

## Modular Restrictive Check Valve

Model: Z2FS16...3X



- ◆ Size 16
- ◆ Maximum working pressure 315 bar
- ◆ Maximum working flow 250 L/min

### Contents

|                                         |    |
|-----------------------------------------|----|
| Function description, sectional drawing | 02 |
| Models and specifications               | 02 |
| Functional symbols                      | 03 |
| Technical parameters                    | 03 |
| Characteristic curve                    | 04 |
| Component size                          | 05 |

### Features

- Modular type valve
- Used to limit the main flow or control flow of two working oil ports
- Used for meter-in or meter-out control

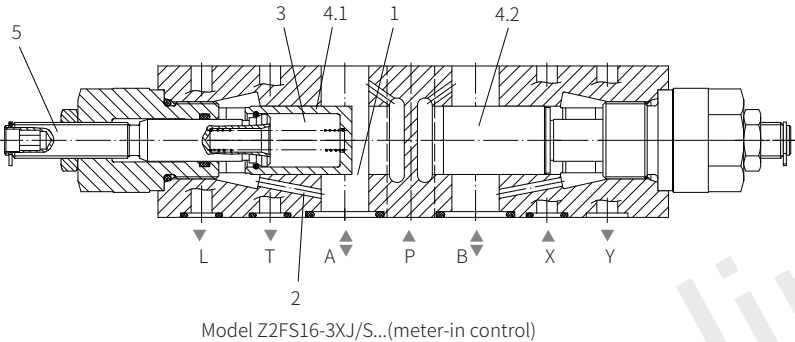
Function description, sectional drawing

The Z2FS16 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.

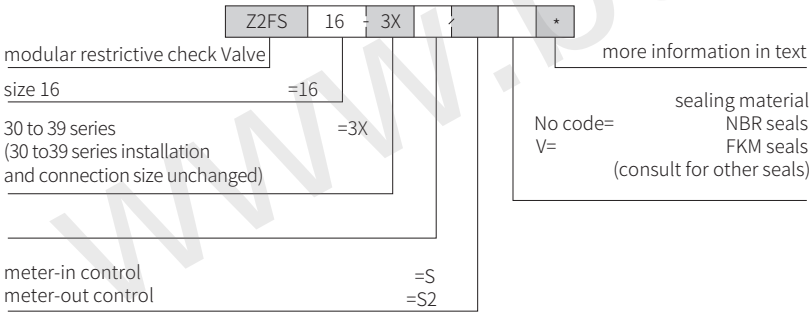
For meter-in control the oil fluid flows from oil port A to working oil port through the throttle port (1). The throttle spool (4.1) can be axially adjusted via the adjusting screw (5) to adjust throttle port (1) . At the same time, the oil at port A flows through the channel (2) to the spring loading side (3) of the throttle spool (4.1), and results a pressure which force the throttle spool (4.1) in the throttle position together with the spring force.

The fluid flows back from the actuator to push the throttle spool (4.2) to allow oil flow freely and the valve acts as a check valve at this time. Depending on the model (S or S2), the throttle effect can be meter-in or meter-out control.

03



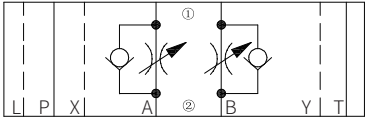
Models and specifications



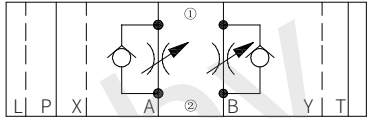
Functional symbols

①=Valve side ②=Subplate side

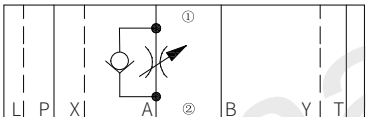
Model Z2FS16-...-3XJ/S...(meter-in control S)



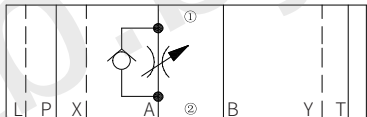
Model Z2FS16-...-3XJ/S2...(meter-out control S2)



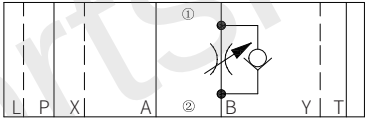
Model Z2FS16A-...-3XJ/S...(meter-in control S)



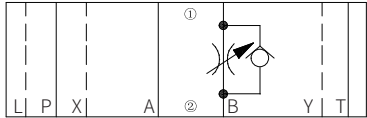
Model Z2FS16A-...-3XJ/S2...(meter-out control S2)



Model Z2FS16B-...-3XJ/S...(meter-in control S)



