

## RE 27 506/08.97

Replaces: 04.92



## Double throttle/check valve Type Z2FS 6

Nominal size 6

Series 4X

Maximum operating pressure 315 bar

Maximum flow 80 L/min



H/A 5556/96•

Type Z2FS 6 –2–4X/...

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- Sandwich plate valve
- 1 – Porting pattern to DIN 24 340 form A, ISO 4401 and CETOP–RP 121 H
- 1
- 2 – 4 adjustment elements :
- 2 • Screw with locknut and protective cap
- 3 • Lockable rotary knob with scale
- 3 • Spindle with internal hexagon and scale
- 4 • Rotary knob with scale
- For limiting the main or pilot fluid flow of 2 actuator connections
- For meter-in or meter-out control

### Features

### Ordering details

| Z2FS                                    | 6                 |                   |  | –4X/ | V    | *  |
|---|-------------------|-------------------|--|------|------|--|
| Double throttle/check valve             |                   |                   |  |      |      | Further details in clear text  |
| Nominal size 6                          | = 6               |                   |  |      | V =  | FPM seals<br>(other seals on request)  |
| Throttle/check valve ports A and B      | = – <sup>1)</sup> |                   |  |      |      | <b>⚠ Attention!</b><br>The compatibility of the seals and the pressure fluid has to be taken into account! |
| Throttle/check valve port A             | = A               |                   |  |      | 1Q = | With fine control  |
| Throttle/check valve port B             | = B               |                   |  |      | 2Q = | Standard version   |
| <b>Adjustment element</b>               |                   |                   |  |      | 4X = | Series 40 to 49<br>(40 to 49: unchanged installation and connection dimensions)                            |
| Screw with locknut and protective cap   |                   | = 2               |  |      |      |  |
| Lockable rotary knob with scale         |                   | = 3 <sup>2)</sup> |  |      |      |  |
| Spindle with internal hexagon and scale |                   | = 5               |  |      |      |  |
| Rotary knob with scale                  |                   | = 7               |  |      |      |  |

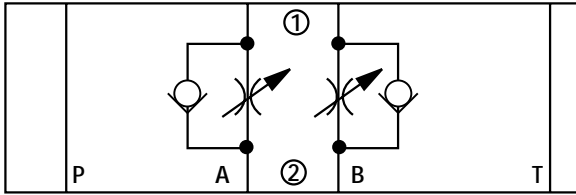
**Preferred types and standard components are highlighted in the RPS (Rexroth Price list Standard).**

<sup>1)</sup> Has the same adjustment elements on ports A and B

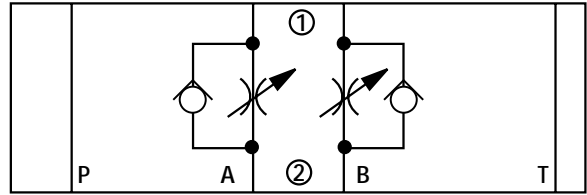
<sup>2)</sup> H-key with material no. 00008158 is included within the scope of supply

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

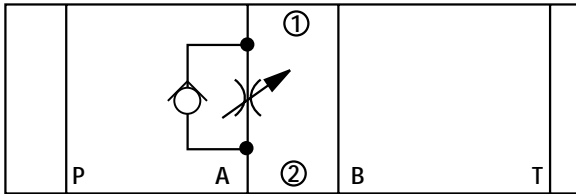
Z2FS 6 -...-4X/.. (meter-in)



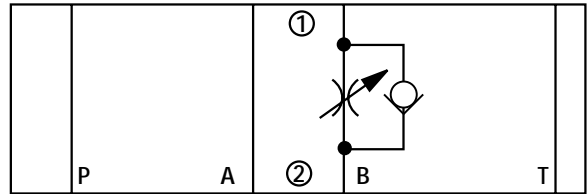
Z2FS 6 -...-4X/.. (meter-out)



Z2FS 6 A..-4X/.. (meter-out)



Z2FS 6 B ..-4X/.. (meter-in)



**Function, section**

Valve type Z2FS 6 is a double throttle/check valve in sandwich plate design.

