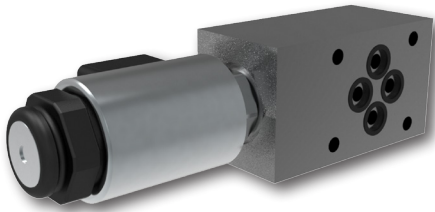


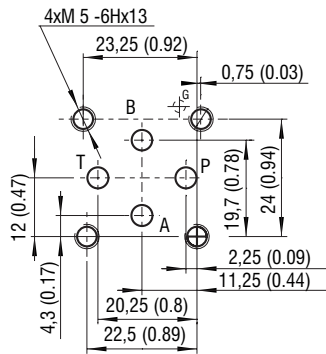
2/2 Directional Valve, Solenoid Operated, Poppet-Type, Blocking, Direct-Acting, Modular

**ROE3-042S5(S6)/M**

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

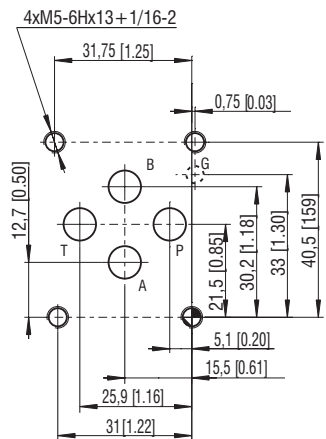


ISO 4401-02-01-0-05



Ports P, A, B, T - max  $\varnothing$  4.5 mm (0.18 in)

ISO 4401-03-02-0-05



Ports P, A, B, T - max  $\varnothing$  7.5 mm (0.29 in)

**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 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**

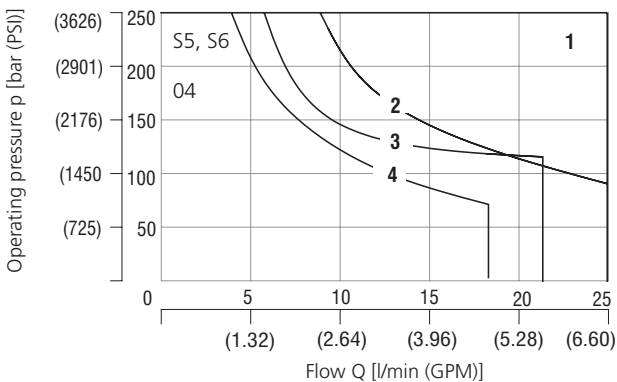
| Valve size / Cartridge cavity                               |                          | 04 (02) / QG2                 | 06 (03) / QG2                   |
|---|--------------------------|-------------------------------|---------------------------------|
| Max. flow   | l/min (GPM)              | 25 (6.6)                      | 25 (6.6)                        |
| Max. operating pressure                                     | bar (PSI)                | 250 (3630)                    |                                 |
| 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)                  | -20 ... +50 (-4 ... +122)     |                                 |
| Supply voltage tolerance                                    | %                        | AC, DC: $\pm$ 10              |                                 |
| Max. switching frequency                                    | 1/h                      | 15 000                        |                                 |
| Switching time, at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS) | ON                       | DC 25 ... 35<br>AC 25 ... 35  | DC 30 ... 50<br>AC 30 ... 110   |
|   | OFF                      | DC 15 ... 25<br>AC 50 ... 100 | DC 80 ... 130<br>AC 100 ... 150 |
| Mass  | - valve with 1 solenoid  | Modular 1.2 (2.5)             | Modular 1.5 (3.2)               |
|   | - valve with 2 solenoids | Modular 1.7 (3.6)             | Modular 2.0 (4.3)               |
|   |                          | In-line 1.6 (3.5)             |                                 |

|                     | Data Sheet | Type                              |
|---------------------|------------|-----------------------------------|
| General information | GI_0060    | Products and operating conditions |
| Cavity details      | SMT_0019   | Size 04, 06                       |
| Spare parts         | SP_8010    |                                   |

