Needle - Restrictor Valve

ST21A-B2  7/8-14 UNF • Q_{max} 140 l/min (37 GPM) • p_{max} 350 bar (5100 PSI)

Technical Features

› Hardened precision parts
› Fine low-torque adjustment
› Linear adjustment and positive seat overlap
› Optionally adjustable by hand screw
› Desired settings may be locked down
› In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A hydraulic flow restrictor valve in the form of a screw-in cartridge. The valve restricts flow in both directions, making it ideal for fine control of an uncompensated system or for use as a shut-off valve.

Technical Data

<table>
<thead>
<tr>
<th>Valve size / Cartridge cavity</th>
<th>7/8-14 UNF-2A / B2 (C-10-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. flow [l/min (GPM)]</td>
<td>140 (37)</td>
</tr>
<tr>
<td>Max. operating pressure [bar (PSI)]</td>
<td>350 (5076)</td>
</tr>
<tr>
<td>Fluid temperature range (NBR) [°C (°F)]</td>
<td>-30 ... +100 (-22 ... +212)</td>
</tr>
<tr>
<td>Weight [kg (lbs)]</td>
<td>0.3 (0.66)</td>
</tr>
</tbody>
</table>

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

Pressure drop related to flow rate

Flow direction 1 - 2

<table>
<thead>
<tr>
<th>Flow Q [l/min (GPM)]</th>
<th>Number of half turns (180°) of the adjust. screw</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Pressure drop related to flow rate

Flow direction 2 - 1

<table>
<thead>
<tr>
<th>Flow Q [l/min (GPM)]</th>
<th>Number of half turns (180°) of the adjust. screw</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
### Ordering Code

**Needle - restrictor valves**

**Valve cavity**
7/8-14 UNF (C-10-2)

**Version**
High performance

**Flow rate**
140 l/min (37 GPM)

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**Model S**

- **Dimension**
  - $\varnothing 26.5 (1.06)$
  - $32 (1.26)$

- ** Torque**
  - $35 + 5 \text{ Nm} (25.8 + 3.7 \text{ lbf.ft})$
  - $14 + 2 \text{ Nm} (10.3 + 1.5 \text{ lbf.ft})$

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**Model RP**

- **Dimension**
  - $\varnothing 32 (1.26)$
  - $32 (1.26)$

- ** Torque**
  - $+Q \quad -Q$

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**Surface treatment**
- zinc-coated (ZnCr-3), ISO 9227 (240h)
- zinc-coated (ZnNi), ISO 9227 (520h)

**Seals**
- NBR (Vita)
- FPM (Viton)

**Adjustment option**
- Allen key (hex. 6), without protective cap
- Hand screw, plastic