

4.11

Sandwich flow control valve

Type Z2FRM6

Flow control valve

Type 2FRM6K

Size 6
Up to 315 bar
Up to 32 L/min



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Features

- Sandwich plate valve
- Porting pattern to DIN 24 340 Form A, without locating pin hole (standard)
- Porting pattern to ISO 4401 and CETOP-RP 121 H
- With 1 or 2 flow control cartridges
- Adjustment element with internal hexagon

Function and configuration

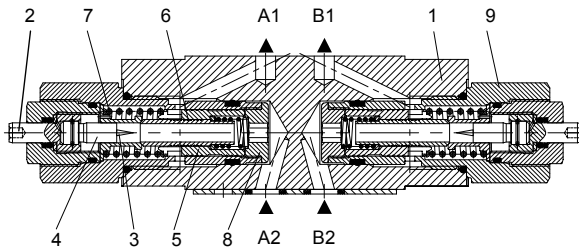
The valve type Z2FRM is a 2-way flow control valve of sandwich plate design and type 2FRM6K is a 2-way flow control cartridge valve. The former is used for maintaining a constant flow and is independent of the pressure and temperature.

The valve basically consists of a housing (1) and one or two flow control cartridges type 2FRM6K (9).

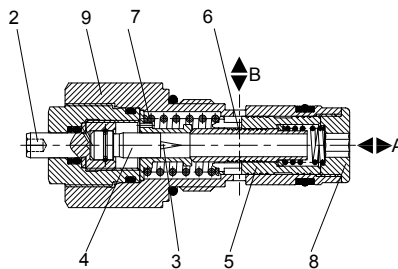
The throttling of the flow from port A2/B2(A) to port A1/B1(B) occurs at the throttle area (3). The throttle bolt (4) is driven by the adjustment element (2). To maintain a constant flow in port A1/B1(B) which is independent of pressure, a pressure compensator (5) is fitted downstream of the throttle area (3).

The pressure compensator (5) is pressed against the plug (8), via a compression spring (7). When there is no oil flow, pressure compensator (5) keeps in open position. If there is flow through the valve then the pressure in port A2/B2(A) acts on the pressure compensator (5). Then the pressure compensator (5) moves until the forces are balanced. If the pressure in port A2/B2(A) increases, then the pressure compensator (5) moves in the closing direction until the forces are balanced again. Due to the continuous compensation by the pressure compensator, a constant flow is achieved.

Free flow from port A1/B1(B) to port A2/B2 (A) is via check valve (6).



Type Z2FRM 6 C...
(meter-out flow control)

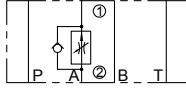


Flow control valve
Type 2FRM 6 K...

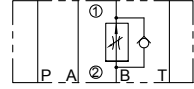
Symbols (① =valve side ② = sub-plate side)

• Sandwich flow control valve Type Z2FRM6

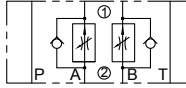
Type Z2FRM 6 A...
(meter-out flow control)



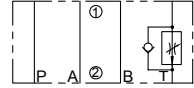
Type Z2FRM 6 B...
(meter-out flow control)



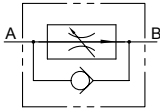
Type Z2FRM 6 C...
(meter-out flow control)



Type Z2FRM 6 T...
(port T flow control)



• Flow control valve Type 2FRM6K...



Note: Meter-in flow control refer to page 06/08.

Ordering code

• Sandwich flow control valve Type Z2FRM6

Z2FRM 6 B 2 - L2X / R *

Sandwich plate 2-way
Flow control valve

Size 6 = 6

Flow control function
(meter-out control) in

Port A = A
Port B = B
Ports A and B = C
Port T¹⁾ = T

Without closing external of the
pressure compensator = B

Adjustment element with internal hexagon = 2

Further details in clear text

No code = NBR seals
V = FKM seals

R = With check valve

6Q = Flow A to B up to 6.0 L/min
32Q = up to 32.0 L/min

L2X = Series L20 to L29
(L20 to L29: unchanged installation and connection dimensions)

• Flow control valve Type 2FRM6K

2FRM 6 K 2 - L1X / R *

Flow control valve

Size 6 = 6

Insert cartridge = K

Internal hexagon adjustment unit = 2

Series L10 to L19 = L1X
(L10 to L19: unchanged installation and connection dimensions)

