately, if connection plate is needed.

Type: G 341/01 (G 1/4), G 341/02(M14×1.5)
G 342/01 (G 3/8), G 342/02(M18×1.5)
G 502/01 (G 1/2), G 502/02(M22×1.5)

Valve fixing screws:
Internal hexagon screw
M5×50 GB/T 70.1-10.9
Tightening torque M_A =9Nm
must be ordered separately



Dimensions of mounting surface