**Characteristics** measured at  $v = 32 \text{ mm}^2/\text{s}$  (156 SUS)

**Operating limits**

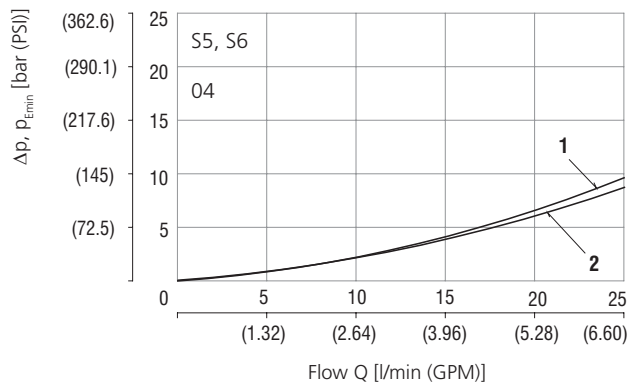
Operating limits for maximum hydraulic power at rated temperature and supplied with voltage equal to 90% of the nominal value



|           | 1   | 2   | 3   | 4   |
|-----------|-----|-----|-----|-----|
| Model     | S5  | S5  | S6  | S6  |
| Direction | A-B | B-A | A-B | B-A |

**Pressure drop related to flow rate**

In-line body design R\*

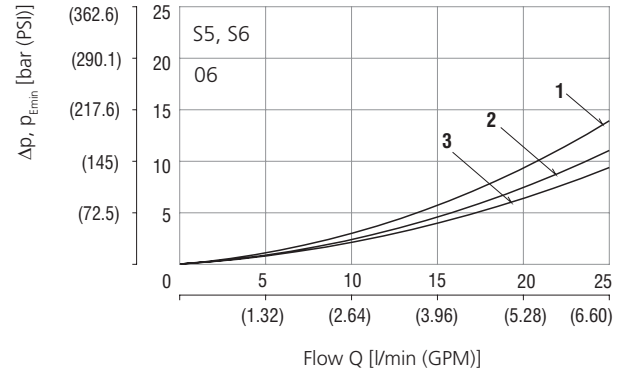
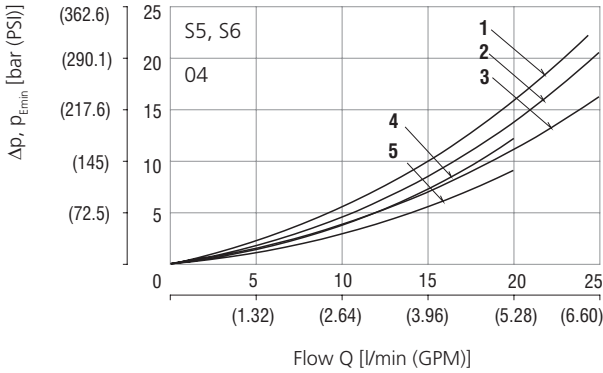


|           | 1        | 2        |
|-----------|----------|----------|
| Model     | R1, R3   | R2, R4   |
| Direction | A-B, B-A | A-B, B-A |

**Characteristics** measured at  $v = 32 \text{ mm}^2/\text{s}$  (156 SUS)

**Pressure drop related to flow rate**

Modular plate M\*



| S5       | Model | Direction    | S6 | Model | Direction    |
|----------|-------|--------------|----|-------|--------------|
| 1        | MD04  | A-T, T-A     | 2  | MD04  | A-T, T-A     |
|          | ME04  | B-T, T-B     |    | ME04  | B-T, T-B     |
|          | MF04  | A-T, T-A     |    | MF04  | A-T, B-T     |
| A-T, B-T |       | T-A, T-B     |    |       |              |
| 2        | MX04  | A-B, B-A     | 4  | MX04  | A-B, B-A     |
|          |       | MA04         |    |       | A1-A2, A2-A1 |
| 3        | MA04  | A2-A1        | 5  | MB04  | B1-B2, B2-B1 |
|          |       | MB04         |    |       | B1-B2, B2-B1 |
|          |       |              |    |       | MC04         |
|          |       | B1-B2, B2-B1 |    |       |              |

