3/2 Directional Valve, Solenoid Operated, Poppet Type, Blocking, Direct Acting

SD1E-A3

3/4-16 UNF • Q_{\text{max}}: 30 l/min (8 GPM) • p_{\text{max}}: 350 bar (5100 PSI)

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
› 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

Functional Description

3-way, 2 positions, 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.

Model Code

Symbol

Technical Data

Valve size / Cartridge cavity
3/4-16 UNF-2A / A3

Max. flow
l/min (GPM)
30 (7.9)

Max. operating pressure
bar (PSI)
350 (5080)

Fluid temperature range (NBR)
°C (°F)
-30...80 (-22...176)

Fluid temperature range (FPM)
°C (°F)
-20...80 (-4...176)

Ambient temperature range
°C (°F)
-30...80 (-22...176)

Supply voltage tolerance
% AC, DC: ± 15

Max. switching frequency
1/h 15 000

Weight without coil
kg (Ibs) 2S7 0.21 (0.45) 2S8 0.22 (0.47)

Datasheet
Type

General information
Gi_0060

Products and operating conditions

Coil types
C_8007 C198*

Valve bodies
In-line mounted SB_0018 SB-A3*

Sandwich mounted SB-04(06)_0028 SB-TA3*

Cavity details / Form tools
SMT_0019 SMT-A3*

Spare parts
SP_8010

Characteristics measured at v = 32 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

Model Code

257

258

Δp 257, 258

Pressure drop [bar (PSI)]
Flow Q [l/min (GPM)]

Pressure drop [bar (PSI)]
Flow Q [l/min (GPM)]

<table>
<thead>
<tr>
<th>Model</th>
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<tbody>
<tr>
<td>1</td>
<td>257 → 1</td>
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www.argo-hytos.com
### Dimensions in millimeters (inches)

<table>
<thead>
<tr>
<th>2S7</th>
<th>No designation - for 257</th>
<th>Designation M2 - for 257</th>
<th>Designation M4 - for 257</th>
<th>Designation M5 - for 257</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>3/4-16 UNF-2A</td>
<td>43 (1.69)</td>
<td>70 (2.76)</td>
<td>43 (1.69)</td>
<td>70 (2.76)</td>
</tr>
<tr>
<td>ø15.82 (0.62)</td>
<td>ø14.22 (0.56)</td>
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<td></td>
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### Manual Override in millimeters (inches)

<table>
<thead>
<tr>
<th>No designation - for 257 - standard</th>
<th>Designation M2 - for 257 - rubber boot protected</th>
<th>Designation M4 - for 257 - hand screw</th>
<th>Designation M5 - for 257 - socket head screw, size 2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 70 (2.76)</td>
<td>~ 81.5 (3.21)</td>
<td>~ 90 (3.54)</td>
<td>~ 77.5 (3.05)</td>
</tr>
</tbody>
</table>

Designation M9 - without manual override
- for 2S7 - for 258

| ~ 70 (2.76) | ~ 74 (2.91) |

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

<table>
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<tr>
<th>SD1E-A3 / 257</th>
<th>258</th>
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3/2 directional valve, solenoid operated, poppet type, blocking, direct acting, 3/4-16 UNF

High performance

Functional symbol

<table>
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<tr>
<th>Surface treatment</th>
<th>Seals</th>
</tr>
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<tr>
<td>zinc-coated (ZnCr-3), ISO 9227 (240 h)</td>
<td>NBR</td>
</tr>
<tr>
<td>zinc-coated (ZnNi), ISO 9227 (520 h)</td>
<td>FPM (Viton)</td>
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No designation

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