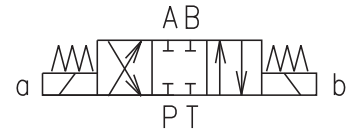


- 4/3 - and 4/2- way directional control valve
- Solenoid with removable coils - electrical connector can be rotated in direction by 90°
- Push button manual override
- Installation dimensions to DIN 24 340 / ISO 4401 / CETOP RP121-H
- Subplates see datasheet HA 0002



Functional Description

The RPEL1 directional control valves consist of housing (1), a control spool (5) with two centering springs (4) and cylindrical operating solenoids (2, 3).

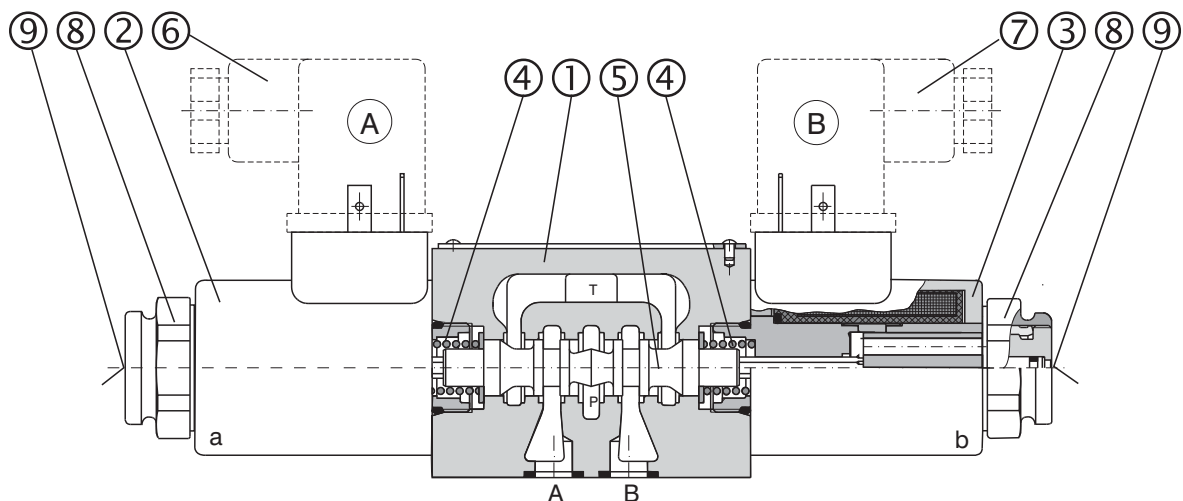
The three-position directional control valves are fitted with two solenoids and two springs. Two-position directional control valves have either one solenoid and one return spring.

The operating solenoids are DC solenoids. The connectors (6, 7) can be turned by 90°. By loosening the

nut (8), solenoids can be turned around the actuator axis.

In the case of solenoid malfunction or power failure, the spool of the valve can be shifted by manual override (9), provided the pressure in T-port does not exceed 25 bar.

The basic surface treatment of the valve housing (1) is phosphate coated and the solenoids (2, 3) are zinc coated.



Ordering Code

RPEL1-06 /

**Directional Control Valve
Solenoid Operated**

Nominal size

Number of operating positions

two positions

2

three positions

3

Spool symbols

see the table Spool symbols

Rated supply voltage of solenoids

(at the coil terminals)

12 V DC / 2.41 A

24 V DC / 1.16 A

Other voltage on request.

