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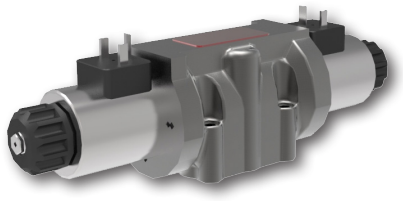
ARGO HYTOS

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

RPEL1-10

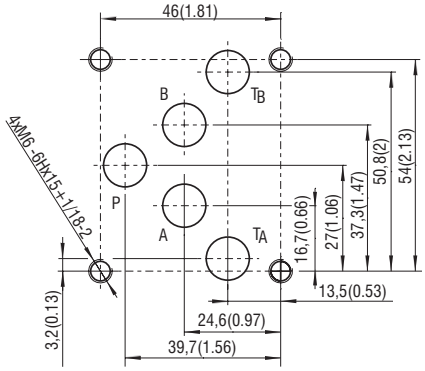
Size 10 (D05) • Q_{max} 100 l/min (26 GPM) • p_{max} 250 bar (3600 PSI)



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 ∅11.2 mm (0.44 in)

Technical Data

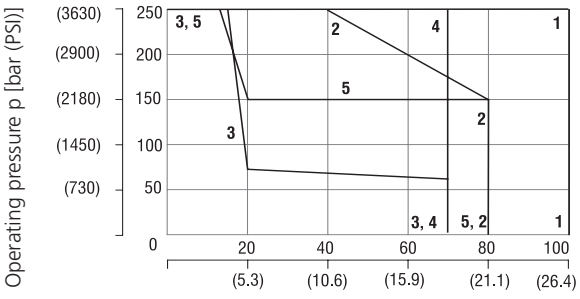
Valve size			10 (D05)
Max. flow		l/min (GPM)	100 (26.4)
Max. operating pressure at ports P, A, B		bar (PSI)	250 (3630)
Max. operating pressure at port T		bar (PSI)	210 (3045)
Fluid temperature range (NBR)		°C (°F)	-30 ... +80 (-22 ... +176)
Fluid temperature range (FPM)		°C (°F)	-20 ... +80 (-4 ... +176)
Ambient temperature range		°C (°F)	-30 ... +50 (-22 ... +122)
Supply voltage tolerance		%	DC: ±10
Max. switching frequency		1/h	10 000
Switching time at ν=32 mm²/s (156 SUS)	ON	ms	30 ... 50
	OFF	ms	30 ... 50
Weight - valve with 1 solenoid - valve with 2 solenoids		kg (lbs)	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 ν = 32 mm²/s (156 SUS)

Operating limits (p-Q)

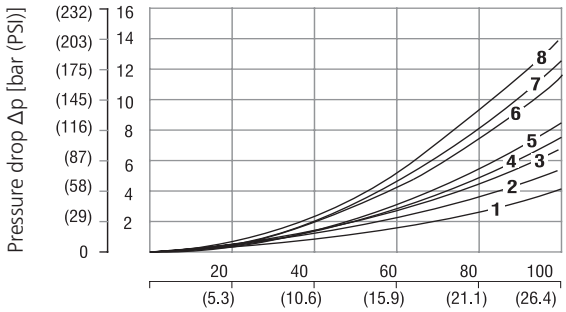
Operating limits for maximum hydraulic power at rated temperature and supply voltage equal to 90% nominal.



Flow Q [l/min (GPM)]

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)



Flow Q [l/min (GPM)]

	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 →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	**2**
three positions	**3**

Spool symbols
see the table "Spool Symbols"

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**

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

Manual override

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

Seals

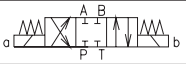
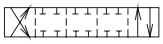
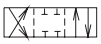
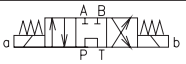
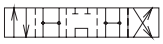
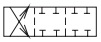
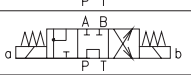
No designation	NBR
V	FPM (Viton)

Surface treatment

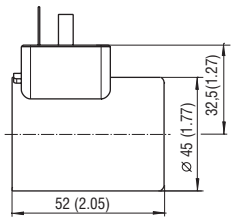
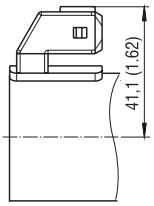
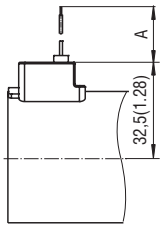
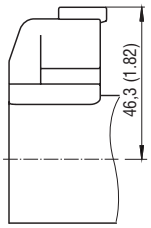
No designation	housing phosphated, steel parts zinc-coated (ZnCr-3), ISO 9227 (240 h)
A	zinc-coated (ZnCr-3), ISO 9227 (240 h)
B	zinc-coated (ZnNi), ISO 9227 (520 h)

