Modular Restrictive Check Valve

Model: Z2FS6...4X

- Size 6
- Maximum working pressure 315 bar
- Maximum working flow 80 L/min

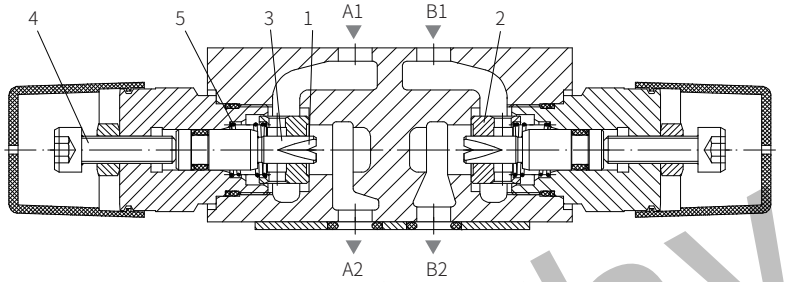
Contents

Features

- Modular type valve
- 3 types of adjustment elements
  -Adjusting screw with inner hexagonal locknut and protective cap
  -Lockable knob with scale
  -Rotary knob with scale
- Used to limit the main flow or control flow of two working oil ports
- Used for meter-in or meter-out control

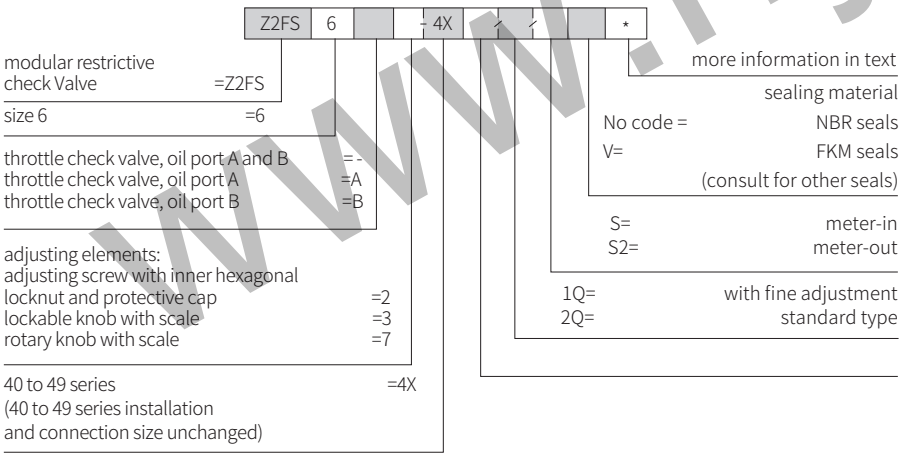
Function description, sectional drawing

The Z2FS6 type valve is a double throttle check valve with a stacked design.
This valve is used to limit the main flow or control flow of one or two working oil ports. Two symmetrically arranged throttle check valves limit the flow in one direction (by adjusting the throttle valve core) and allow free flow in the opposite direction.
For meter-in control the oil fluid flows from port A1 to A2 through the throttle port (1) which is made of the valve seat (2) and throttle spool (3). The throttle spool (3) can be axially adjusted via the adjusting screw (4) to adjust throttle port (1) .
The fluid flowing back from the working oil port A2 opens the valve seat (2) against the force of spring (5) to make the valve to act as a check valve and allow free-flow. According to the installation position of the valve, the throttling effect can be meter-in or meter-out control.
Main flow limit (Z2FS6.../2Q)
To change velocity of the actuator (mains flow control), the double throttle/check valve is installed between the directional control valve and the subplate.
Control flow limit (Z2FS6.../1Q)
In the pilot operated directional control valves, the double throttle/check valve is installed between the pilot valve and the main valve to control damping adjustment (control flow limit).



