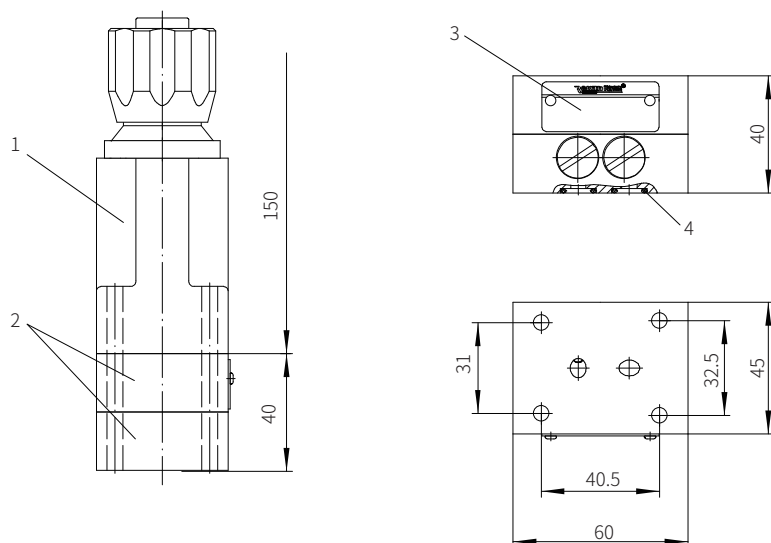


Component size

Size unit: mm

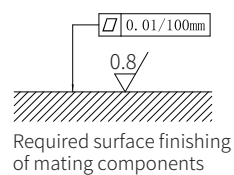
Current plate Z4S6-1XJ/...



- 1 2-way flow control valve
- 2 Current plate
- 3 Name plate
- 4 O-ring 9.25x1.78 (for oil port A、B)

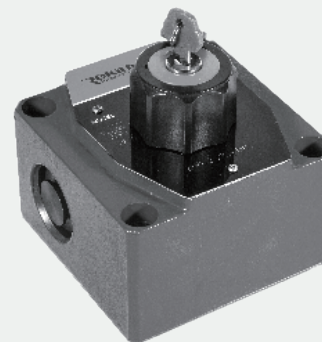
Attention:

The current plate type Z4S6-1XJ/... can not be connected with the flow control valve 2FRM6A...-3XJ/... with external connection of the pressure compensator.



Two Ways Flow Control Valve

Model: 2FRM...2XJ



- ◆ Size 10 to 16
- ◆ Maximum working pressure 315 bar
- ◆ Maximum working flow 160 L/ min

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Function description, sectional drawing	02
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Functional symbols	03
Technical parameters	04
Characteristic curve	05
Component size	06-07

Features

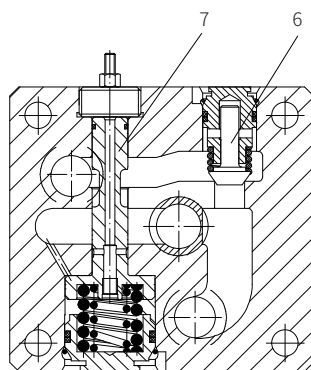
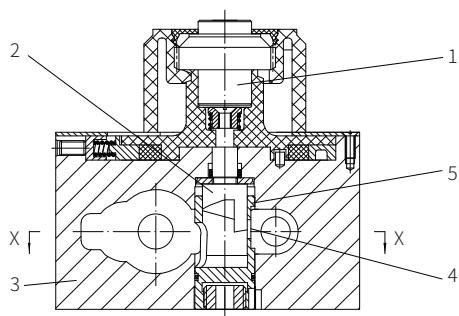
- Optional pressure compensator stroke limiter
- Start-up jump reduction
- Lockable knob
- Flow control in both direction by means of current stacking plate

Function description, sectional drawing

2FRM model flow valve is two ways flow control valve which is composed of the pressure reducing valve and the throttle valve in series.

When the oil fluid flows into the valve, it is reduced pressure through the pressure reducing valve first and then throttled by the throttle valve. The flow of the flow valve is stable and unaffected by load changing because of the pressure compensation provided from the pressure reducing valve to the throttle valve. At the same time, the orifice is designed into thin blade shape to make little influence to the flow by temperature changing. When the flow valve and check valve is connected in parallel, the oil fluid can flow back in the opposite direction.

The current plate Z4S is installed under the flow valve, it can stabilize the flow in both directions of the flow valve.



