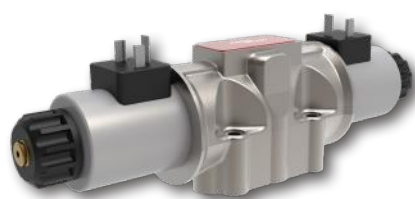


4/2 and 4/3 Directional Control Valve, Solenoid Operated, Lightline

RPEL1-10

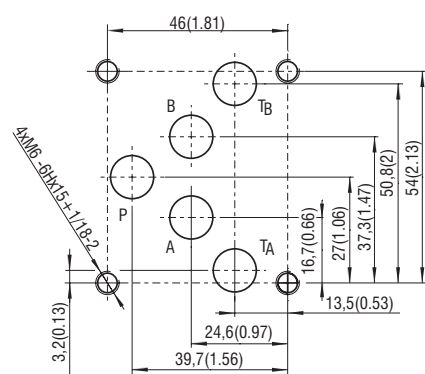
Size 10 (D05) • Q_{max} 100 l/min (26 GPM) • p_{max} 250 bar (3600 PSI)



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 for basic surface corrosion protection and as preparation for painting. Steel parts are zinc-coated for 240 h salt spray protection acc. to ISO 9227
- › Enhanced surface protection for mobile sector available for the valve housing and steel parts (ISO 9227, 520 h salt spray)

ISO 4401-05-04-0-05



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

Technical Data

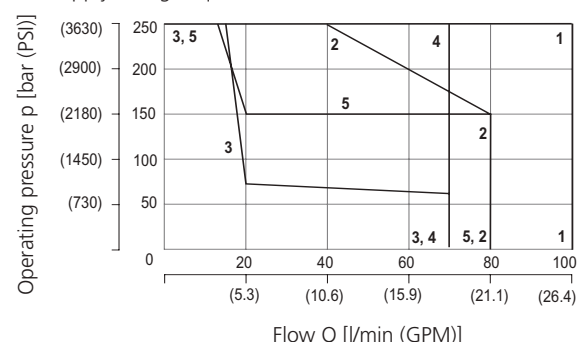
Valve size		10 (D05)
Max. flow	l/min (GPM)	100 (26.4)
Max. operating pressure at ports P, A, B	bar (PSI)	250 (3630)
Max. operating pressure at port T	bar (PSI)	210 (3045)
Fluid temperature range (NBR)	°C (°F)	-30 ... +80 (-22 ... +176)
Fluid temperature range (FPM)	°C (°F)	-20 ... +80 (-4 ... +176)
Ambient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

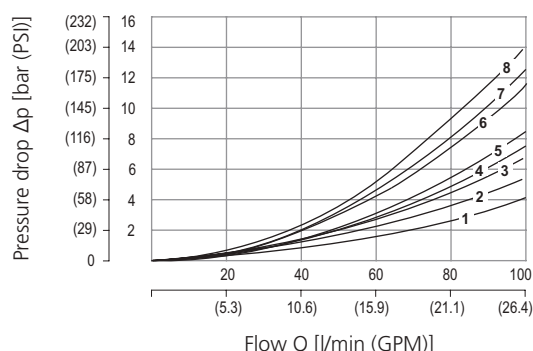
Operating limits (p-Q)

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 ($\Delta p-Q$)



	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 size 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 → T will be higher by 3 bars.

Ordering Code

RPEL1-10 / -

4/2 and 4/3 directional control valve, solenoid operated, Lightline

Valve size

Number of valve positions

two positions
three positions

2
3

Spool symbols

see the table "Spool Symbols"

Rated supply voltage of solenoids

12 V DC / 2,72 A
14 V DC / 2,14 A
24 V DC / 1,29 A
27 V DC / 1,07 A

01200
01400
02400
02700

No designation

A
B

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

Surface treatment
standard

No designation
V

Seals

NBR
FPM (Viton)

No designation
N1

Manual override
standard (operated by pin)
cap nut covered

Connector

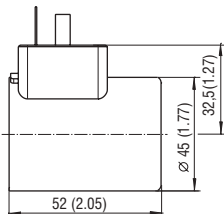
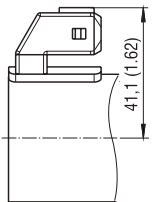
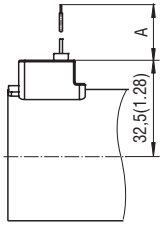
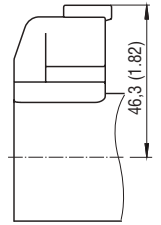
E1 EN 175301-803-A
E2 E1 with quenching diode
E3A AMP Junior Timer - axial direction (2 pins; male)
E4A E3A with quenching diode
E8 loose conductors (two insulated wires)
E9 E8 with quenching diode
E12A Deutsch DT04-2P - axial direction (2 pins; male)
E13A E12A with quenching diode

