2FRM6...type Two Ways Flow Control Valve

2FRM6...type

Size 6
Max. Working Pressure: 315 bar
Max. Flow: 32 L/min

Contents

Features

- For subplates see catalogue
- External closing of the pressure compensator, optional
- Check valve, optional
- Rotary knob with scale, optional lockable

Function and configurations

2FRM type flow valve is a two-way flow control valve, it is used to maintain a constant flow and is independent of pressure and temperature. It consists of valve housing(1), knob rotary(2), orifice(3), pressure compensator(4), optional check valve(9).

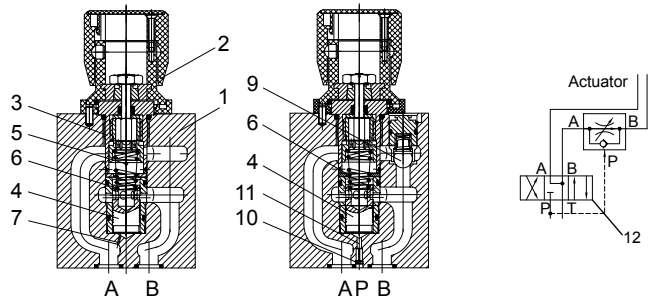
2FRM6B~3XJ/~M

Flow from A to B is throttled at throttle channel(5). Throttle cross-section is varied by turning the knob rotary(2). To avoid effects of pressure at port B on constant flow, a compensator(4) is fitted. Spring(6) separately compress the compensator(4) and orifice(3) tightly.

Spring(6) compresses the compensator(4) tightly to maintain it open when no fluid flows through the valve. Once the fluid flows across the valve, the pressure in port A applies a force to pressure compensator(4) via the orifice(7).The pressure compensator(4) moves into the compensating position until the force is balanced. If the pressure in port A rises, the compensator(4) moves to its closing direction until force is balanced again. Due to the compensator(4) continuous action, a constant flow is obtained.

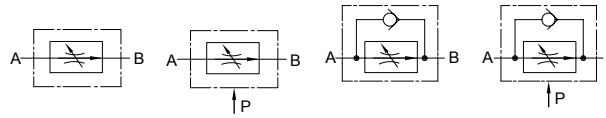
2FRM6A~3XJ/~R

The function of this valve is basically the same as that of valve type 2FRM6B~3XJ/~R. However, pressure compensator (4) of this type of valve is connected with port P(11) so that pressure compensator(4) can be closed by external pressure. Any pressure in port P through the orifice (10) can make the compensator (4) closed against the force of compression spring (6) .When the directional valve (12) acts, fluid flows from P to B, control is achieved as type 2FRM6B. This flow controls the valve with the external pressure compensator which can be closed. It only works by controlling the inlet flow.



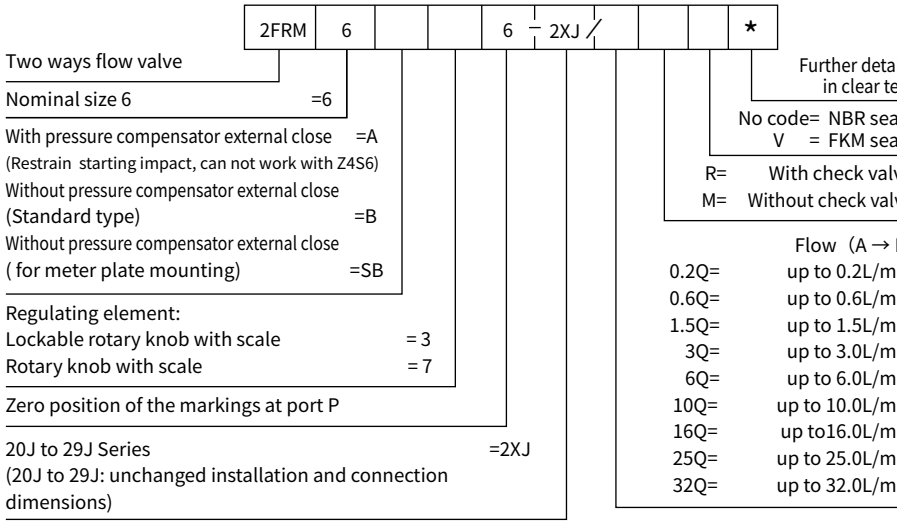
2FRM6B76~3XJ/~M~ **2FRM6A76~3XJ/~R~**

Symbols



Type 2FRM6B ..3XJ/..M Type 2FRM6A ..3XJ/..M Type 2FRM6B ..3XJ/..R Type 2FRM6A ..3XJ/..R