01200

02400

no designation

M2

Manual override

standard

covered with rubber boot

E1

E2

E3

E4

E12

E13

Type of the solenoid coil

with the connector to EN 1745301-803-A

with the integrated quenching diode and

the connector to EN 1745301-803-A

with the connector AMP-Junior-Timer 2 PIN

with integrated quenching diode and

the connector AMP-Junior-Timer 2 PIN

with the connector Deutsch DT04-2P

with integrated quenching diode and

the connector Deutsch DT04-2P

**For selection of the solenoid coil and the terminal box
type use catalogue HA 8007.**

Technical Data

Nominal size	mm (US)	06 (03)
Maximum flow	L/min (GPM)	see p-Q characteristics
Max. operating pressure at porte P, A, B	bar (PSI)	250 (3626)
Max. operating pressure at port T	bar (PSI)	100 (1450)
Pressure drop	bar (PSI)	see Δp -Q characteristics
Hydraulic fluid		Hydraulic oils of power classes (HL, HLP) to DIN 51524
Fluid temperature range for NBR seals	°C (°F)	-30 ... +80 (-22... +176)
Ambient temperature, max.	°C (°F)	up to +50 (122)
Viscosity range	mm ² /s (SUS)	20 ... 400 (98... 1840)
Maximum degree of fluid contamination		Class 21/18/15 to ISO 4406
Max. allowable voltage variation	%	±10
Max. switching frequency	1/h	10 000
Switching time, on: at $v=32$ mm ² /s (156 SUS)	ms	30 ... 50
Switching time, off: at $v=32$ mm ² /s (156 SUS)	ms	10 ... 50
Duty cycle	%	100
Service life	cycles	10 ⁶
Type of protection to EN 60 529	see connector definition	IP 65, IP 67, IP 69K according to the selected design coils*
Weight - valve with 1 solenoid	kg (lbs)	1.4 (3.1)
- valve with 2 solenoids		1.6 (3.5)
Mounting position		unrestricted

*That degree of protection only applies with a properly attached connector plug

Spool Symbols

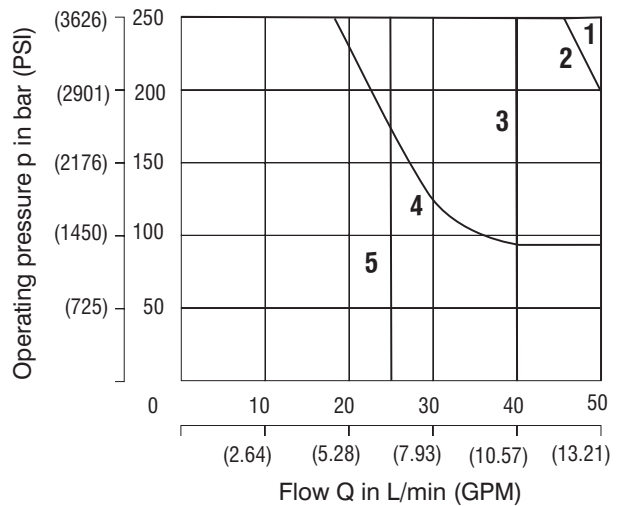
Designation	Symbol	Interposition	Designation	Symbol	Interposition
Z11			Z51		
C11			H51		
H11			Z11		
Y11			X11		
L21			C11		
R11			H11		
Y51			Y11		
C51					

p-Q Characteristics

Measured at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS) and $t = 40 \text{ }^\circ\text{C}$ (104 $^\circ\text{F}$)

Operating limits for maximum hydraulic power transferred by the directional valve.

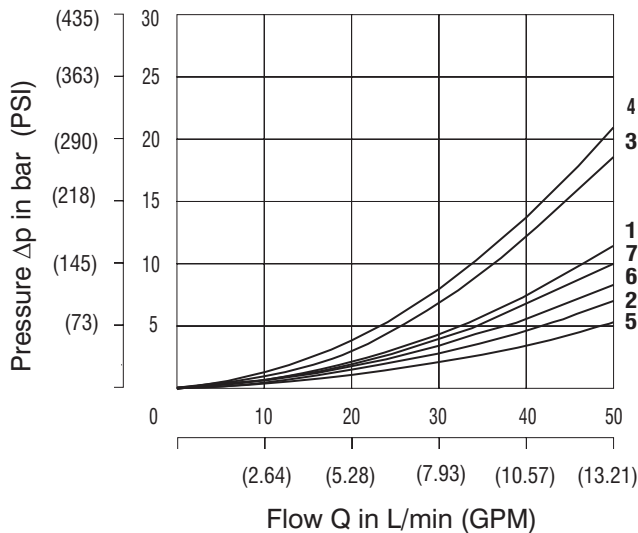
Z11	2	Z51	2
C11	4	C51	4
H11	1	H51	1
R11	1	Y51	3
Y11	3	L21	5
X11	1		



