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

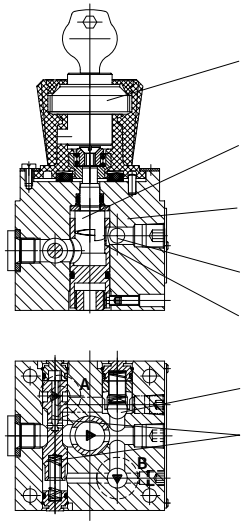
Contents

Features

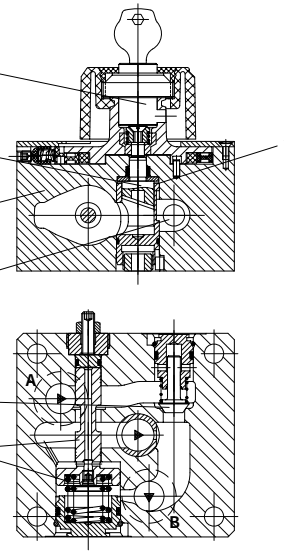
- For subplates see catalogue
- External closing of the pressure compensator, optional
- Rotary knob with scale, optional lockable

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.

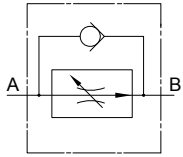


Flow control valve section,
type 2FRM5-30



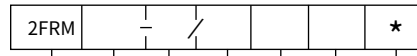
Flow control valve section,
type 2FRM10-20 and 2FRM16-20

1 Housing
2 Adjustment element
3 Orifice
4 Pressure compensator
5 Check valve
6 Orifice
7 Throttle lever



Symbol of flow control valve,
type 2FRM

Specifications



Two ways flow valve

Nominal size 5 = 5
Nominal size 10 =10
Nominal size 16 =16

30J Series(Nominal size 5) =30J
21J Series(Nominal size 10 and 16) =21J

Further details in clear text

No code = NBR seals
V = FKM seals

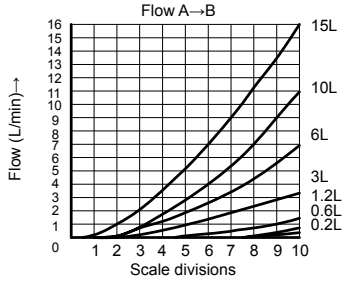
No code = Pressure compensator, without stroke regulator
B = Pressure compensator, with stroke regulator

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		

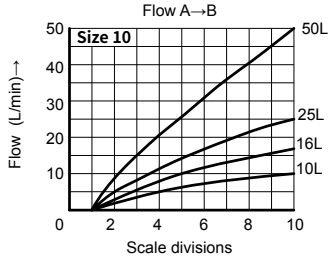
Technical data

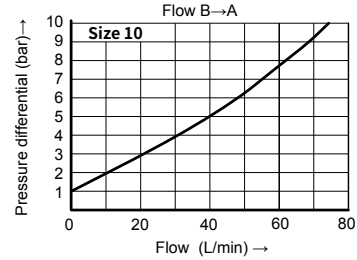
Fluid		Mineral oil ;Phosphate ester													
Fluid temperature range	℃	-20~+80													
Viscosity range	mm^2/s	10~800													
Degree of contamination		Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406													
Item Size	mm	5							10				16		
Max. 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°C ±5°C , using HLP46)

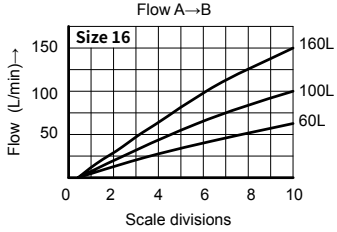


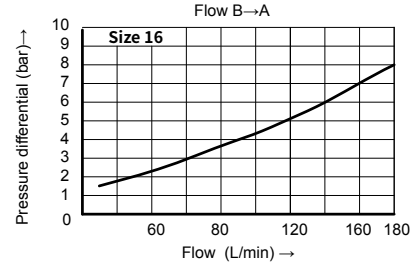
◀ **Characteristic curve of flow control valve type 2FRM5**