Model Z2FS6-2-4XJ/(meter-in control)

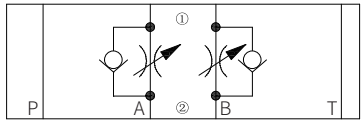
Models and specifications



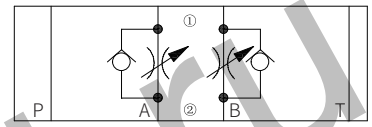
Functional symbols

(①=Valve side ②=Subplate side)

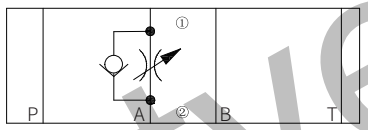
Model Z2FS6-...-4XJ/...(meter-in control)



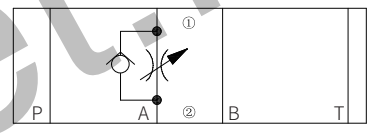
Model Z2FS6-...-4XJ/...(meter-out control)



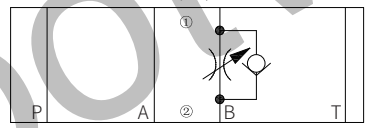
Model Z2FS6A...-4XJ/...(meter-in control)



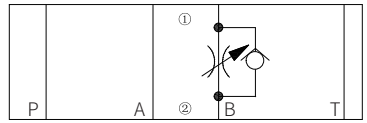
Model Z2FS6A-...-4XJ/...(meter-out control)



Model Z2FS6B...-4XJ/...(meter-in control)



Model Z2FS6B-...-4XJ/...(meter-out control)



Technical parameters

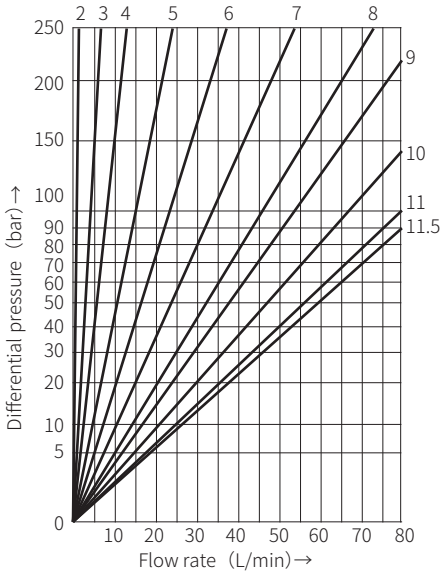
Overview		
Installation position		optional
Environment temperature range	°C	-30 to +50 (NBR seal)
		-20 to +50 (FKM seal)
Weight	kg	0.8
Hydraulic		
Maximum working pressure	bar	inlet port to 315
Maximum flow	L/min	80
Oil fluid		Mineral oil (HL, HLP)[1] in accordance with DIN 51524; Fast living organisms Degraded oil according to VDMA 24568; HETG (Rapeseed oil)[1] HEPG(Polyethylene glycol)[2] HEES (synthetic ester)[2]
Oil temperature range	°C	-30 to +80 (NBR seal) -20 to +80 (FKM seal)
Viscosity range	mm^2/s	10 to 800
Cleanliness of oil [3]		The maximum allowable pollution level of oil is ISO4406 Class 20 / 18 / 15

1) For NBR seal and FKM seal.
2) Only for FKM seal.
3) The oil must meet the cleanliness degree requested by the components in the hydraulic system. Effective oil filtration can prevent failure and increase the service life of the components.

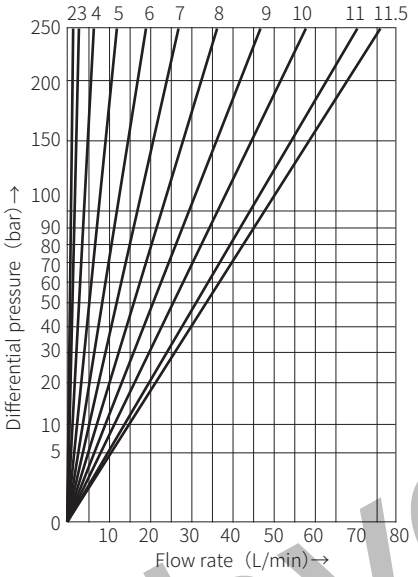
Characteristic curve

(Measured when using HLP 46, ϑ_{oil}= 40°C ± 5°C)

