

## Modular Two Ways Flow Control Valve

Model: Z2FRM10...2XJ



**ГИДРООТВЕТ**

доступная гидравлика

- ◆ Size 10
- ◆ Maximum working pressure 210 bar
- ◆ Maximum working flow 60 L/min

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### Features

- Modular type valve
- Porting pattern to DIN24340 form A, without locating hole (standard)
- Porting pattern to ISA04401 and CETOP-RP 121H
- With 1 or 2 flow control cartridges
- Internal hexagonal adjusting type

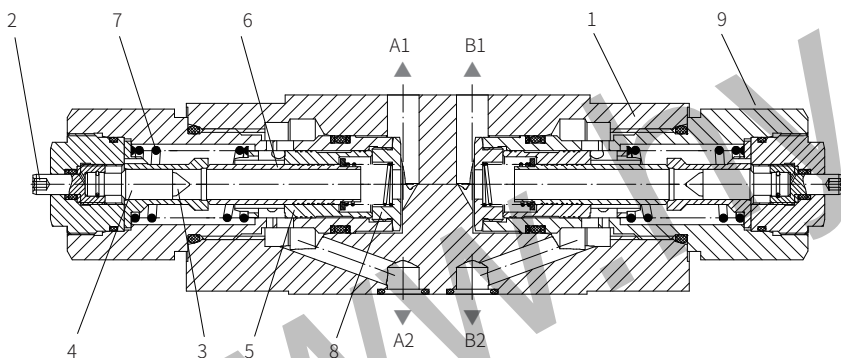
Function description, sectional drawing

The Z2FRM10 valve is modular type two-way flow control valve and the 2FRM10K valve is cartridge type two-way flow control valve.

The Z2FRM10 flow control valve is used to maintain constant flow and independent of the pressure and temperature. It mainly includes the valve body (1) and one or two flow control valve model 2FRM10K (9).

The throttling of the flow from the oil port A1/B1(A) to the oil port A2/B2(B) occurs at the throttling area (3). The throttle rod (4) is driven by the adjusting element (2). In order to keep the flow in the oil port A2/B2(B) constant and independent of pressure, a pressure compensator (5) is required to be installed downstream of the throttling area (3). The compression spring (7) presses the pressure compensator (5) against the plug screw (8) and holds the pressure compensator in the open position when there is no flow through the valve. The pressure compensator (5) remains open. If the flow passes through the valve, the pressure of oil port A1/B1(A) will act on the pressure compensator (5). When the fluid flow through the valve, the pressure at oil port A1/B1(A) acts on the pressure compensator (5). Then the pressure compensator (5) moves until the force balance. If the pressure on the oil port A1/B1(A) increases, the pressure compensator (5) moves to the closed direction until force balance is reached again. Because the pressure compensator (5) continuously acts as compensation, the flow can be maintained.

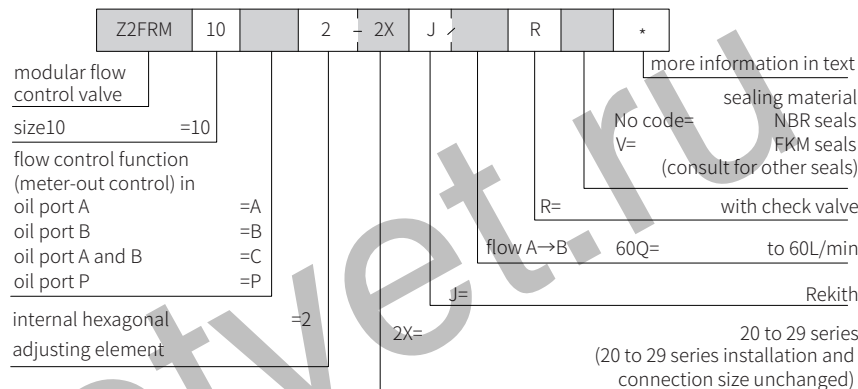
The fluid flows freely from oil port A2/B2(B) to A1/B1(A) via check valve (6).



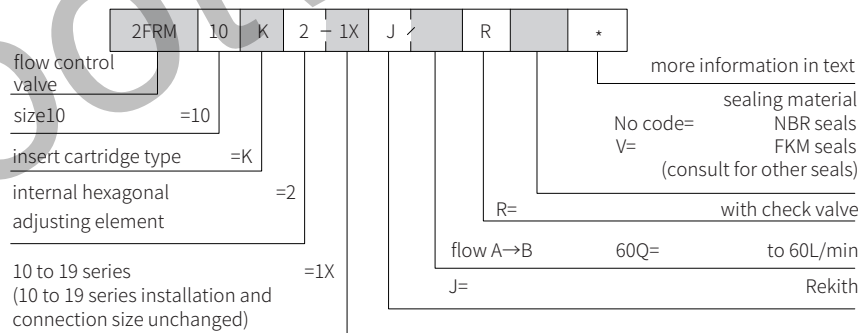
Model Z2FRM10C2-2XJ/...R...

