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

ROE3-042S5(S6)M

Size 04 (D02), 06 (D03) • Q_{max} 25 l/min (7 GPM) • p_{max} 250 bar (3600 PSI)

Technical Features

› 2/2 directional valve, solenoid operated, poppet type, blocking, direct acting with subplate interface acc. 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 open (NO) and normally closed (NC) versions
› Wide range of manual overrides available
› 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 direct acting poppet valve in the form of a screw-in cartridge. Usable in various sub-plate 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>25 (6.6)</td>
</tr>
<tr>
<td>Max. operating pressure bar (PSI)</td>
<td>250 (3630)</td>
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</tr>
<tr>
<td>Fluid temperature range (NBR) °C (°F)</td>
<td>-30 ... +80 (-22 ... +176)</td>
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<tr>
<td>Fluid temperature range (FPM) °C (°F)</td>
<td>-20 ... +80 (-4 ... +176)</td>
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</tr>
<tr>
<td>Ambient temperature range °C (°F)</td>
<td>-20 ... +50 (-4 ... +122)</td>
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</tr>
<tr>
<td>Supply voltage tolerance %</td>
<td>AC, DC: ± 10</td>
<td></td>
</tr>
<tr>
<td>Max. switching frequency 1/h</td>
<td>15 000</td>
<td></td>
</tr>
<tr>
<td>Switching time, at v = 32 mm/s (156 SUS) ms</td>
<td>ON: DC 25 ... 35, AC 25 ... 35</td>
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<tr>
<td>OFF: DC 15 ... 25, AC 100 ... 150</td>
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<tr>
<td>Weight - valve with 1 solenoid kg (lbs)</td>
<td>Modular 1.2 (2.5)</td>
<td></td>
</tr>
<tr>
<td>- valve with 2 solenoids kg (lbs)</td>
<td>Modular 1.7 (3.6)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Operating limits</th>
<th>In-line body design R*</th>
</tr>
</thead>
</table>

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

Operating limits

Operating limits for maximum hydraulic power at rated temperature and supplied with voltage equal to 90% of the nominal value

Pressure drop related to flow rate

In-line body design R*
Pressure drop related to flow rate

Modular plate M*

Flow Q [l/min (GPM)]

<table>
<thead>
<tr>
<th>Flow Q</th>
<th>(1.32)</th>
<th>(2.64)</th>
<th>(3.96)</th>
<th>(5.28)</th>
<th>(6.60)</th>
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</thead>
<tbody>
<tr>
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S5, S6

S5, S6

Model

Direction

1

MD04 A-T, T-A

ME04 B-T, T-B

MF04 A-T, B-T, T-A, T-B

2

MX04 A-B, B-A

MA04 A1-A2, A2-A1

MB04 B1-B2, B2-B1


3

MA04 A1-A2

MB04 B1-B2

MC04 A1-A2, B1-B2

MX04 A-B

Flow Q [l/min (GPM)]

<table>
<thead>
<tr>
<th>Flow Q</th>
<th>(1.32)</th>
<th>(2.64)</th>
<th>(3.96)</th>
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</tbody>
</table>

S5, S6

S5, S6

Model

Direction

1

MD06 A-T, T-A

ME06 B-T, T-B

MF06 A-T, B-T, T-A, T-B

2

MA06 A1-A2

MB06 B1-B2

MC06 A1-A2, B1-B2

3

MA06 A1-A2, A2-A1

MB06 B1-B2, B2-B1


S5, S6

S5, S6

Model

Direction

1

MD06 A-T, T-A

ME06 B-T, T-B

MF06 A-T, B-T, T-A, T-B

2

MA06 A1-A2

MB06 B1-B2

MC06 A1-A2, B1-B2

3

MA06 A1-A2, A2-A1

MB06 B1-B2, B2-B1


Ordering Code

2/2 directional valve,

solenoid operated, poppet type,

blocking, direct acting, modular

Model

modular valve, connection A2-A1

modular valve, connection B2-B1

modular valve, connection A-B

modular valve, connection A-T

modular valve, connection B-T

modular valve, connection B2-B1, A2-A1

modular valve, connection B-T, A-T

modular valve, connection P-T

modular valve, connection P2-P1

modular valve, connection B2-P2, B2-T2

modular valve, connection A-T, B2-B1

modular valve, connection A-T, B2-B1

in-line valve, 2 ports, thread G3/8

in-line valve, 2 ports, thread G1/2

in-line valve, 2 ports, thread SAE 8, 3/4-16

in-line valve, 2 ports, thread SAE 10, 7/8-14

in-line valve, 2 ports, thread SAE 10, 7/8-14

*only available for size 06 (D03)