Further details in clear text

No code = NBR seals
V = FKM seals

R = With check valve

6Q = Flow A to B up to 6.0 L/min
32Q = up to 32.0 L/min

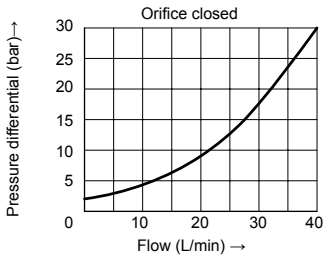
Technical data

		Sandwich flow control valve type Z2FRM 6	Flow control valve type 2FRM6K
Mounting type		Flat mounting interface	Install position:optional
Connection type		Indirect connection via a subplate or block, porting pattern to DIN 24 340 form A, ISO 4401 and CETOP-RP 121 H	
Weight	kg	1.3 (flow control function in ports A, B or T) 1.5 (flow control function in ports A and B)	0.2
Nominal pressure	bar	315	
Fluid		Mineral oil, Phosphoric acid ester	
Fluid temperature range	°C	-20 to +80	
Viscosity range	mm ² /s	10 to 800	
Flow range	L/min	0.05~6; 0.25~32	
Degree of contamination		Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406	
Min. pressure drawdown	bar	18 (Flow control valve type 2FRM6K)	
Pressure stability to $\Delta P=315$ bar	%	± 3 (Qmax)	

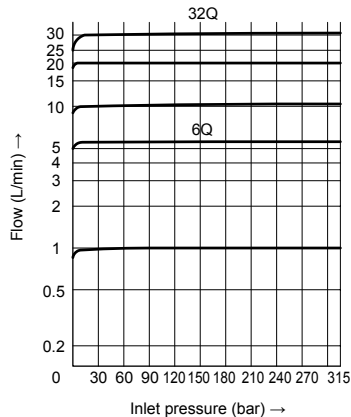
Characteristic curves (Measured at $\vartheta_{oil}=40^{\circ}\text{C} \pm 5^{\circ}\text{C}$, using HLP46)

• Sandwich flow control valve Type Z2FRM6

ΔP -Q-characteristic curve via check valve

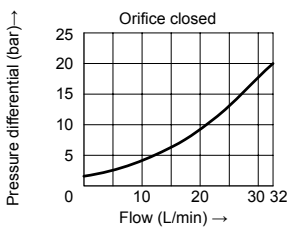


Flow Q in relation to the inlet pressure P



• Flow control valve Type 2FRM6K

ΔP -Q-characteristic curve via check valve (B→A)

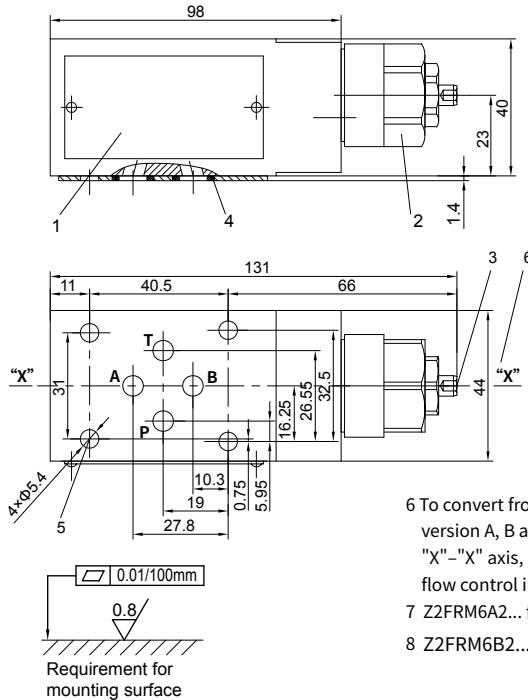


Unit dimensions:

(Dimensions in mm)

• Sandwich flow control valve Type Z2FRM6

Type Z2FRM 6 T



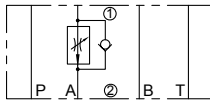
- 1 Name plate
- 2 Flow control cartridge type 2FRM6K hexagon 27A/F, $M_A = 50 \text{ Nm}$
- 3 Adjustment element with internal hexagon 3A/F
- 4 O-rings 9.25×1.78 (Ports A2, B2, P2, T2)
- 5 Valve fixing holes
Valve fixing screws $M5 \times ** \text{ GB/T70.1-10.9}$ tightening torque $M_A = 50 \text{ Nm}$, the screws length accords to the sandwich valves

- 6 To convert from meter-out into meter-in control for version A, B and C, rotate the component about the "X"-"X" axis, and for version T, convert from Port T flow control into Port P flow control.
- 7 Z2FRM6A2... flow control in port A
- 8 Z2FRM6B2...flow control in port B

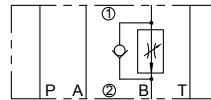
Symbols of rotation the component about the "X"-"X" axis

(① =valve side ② =sub-plate side)

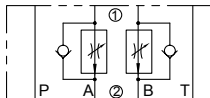
Type Z2FRM 6 A...
(meter-in flow control)



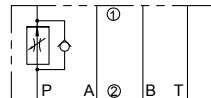
Type Z2FRM 6 B...
(meter-in flow control)



Type Z2FRM 6 C...
(meter-in flow control)



Type Z2FRM 6 T...
(meter-in flow control)



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