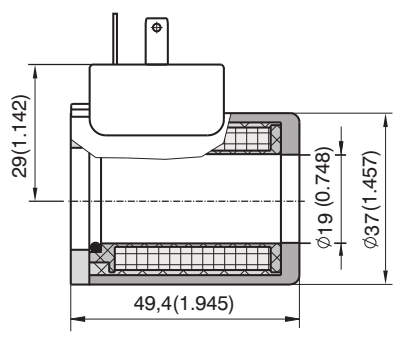
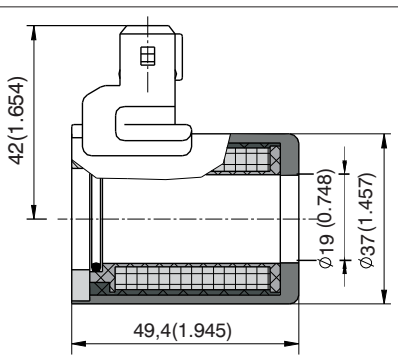
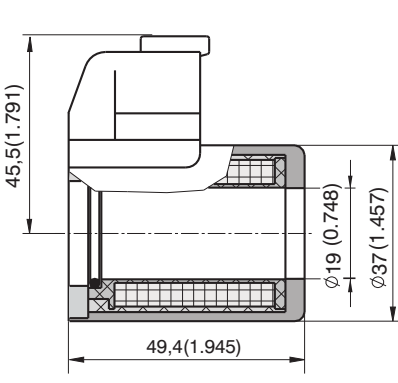
Δp -Q Characteristics

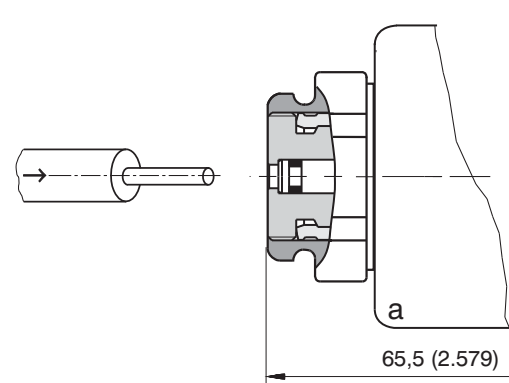
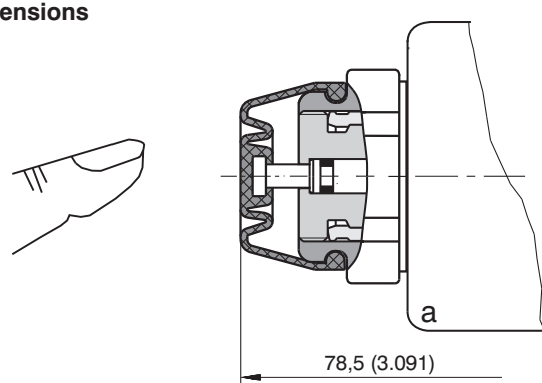
Measured at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS) and $t = 40 \text{ }^\circ\text{C}$ (104 $^\circ\text{F}$)

Pressure drop Δp related to flow rate.