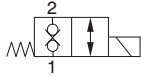
| S5 | Model | Direction           | S6  | Model | Direction (to 20 l/min) |
|----|-------|---------------------|-----|-------|-------------------------|
| 1  | MD06  | A-T, T-A            | 1   | MD06  | T-A                     |
|    | ME06  | B-T, T-B            |     | ME06  | T-B                     |
|    | MF06  | A-T, B-T / T-A, T-B |     | MF06  | T-A, T-B                |
| 2  | MA06  | A1-A2               | 2   | MD06  | A-T                     |
|    | MB06  | B1-B2               |     | ME06  | B-T                     |
|    | MC06  | A1-A2 / B1-B2       |     | MF06  | A-T, B-T                |
| 3  | MA06  | B-A                 | 3   | MA06  | A1-A2, A2-A1            |
|    | MA06  | A2-A1               |     | MB06  | B1-B2, B2-B1            |
|    | MB06  | B1-B2               |     | MC06  | A1-A2, A2-A1            |
|    | MC06  | A2-A1 / B2-B1       |     | MC06  | B1-B2, B2-B1            |
|    |       | MX06                | A-B |       |                         |

**Ordering Code**

**ROE3-042** [ ] / [ ] / [ ] / [ ] / [ ] / [ ] - [ ]

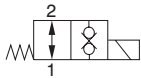
**2/2 directional valve, solenoid operated, poppet-type, blocking, direct-acting, modular**

normally closed (NC), blocking



**S5**

normally open (NO), blocking



**S6**

**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, 2 ports, thread SAE 10, 7/8-14 **R7**

\*only available for size O6 (D03)

**Modular plate size**

- ISO 4401-02-01-0-05, DIN 24340 (CETOP 02), NG04 **04**
- ISO 4401-03-02-0-05, DIN 24340 (CETOP 03), NG06 **06**

**No designation**

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

**Surface treatment**

- phosphated body, steel parts
- zinc-coated (ZnCr-3), ISO 9227 (240 h)
- zinc-coated (ZnNi), ISO 9227 (520 h)

**No designation**

- V** NBR
- FPM (Viton)

**Seals**

- NBR
- FPM (Viton)

**No designation**

- N2** standard
- N4** covered with rubber boot with hand screw

**Manual override**

- standard
- covered with rubber boot with hand screw

**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** AMP Junior Timer - axial direction (2 pins; male)
- E4A** E3A with quenching diode
- E5** EN 175301-803-A with integrated rectifier
- E8** loose conductors (two insulated wires)
- E9** E8 with quenching diode
- E12A** Deutsch DT04-2P - axial direction
- E13A** E12A with quenching diode

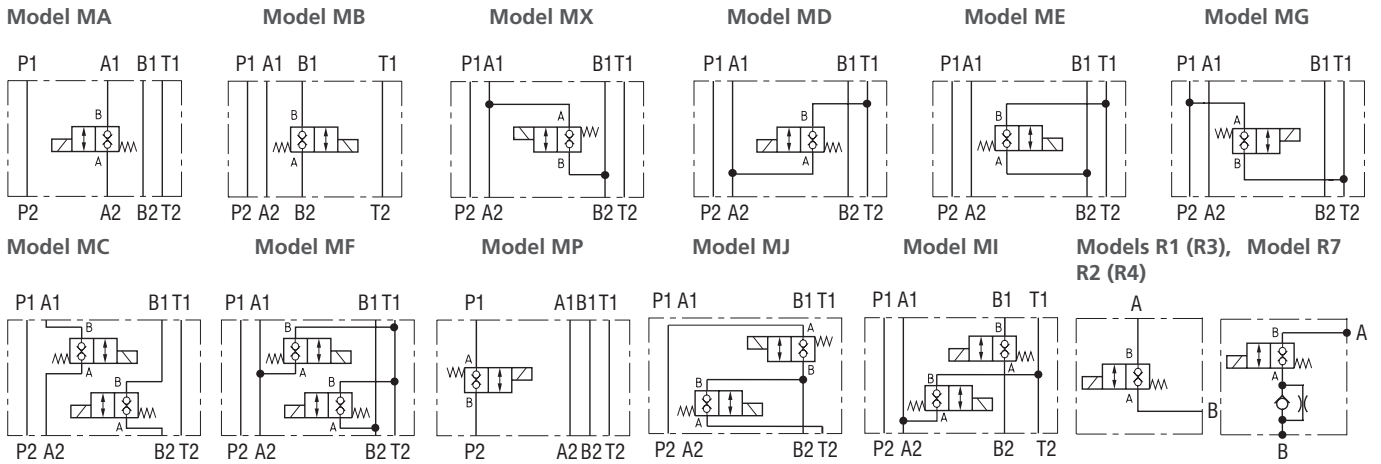
The AC coils correspond to E5.

