2/2 Directional Valve, Solenoid Operated, Poppet Type, Pilot Operated, Modular

ROE3-062S2M

Size 04 (D02), 06 (D03) • Q_max 60 l/min (16 GPM) • p_max 250 bar (3600 PSI)

Technical Features

› 2/2 directional valve, solenoid operated, poppet type, blocking, pilot operated with mounting interface acc. to ISO 4401, DIN 24340 (CETOP 02 and 03) or as an in-line device
› Hardened precision parts
› High flow capacity and leak-free closing
› High transmitted hydraulic power
› Normally closed (NC) version
› All ports may be fully pressurized
› Coils interchangeable across ROE / RPE3-04 product line
› In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227 and the valve body is phosphated.

Functional Description

2-way, 2-position high pressure pilot operated poppet valve in the form of a screw-in cartridge. Usable in various subplate and in-line arrangements.
The valve is used mainly for ON-OFF bi-directional control of flow from and to actuators with secure leak-free closing in both directions.

Technical Data

<table>
<thead>
<tr>
<th>Valve size / Cartridge cavity</th>
<th>04 (D02) / QG2</th>
<th>06 (D03) / QG2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. flow l/min (GPM)</td>
<td>25 (6.6)</td>
<td>60 (15.9)</td>
</tr>
<tr>
<td>Max. operating pressure bar (PSI)</td>
<td>250 (3630)</td>
<td></td>
</tr>
<tr>
<td>Fluid temperature range (NBR) °C (°F)</td>
<td>-30 ... +80 (-22 ... +176)</td>
<td>-20 ... +80 (-4 ... +176)</td>
</tr>
<tr>
<td>Fluid temperature range (FPM) °C (°F)</td>
<td>-20 ... +80 (-4 ... +176)</td>
<td>-20 ... +50 (-4 ... +122)</td>
</tr>
<tr>
<td>Ambient temperature range °C (°F)</td>
<td>-20 ... +80 (-4 ... +176)</td>
<td>-20 ... +80 (-4 ... +176)</td>
</tr>
<tr>
<td>Supply voltage tolerance % AC, DC: ± 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. switching frequency 1/h 15 000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switching time, at v = 32 mm²/s (156 SUS) ms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC 25 ... 35 AC 25 ... 35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC 15 ... 25 AC 50 ... 100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC 80 ... 130 AC 100 ... 150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight kg (lbs) Modular 1.2 (2.5) Modular 1.5 (3.2) Modular 1.7 (3.6) Modular 2.0 (4.3) In-line 1.6 (3.5)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Characteristics measured at v = 32 mm²/s (156 SUS)

<table>
<thead>
<tr>
<th>Operating limits</th>
<th>In-line body design R*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating limits for maximum hydraulic power at rated temperature and supplied with voltage equal to 90% of the nominal value</td>
<td></td>
</tr>
<tr>
<td>Flow Q [l/min (GPM)]</td>
<td>Operating pressure drop related to flow rate</td>
</tr>
<tr>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>General information</td>
<td>GI_0060 Products and operating conditions</td>
</tr>
<tr>
<td>Cavity details</td>
<td>SMT_0019 Size 04, 06</td>
</tr>
<tr>
<td>Spare parts</td>
<td>SP_8010</td>
</tr>
</tbody>
</table>

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

### Pressure drop related to flow rate

**In-line body design M**

![Graph showing pressure drop related to flow rate](image)

<table>
<thead>
<tr>
<th>Model</th>
<th>Direction</th>
<th>Solenoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 MD04</td>
<td>T-A</td>
<td>OFF</td>
</tr>
<tr>
<td>1 MX04</td>
<td>B-A</td>
<td>OFF</td>
</tr>
<tr>
<td>2 MA04</td>
<td>A1-A2</td>
<td>OFF</td>
</tr>
<tr>
<td>3 MD04</td>
<td>A-T</td>
<td>OFF</td>
</tr>
<tr>
<td>4 MA04</td>
<td>A2-A1</td>
<td>OFF</td>
</tr>
<tr>
<td>4 MD04</td>
<td>T-A</td>
<td>ON</td>
</tr>
<tr>
<td>5 MX04</td>
<td>B-A</td>
<td>ON</td>
</tr>
<tr>
<td>6 MA04</td>
<td>A1-A2</td>
<td>ON</td>
</tr>
</tbody>
</table>

