Check Valve with One-Way Throttling, Poppet Type, In-Line

**VJS3**

Size 06, 10, 16, 20 • $Q_{\text{max}}$ 250 l/min (66 GPM) • $p_{\text{max}}$ 320 bar (4600 PSI)

### Technical Features

- Check valve, one-way throttling, poppet type, guided in-line mounted or slip-in cartridge
- Hardened precision parts
- Sharp-edged steel seats for dirt-tolerant performance
- Wide range of orifice diameters available
- Optional bias spring ranges for back-pressure control
- High flow capacity
- In the standard version, the surface of the valves for in-line mounting is zinc-coated for 240 h protection acc. to ISO 9227. Slip-in cartridges (types 02 and 03) are without surface treatment

### Functional Description

An in-line or drop-in hydraulic check valve for use as a blocking or load-holding device. Includes a bypass throttling orifice. The valve has a poppet check which is closed by spring until sufficient pressure is applied at port 1 to open flow to port 2. In the direction from port 2 to 1 the flow is restricted by the orifice.

![Symbol](image)

### Technical Data

<table>
<thead>
<tr>
<th>Valve size</th>
<th>06</th>
<th>10</th>
<th>16</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. flow</td>
<td>l/min (GPM)</td>
<td>30 (7.9)</td>
<td>60 (15.9)</td>
<td>160 (42.3)</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>bar (PSI)</td>
<td>320 (4640)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cracking pressure</td>
<td>bar</td>
<td>0.5</td>
<td>1.0</td>
<td>1.5</td>
</tr>
<tr>
<td>(PSI)</td>
<td>(7.25)</td>
<td>(14.5)</td>
<td>(21.8)</td>
<td>(43.5)</td>
</tr>
<tr>
<td>Fluid temperature range (NBR)</td>
<td>°C (°F)</td>
<td>-30 .... +100 (-22 ... +212)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mass</td>
<td>kg (lbs)</td>
<td>0.11 (0.24)</td>
<td>0.34 (0.75)</td>
<td>0.52 (1.15)</td>
</tr>
<tr>
<td>- models G1, M1, S</td>
<td>0.05 (0.11)</td>
<td>0.09 (0.2)</td>
<td>0.22 (0.49)</td>
<td>0.26 (0.57)</td>
</tr>
<tr>
<td>- models 02, 03</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Datasheet</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>General information</td>
<td>GI_0060</td>
</tr>
<tr>
<td>Cavity details</td>
<td>SMT_0019</td>
</tr>
<tr>
<td>Spare parts</td>
<td>SP_8010</td>
</tr>
</tbody>
</table>

### Characteristics measured at $v = 32$ mm/s (156 SUS)

Pressure drop related to flow rate

---

![Graph](image)

---
### Characteristics measured at ν = 32 mm/s (156 SUS)

#### Pressure drop related to flow rate

**Valve size 16**

- Pressure drop Δp [bar (PSI)]
  - Flow Q [l/min (GPM)]
  - (101.5) (87)
  - (72.5) (58)
  - (43.5) (29)
  - (14.5) (9.3)

**Valve size 20**

- Pressure drop Δp [bar (PSI)]
  - Flow Q [l/min (GPM)]
  - (101.5) (87)
  - (72.5) (58)
  - (43.5) (29)
  - (14.5) (9.3)

### Dimensions in millimeters (inches)

**Models G1, M1, S**

- **G1**
  - Size: 06
  - Size: 10
  - Size: 16
  - Size: 20

- **M1**
  - Size: 06
  - Size: 10
  - Size: 16
  - Size: 20

- **S**
  - Size: 06
  - Size: 10
  - Size: 16
  - Size: 20

#### Ordering Code

- **VJS3**
  - [ ]
  - [ ]
  - [ ]
  - [ ]

- **Check valve with one-yay throttling, poppet type, in-line**

#### Surface treatment

- Without surface treatment (type 02 and 03)
- Zinc-coated (ZnCr-3), ISO 9227 (240 h)
- Zinc-coated (ZnNi), ISO 9227 (520 h)

#### Orifice diameter

<table>
<thead>
<tr>
<th>Size</th>
<th>d1 [mm (inch)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>06</td>
<td>3.5 (0.14)</td>
</tr>
<tr>
<td>10</td>
<td>5.5 (0.22)</td>
</tr>
<tr>
<td>16</td>
<td>8.5 (0.34)</td>
</tr>
<tr>
<td>20</td>
<td>10.5 (0.41)</td>
</tr>
</tbody>
</table>

#### Cracking pressure

- Without spring
  - 0.5 bar (7.3 PSI)
  - 1.0 bar (14.5 PSI)
  - 1.5 bar (21.8 PSI)
  - 3.0 bar (43.5 PSI)
  - 5.0 bar (72.5 PSI)

### Installation

- In-line, with G threads
- In-line, with metric threads
- In-line, with SAE threads
- Slip-in cartridge
- Slip-in cartridge

*For sizes 06, 10, 16, 20 only

Besides the shown, commonly used valve versions other special models are available. Contact our technical support for their identification, feasibility and operating limits.