X-X section

- 1 Adjusting element
- 2 Throttle rod
- 3 Valve body
- 4 Orifice
- 5 Valve sleeve
- 6 Check valve
- 7 Reducing valve

Models and specifications

Two ways flow control valve

		2FRM		2X	J			*	
size 10		=10							more
size 16		=16							information in text
2X series, (20 to 29 series installation and connection size unchanged)				=2X					sealing material
Rekith				=J					No code = NBR seals
									V= FKM seals
									(consult for other seals)
to 2L/min		=2L							No code= without pressure
to 5L/min		=5L							compensator stroke limiter
to 10L/min		=10L							B= with pressure compensator
to 16L/min		=16L							stroke limiter
to 25L/min		=25L							
to 35L/min		=35L							
to 50L/min		=50L							
size 10 linear									
to 40L/min		=40L							
to 60L/min		=60L							
size 16 linear									
to 80L/min		=80L							
to 100L/min		=100L							
to 125L/min		=125L							
to 160L/min		=160L							

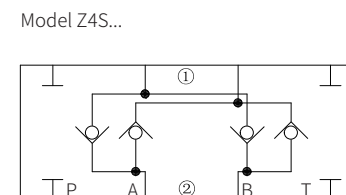
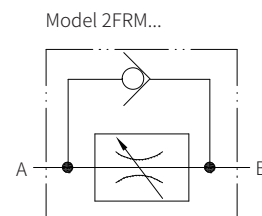
Current stacking plate

Diagram illustrating the current stacking plate configuration and seal types:

- Z4S**: size 10 =10, size 16 =16
- 1X**: 1X series (10 to 19 series installation and connection size unchanged) =1X
- J**: Rekith =J
- ***: No code = sealing material (consult for other seals)

Functional symbols

(①=Valve side ②=Subplate side)



Technical parameters

Overview

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

Current stacking plate

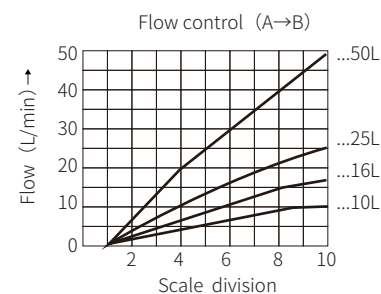
Rated flow L/min	Size 10	Size 16
	50	160
Working pressure Mpa	to 31.5	
Weight kg	Size 10	Size 16
	3.2	9.3

Maximum flow L/min		Size 10				Size 16		
		10	16	25	50	60	100	160
ΔP with free return flow B → A		Size 10				Size 16		
q _v -dependent		2.0	2.5	3.5	6.0	2.8	4.3	7.3
Flow control	Temperature stability -20~70 °C	±2% (Q _{max})						
	Pressure stability (to $\Delta P=315$) bar	±2% (Q _{max})						
Working pressure at port A		to 315						
Minimum pressure drop		Size 10				Size 16		
		3...12				5...12		
Degree of contamination		25 (Q<5L/min)				10 (Q<0.5L/min)		
Weight	kg	Size 10				Size 16		
		5.6				11.3		

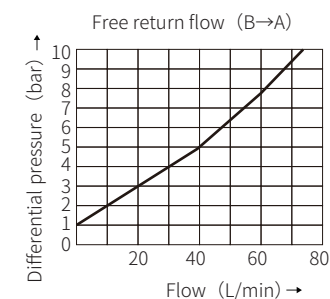
Characteristic curve

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

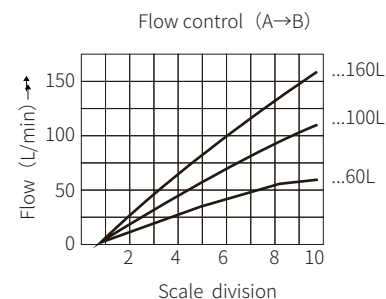
Size 10



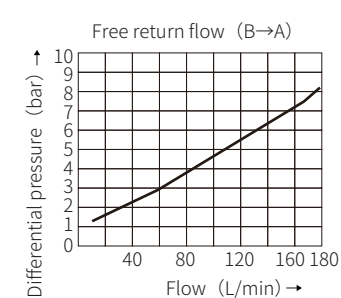
Size 10



Size 16

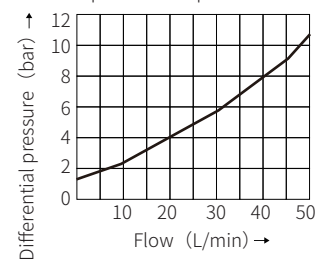


Size 16

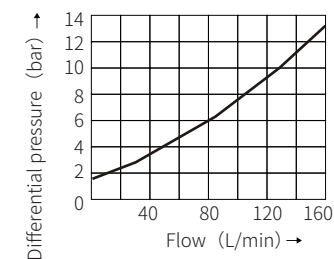


Current stacking plate

Size 10 Flow from A → B (B → A)
The pressure drop is same in both directions of flow



