

Modular Restrictive Check Valve

Model: Z2FS10...3XJ



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

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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 Z2FS10 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 body (2) and throttle spool (3.1). The throttle spool (3.1) can be axially adjusted via the adjusting screw (4) to adjust throttle port (1). At the same time, the oil at port A1 flows through the oil hole to the spool (6) and results a pressure which force the throttle spool (3.1) in the throttle position together with the spring force.

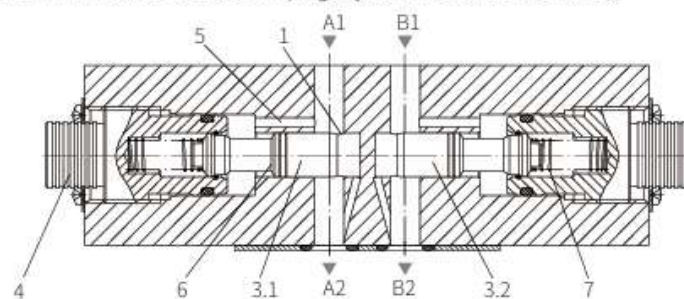
The oil flowing back from the working oil port B2 opens the throttle spool (3.2) against the force of spring (7) to make the valve to act as a check valve and allow free-flow. According to the installation position of the valve, the throttling effect can be meter-in or meter-out control.

Main flow limit

To change velocity of the actuator (main flow control), the double throttle/check valve is installed between the directional control valve and the subplate.

Control flow limit

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 Z2FS10-5-3XJ/(meter-in control)

Models and specifications

	Z2FS	10		-3X	J			.
modular restrictive check Valve	=Z2FS							
size 10		=10						
throttle check valve, oil port A and B	=-							
throttle check valve, oil port A	=A							
throttle check valve, oil port B	=B							
adjusting elements								
lockable knob with scale			=3					
Adjusting screw with inner hexagonal locknut and protective cap			=5					
Rotary knob with scale			=7					
30 to 39 series				=3X				
(30 to 39 series installation and connection size unchanged)					J=			Rekith

more information in text

sealing material

No code= NBR seals

V= FKM seals

(consult for other seals)

S= meter-in control on side A (...A.-3X/S)

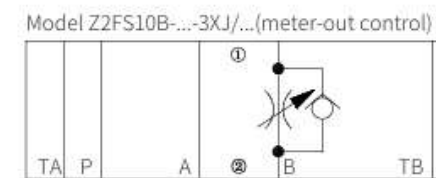
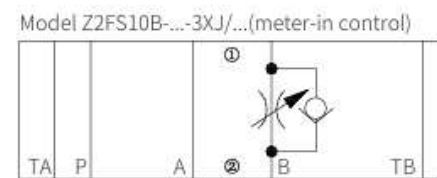
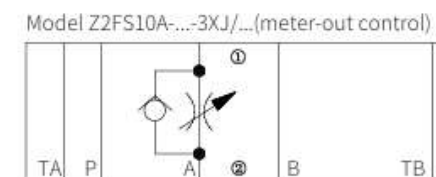
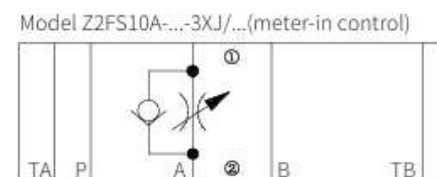
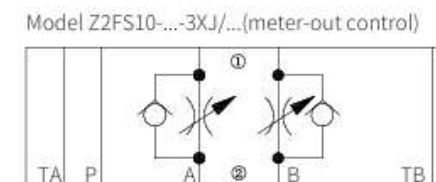
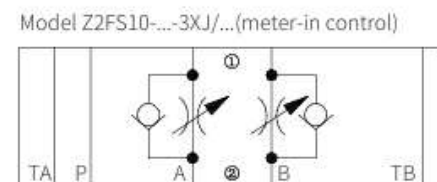
meter-in control on side B (...B.-3X/S)

S2= meter-out control on side A (...A.-3X/S2)

meter-out control on side B (...B.-3X/S2)

Functional symbols

(①=Valve side ②=Subplate side)



Technical parameters

Overview	
Installation position	Optional
Environment temperature range	°C
	-30 to +50 (NBR seal)
	-20 to +50 (FKM seal)
Weight	kg
	about 3.1
Hydraulic	
Maximum working pressure	bar
	to 315
Maximum flow	L/min
	160
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 (Polyethyleneglycol) ²⁾ ; HEES (Synthetic Fats) ²⁾
Pressure medium temperature range	°C
	-20 to +80
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

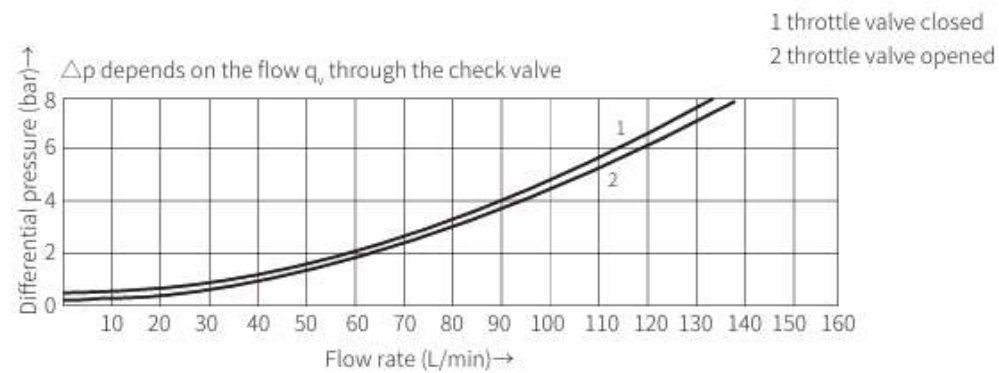
1) For NBR seal and FKM seal.

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, $\vartheta_{oil} = 40^\circ\text{C} \pm 5^\circ\text{C}$)



The pressure drop Δp depends on the flow q_v at a constant throttle setting

