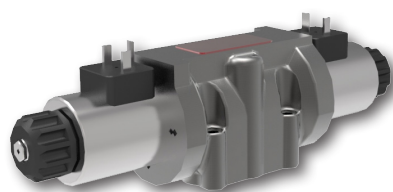


4/2 and 4/3 Directional Control Valve, Solenoid Operated, Lightline

RPEL1-10

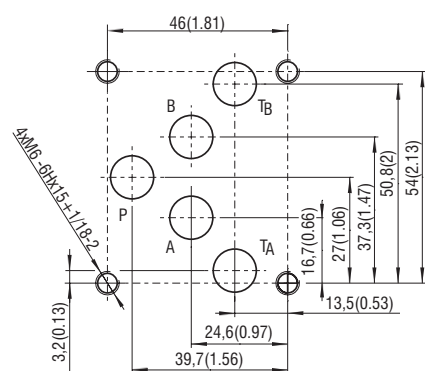
Size 10 (D05) • Q_{max} 100 l/min (26 GPM) • p_{max} 250 bar (3600 PSI)



Technical Features

- › Direct acting directional control valve with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 05)
- › Cost-effective Lightline design with reduced solenoid dimensions, suitable for applications with lower required power
- › Three or five chamber design for high transmitted hydraulic power
- › Wide range of solenoid electrical terminas and supply voltage types for electromagnets
- › The coil, fastened to the core tube with a retaining nut, can be rotated by 360° to suit the available space
- › Wide range of interchangeable spools
- › In the standard version, the valve housing is phosphated and steel parts zinc-coated for 240 h protection in NSS acc. to ISO 9227.
- › Enhanced surface protection for mobile sector available (520 h in NSS, ISO 9227)

ISO 4401-05-04-0-05



Ports P, A, B, T - max $\varnothing 11.2$ mm (0.44 in)

Technical Data

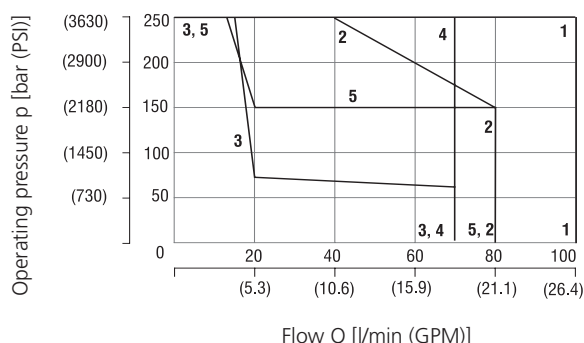
| | | |
|---|--------------------------|----------------------------|
| Valve size | 10 (D05) | |
| Max. flow | l/min (GPM) | 100 (26.4) |
| Max. operating pressure at ports P, A, B | bar (PSI) | 250 (3630) |
| Max. operating pressure at port T | bar (PSI) | 210 (3045) |
| Fluid temperature range (NBR) | °C (°F) | -30 ... +80 (-22 ... +176) |
| Fluid temperature range (FPM) | °C (°F) | -20 ... +80 (-4 ... +176) |
| Ambient temperature range | °C (°F) | -30 ... +50 (-22 ... +122) |
| Supply voltage tolerance | % | DC: ± 10 |
| Max. switching frequency | 1/h | 10 000 |
| Switching time at $v=32$ mm ² /s (156 SUS) | ON | ms |
| | OFF | ms |
| Weight | - valve with 1 solenoid | kg (lbs) |
| | - valve with 2 solenoids | 2.9 (6.4) 3.4 (7.5) |

| | Datasheet | Type |
|-------------------------|-----------------|-----------------------------------|
| General information | GI_0060 | Products and operating conditions |
| Coil types / connectors | C_8007 / K_8008 | C22B*/K* |
| Mounting interface | SMT_0019 | Size 10 |
| Subplates | Subplates_0002 | DP1-10 |
| Spare parts | SP_8010 | |

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

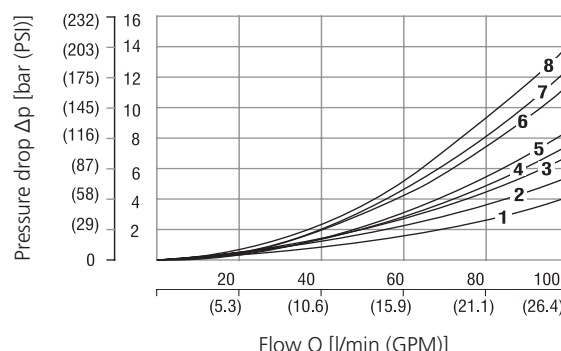
Operating limits (p-Q)

