



2FRM...Type Two Ways Flow Control valve

2FRM5,10,16...type

Sizes 5, 10, 16

Max. Working Pressure: 315 bar

Max. Flow: 160 L/min



Contents

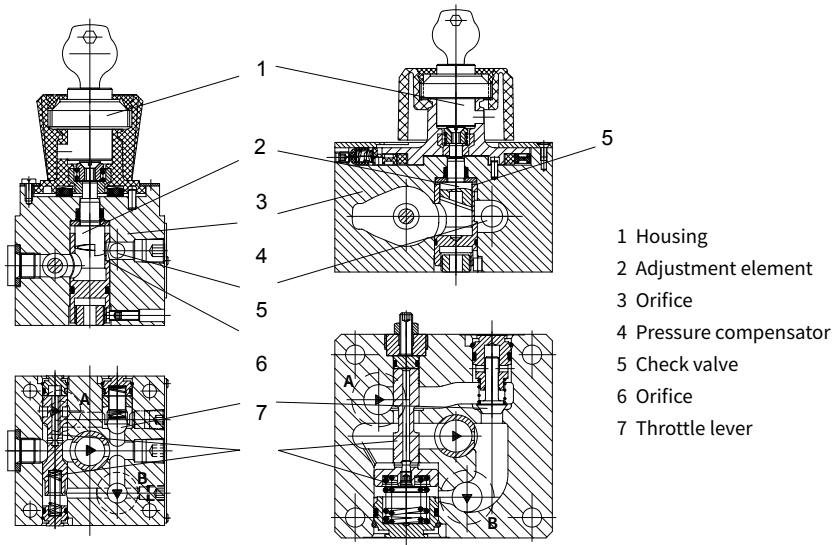
Function and configuration	02
Specification	03
Technical data	04
Characteristic curves	05
Unit dimensions	06-07

Features

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

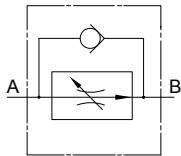
Function and configurations

2FRM type flow valve is a two-way flow control valve, consisting of pressure compensator and throttle valve in series. When fluid flows into the valve, it is reduced of pressure by the pressure compensator first and then throttled by the throttle valve. The flow in the flow control valve is able to maintain stable independent of any impact from the changing load because of pressure compensation function. Meanwhile the orifice is designed into the shape of a blade, making flow little influenced by variance of temperature. When the flow control valve is connected with a check valve in parallel, fluid can flow back in the opposite direction.



Flow control valve section,
type 2FRM5-30

Flow control valve section,
type 2FRM10-20 and 2FRM16-20



Symbol of flow control valve,
type 2FRM

Specifications

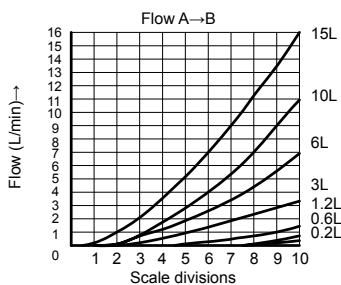
2FRM		— / —				★	
Two ways flow valve						Further details in clear text	
Nominal size 5	= 5					No code =	NBR seals
Nominal size 10	=10					V =	FKM seals
Nominal size 16	=16						
30J Series(Nominal size 5)		=30J				No code =	Pressure compensator, without stroke regulator
21J Series(Nominal size 10 and 16)		=21J				B =	Pressure compensator, with stroke regulator
Flow adjustment range (A → B) Size=5							
	Size=10	Size=16					
0.2L/min=0.2L	10L/min=10L	60L/min=60L					
0.6L/min=0.6L	16L/min=16L	100L/min=100L					
1.2L/min=1.2L	25L/min=25L	160L/min=160L					
3L/min=3L	50L/min=50L						
6L/min=6L							
10L/min=10L							
15L/min=15L							

Technical data

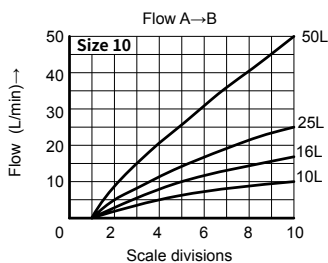
Fluid		Mineral oil ;Phosphate ester																	
Fluid temperature range	°C	-20~+80																	
Viscosity range	mm²/s	10~800																	
Degree of contamination		Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406																	
Item	Size	mm							5				10				16		
Max. flow-rate	L/min	0.2	0.6	1.2	3	6	10	15	10	16	25	50	60	100	160				
Pressure differential when backward flow B to A	bar	0.5	0.5	0.6	0.9	1.8	3.6	6.7	2	2.5	3.5	6	2.8	4.3	7.3				
Flow stability range (-20°C ~+80 °C)%Qmax		±5	±3	±2					±2										
		±2(P= 210bar)					±2(P= 315bar)												
Working pressure	bar	210							315										
Min. pressure differential	bar	3~5				6~8			3~7				5~12						
Weight	kg	1.6							3.4				7.4						

Characteristic curves

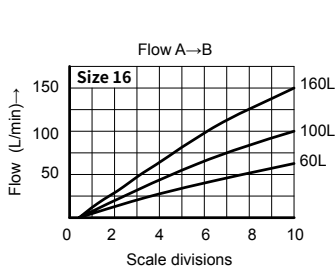
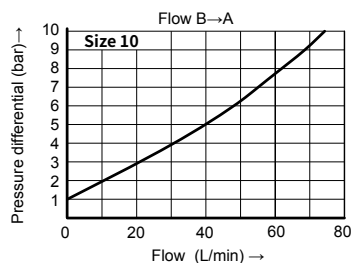
(Measured at $t=40^{\circ}\text{C} \pm 5^{\circ}\text{C}$, using HLP46)