**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

### Functional Symbols

Example: ROE3-042S5M\*



### Solenoid Coil in millimeters (inches)

|   |   |   |   |
|---|---|---|---|
| <p>E1 - EN 175301-803-A<br/>E2 - E1 with quenching diode<br/>Protection degree IP65</p>                           | <p>E3 - AMP Junior Timer<br/>- radial direction<br/>E4 - E3 with quenching diode<br/>Protection degree IP67</p> | <p>E3A - AMP Junior Timer<br/>- axial direction<br/>E4A - E3A with quenching diode<br/>Protection degree IP67</p> | <p>E5 - EN 175301-803-A<br/>and integrated rectifier<br/>Protection degree IP65</p> |
|   |   |   |   |
| <p>E8 - Loose conductors (two insulated cables)<br/>E9 - (E8 with quenching diode)<br/>Protection degree IP65</p> | <p>E12A - Deutsch DT04-2P<br/>E13A - E12A with quenching diode<br/>Protection degree IP67 / IP69K</p>           |   |   |
| <p><b>Note:</b><br/>A = Standard 300 mm (11.81 in),<br/>other sizes on demand</p>                                 |   |   |   |

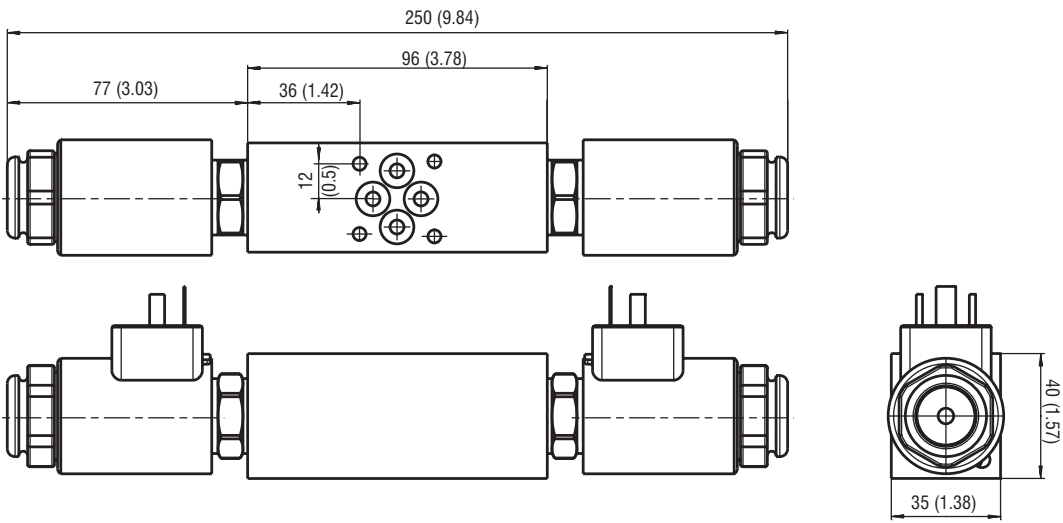
The indicated IP protection level is only reached with a properly mounted connector.

### Manual Override in millimeters (inches)

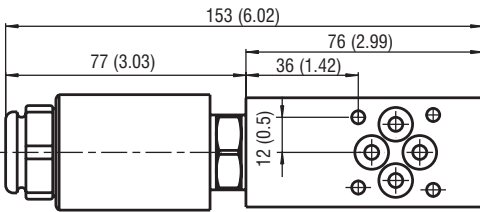
|   |  |  |
|---|--|--|
| <p>No designation<br/>- standard</p> <p>~ 77 (3.27)</p> | <p>Designation N2<br/>- rubber boot</p> <p>~ 82 (3.23)</p> | <p>Designation N4<br/>- hand screw</p> <p>~ 100,5 (3.96)</p> |
|---|--|--|

