

Two Ways Flow Control Valve

Model: 2FRM6...3XJ



- ◆ Size 6
- ◆ Maximum working pressure 315 bar
- ◆ Maximum working flow 32 L/min

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Features

- Optional pressure compensator closed externally
- Subplate mounting
- Optional check valve
- Rotary knob with scale
- Optional lock

Function description, sectional drawing

The 2FRM6 flow control valve is a two-way flow control valve. It is used to keep the constant flow and independent of pressure and temperature. The valve mainly consists of the valve body (1), rotary knob (2), orifice (3), pressure compensator (4) and an optional check valve.

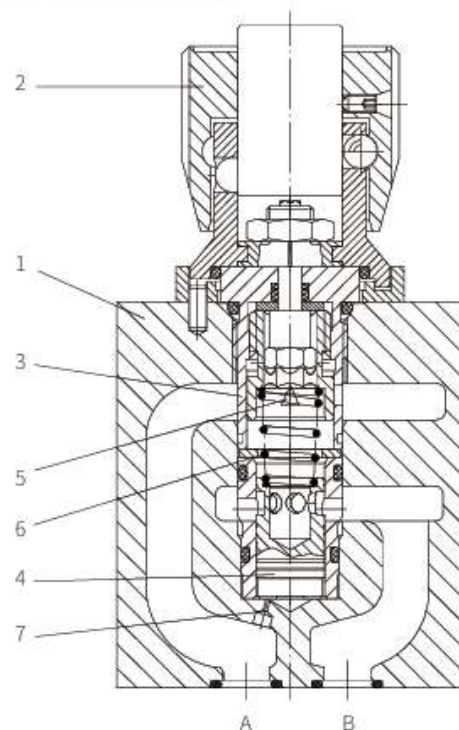
Flow control valve model: 2FRM6B...-3XJ/...MV

(without external closing, without check valve)

The flow from the oil port A to B is throttled at the throttle position (5). The throttle cross-section is adjusted by turning the rotary knob (2). In order to keep the flow constant and independent of pressure, a pressure compensator (4) is required to be installed in port B downstream of the throttle position (5).

The compression spring (6) presses the orifice (3) and pressure compensator (4) to their limited positions respectively and thus keeps the pressure compensator (4) in the open position when there is no flow through the valve. When the fluid flows through the valve, the pressure at port A acts to the pressure compensator (4) through the orifice (7). The pressure compensator (4) moves to the compensation position until force balance. If the pressure in oil port A increases, the pressure compensator (4) moves to the closed direction until the force balance is reached again.

Because the pressure compensator continuously acts as compensation, the flow can be maintained. In order to control the flow in both directions, the rectifier sandwich plate Z4S6 can be installed under the flow control valve.

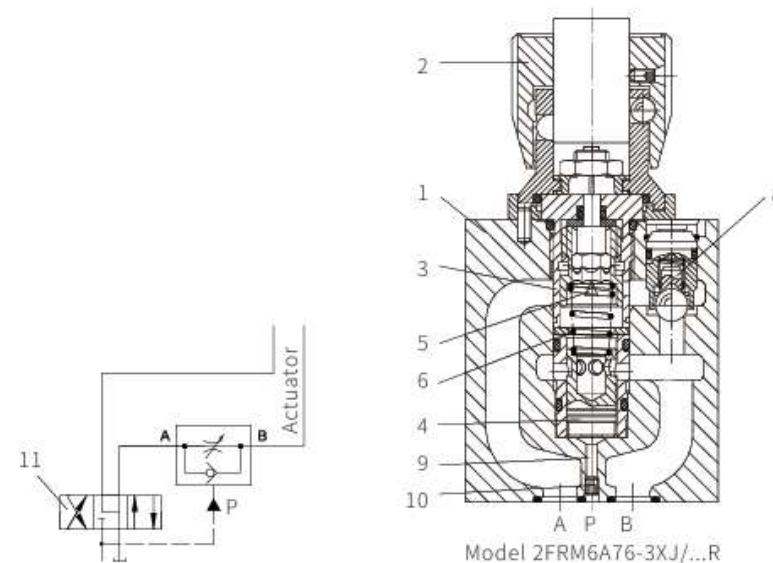


Model 2FRM6B76-3XJ/...M

Function description, sectional drawing

This flow valve is provided with the possibility of an external closing of the pressure compensator (4) through channel P(9).

The external pressure acting in the channel (9) via orifice (10) to hold the pressure compensator (4) closed against the force of the spring (6). When the direction valve (11) in the middle position is switched from P to B, the valve can be used same load compensation function as model 2FRM6B to avoid the jump at start-up. This version with external closing of the compensator can only be used for the supply control. The fluid flows freely from port B to A through the check valve (8).



