WMM 10...type Manual Operated Direction Control Valve

WMM10...4XJ... type

Size 10
Max. Working Pressure: 315 bar
Max. Flow: 160L/min

Contents

Features

- Direct operating directional spool valves with mechanical, manual operation
- For sub-plates mounting
- Hand lever
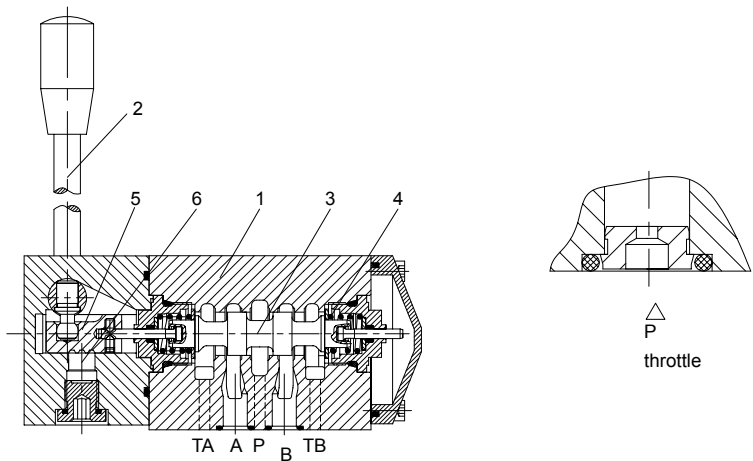- Porting pattern confirms to DIN 24 340 form A, and ISO 4401

Function and configurations

WMM 10...4XJ... type are manually actuated directional spool valves. They control the start, stop and direction of a flow. The directional valves consist of valve housing (1), handle (2), control spool (3), and one or two return springs (4). When de-energized, the control spool (3) is held in the central position or in the initial position by the return springs (4).The control spool (3) is moved to the desired spool position by means of the types of actuation.

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. Directional valves type WMM10...4XJ...type have two handles options with different pulling direction , the detail refer to the 'Specification' and 'Unit dimensions'.


TA   A P   B   TB

throttle

Specification

	WMM	10	–	4XJ	/			★	

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

Manual directional valve

Nominal size 10 = 10

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

Series 40J to 49J = 4XJ
(40J to 49J:unchanged installation and connection dimensions)

Further details in clear text

No code =	NBR seals
V =	FKM seals

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

No code =	Return spring
F =	With detent

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	120
Flow cross section (switching neutral position)	Type V	mm²	For symbol V 11(A/B to T) 10.3(P to A/B)
	Type W	mm²	For symbol W 2.5(A/B to T)
	Type Q	mm²	For symbol Q 5.5(A/B to T)
Fluid			Mineral oil suitable for NBR and FKM seal
			Phosphate ester for FKM seal
Viscosity range		mm²/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	4.4

Characteristic curves   (Measured at t=40°C ±5°C , using HLP46)
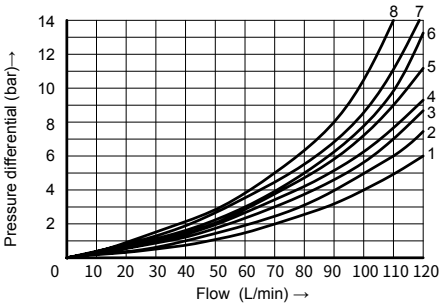
Spool symbol	Flow direction				Spool symbol	Flow direction			
	P to A	P to B	A to T	B to T		P to A	P to B	A to T	B to T
A	4	3	-	-	L	3	3	2	4
B	3	4	-	-	M	1	1	4	4
C	3	3	4	4	P	3	1	5	5
D	3	3	5	5	Q	2	2	2	2
E	2	2	4	4	R	3	4	3	-
F	1	2	3	4	U	3	3	5	2
G,T	4	4	7	7	V	2	2	3	3
H	1	1	5	5	W	3	3	3	3
J	2	2	3	3	Y	4	4	6	6

8 Symbols "G" and "T" in neutral position (P → T)
8 Symbol "R" in position (A → B)

Operating limitations

The switching performance of the valves depends on the filtration. To achieve the specified 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. If only one flow direction is available, in certain cases, the admissible flow can be significantly smaller.
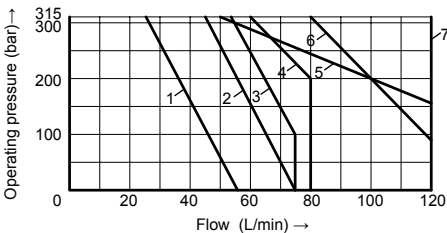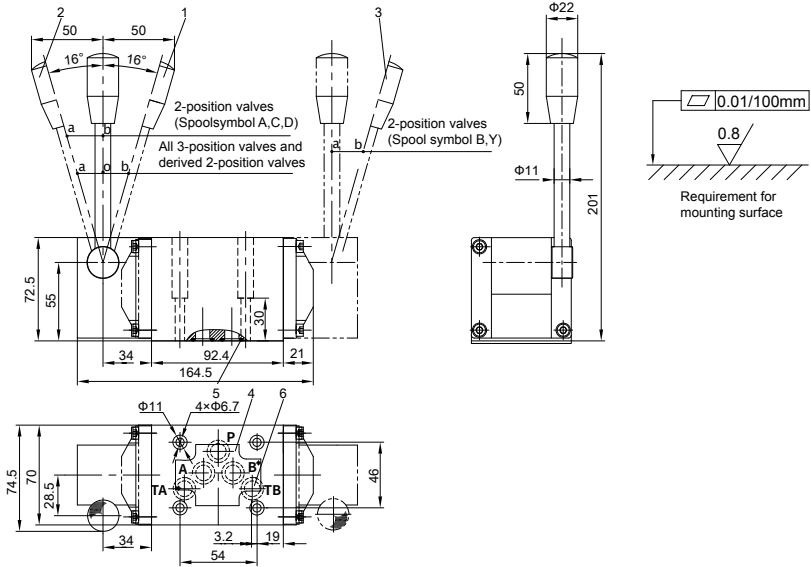

Curve	Spool symbol
1	A,B
2	A/O
3	H
4	F,G,P,R,T
5	J,L,Q,U,W
6	C,D,E,M,V,Y
7	C/O,C/OF ,D/O,D/OF

Unit dimensions

(Dimensions in mm)

WMM10...-4XJ...

1 Switched position 0 → b
2 Switched position 0 → a,b → a
3 Switched position a → b
4 Nameplate
5 O-ring 12×2, for ports A, B, P ,TA and TB
6 Additional return port when using control block