They are used to limit the main or pilot flow of one or two actuators.

Two symmetrically arranged throttle/check valves limit the flow in one direction and allow free-flow in the opposite direction.

For meter-in control fluid passes from port A1 to port A2 via the throttling point (1), which is made up to the valve seat (2) and the throttling spool (3). The throttling spool (3) is axially adjustable via the adjustment screw (4), thus allowing the throttling point (1) to be adjusted.

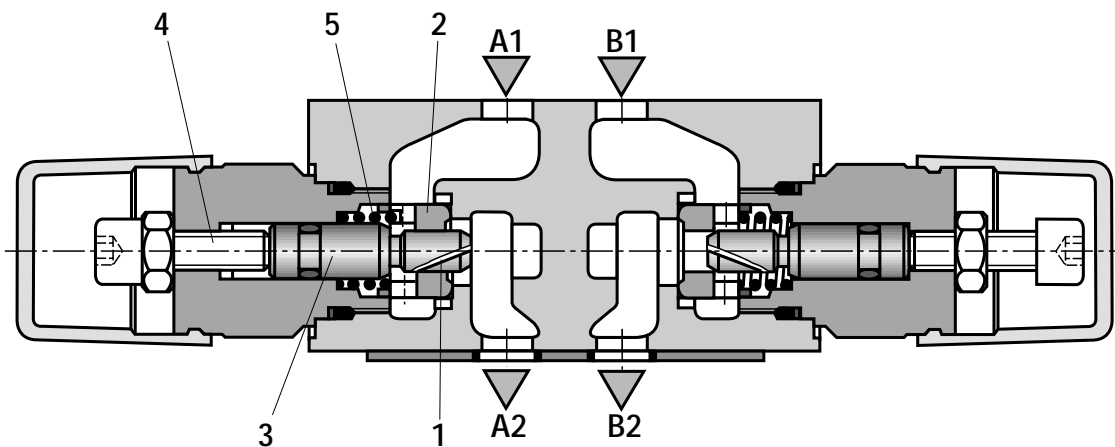
Flow flowing back from the service port A2 moves the valve seat (2) against spring (5) in the direction of the throttling spool (3), causing the valve to act as a check valve and allowing free-flow. Depending upon the way in which the valve is installed, the throttling effect can be arranged as a meter-in or a meter-out control.

**Limiting the main fluid flow** (version ..2Q..)

In order to change the velocity of an actuator (main fluid flow), the double throttle/check valve is installed between the directional valve and the sub-plate.

