Functional Description

Double throttle valves are used to control flow rates in two separate lines (A, B) of a hydraulic circuit. The modular design provides six functional symbols. The throttle valve is built into channel A or B or into channels A and B. The valve restricts the fluid flow in one direction while providing reverse free-flow in the opposite direction. The throttling spool (2) is adjusted by means of a set screw (3) and each spool position corresponds with a certain passage area. Fluid entering port A1 is throttled to port A2 via a groove and an annulus area. Fluid returning from port B2 shifts the valve seat (4) against the spring (5), thus creating a passage which allows reverse free-flow to port B1 (function as a check valve).

The sandwich design enables simple stacking with other components of the same size. The separate O-ring plate (6) with fitted O rings provides sealing of the valve connecting surface. According to the valve arrangement, the meter-in or meter-out control is provided. Changing the meter-in mode into the meter-out mode can be done by turning the valve by 180° around its horizontal axis. The orientation of the throttle check valves in the valve body corresponds with the symbols shown on the name plate. The set screw can be operated by a key, by a hand knob or by a hand knob with keylock. The basic surface treatment of the valve housing is phosphate coated, whereas the surfaces of the other parts are zinc coated.
Double Throttle Check Valve

Nominal size

Ordering Code

2VS3 - 06 -

Seals

NBR

Viton

Adjustment element

S Hexagon set screw with locknut and protective cap

R Hand knob with scale

Z Hand knob with scale and key lock

Functional Symbols

check valve in line A*

check valve in line B*

check valves in lines A and B*

* see Functional Symbols

Notes:

1 valve side

2 sub plate or manifold side

The orientation of the throttle check valves in the valve body corresponds with symbols shown on the name plate.

Technical Data

Nominal size mm 06

Maximum flow rate L/min 80

Maximum operating pressure bar 320

Hydraulic fluid Hydraulic oils of power classes (HL, HLP) to DIN 51524

Fluid temperature range for (NBR) °C -30 ... +100

Fluid temperature range for (Viton) °C -20 ... +120

Viscosity range mm²/s 20 ... 400

Maximum degree of fluid contamination Class 21/18/15 according to ISO 4406

Weight kg 1.2

Mounting position unrestricted

Spare Parts

Seal kit

<table>
<thead>
<tr>
<th>Type</th>
<th>Dimensions, quantity</th>
<th>Ordering number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard NBR</td>
<td></td>
<td>15936300</td>
</tr>
<tr>
<td>18 x 2.65 NBR70 (2 pcs.)</td>
<td>9.25 x 1.88 (4 pcs.)</td>
<td>6.73 x 9.43 x 1.14 (2 pcs.)</td>
</tr>
<tr>
<td>6.9 x 1.8 NBR70 (2 pcs.)</td>
<td>-</td>
<td>17.83 x 22.19 x 1.14 (2 pcs.)</td>
</tr>
<tr>
<td>Viton</td>
<td></td>
<td>15936600</td>
</tr>
<tr>
<td>17.12 x 2.62 (2 pcs.)</td>
<td>-</td>
<td>9.43 x 6.73 x 1.14 (2 pcs.)</td>
</tr>
<tr>
<td>9.25 x 1.78 (4 pcs.)</td>
<td>-</td>
<td>17.83 x 22.19 x 1.14 (2 pcs.)</td>
</tr>
<tr>
<td>6.75 x 1.78 (2 pcs.)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
**Δp-Q Characteristics**

Measured at $v = 32 \, \text{mm}^2/\text{s}$

**Throttle valve**

Pressure difference $\Delta p$ related to flow from A1 to A2, (from B1 to B2)

- Throttle setting in turns (from the end stop)

![Throttle valve graph]

**Check valve**

Pressure difference $\Delta p$ related to flow from A2 to A1, (from B2 to B1)

![Check valve graph]

**Preferred Types of Valves**

<table>
<thead>
<tr>
<th>Type</th>
<th>Ordering Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2VS3-06-CS</td>
<td>15929600</td>
</tr>
</tbody>
</table>

**Caution!**

- The packing foil is recyclable. The protective plate can be returned to manufacturer.
- Mounting bolts must be ordered separately. Tightening torque is 8.9 Nm.
- If the valve is used separately without a directional valve, a cover plate DK1-06/32-1 is to be ordered. This plate connects port A1 with B1 and A2 with B2 respectively (suitable for models 2VS3-06-Ax and 2VS3-06-Bx) - see catalogue Cover Plates and Crossover Cover Plates HA 0003.
- The technical information regarding the product presented in this catalogue is for descriptive purposes only. It should not be construed in any case as a guaranteed representation of the product properties in the sense of the law.
Valve Dimensions
Dimensions in millimetres

1. Name plate
2. Adjustment element - Inside HEX 5 with lock nut and protective cup
3. Adjustment element - hand knob with scale
4. Adjustment element - hand knob with scale and keylock
   With all adjustment elements:
   Clockwise rotation reduces flow
   Counter clockwise rotation increases flow
5. Locknut HEX10
6. O-ring plate - supplied in delivery packet
7. Square ring 9.25x1.68 (4 pcs.) - supplied in delivery packet
8. Closing screw

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ARGO-HYTOS s.r.o. CZ - 543 15 Vrchlabí
Tel.: +420-499-403111, Fax: +420-499-403421
E-mail: sales.cz@argo-hytos.com
www.argo-hytos.com

Subject to alteration without notice!