Dimensions in millimeters (inches)

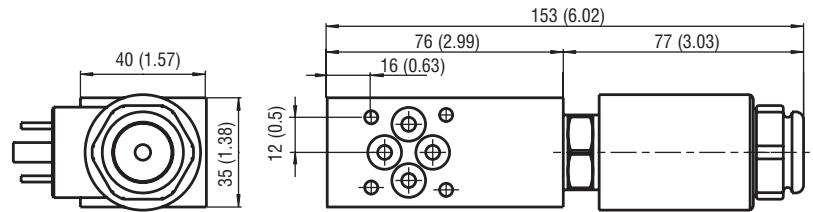
Models MC, MF, MI, MJ



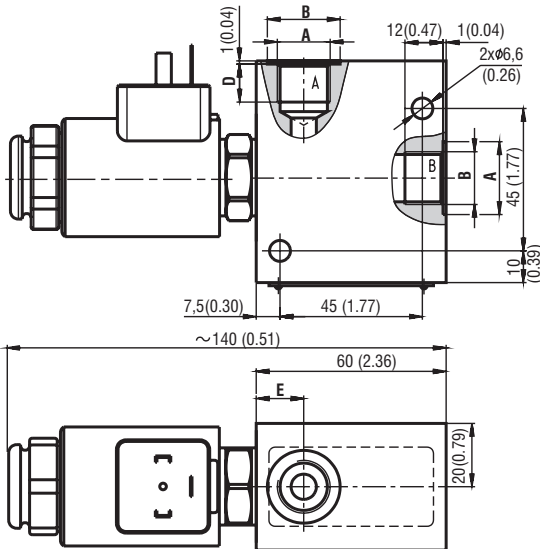
Models MA, MX, MD, MG, MP



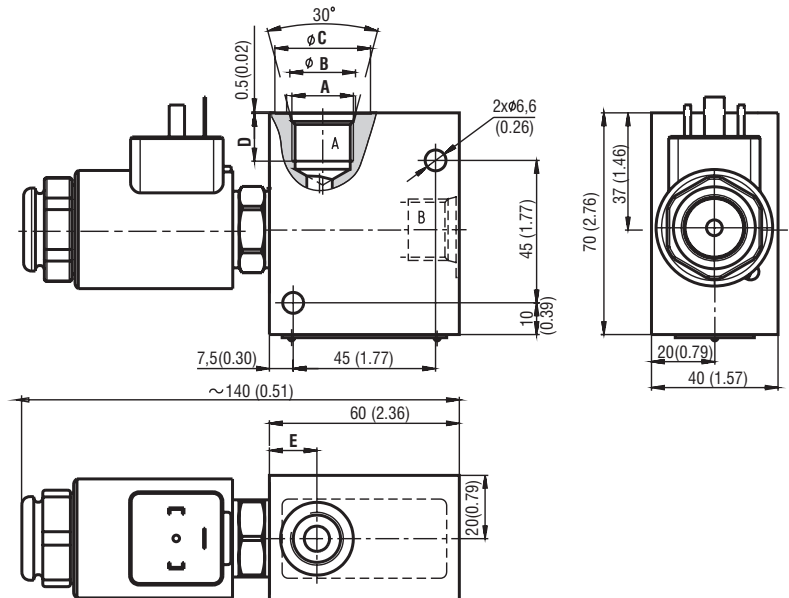
Models MB, ME



Models R1 (R2)



Models R3 (R4)



|    | A      | B    | D         |
|----|--------|------|-----------|
| R1 | G3/8-A | ∅ 23 | 12 (0.47) |
| R2 | G1/2-A | ∅ 28 | 14 (0.55) |

|    | A            | B      | C    | D           | E         |
|----|--------------|--------|------|-------------|-----------|
| R3 | 3/4-16UNF-2B | ∅ 20.6 | ∅ 30 | 15 (0.59)   | 16 (0.61) |
| R4 | 7/8-14UNF-2B | ∅ 23.9 | ∅ 34 | 16.7 (0.66) | 18 (0.71) |