Models and specifications

Modular two ways flow control valve model Z2FRM10

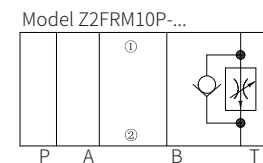
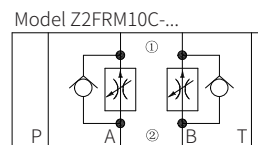
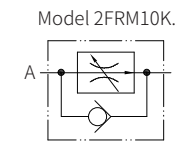
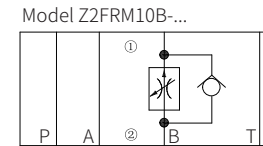
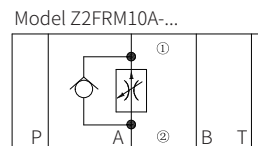


Flow control valve model 2FRM10K



Functional symbols

(①= Valve side, ②= Subplate side)



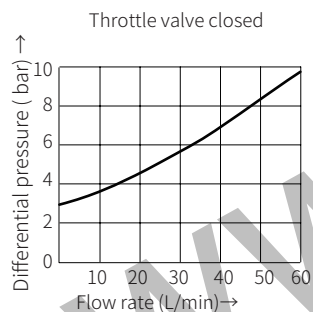
Technical parameters

	Modular flow control valve model Z2FRM10	Flow control valve model Z2FRM10K
Installation type	Flat installation	Installation position: optional
Connection type	Indirect connection via a subplate or oil block, mounting surface according to DIN 24 340A, ISA04401 and CETOP-RP 121H	
weight	kg	0.6
	5.3 (flow control function at oil port A and B)	
Maximum working pressure	bar 210	
Working medium	Minerals; Phosphate ester	
Working medium temperature range	-20 to +80	
Viscosity range	mm <sup>2</sup> /s	10 to 800
Flow range	L/min	0.5 to 60
Cleanliness of oil	The maximum allowable pollution level of oil is NAS 16389 and ISO4406 Class 20 / 18 / 15	
Minimum pressure difference	bar 1.8 (ZFRM10K type flow control valve)	
Pressure stability $\Delta p=210\text{bar}$	% $\pm 3$ (Qmax)	

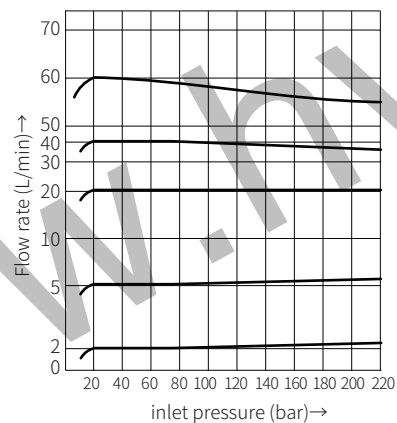
Characteristic curve

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

$\Delta P$ -Q- Characteristic curve via check valve (A→B)



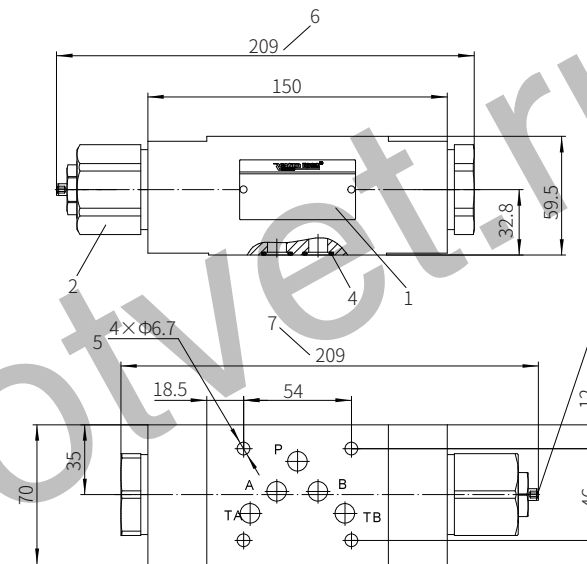
The relationship between flow Q and inlet pressure P