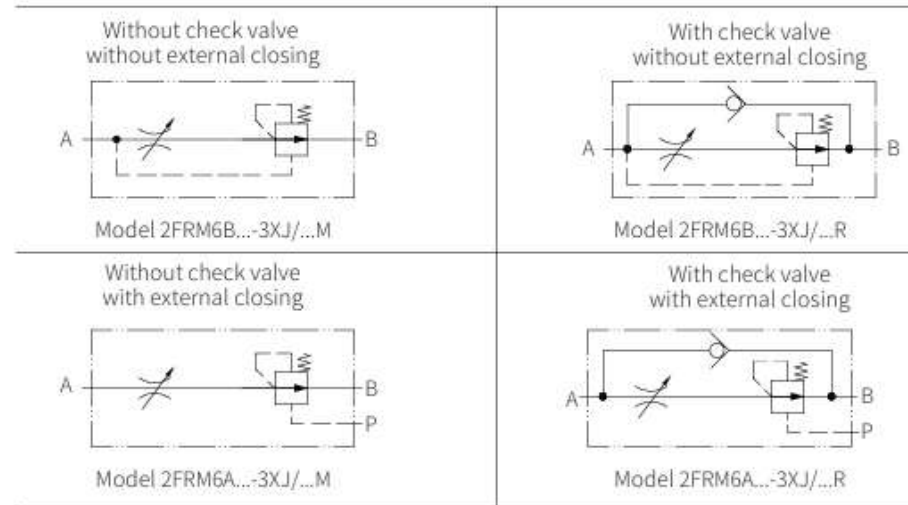
Model 2FRM6A76-3XJ/...R

Functional symbols

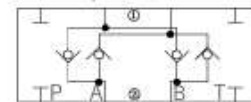
Two ways flow control valve (simplified)

Without check valve without external closing	With check valve without external closing	Without check valve with external closing	With check valve with external closing
Model 2FRM6B...-3XJ/...M	Model 2FRM6B...-3XJ/...R	Model 2FRM6A...-3XJ/...M	Model 2FRM6A...-3XJ/...R

Two-way flow control valve (detailed)



Rectifier sandwich plate (①= Valve side, ②= Subplate side)



Model Z4S6-1XJ...

Models and specifications

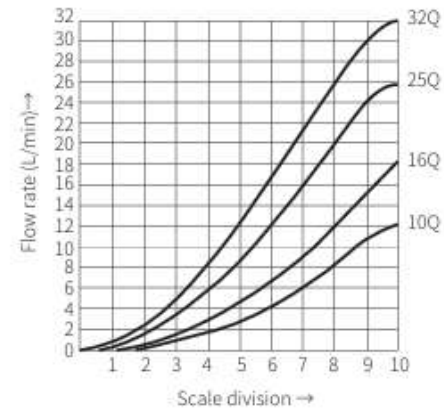
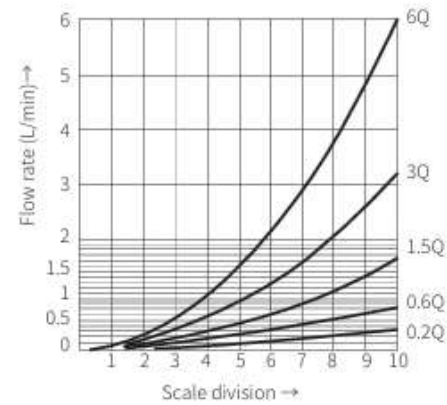
Two ways flow control valve

2FRM 6 6 6 3X J V *		more information in text	
two ways flow control valve		No code=	no locating pin holes
size 6	=6	/60=	with locating pin holes
with external closing of the pressure compensator (suppression of jump at start)	=A		sealing material
without external closing of the pressure compensator	=B	No code =	NBR seals
adjusting element		V=	FKM seals
lockable rotary knob with scale	=3		(consult for other seals)
rotary knob with scale	=7	R=	with check valve
zero position of marking at oil port P	=6	M=	without check valve
30 to 39 series	=3X		
(30 to 39 series installation and connection size unchanged)			
Rekith	=J		
			flow (A→B)
		0.2Q=	to 0.2L/ min
		0.6Q=	to 0.6L/ min
		1.5Q=	to 1.5L/ min
		3Q=	to 3.0L/ min
		6Q=	to 6.0L/ min
		10Q=	to 10.0L/min
		16Q=	to 16.0L/ min
		25Q=	to 25.0L/ min
		32Q=	to 32.0L/ min

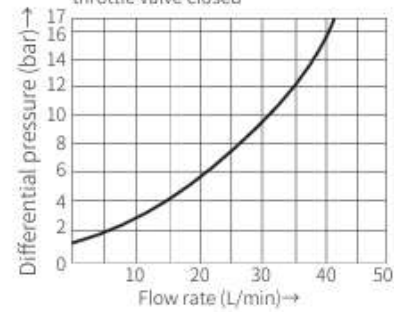
Characteristic curve

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

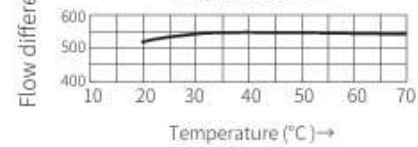
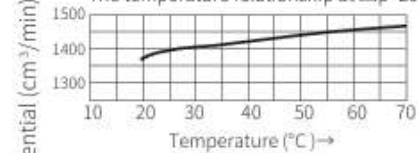
Relationship between flow and set scale (flow control from A to B)



Δp - q_v -Characteristic curve B to A
throttle valve closed



The temperature relationship at $\Delta p=20\text{bar}$



Flow-pressure relationship

