Double throttle/check valve, Type Z2FS Series 30

BEIJING HUADE HYDRAULIC INDUSTRIAL GROUP CO., LTD.

<table>
<thead>
<tr>
<th>Sizes</th>
<th>up to 31.5MPa</th>
<th>up to 350 L/min</th>
<th>RE:27505/12.2004</th>
</tr>
</thead>
</table>

### Features:
- Sandwich plate design
- Porting pattern to DIN 24 340, from A, ISO 4401 and CETOP-RP 121H
- Limiting of main or pilot flow with two service ports,
- Meter-in or meter-out control.

### Functional Section

Valves type Z2 FS are double throttle/check valves in sandwich plate design. They are used to limit main or pilot oil flow at one or two service ports. Two symmetrically arranged throttle/check valves limit flow (by means of adjustable throttle spools) in one direction and permit free return flow in the other direction.

#### Main flow limiting

The double throttle/check valve is fitted between the directional valve and the subplate to change the speed of an actuator (main flow limiting).

#### Pilot flow limiting

In the case of pilot operated directional valves, the double throttle/check valve may be used as a pilot choke adjustment (pilot flow limiting). In this case, it is fitted between the main valve and the pilot valve.

![Double throttle/check valve, Type Z2FS6](image)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Meter-in control" /></td>
<td><img src="image" alt="Meter-out control" /></td>
<td><img src="image" alt="A Meter-out control B Meter-in control" /></td>
<td><img src="image" alt="A Meter-in control B Meter-out control" /></td>
</tr>
</tbody>
</table>

HUADE HYDRAULICS
Principle of Hydraulic systems

Ordering details

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

<table>
<thead>
<tr>
<th>Size</th>
<th>6</th>
<th>16</th>
<th>22</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>6</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>Maximum flow (L/min)</td>
<td>80</td>
<td>250</td>
<td>350</td>
</tr>
<tr>
<td>Maximum working pressure (MPa)</td>
<td>31.5</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Pressure fluid</td>
<td>Mineral oil (for NBR seal) or Phosphate ester (for FPM seal)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viscosity range (mm²/s)</td>
<td>10 to 800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid temperature range (°C)</td>
<td>-30 to +80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Characteristic curves (measured at $v = 41 \text{ mm}^2/\text{s}$ and $t = 50 \degree \text{C}$)

Pressure difference $\Delta p$ in relationship to the flow $q_V$ via the check valve (throttle closed)

Pressure difference $\Delta p$ in relationship to the flow $q_V$ at a constant throttle setting.
**Characteristic curves** (measured at $v = 41 \text{ mm}^3/\text{s}$ and $t = 50 \degree \text{C}$)

Pressure difference $\triangle p$ in relation to the flow $q_v$ at constant throttle setting

**Unit dimensions** (Dimensions in mm)

Type Z2FS6:

1. Name plate
2. Setting screw for alteration of flow cross section
3. Turn anti-clockwise = increases flow
turn clockwise = decreases flow
4. Valve fixing holes
5. Ports A, B, P, T
6. O-ring plate
7. To change from meter-in to meter-out, rotate the unit about the "X"-"X" axis

---

HUADE HYDRAULICS
Unit dimensions (Dimensions in mm)

Type Z2FS16:

1. Name plate
2. Setting screw for alteration of flow cross section
3. Turn anti-clockwise = increases flow, turn clockwise = decreases flow
4. 2 two locating pins
5. 2 two locating pins holes
6. 6 Valve fixing holes
7. O-ring for ports A, B, P, T
8. O-ring for ports X, Y, L

Type Z2FS22
Notice

1. The fluid must be filtered. Minimum filter fineness is 20 µm.

2. The tank must be sealing up and an air filter must be installed on air entrance.

3. Products without subplate when leaving factory, if need them, please ordering specially.

4. Valve fixing screws must be high intensity level (class 10.9). Please select and use them according to the parameter listed in the sample book.

5. Roughness of surface linked with the valve is required to $0.8 \sqrt{}$.

6. Surface finish of mating piece is required to $0.01/100\text{mm}$.