- 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

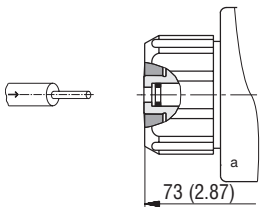
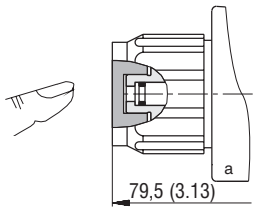
Type	Symbol	Interposition	Type	Symbol	Interposition
Z11			R11		
C11			R21		
H11			Z51		
Y11			X11		
P11					
C12					

Solenoid Coil in millimeters (inches)

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

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

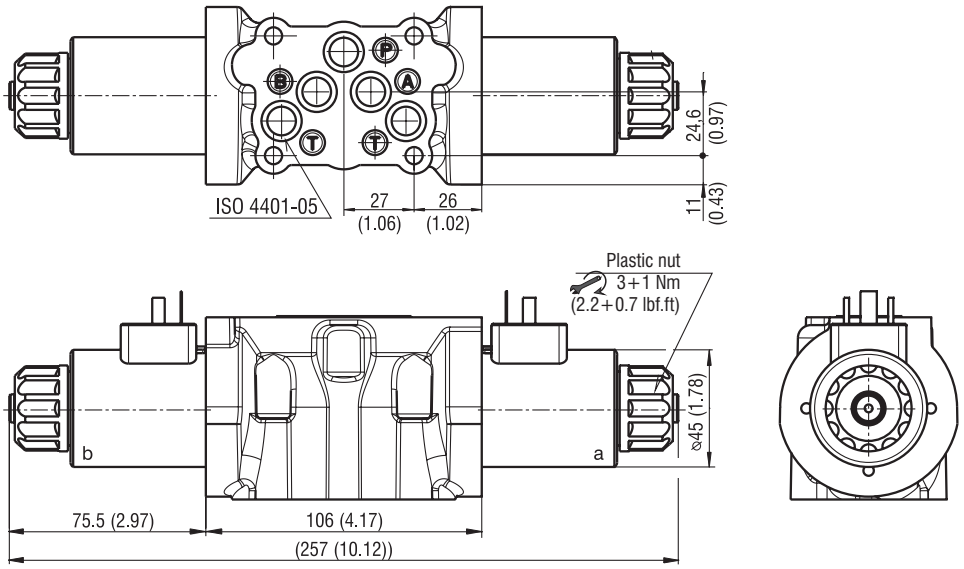
Manual Override in millimeters (inches)

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.

RPEL1-103x/xE1*

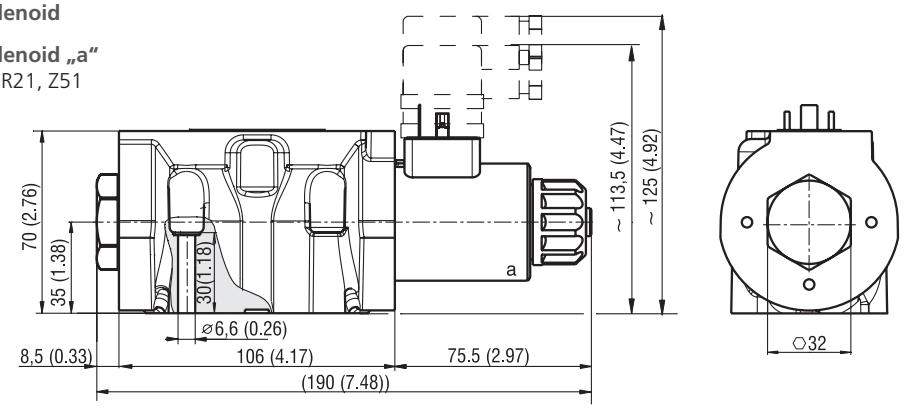
Valve with two solenoids



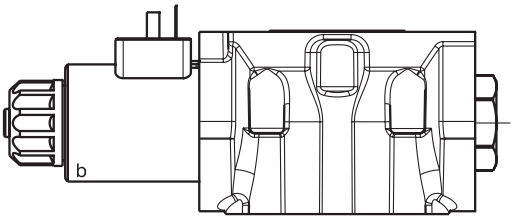
RPEL1-102x/xE1*

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