3-Way Flow Regulator, Pressure Compensated

SF32A-B3/H

7/8-14 UNF • Q_{max} 50 l/min (13 GPM) • p_{max} 350 bar (5100 PSI)

Technical Features

› By-pass flow regulator, set flow rate independent of load pressure and temperature changes
› Adjusted flow rate depends on the orifice area and adjusted differential pressure
› Hardened precision parts
› High flow capacity
› Quiet and modulated responded to load changes
› Used in meter-in applications
› Wide range of flow rate options
› Adjustable by allen key or hand screw, optionally sealable (lockwire holes)
› In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A fixed-orifice, pressure compensated hydraulic flow regulating valve in the form of a screw-in cartridge with variable spring setting. It can be used as a priority flow regulator or a 2-way flow regulator when the by-pass port (2) is blocked.

This valve maintains a constant priority flow from port 1 to port 3 based on the adjustment, regardless of pressure changes downstream on port 3. Excessive flow is directed to port 2.

Symbol

![Symbol diagram]

Technical Data

<table>
<thead>
<tr>
<th>Valve size / Cartridge cavity</th>
<th>7/8-14 UNF-2A / B3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. inlet flow (port 1)</td>
<td>l/min (GPM)</td>
</tr>
<tr>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Nominal flow rates</td>
<td>14</td>
</tr>
<tr>
<td>Adjustment range</td>
<td>l/min (GPM)</td>
</tr>
<tr>
<td></td>
<td>5 - 10 (1.2 - 2.6)</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>bar (PSI)</td>
</tr>
<tr>
<td>Fluid temperature range (NBR)</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Fluid temperature range (FPM)</td>
<td>°C (°F)</td>
</tr>
<tr>
<td>Mass</td>
<td>kg (Ibs)</td>
</tr>
</tbody>
</table>

Datasheet

<table>
<thead>
<tr>
<th>General Information</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve bodies</td>
<td>SB_0018</td>
</tr>
<tr>
<td>In-line mounted</td>
<td>SB-B3*</td>
</tr>
<tr>
<td>Sandwich mounted</td>
<td>SB-04(06)_0028</td>
</tr>
<tr>
<td>Cavity details / Form tools</td>
<td>SMT_0019</td>
</tr>
<tr>
<td>Spare parts</td>
<td>SP_8010</td>
</tr>
</tbody>
</table>

Characteristics measured at \( v = 32 \text{ mm/s} \) (156 SUS)

Regulated flow related to input pressure

Measured at constant inlet flow \( Q_1 = 50 \text{ l/min (13.21 GPM)} \)

Flow rate 10

By-pass pressure higher than regulated pressure \( p_3 > p_2 \)

Regulated pressure higher than by-pass pressure \( p_3 > p_2 \)

Flow rate 14

By-pass pressure higher than regulated pressure \( p_3 > p_2 \)

Regulated pressure higher than by-pass pressure \( p_3 > p_2 \)

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Characteristics measured at $v = 32\text{ mm}^2/\text{s}$ (156 SUS)

Regulated flow related to input pressure
Measured at constant inlet flow $Q_1 = 50\text{ l/min (13.21 GPM)}$

Flow rate 22

<table>
<thead>
<tr>
<th>Flow rate</th>
<th>By-pass pressure higher than regulated pressure $p_1 &gt; p_3$</th>
<th>Regulated pressure higher than by-pass pressure $p_3 &gt; p_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - 10 l/min (1.3 - 2.6 GPM)</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>6 - 14 l/min (1.6 - 3.7 GPM)</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>11 - 22 l/min (2.9 - 5.8 GPM)</td>
<td>22</td>
<td>27</td>
</tr>
<tr>
<td>17 - 30 l/min (4.5 - 7.9 GPM)</td>
<td>30</td>
<td>35</td>
</tr>
</tbody>
</table>

Seals
NBR
FPM (Viton)

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

Ordering Code

SF32A-B3 / H

3-Way flow regulator, pressure compensated 7/8-14 UNF

Model
High performance

Flow rate
5 - 10 l/min (1.3 - 2.6 GPM) 10
6 - 14 l/min (1.6 - 3.7 GPM) 14
11 - 22 l/min (2.9 - 5.8 GPM) 22
17 - 30 l/min (4.5 - 7.9 GPM) 30

Adjustment option
S allen key (hex. 5), without protective cap
RP hand screw, plastic

Dimensions in millimeters (inches)

Model S

Model RP

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