Specification

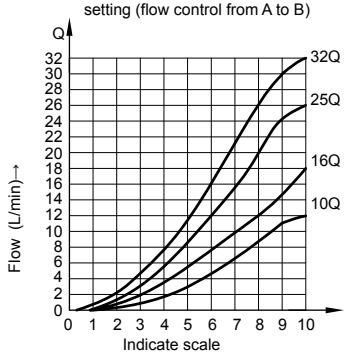


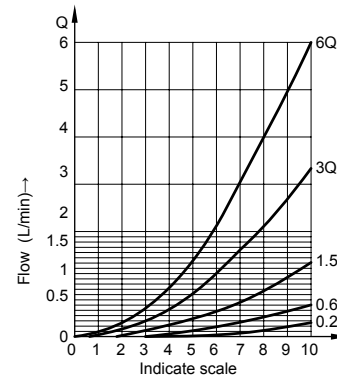
Technical data

Max. operating pressure at port A		bar	315							
Pressure differential ΔP for free return flow B to A			See characteristic curves							
Minimum pressure differential		bar	6 to 14							
Pressure stability up to P= 315 bar		%	±2(Qmax)							
Flow -rate	Qmax	L/min	0.2	0.6	1.5	3	6	10	16	25	32
	Qmin to 100bar	mL/min	15	15	15	15	25	50	70	100	250
	Qmin to 315bar		25	25	25	25	25	50	70	100	250
Fluid			Mineral oil suit, Phosphoric acid ester								
Fluid temperature range		℃	– 20 to + 80								
Viscosity range		mm^2/s	10 to 800								
Degree of contamination			Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406								
Installation position			Optional								
Circumstances temperature range		℃	-20 to +50								
Weight	2FRM6A...2FRM6B...	kg	Approx.1.3								
	2FRM6SB...	kg	Approx.1.5								

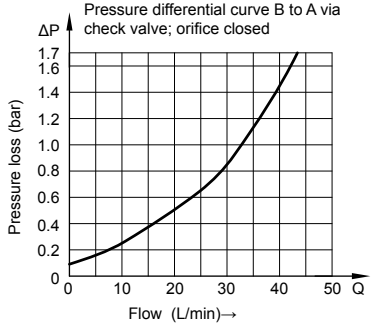
Characteristic curves (Measured at t=40℃ ±5℃ , using HLP46)

Flow in relation to the scale setting (flow control from A to B)

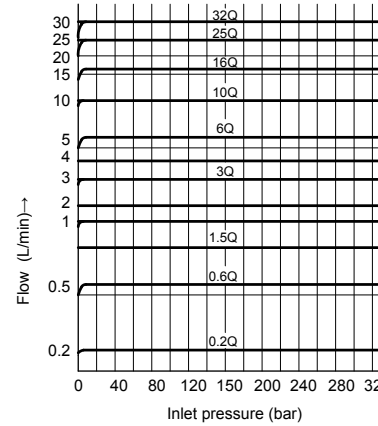




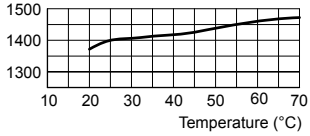
Pressure differential curve B to A via check valve; orifice closed