Model Z2FS16B-...-3XJ/S2...(meter-out control S2)

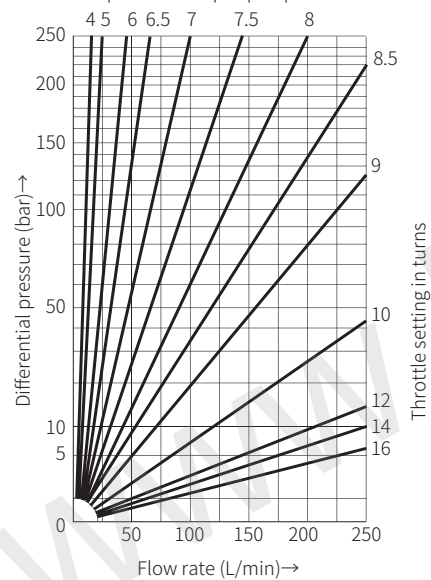


Technical parameters

| Overview                          |                                                                                                                                                                                                                                                    |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation position             | Optional                                                                                                                                                                                                                                           |
| Environment temperature range     | °C<br>-30 to +50 (NBR seal)<br>-20 to +50 (FKM seal)                                                                                                                                                                                               |
| Weight                            | kg<br>about 4.7                                                                                                                                                                                                                                    |
| Hydraulic                         |                                                                                                                                                                                                                                                    |
| Maximum working pressure          | bar<br>to 315                                                                                                                                                                                                                                      |
| Maximum flow                      | L/min<br>to 250                                                                                                                                                                                                                                    |
| Oil fluid                         | Mineral oil (HL, HLP) <sup>1)</sup> in accordance with DIN 51524;<br>Fast living organisms degraded oil according to VDMA 24568; HETG (Rapeseed oil) <sup>1)</sup> ; HEPG (Polyethyleneglycol) <sup>2)</sup> ; HEES (Synthetic Fats) <sup>2)</sup> |
| Pressure medium temperature range | °C<br>-30 to +80 (NBR seal)<br>-20 to +80 (FKM seal)                                                                                                                                                                                               |
| Viscosity range                   | mm <sup>2</sup> /s<br>2.8 to 380                                                                                                                                                                                                                   |
| Cleanliness of oil <sup>3)</sup>  | 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.

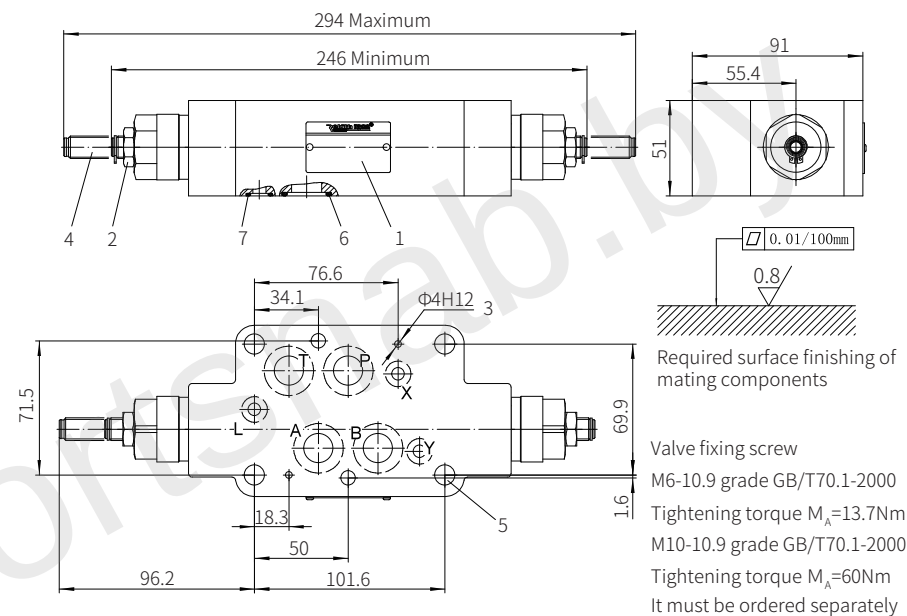
03



## Component size

Size unit: mm

Model Z2FS16...-3XJ/...



- 1 Name plate
- 2 Hexagon nut, SW=19
- 3 Two locating pin holes
- 4 Screw for changing flow cross-section  
(Inner hexagon screw, S=6)  
Turn anti-clockwise= increases flow  
Turn clockwise= decreases flow
- 5 Valve fixing screw hole
- 6 O ring 21.89x2.62  
(for oil port P, A, B, T)
- 7 O ring 12x2  
(for oil port X, Y, L)

