2-way, 2 position high pressure direct acting poppet valve in form of a screw-in cartridge. The valve is used mainly for ON-OFF bi-directional control of flow to actuators with leak-free closing in both directions.

### Technical Features

- Hardened precision parts
- High flow capacity and leak-free closing (up to 3 drops per minute)
- High transmitted hydraulic power up to 350 bar
- Normally open and normally closed version
- Wide range of manual overrides available
- All ports may be fully pressurized
- Coil interchangeability among SD*-A*/H product line
- In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

### Technical Data

<table>
<thead>
<tr>
<th>Valve size / Cartridge cavity</th>
<th>3/4-16 UNF-2A / A2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. flow</td>
<td>30 (7.9) l/min (GPM)</td>
</tr>
<tr>
<td>Max. operating pressure</td>
<td>350 (5080) bar (PSI)</td>
</tr>
<tr>
<td>Fluid temperature range (NBR)</td>
<td>-30...80 (-22...176) °C (°F)</td>
</tr>
<tr>
<td>Fluid temperature range (FPM)</td>
<td>-20...80 (-4...176) °C (°F)</td>
</tr>
<tr>
<td>Ambient temperature range</td>
<td>-30...80 (-22...176) °C (°F)</td>
</tr>
<tr>
<td>Supply voltage tolerance</td>
<td>±15 % AC, DC</td>
</tr>
<tr>
<td>Max. switching frequency</td>
<td>15 000 1/h</td>
</tr>
<tr>
<td>Weight without coil</td>
<td>0.19 (0.42) kg (Ibs)</td>
</tr>
</tbody>
</table>

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

### Operating limits

- Oil 80 °C (176 °F) / Ambient temperature 50 °C (122 °F) / Voltage \( U_n \) -10% (21.6 V DC)

### Pressure drop related to flow rate

#### Graphs

- Graph showing the relationship between pressure drop and flow rate for different models and connections.

#### Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2S5 1→2</td>
</tr>
<tr>
<td>2</td>
<td>2S5 2→1</td>
</tr>
<tr>
<td>3</td>
<td>2S6 2→1</td>
</tr>
<tr>
<td>4</td>
<td>2S6 1→2</td>
</tr>
</tbody>
</table>
In case of solenoid malfunction or power failure, the spool of the valve can be shifted by manual override as long as the pressure in port T does not exceed 25 bar (363 PSI). For alternative manual overrides contact our technical support.

Ordering Code

SD1E-A2 /  
2/2 directional valve, solenoid operated, poppet type, blocking, direct acting, 3/4-16 UNF

High performance

Functional symbol

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

Seals
V  NBR
   FPM (Viton)

Manual override
standard
rubber boot protected
hand screw
socket head screw
without manual override

Dimensions in millimeters (inches)

255, 256

No designation - standard
Designation M2 - rubber boot protected
Designation M4 - hand screw
Designation M5 - socket head screw, size 2.5
Designation M9 - without manual override

No designation
Designation M2
Designation M4
Designation M5
Designation M9

~ 70.0 (2.76)
~ 81.5 (3.21)
~ 90 (3.54)
~ 77.5 (3.05)
~ 70.0 (2.76)