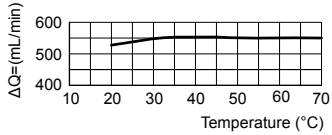


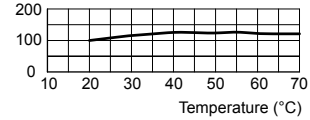
P-Q curve



Temperature effects at ΔP=20bar



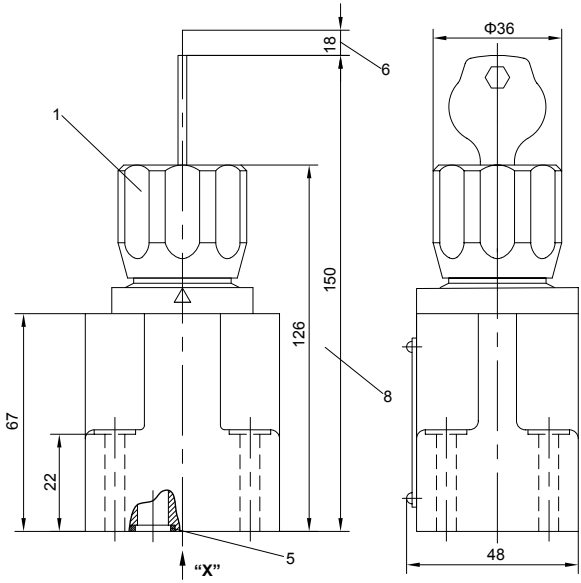




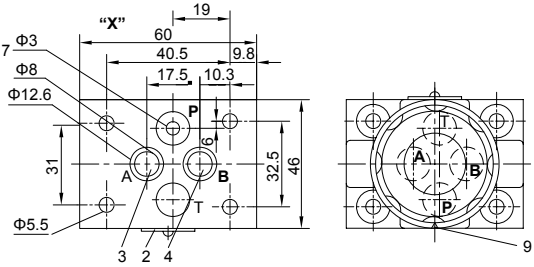
Unit dimensions

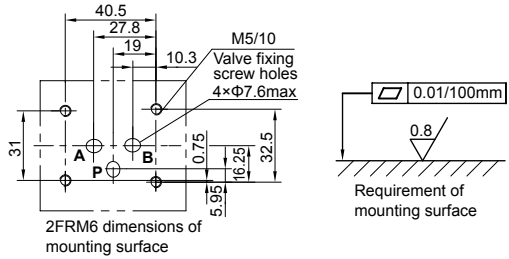
(Dimensions in mm)

Type 2FRM6A...and 2FRM6B



1 Lockable rotary knob with scale (adjustment element "3")
2 Name plate
3 Inlet "A"
4 Outlet "B"
5 O-rings 9.25×1.78 for ports A, B, P and T
6 Space required to remove key
7 Hole Ø 3 for version 2FRM6B is not drilled. (without external connection)
8 Rotary knob with scale (adjustment element "7")
9 Position of marking at port P, A, T or B

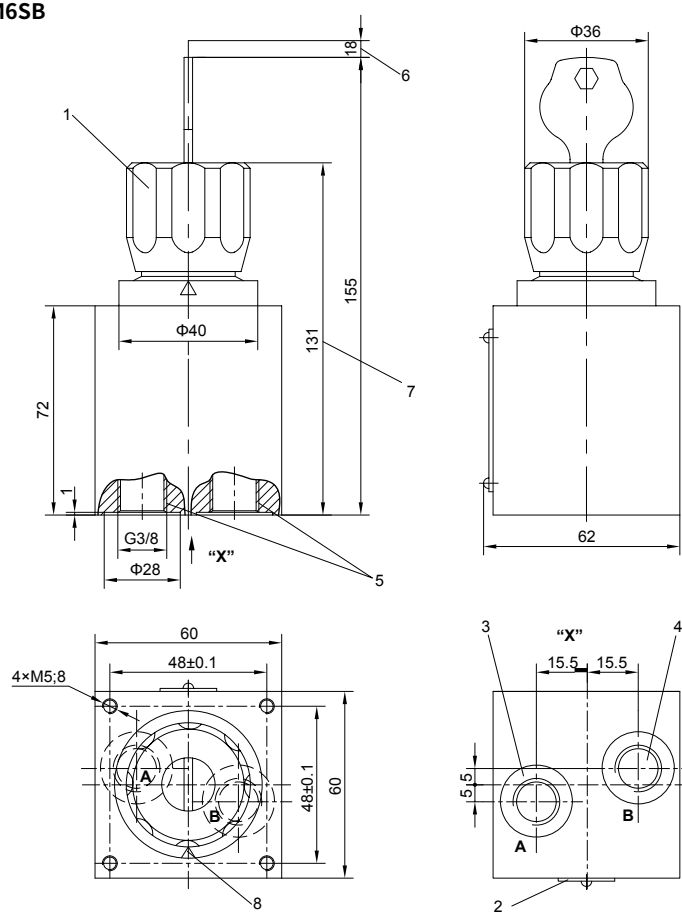




Unit dimensions

(Dimensions in mm)

Type 2FRM6SB



1 Lockable rotary knob with scale (adjustment element "3")
2 Name plate
3 Inlet a
4 Outlet "B"
5 Connection thread G 3/8 to ISO 228/1
6 Space required to remove key
7 Rotary knob with scale (adjustment element "7")
8 Position of marking opposite to the nameplate