▲ **Curve of flow control valve type 2FRM10**



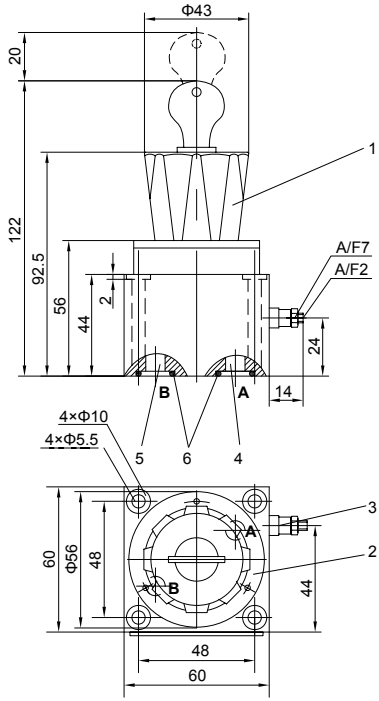


▲ **Curve of flow control valve type 2FRM16**

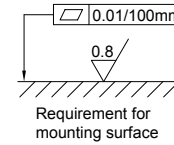
Unit dimensions:

(Dimensions in mm)

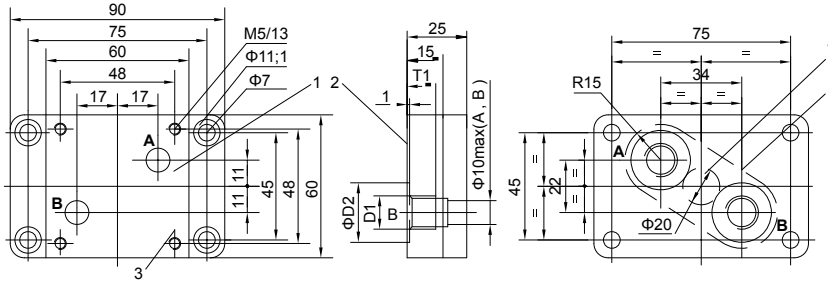
· Outline dimension of flow control valve type 2FRM5



1 Lockable rotary knob
2 Scale tray
3 Stroke regulator of pressure relief valve
4 Inlet 'A'
5 Outlet 'B'
6 O-ring (12×2.5)



· Connection plate dimension of flow control valve type 2FRM5



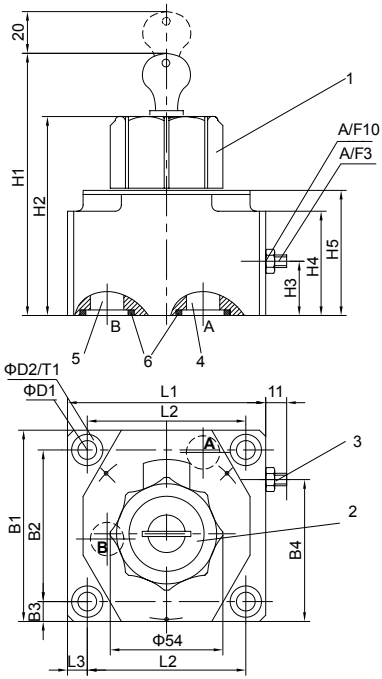
1 Mounting surface
2 Underside surface
3 Fixing holes
4 No any holes within the area of Ø20
5 Panel cut-out for connecting valve

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

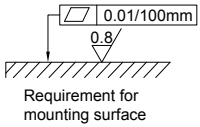
Unit dimensions:

(Dimensions in mm)

· Outline dimension of flow control valve type 2FRM10 and 2FRM16

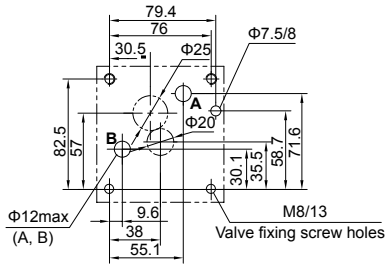


1 Lockable rotary knob
2 Name plate
3 Stroke regulator of pressure compensator
4 Inlet ' A'
5 Outlet 'B'
6 O-ring
(Size 10:18.66×3.53 , Size 16:26.58×3.53)



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

·Type 2FRM10 dimensions of mounting surface



·Type 2FRM16 dimensions of mounting surface