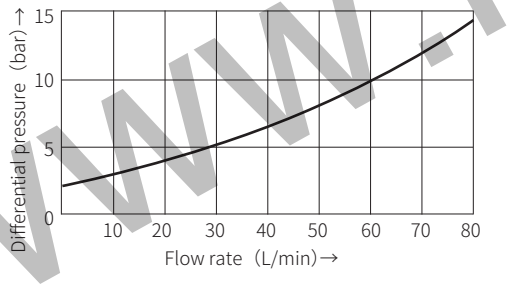
Δp-qv characteristic curve Z2FS6... -4XJ/2QV
Throttle setting in turns



Δp-qv characteristic curve Z2FS6... -4XJ/1QV
Throttle setting in turns



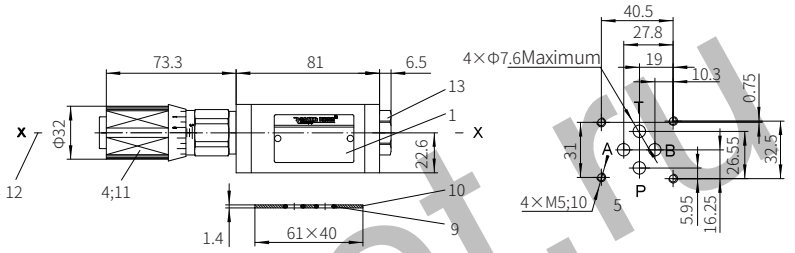
Δp-qv characteristic curve via check valve (throttle valve closed)



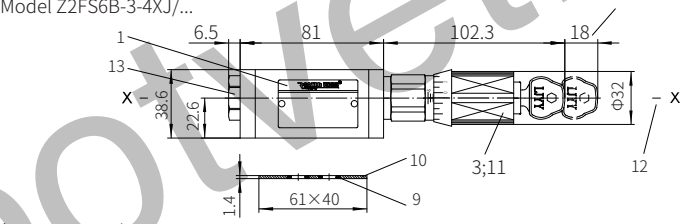
Component size

Size unit: mm

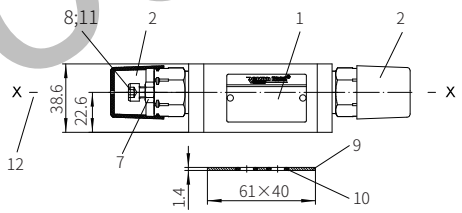
Model 2FS6A-7-4XJ/...

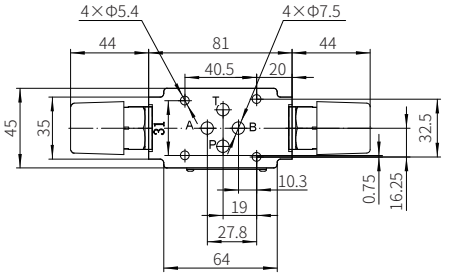


Model Z2FS6B-3-4XJ/...



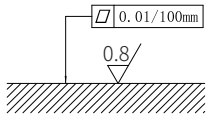
Model Z2FS6-2-4XJ/...





Valve fixing screw
M5-10.9 grade GB/T70.1-2000
Tightening torque M_A=7.8Nm
The length is determined by the stacking height and must be ordered separately.

1 Name plate
2 Adjustment form "2"
3 Adjustment form "3"
4 Adjustment form "7"
5 Space required to remove key
6 Mounting hole of valve
7 Locking nut S =10
8 Inner hexagonal adjusting screw S =5
9 O-ring 9.25x1.78 (for oil port P, A, B, T)
10 O-ring plate
11 For all adjustment forms
Turn anti-clockwise= increases flow
Turn clockwise= decreases flow
12 Rotate the valve 180 ° around the "X-X" axis to change it from meter-in to meter-out
13 End cover S = 22



Required surface finishing of mating components

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