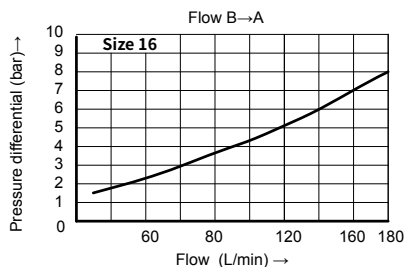
◀ Characteristic curve of
flow control valve type 2FRM5



▲ Curve of flow control valve type 2FRM10



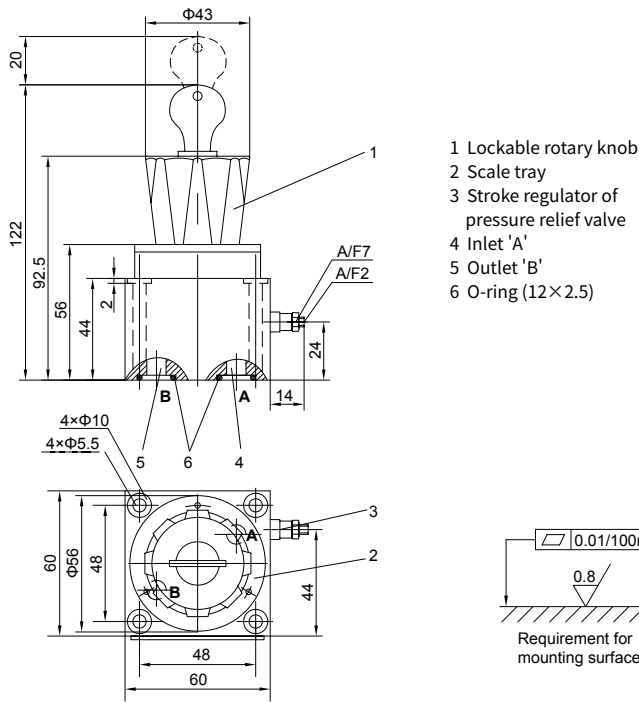
▲ Curve of flow control valve type 2FRM16



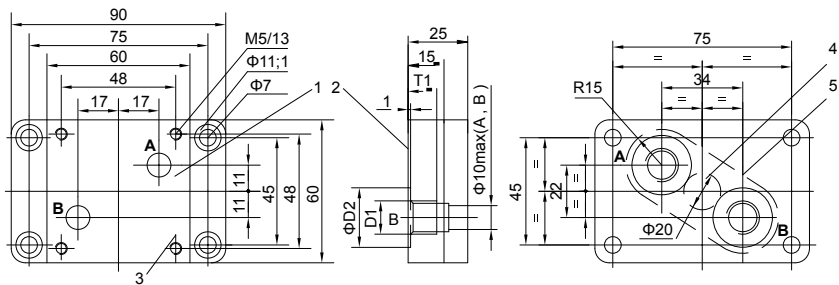
Unit dimensions:

(Dimensions in mm)

• Outline dimension of flow control valve type 2FRM5



• Connection plate dimension of flow control valve type 2FRM5



- 1 Mounting surface
- 2 Underside surface
- 3 Fixing holes
- 4 No any holes within the area of Ø20
- 5 Panel cut-out for connecting valve

Type of sub-plate	D1	D2	T1
G44/01(02)	G1/4(M14×1.5)	25	12
G45/01(02)	G1/2(M22×1.5)	32	15

(Dimensions in mm)

Technical drawing of a mechanical component, showing front and top views with dimensions and labels.

Front View (Top):

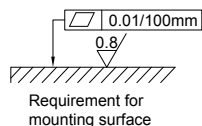
- Overall height: 20
- Section line: A-A
- Labels: 1, 2, 3, 4, 5, 6
- Dimensions: H1, H2, H3, H4, H5
- Surface finish symbols: A/F10, A/F3

Top View (Bottom):

- Overall width: B1
- Section line: B-B
- Labels: 1, 2, 3, 4, 5, 6
- Dimensions: L1, L2, L3, B2, B3, B4, 11
- Central hole diameter: $\Phi 54$
- Outer hole diameter: $\Phi D2/T1$
- Inner hole diameter: $\Phi D1$

- 1 Lockable rotary knob
 - 2 Name plate
 - 3 Stroke regulator of pressure compensator
 - 4 Inlet 'A'
 - 5 Outlet 'B'
 - 6 O-ring
- (Size 10:18.66×3.53 , Size 16:26.58×3.53)

Szie	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	H5	L1	L2	L3	T1
10	101.5	82.5	9.5	68	9	15	125	95	26	51	60	95	76	9.5	13
16	123.5	101.5	11	81.5	11	18	147	117	34	72	82	123.5	101.5	11	12



Technical drawing of the front view of a valve assembly. The drawing shows a central valve body with two ports, A and B. Port A is at the top right, and Port B is at the bottom left. The drawing includes various dimensions: overall width 79.4, overall height 82.5, port A diameter $\Phi 25$, port B diameter $\Phi 20$, and a central hole diameter $\Phi 12_{\text{max}}$. There are also dimensions for the valve fixing screw holes, including a distance of 76 between the centers of the ports and a distance of 58.7 from the bottom edge to the center of port A. The drawing is labeled "Valve fixing screw holes" and "M8/13".

[illegible]