Operating limits for maximum hydraulic power at rated temperature and supply voltage equal to 90% nominal.



| Spool symbol | |
|--------------|---------------|
| 1 | Z11, Z51 |
| 2 | Y11 (3k) |
| 1 | H11 |
| 4 | R11, X11 (3k) |
| 3 | C11 |
| 5 | R21 (3k) |

Pressure drop related to flow rate (Δp -Q)



| | P-A | P-B | A-T | B-T | P-T |
|---------------|-----|-----|-----|-----|-----|
| Z11 | 3 | 3 | 3 | 5 | |
| Z51 | | 3 | 3 | | |
| C11 | 6 | 6 | 7 | 8 | 6 |
| H11 | 1 | 1 | 2 | 4 | 2 |
| Y11 | 3 | 3 | 2 | 4 | |
| R11, R21, X11 | 2 | 2 | 4 | 5 | |

Directional control valve Dn 10 has double T channel. If only one is directly connected to the tank, the pressure drop in the appliance channel on the closed side A/ B \rightarrow T will be higher by 3 bars.

Ordering Code

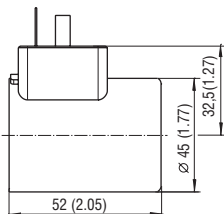
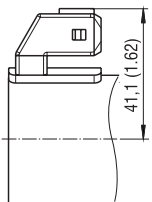
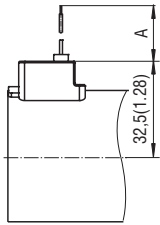
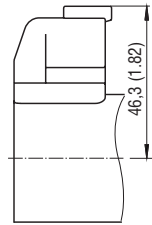
| | |
|--|---|
| RPEL1-10 <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> - <input type="text"/> | |
| 4/2 and 4/3 directional control valve, solenoid operated, Lightline | Surface treatment No designation housing phosphated, steel parts zinc-coated (ZnCr-3), ISO 9227 (240 h) A zinc-coated (ZnCr-3), ISO 9227 (240 h) B zinc-coated (ZnNi), ISO 9227 (520 h) |
| Valve size | Seals No designation NBR V FPM (Viton) |
| Number of valve positions two positions 2 three positions 3 | Manual override No designation standard (operated by pin) N1 cap nut covered |
| Spool symbols see the table "Spool Symbols" | Connector E1 EN 175301-803-A E2 E1 with quenching diode E3A AMP Junior Timer - axial direction (2 pins; male) E4A E3A with quenching diode E8 loose conductors (two insulated wires) E9 E8 with quenching diode E12A Deutsch DT04-2P - axial direction (2 pins; male) E13A E12A with quenching diode |
| Rated supply voltage of solenoids 12 V DC / 2,72 A 01200 14 V DC / 2,14 A 01400 24 V DC / 1,29 A 02400 27 V DC / 1,07 A 02700 | |

- For directional valves with two solenoids, one solenoid must be de-energized before the other solenoid can be charged.
- For other solenoid voltage supply options see data sheet C_8007.
- The solenoid operated valves are delivered without connectors. For available connectors see data sheet K_8008.
- The orifice to the P port can be ordered separately, see data sheet SP_8010.
- Mounting bolts M6 x 40 DIN 912-10.9 or studs must be ordered separately. Tightening torque is 14 Nm (10.3 lbf.ft).
- Besides the shown, commonly used valve versions other special models are available. Contact our technical support for their identification, feasibility and operating limits.

Spool Symbols

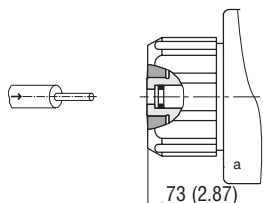
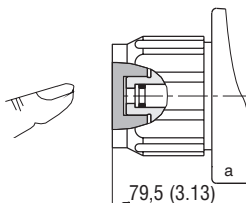
| Type | Symbol | Interposition | Type | Symbol | Interposition |
|------|--------|---------------|------|--------|---------------|
| Z11 | | | R11 | | |
| C11 | | | R21 | | |
| H11 | | | Z51 | | |
| Y11 | | | X11 | | |
| P11 | | | | | |
| C12 | | | | | |

Solenoid Coil in millimeters (inches)

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

The indicated IP protection level is only achieved if the connector is properly mounted.

