Proportional Pressure Control Valve, Relieving, Direct-Acting, Inverted
SRN1P1-A2
3/4-16 UNF • Q\text{\textsubscript{\text{\text{\text{\text{\text{max}}}}} \ 1.5 \ l/min (0.40 \ GPM)}} • p\text{\textsubscript{\text{\text{\text{\text{\text{\text{max}}}}}}} \ 350 \ bar (5100 \ PSI)}

Technical Features
- Decreasing pressure output proportional with increasing DC current input
- Low hysteresis, accurate pressure control
- Wide pressure range up to 350 bar
- Mechanical adjustment of minimum cracking pressure
- Solenoid electrical terminal option acc. to EN 175301-803-A, AMP Junior Timer or Deutsch DT04-2P
- 12 or 24 V DC coils
- Usable as pilot stage of SRN4P1-B2 and SPN4P1-B3 proportional valves
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description
A direct operated proportional poppet pressure relief valve in the form of a screw-in cartridge. The valve is designed for continuous regulation of system pressure. It is used mostly as a pilot stage. To set the minimum cracking pressure use the adjusting screw (s=5) which incorporates also the air bleed screw. Back pressure on port T becomes additive to the pressure setting of the valve. Air bleeding is necessary for the correct function of the valve. Installation: When possible, the valve should be mounted below the reservoir oil level. This will keep oil in the actuator at all times, preventing instability caused by air enclosures. If this is not possible, mount the valve for best results vertically downward with proper air bleeding.

Technical Data

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Valve size / Cartridge cavity</th>
<th>3/4-16 UNF-2A / A2 (C-8-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. operating pressure (port P)</td>
<td>bar (PSI)</td>
<td>350 (5080)</td>
</tr>
<tr>
<td>Max. operating pressure (port T)</td>
<td>bar (PSI)</td>
<td>100 (1450)</td>
</tr>
<tr>
<td>Max. flow</td>
<td>l/min (GPM)</td>
<td>1.5 (0.40)</td>
</tr>
<tr>
<td>Fluid temperature range (NBR)</td>
<td>°C (°F)</td>
<td>-30 ... +80 (-22 ... 176)</td>
</tr>
<tr>
<td>Fluid temperature range (FPM)</td>
<td>°C (°F)</td>
<td>-20 ... +120 (-4 ... 248)</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>°C (°F)</td>
<td>-30 ... +80 (-22 ... 176)</td>
</tr>
<tr>
<td>Hysteresis</td>
<td>%</td>
<td>&lt; 5</td>
</tr>
</tbody>
</table>

Solenoid data
Supply voltage | V | 12 DC | 24 DC |
Max. current | A | 1 | 0.6 |
Rated resistance at 20 °C (68 °F) | Ω | 6.5 ± 5 % | 20.6 ± 5 % |
Duty cycle | % | 100 |
Optimal PWM frequency | Hz | 160 - 200 |
Quenching diode | | BZW06-19B | BZW06-33B |
Enclosure type acc.to EN 60529** | | IP65 / IP67 / IP69K |
Weight with solenoid | kg (lbs) | 0.44 (0.97) |

Dimensions in millimeters (inches)

Connector type
E1, E2 - IP65
EN 175301-803-A

E3, E4 - IP67
AMP Junior Timer - radial
E3A, E4A - IP67
AMP Junior Timer - axial
E12A, E13A - IP67 / IP69K
Deutsch DT04-2P

**The indicated IP protection level is reached only with a properly mounted connector.
Characteristics measured at $v = 32 \text{ mm/s} (156 \text{ SUS})$

Relief pressure related to control signal

$Q=0.2 \text{ l/min} (0.05 \text{ GPM})$, pressure in port $T=0 \text{ bar}$, PWM 160Hz

Pressure drop related to flow rate

100% of control current, P-T direction

Ordering Code

Proportional pressure control valve, relieving, direct-acting, inverted

Valve cavity

3/4-16UNF (C-8-2)

Model

High performance

Max. regulated pressure

- up to 120 bar (1740 PSI)
- up to 210 bar (3046 PSI)
- up to 350 bar (5076 PSI)

Supply voltage / max. current

- 12 V DC / 1 A
- 24 V DC / 0.6 A

Surface treatment

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

Seals

- NBR
- FPM (Viton)

Connector type

- E1: EN 175301-803-A
- E2: E1 with quenching diode
- E3: AMP Junior Timer - radial direction (2 pins; male)
- E4: E3 with quenching diode
- E3A: E3A with quenching diode
- E4A: E3A with quenching diode
- E12A: Deutsch DT04-2P - axial direction
- E13A: E12A with quenching diode

For other solenoid terminals see data sheet No. 8007