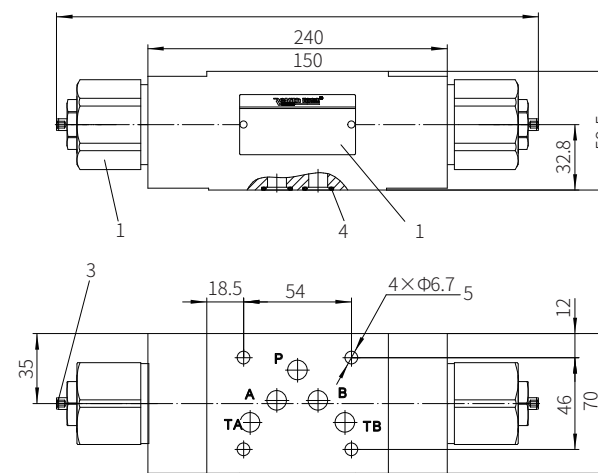
Component size

Size unit: mm

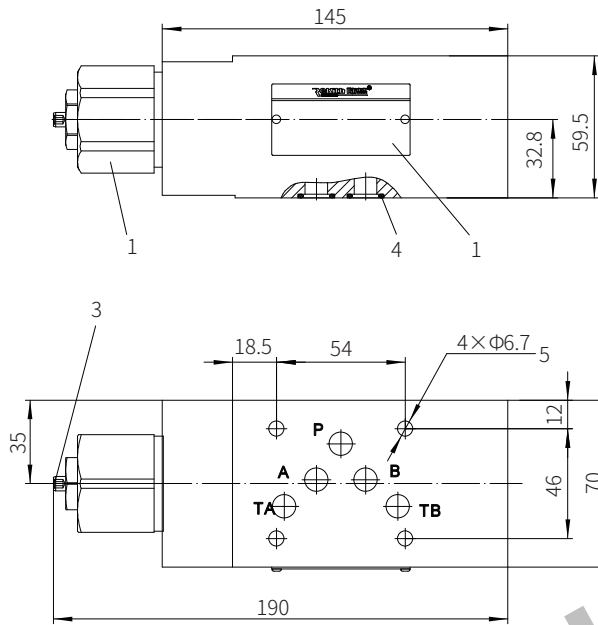
Model Z2FRM10A2-2XJ/...R... and Z2FRM10B2-2XJ/...R...



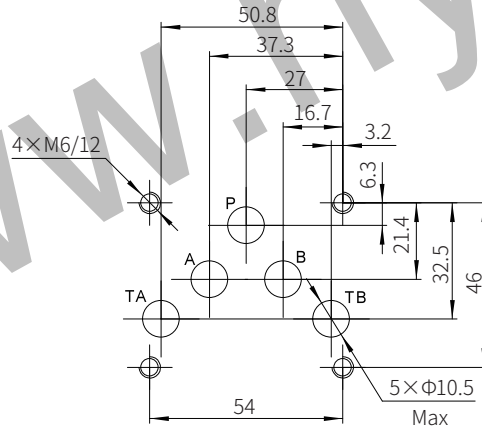
Model Z2FRM10C2-2XJ/...R...



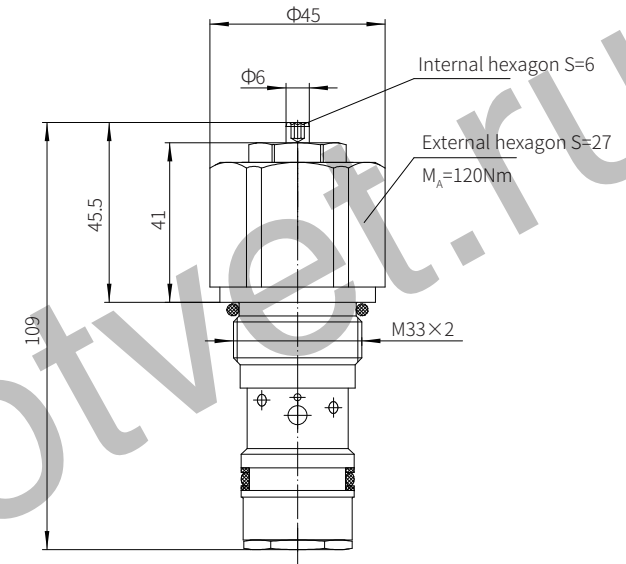
Model Z2FRM10T2-2XJ/...R...



- 1 Name plate
  - 2 Hexagon S=41
  - 3 Inner hexagon S=3
  - 4 O-ring 12x2
  - 5 Valve fixing screw hole
  - 6 Model Z2FRM10A2
  - 7 Model Z2FRM10B2
- Valve fixing screw  
M6-10.9 grade GB/T70.1-2000  
Tightening torque  $M_A=13.7\text{Nm}$   
Must be ordered separately



Model 2FRM10K...XJ/...



Insert hole