### Ordering Code

**ROE3-062 S2**

2/2 directional valve, solenoid operated, poppet type, blocking, direct acting, modular

- normally closed (NC)

**Model**
- modular valve, connection A2-A1: MA
- modular valve, connection B2-B1: MB
- modular valve, connection A-B: MX
- modular valve, connection A-T: MD
- modular valve, connection B-T: ME
- modular valve, connection B2-B1, A2-A1: MC
- modular valve, connection B-T, A-T: MF
- modular valve, connection P-T: MG
- modular valve, connection P2-P1: MP*
- modular valve, connection B2-P2, B2-T2: MJ
- modular valve, connection A-T, B2-B1: MI
- in-line valve, 2 ports, thread G3/8: R1
- in-line valve, 2 ports, thread G1/2: R2
- in-line valve, 2 ports, thread SAE 8, 3/4-16: R3
- in-line valve, 2 ports, thread SAE 10, 7/8-14: R4
- in-line valve with flow regulator with reverse flow check, 2 ports, thread SAE 10, 7/8-14: R7

*only available for size 06 (D03)

**Modular plate size**
- ISO 4401-02-01-0-05, DIN 24340 (CETOP 02), size 04: 04
- ISO 4401-03-02-0-05, DIN 24340 (CETOP 03), size 06: 06

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

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

**Manual override**
- standard - without manual override with external hexagon 14

**Connector**
- EN 175301-803-A
- E1 with quenching diode
- E2
- E3 with quenching diode
- AMP Junior Timer - radial direction (2 pins; male)
- E4 with quenching diode
- E3A with quenching diode
- AMP Junior Timer - axial direction (2 pins; male)
- E5 with quenching diode
- E6 with quenching diode
- EN 175301-803-A with integrated rectifier
- loose conductors (two insulated wires)
- E8 with quenching diode
- E12A with quenching diode
- Deutsch DT04-2P - axial direction
- E13A with quenching diode

The AC coils correspond to E5.

**Rated supply voltage of solenoids (at the coil terminals)**
- 01200: 12 V DC / 2.41 A
- 01400: 14 V DC / 1.66 A
- 02100: 21 V DC / 1.31 A
- 02400: 24 V DC / 1.15 A
- 02700: 27 V DC / 0.89 A
- 20500: 205 V DC / 0.12 A
- 02450: 24 V AC / 1.44 A / 50 (60) Hz
- 12060: 120 V AC / 0.22 A / 50 (60) Hz
- 23050: 230 V AC / 0.12 A / 50 (60) Hz

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Functional Symbols

Solenoid Coil in millimeters (inches)

E1 - EN 175301-803-A
E2 - E1 with quenching diode
Protection degree IP65

E3 - AMP Junior Timer - radial direction
E4 - E3 with quenching diode
Protection degree IP67

E3A - AMP Junior Timer - axial direction
E4A - E3A with quenching diode
Protection degree IP67

E5 - EN 175301-803-A and integrated rectifier
Protection degree IP65

E8 - Loose conductors (two insulated cables)
E9 - (E8 with quenching diode)
Protection degree IP65

E12A - Deutsch DT04-2P
E13A - E12A with quenching diode
Protection degree IP67 / IP69K

Note:
A = Standard 300 mm (11.81 in), other sizes on demand

The indicated IP protection level is only reached with a properly mounted connector.

Manual Override in millimeters (inches)

No designation - standard - without manual override

Designation N5 - with external hexagon 14

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