**Limiting the pilot fluid flow** (version ..1Q..)

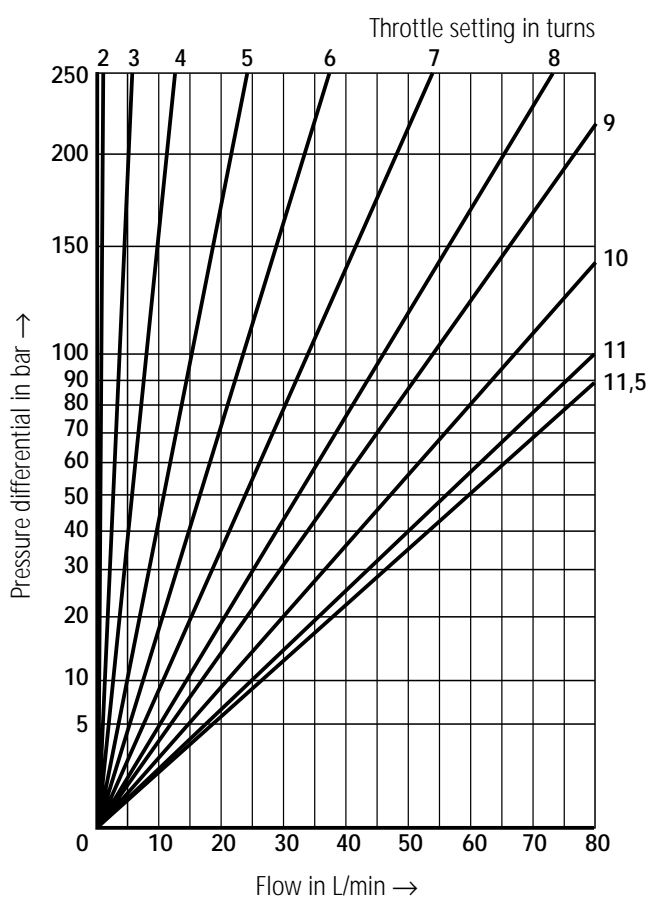
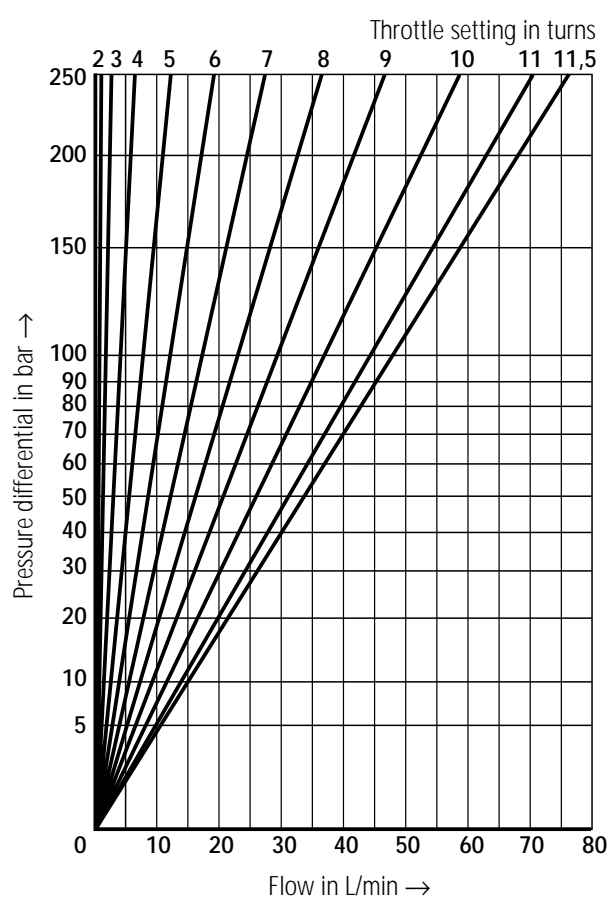
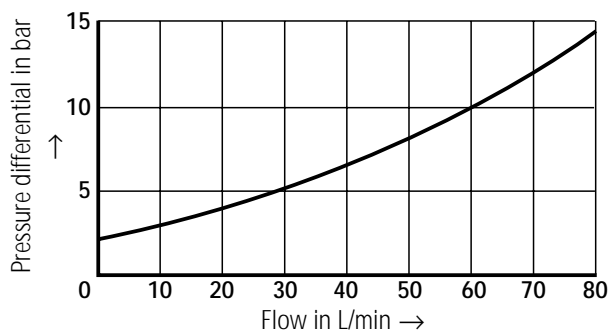
In pilot operated directional control valves, the double/throttle check valve is installed as a pilot choke adjustment (pilot fluid flow). It is fitted between the main valve and the pilot valve.



Type Z2FS 6 -2-4X/... (meter-in)