- 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 datasheet C_8007.
- The solenoid operated valves are delivered without connectors. For available connectors see datasheet K_8008.
- The orifice to the P port can be ordered separately, see datasheet SP_8010.
- Mounting bolts M6 x 40 DIN 912-10.9 or studs must be ordered separately. Tightening torque is 14+1 Nm (10.3+0.7 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

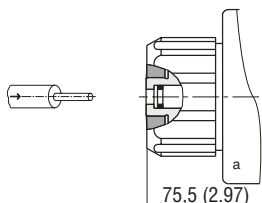
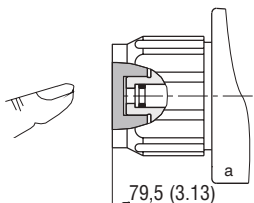
Type	Symbol	Interposition	Type	Symbol	Interposition
Z11			R11		
C11			R21		
H11			Z51		
Y11			X11		
P11					
C12					

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 IP67 / IP69K
		 Note: A = Standard 300 mm (11.81 in), other lengths on demand	

The specified IP rating applies only in the case of correctly connected connectors (male + female) with the corresponding IP rating.

Manual Override in millimeters (inches)

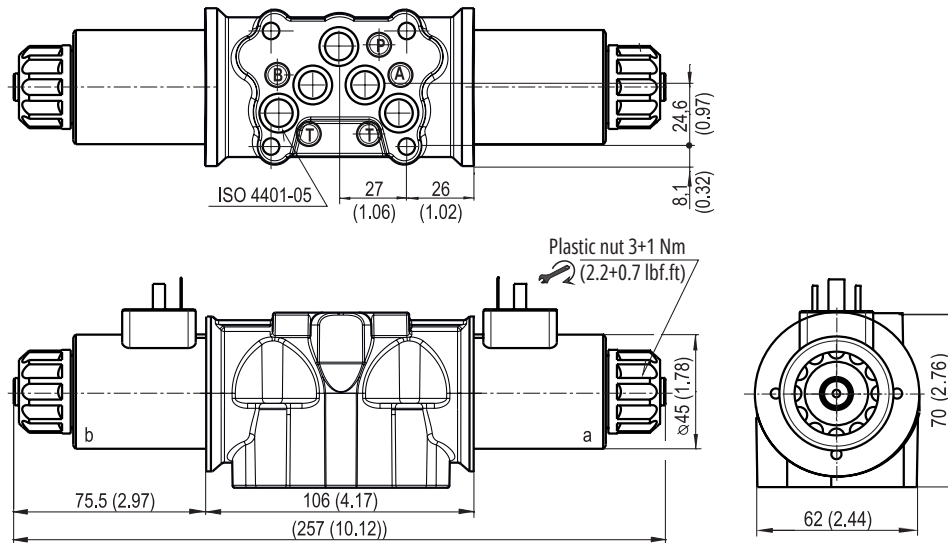
No designation - standard (operated by pin)	Designation N1 - cap nut covered
	

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

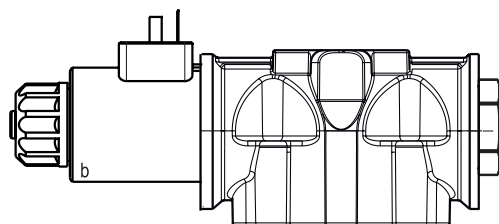
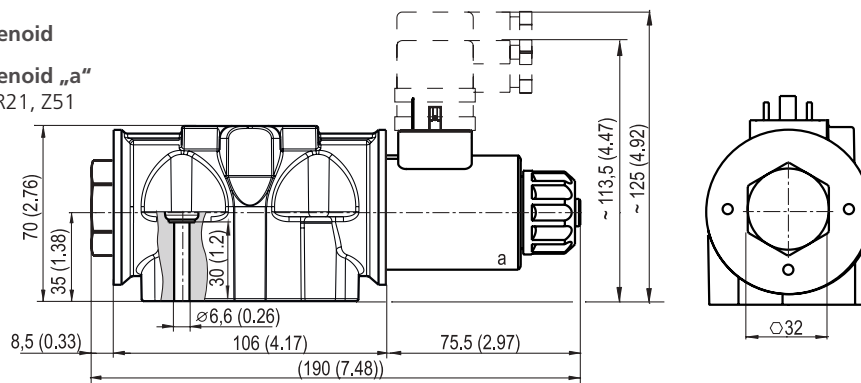


RPEL1-102x/xE1*

Valve with one solenoid

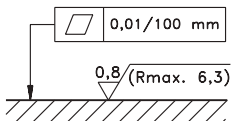
Valve with one solenoid „a“

Spool symbols R11, R21, Z51



Valve with one solenoid „b“

Spool symbols X11



Required surface quality of the counterpart

Mounting screws 14+1 Nm (10.3+0.7 lbf.ft)
4x M6 x 40 DIN 912-10.9