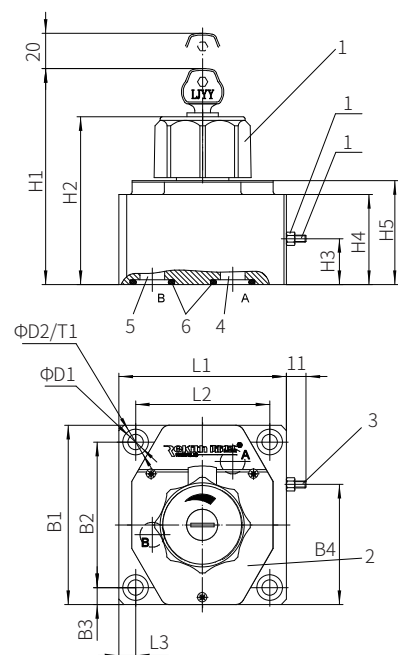
Size 16



Component size

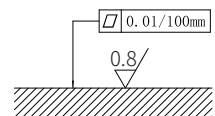
Size unit: mm

Model 2FRM10-2XJ/...and 2FRM16-2XJ/...



- 1 Adjustable handle with lock
 2 Name plate
 3 Stroke limiter of pressure reducing valve
 4 Inlet "A"
 5 Outlet "B"
 6 O ring
 NG10: 18.66x3.53
 NG16: 26.58x3.53

Valve fixing screw
 Size 10
 M8x50-10.9 grade GB/T70.1-2000
 Tightening torque $M_A=34.3\text{Nm}$
 Size 16
 M10x80-10.9 stage GB/T70.1-2000
 Tightening torque $M_A=60\text{Nm}$
 Subplate model:
 Size 10: G279/01; G279/02
 G280/01; G280/02
 Size 16: G281/01; G281/02
 G282/01; G282/02

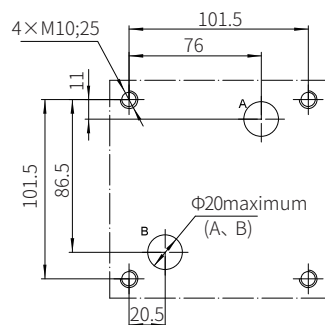
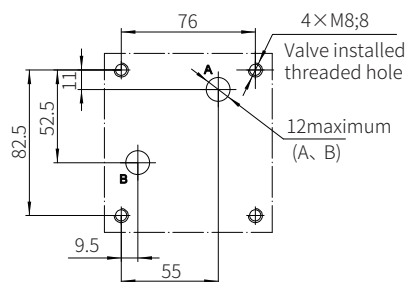


Required surface finishing of mating components

Size	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

2FRM10 mounting surface dimensions

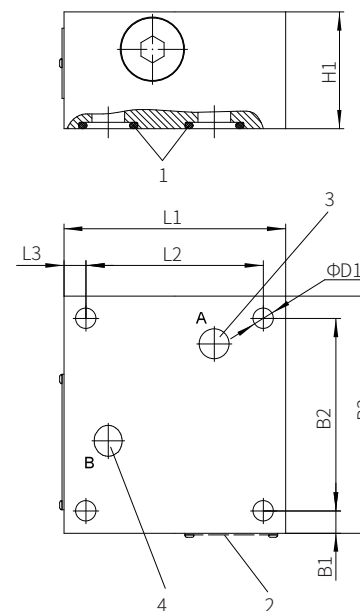
2FRM16 mounting surface dimensions



Component size

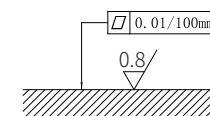
Size unit: mm

Model Z4S10-1XJ.../Z4S16-1XJ/...



- 1 O ring
 NG10: 18.66x3.53
 NG16: 26.58x3.53
 2 Name plate position at Z4S16
 3 Inlet "A"
 4 Outlet "B"

Valve fixing screw
 Size 10
 M8x100-10.9 grade GB/T70.1-2000
 Tightening torque $M_A=34.3\text{Nm}$
 Size 16
 M10x160-10.9 grade GB/T70.1-2000
 Tightening torque $M_A=60\text{Nm}$



Required surface finishing of mating components

Size	B1	B2	B3	D1	H1	L1	L2	L3
10	9.5	82.5	101.5	9	50	95	76	9.5
16	11	101.5	123.5	11	85	123.5	101.5	11