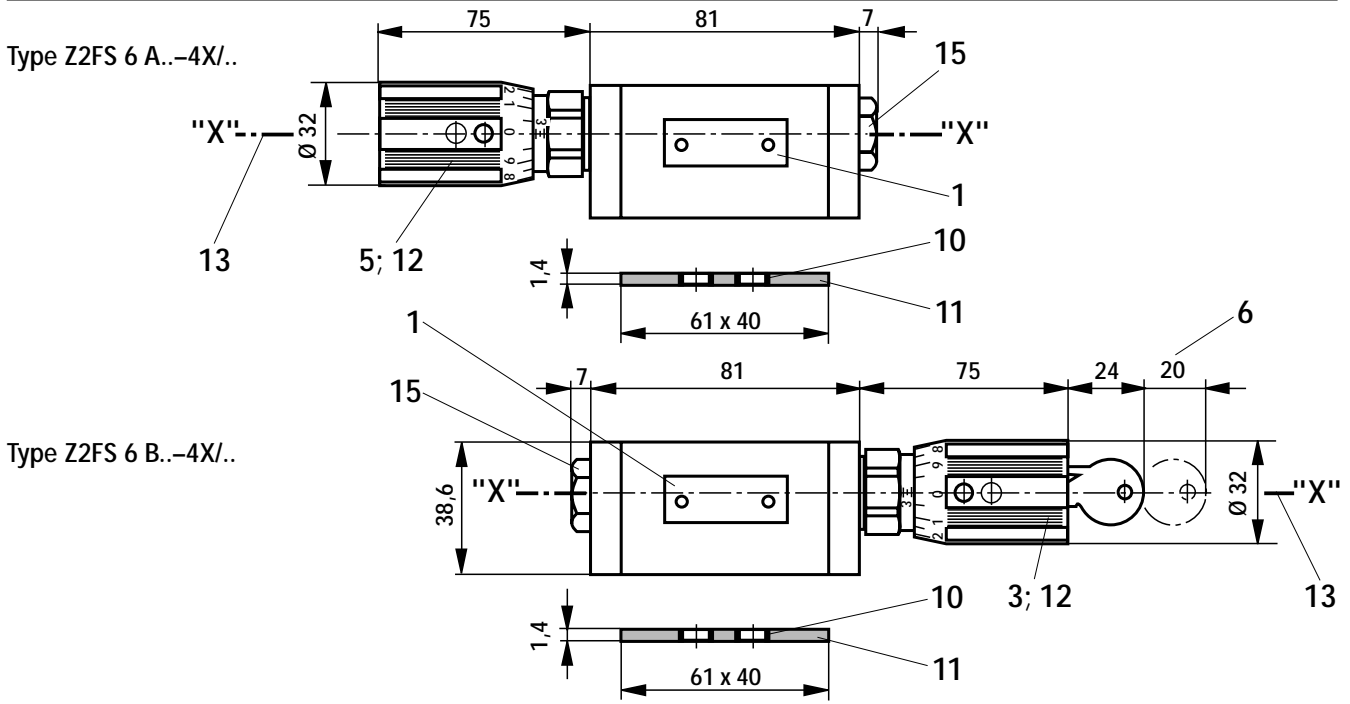
**Technical data** (for applications outside these parameters, please consult us!)

|                                  |                    |  |
|----------------------------------|--------------------|--|
| Pressure fluid                   |                    | Mineral oil (HL, HLP) to DIN 51 524;<br>Fast bio-degradable pressure fluids to<br>VDMA 24 568 (also see RE 90 221); HETG (rape seed oil);<br>HEPG (polyglycol); HEES (synthetic ester);<br>other fluids on request |
| Pressure fluid temperature range | °C                 | - 20 to + 80 (for FPM seals)   |
| Viscosity range                  | mm <sup>2</sup> /s | 10 to 800  |
| Degree of contamination          |                    | Maximum permissible degree of contamination of the fluid is to<br>NAS 1638 class 9. We, therefore, recommend a filter with a<br>minimum retention rate of $\beta_{10} \geq 75$ .                                   |
| Maximum working pressure         | bar                | 315  |
| Maximum flow                     | L/min              | 80   |
| Weight                           | kg                 | approx. 0.8  |

