



Two Ways Flow Control Valve

Model: 2FRM5...3X



- ◆ Size 5
- ◆ Maximum working pressure 210 bar
- ◆ Maximum working flow 15 L/min

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Features

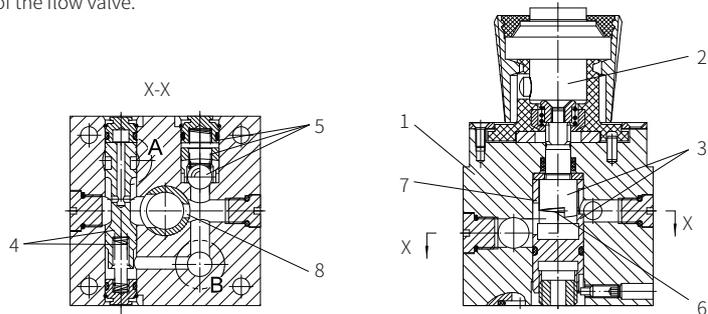
- Optional pressure compensator stroke limiter
- Start-up jump reduction
- Lockable knob
- Flow control in both direction by means of rectifier sandwich plate

Function description, sectional drawing

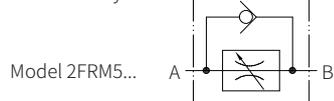
2FRM model flow valve is two ways flow control valve. This valve mainly includes the valve body (1), the adjusting element (2), the throttle body (3), optional pressure compensator (4) with stroke limiter and check valve (5), it is used for the throttling of the flow from A to B at throttle port (6).

The curve bolt (7) can adjust the throttling cross section. The pressure compensator needs to be connected to keep the flow constant at the throttle port (8) and without affection of pressure. The orifice is designed with sharp edges, so the throttling is not easily affected by temperature. The free flow return from B to A is via the check valve (5).

The rectifier sandwich plate Z4S5-1XJ/ is installed under the flow valve to control the flow in both directions of the flow valve.

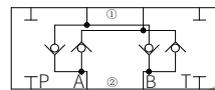


Functional symbols



Model 2FRM5...

Model Z4S5...
①=Valve side
②=Subplate side



Technical parameters

Oil fluid	Mineral hydraulic oil or phosphate ester hydraulic oil
Oil temperature range	-30 to +80 (NBR seals) -20 to +80 (FKM seals)
Viscosity range	10 to 800 mm ² /s

Rectifier sandwich plate	
Rated flow	L/min 15
Working pressure	bar to 210
Cracking pressure	bar 1
Weight	kg 0.6

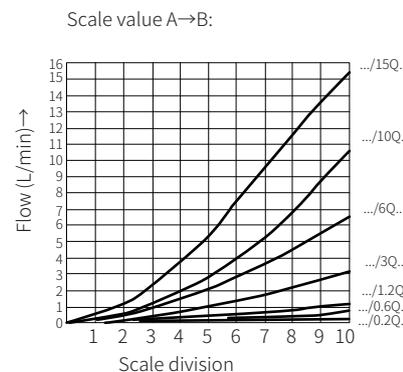
Two ways flow control valve

Maximum flow	L/min	0.2	0.6	1.2	3.0	6.0	10.0	15.0
ΔP with free return flow B → A qv-dependent	bar	0.5	0.5	0.6	0.9	1.8	3.6	6.7
Flow control	Temperature stability	±5%	±3%	±2%				
	Pressure stability (to ΔP=210)	bar			±2%		±4%	
Working pressure at port A	bar	to 20						
Minimum pressure drop	bar	3 to 5			6 to 8			
Degree of contamination	μm	25(Q<5L/min)			10(Q<0.5L/min)			
Weight	kg	1.6						

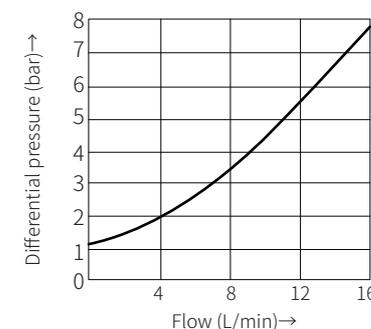
For the application of other technical conditions, please consult us.

Characteristic curve

(Measured when using HLP 46, $t_{oil} = 40^{\circ}C \pm 5^{\circ}C$)



Pressure drop of the rectifier sandwich plate



Models and specifications

Two ways flow control valve

2FRM5 3X

3X series (30 to 39 series installation and =3X connection size unchanged)

nonlinearity	nonlinearity	flow direction A → B
0.2L/min=0.2Q 0.6L/min=0.6Q 1.2L/min=1.2Q 3L/min=3Q 6L/min=6Q	10L/min=10Q 15L/min=15Q	

more information in text
sealing material
No code = NBR seals
V= FKM seals
(consult for other seals)

No code = pressure compensator, without stroke limiter
B= pressure compensator, with stroke limiter

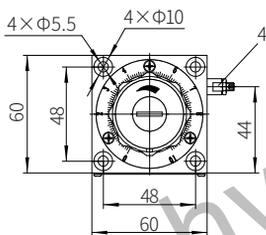
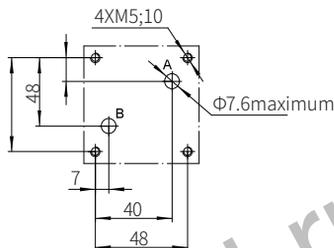
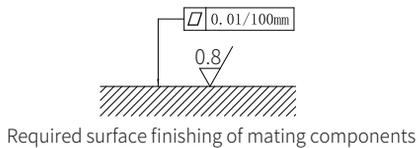
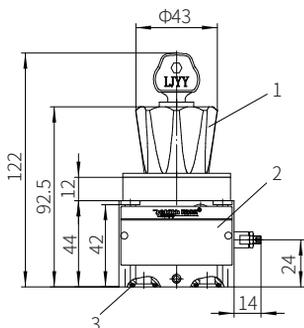
Rectifier sandwich plate

Z4S5 1X

1X series (10 to 19 series installation and =1X connection size unchanged)

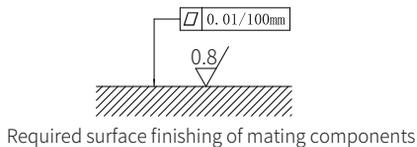
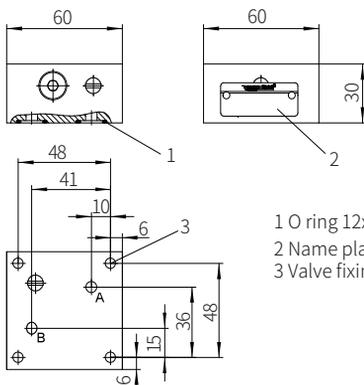
more information in text
sealing material
No code = NBR seals
V= FKM seals
(consult for other seals)

Model 2FRM5-3XJ/...



O ring 12x2 (for oil port A, B)
 M5x50-10.9 stage GB/T70.1-2000
 Tightening torque $M_A=7.8Nm$
 Subplate model:
 G44/01(G1/4"); G44/02(M14x1.5)
 G45/01(G1/2"); G45/02(M22x1.5)

Model Z4S5-1XJ/...



1 O ring 12x2 (for oil port A, B)
 2 Name plate
 3 Valve fixing screw hole