Model

modular valve, connection A2-A1

modular valve, connection B2-B1

modular valve, connection A-B

modular valve, connection A-T

modular valve, connection B-T

modular valve, connection B2-B1, A2-A1

modular valve, connection B-T, A-T

modular valve, connection P-T

modular valve, connection P2-P1

modular valve, connection B2-P2, B2-T2

modular valve, connection A-T, B2-B1

modular valve, connection A-T, B2-B1

in-line valve, 2 ports, thread G3/8

in-line valve, 2 ports, thread G1/2

in-line valve, 2 ports, thread SAE 8, 3/4-16

in-line valve, 2 ports, thread SAE 10, 7/8-14

in-line valve, 2 ports, thread SAE 10, 7/8-14

*only available for size 06 (D03)

Modular plate size

ISO 4401-02-01-0-05, DIN 24340 (CETOP 02), size 04

ISO 4401-03-02-0-05, DIN 24340 (CETOP 03), size 06

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Subject to change · ROE3-042/S5(S6)/M_4073_2en_03/2019
**Functional Symbols**

Example: ROE3-04255M*

<table>
<thead>
<tr>
<th>Model MA</th>
<th>Model MB</th>
<th>Model MX</th>
<th>Model MD</th>
<th>Model ME</th>
<th>Model MG</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Diagram of Model MA" /></td>
<td><img src="image2" alt="Diagram of Model MB" /></td>
<td><img src="image3" alt="Diagram of Model MX" /></td>
<td><img src="image4" alt="Diagram of Model MD" /></td>
<td><img src="image5" alt="Diagram of Model ME" /></td>
<td><img src="image6" alt="Diagram of Model MG" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model MC</th>
<th>Model MF</th>
<th>Model MP</th>
<th>Model MJ</th>
<th>Model MI</th>
<th>Models R1 (R3), R2 (R4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image7" alt="Diagram of Model MC" /></td>
<td><img src="image8" alt="Diagram of Model MF" /></td>
<td><img src="image9" alt="Diagram of Model MP" /></td>
<td><img src="image10" alt="Diagram of Model MJ" /></td>
<td><img src="image11" alt="Diagram of Model MI" /></td>
<td><img src="image12" alt="Diagram of Models R1 (R3), R2 (R4)" /></td>
</tr>
</tbody>
</table>

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### Solenoid Coil in millimeters (inches)

<table>
<thead>
<tr>
<th>E1 - EN 175301-803-A</th>
<th>E3 - AMP Junior Timer - radial direction</th>
<th>E3A - AMP Junior Timer - axial direction</th>
<th>E5 - EN 175301-803-A and integrated rectifier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection degree IP65</td>
<td>Protection degree IP67</td>
<td>Protection degree IP67</td>
<td>Protection degree IP65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E8 - Loose conductors (two insulated cables)</th>
<th>E9 - (E8 with quenching diode)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection degree IP65</td>
<td>Protection degree IP67 / IP69K</td>
</tr>
</tbody>
</table>

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

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

### Manual Override in millimeters (inches)

<table>
<thead>
<tr>
<th>No designation - standard</th>
<th>Designation N2 - rubber boot</th>
<th>Designation N4 - hand screw</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image13" alt="Diagram of No designation" /></td>
<td><img src="image14" alt="Diagram of Designation N2" /></td>
<td><img src="image15" alt="Diagram of Designation N4" /></td>
</tr>
</tbody>
</table>
Dimensions in millimeters (inches)

Models MC, MF, MI, MJ

Models MA, MX, MD, MG, MP

Models MB, ME

Models R1 (R2)

Models R3 (R4)

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>G3/8-A</td>
<td>Ø 23</td>
<td>12 (0.47)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R2</td>
<td>G1/2-A</td>
<td>Ø 28</td>
<td>14 (0.55)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3</td>
<td>3/4-16UNF-2B</td>
<td>Ø 20.6</td>
<td>30</td>
<td>15 (0.59)</td>
<td>16 (0.61)</td>
</tr>
<tr>
<td>R4</td>
<td>7/8-14UNF-2B</td>
<td>Ø 23.9</td>
<td>34</td>
<td>16.7 (0.66)</td>
<td>18 (0.71)</td>
</tr>
</tbody>
</table>

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