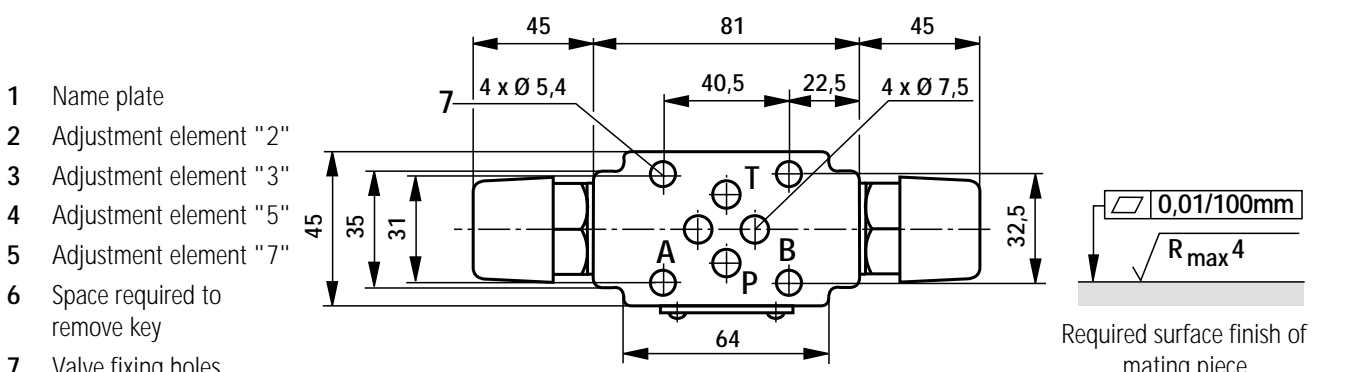
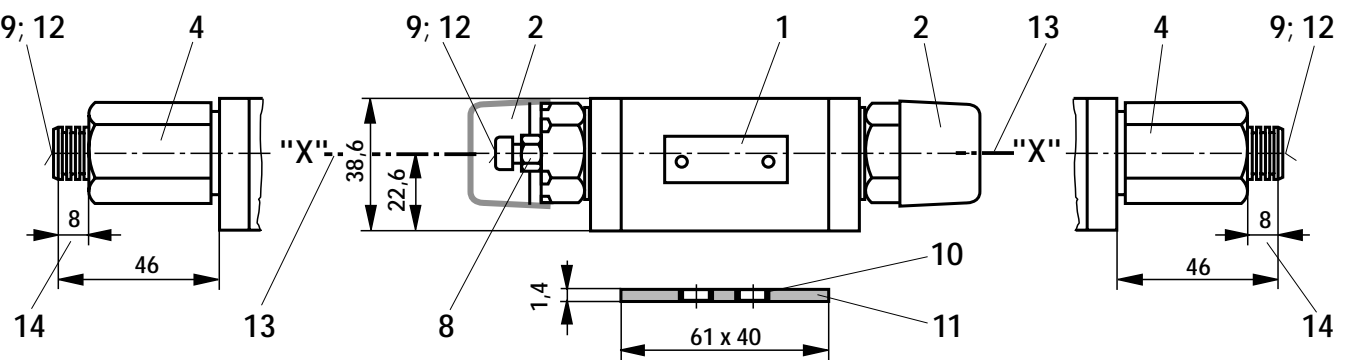
**Characteristic curves** (measured at  $v = 41 \text{ mm}^2/\text{s}$  and  $\vartheta = 50 \text{ }^\circ\text{C}$ ) $\Delta p$ - $q_V$ -characteristic curves – types Z2FS 6 ...-4X/2QV $\Delta p$ - $q_V$ -characteristic curves – type Z2FS 6 ...-4X/1QV $\Delta p$ - $q_V$ -characteristic curve across check valve (throttle closed)

Unit dimensions

(Dimensions in mm)



Type Z2FS 6 ...-4X/..



- 1 Name plate
- 2 Adjustment element "2"
- 3 Adjustment element "3"
- 4 Adjustment element "5"
- 5 Adjustment element "7"
- 6 Space required to remove key
- 7 Valve fixing holes
- 8 Locknut 10 A/F
- 9 Adjustment screw/spindle to set flow cross-section (internal hexagon 5 A/F)
- 10 R-rings 9.81 x 1.5 x 1.78 for ports A, B, P, T
- 11 R-ring plate

- 12 For all adjustment elements:  
turn anti-clockwise = increases flow  
turn clockwise = decreases flow
- 13 To change from meter-in to meter-out, rotate the unit about the "X" - "X" axis
- 14 Stroke

- 15 Plug 22 A/F
- Valve fixing screws**  
M5 DIN 912-10.9,  
tightening torque  $M_A = 8.9 \text{ Nm}$ ,  
must be ordered separately

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