Manual Override in millimeters (inches)

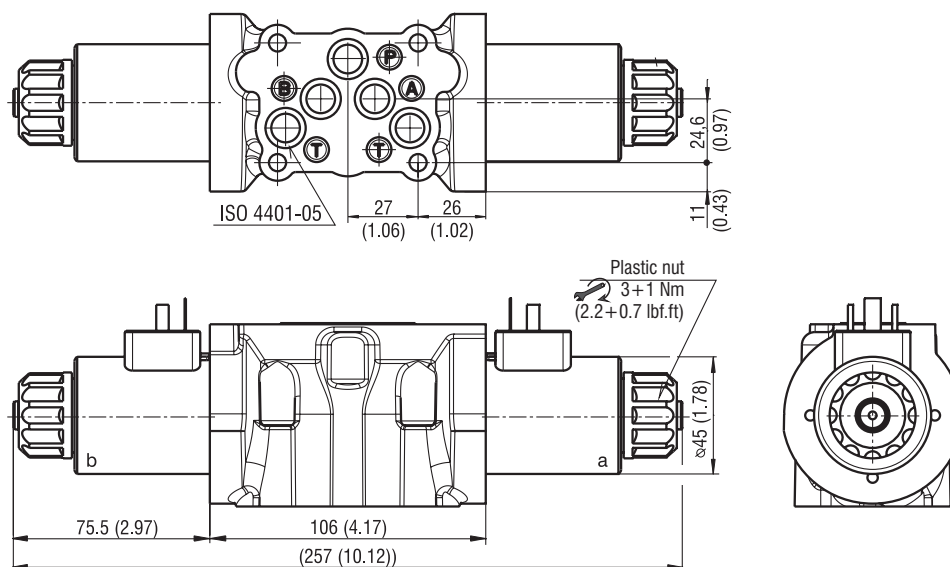
| | |
|--|---|
| No designation - standard (operated by pin) | Designation N1 - cap nut covered |
|  |  |

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.

Valve Dimension in millimeters (inches)

RPEL1-103x/xE1*

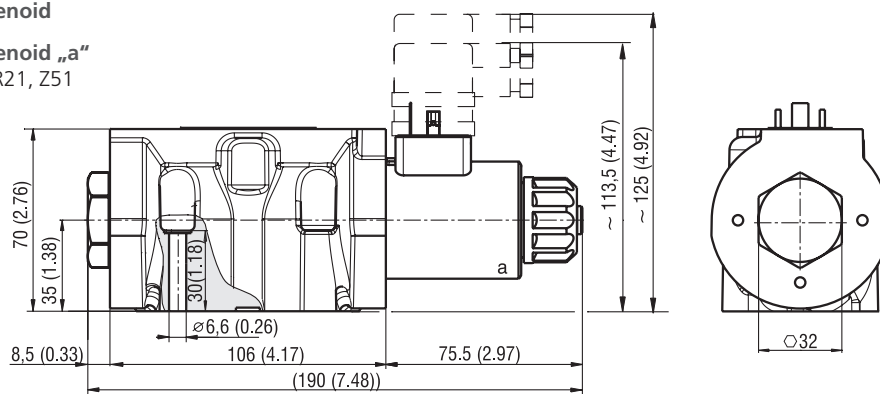
Valve with two solenoids


RPEL1-102x/xE1*

Valve with one solenoid

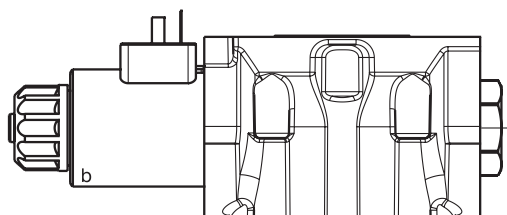
Valve with one solenoid „a“

Spool symbols R11, R21, Z51



Valve with one solenoid „b“

Spool symbols X11


 Mounting screws 14 Nm (10.3 lbf.ft)
 4x M6 x 40 DIN 912-10.9