Double throttle check valve

Type Z2FSK 6

Size 6
Component series 1X
Maximum operating pressure 210 bar
Maximum flow 40 l/min

Table of contents

Contents | Page |
--- | --- |
Features | 1 and 2 |
Ordering code, symbols | 2 |
Function, section | 2 |
Technical data | 3 |
Characteristic curves | 3 |
Unit dimensions | 4 |

Features

- Sandwich plate valve
- Porting pattern to ISO 4401-03-02-0-05
- Type of adjustment:
  - Hexagon socket head cap screw with locknut and protective cap
  - For limiting the flow in 2 actuator ports
  - For meter-in or meter-out throttling

Information on available spare parts:
www.boschrexroth.com/spc
**Ordering code, symbols**

(1) = component side, (2) = plate side

Material no. R900564521
Type designation: Z2FSK 6-2-1X/2QV

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meter-in throttle</th>
<th>Meter-out throttle</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>A</td>
<td>T</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>T</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Function, section**

Valves of type Z2FSK 6 are double throttle check valves of sandwich plate design.
They are used for limiting the flow in two actuator ports.
Two symmetrically arranged throttle check valves limit the flow in one direction and allow free flow in the reverse direction.

In the case of meter-in throttling, the hydraulic fluid is fed through channel A1 via throttling point (1), which is formed by valve seat (2) and throttling spool (3), to actuator A2. Throttling spool (3) can be axially adjusted by means of set screw (4) and therefore allows throttling point (1) to be adjusted.

The hydraulic fluid returning from actuator B2 shifts valve seat (2) against spring (5) towards throttling spool (3) and thus allows a free flow of the fluid. Depending on the installation orientation, the throttling effect can be implemented for the supply or the return flow.

Type Z2FSK 6-2-X/2QV
(meter-in throttle)
Technical data (for applications outside these parameters, please consult us!)

**General**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight kg</td>
<td>approx. 0.5</td>
</tr>
<tr>
<td>Installation orientation</td>
<td>Optional</td>
</tr>
<tr>
<td>Ambient and storage temperature range °C</td>
<td>–20 to +80 (FKM seals)</td>
</tr>
</tbody>
</table>

**Hydraulic**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum operating pressure bar</td>
<td>210</td>
</tr>
<tr>
<td>Maximum flow l/min</td>
<td>40</td>
</tr>
<tr>
<td>Hydraulic fluid</td>
<td>Mineral oil (HL, HLP) to DIN 51524; fast bio-degradable hydraulic fluids to VDMA 24568 (see also RE 90221); HETG (rape seed oil); HEPG (polyglycols); HEES (synthetic esters); other hydraulic fluids on enquiry</td>
</tr>
<tr>
<td>Hydraulic fluid temperature range °C</td>
<td>–20 to +80 (FKM seals)</td>
</tr>
<tr>
<td>Viscosity range mm²/s</td>
<td>10 to 800</td>
</tr>
<tr>
<td>Max. permissible degree of contamination of the hydraulic fluid - cleanliness class to ISO 4406 (c)</td>
<td>Class 20/18/15 ¹)</td>
</tr>
</tbody>
</table>

¹) The cleanliness classes specified for components must be adhered to in hydraulic systems. Effective filtration prevents malfunction and, at the same time, prolongs the service life of components. For the selection of filters, see data sheets RE 50070, RE 50076, RE 50081, RE 50086 and RE 50088.

**Characteristic curves** (measured at \( v = 41\text{mm}^2, \theta_{\text{oil}} = 40\, ^\circ\text{C} \pm 5\, ^\circ\text{C} \))

![Characteristic curves](image-url)
Unit dimensions (nominal dimensions in mm)

1. Nameplate
2. Adjustment element (hexagon socket head cap screw with locknut and protective cap)
3. Valve mounting bores
4. Locknut A/F 10
5. Setscrew for changing the flow cross-section (hexagon A/F 5)
6. Identical seal rings for ports A, B, P, T
7. R-ring plate
8. The meter-in throttle can be converted into a meter-out throttle by turning the component around the axis “X”–“X”
9. Porting pattern to ISO 4401-03-02-0-05 (with locating bore Ø3 for locating pin ISO 8752-3x8-St, Material no. R900005694, separate order)

Valve fixing screws (separate order)
4 socket head cap screws ISO 4762 – M5 - 10.9-flZn-240h-L
Friction coefficient μ_{\text{total}} = 0.09 to 0.14

Note!
The length of the fixing screws of the sandwich plate valve (screw-in depth ≥ 10 mm) must be selected to suit the components installed above and below the double throttle check valve. The type of screw and the tightening torque must be adapted to the individual requirements. Please inquire screws of the required length from Bosch Rexroth.