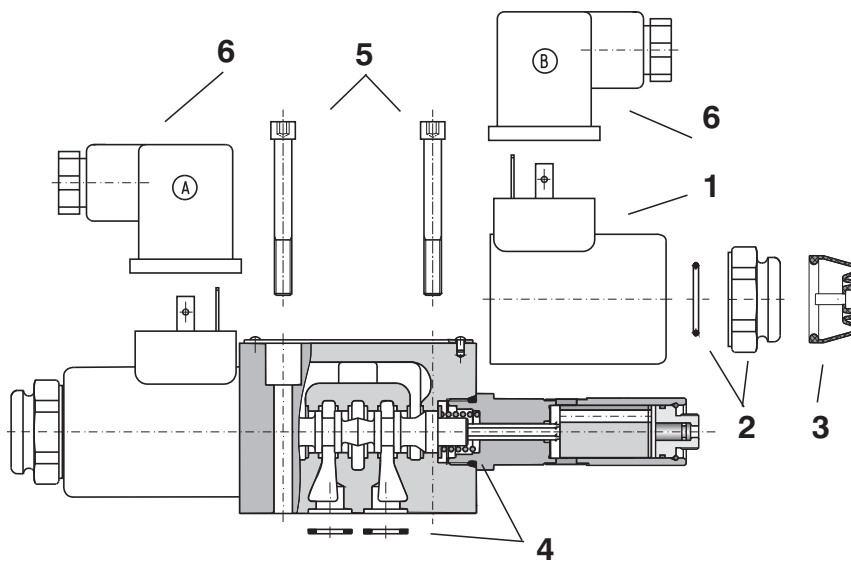
	P-A	P-B	A-T	B-T	P-T
Z11	1	1	1	1	
C11	4	4	4	4	7
H11	5	5	5	5	
Y11	6	6	5	5	
L21	5	6	5	6	4
R11	2	3	3	2	
X11	3	2	2	3	
Z51		1	1		
C51	4			4	7
H51		5	5		
Y51		6	5		

Type of the Solenoid Coil		Dimensions in millimeters (inches)
Designation	Dimensional sketch	Description
E1		Solenoid coil with the connector to EN 1745301-803-A Type of protection to EN 60 529 - IP 65
E2		Solenoid coil with the integrated quenching diode (bipolar transil diode) and the connector to EN 1745301-803-A Type of protection to EN 60 529 - IP 65
E3		Solenoid coil with the connector AMP- Junior-Timer 2 PIN Type of protection to EN 60 529 - IP 67
E4		Solenoid coil with the integrated quenching diode (bipolar transil diode) and the connector AMP- Junior-Timer 2 PIN Type of protection to EN 60 529 - IP 67
E12		Solenoid coil with the connector Deutsch DT04-2P Type of protection to EN 60 529 - IP 67 / IP 69K
E13		Solenoid coil with the integrated quenching diode (bipolar transil diode) and the connector Deutsch DT04-2P Type of protection to EN 60 529 - IP 67 / IP 69K

Manual Override		Dimensions in millimeters (inches)
STANDARD	RUBBER BOOT	
<p>Dimensions</p>  <p>65,5 (2.579)</p> <p>Standard model of the manual override.</p>	<p>Type M2 Dimensions</p>  <p>78,5 (3.091)</p> <p>Manual override protected by rubber boot.</p>	

Spare Parts

- 1 Solenoid coil
- 2 Nut with seal
- 3 Kit M2
- 4 Seal kit
- 5 Mounting bolts
- 6 Electrical connector



1. Solenoid coil For selection of solenoid coil and terminal box type use catalogue HA 8007.

Solenoid type	Coil type					
	E1	E2	E3	E4	E12	E13
	Ordering number					
01200	27316600	27631400	27330200	27631600	27351400	27632000
02400	27316700	27632400	27449700	27633400	27330500	27633500

2. Solenoid retaining nut with seal

Type of the nut	Seal ring	Ordering number
Standard nut	18 x 1,5	15874500

3. Kit M2

Rubber boot with pin	24142800
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4. Seal kit

Type	Dimensions, number	Ordering number
Standard - NBR70	9,25 x 1,68 (4 pcs.)	15845200

5. Mounting bolts

Dimensions, number	Tightening torque	Ordering number
M5 x 45 DIN 912-10.9 (4 pcs.)	8,9 Nm	15845100

6. Electrical connector, EN 175301-803

Type designation	Type	Model	Max. input voltage	Ordering number	
K1	Connector B (black)	without rectifier - M16x1.5 (bushing bore Ø 6-8 mm)	230 V AC/DC	16202100	
	Connector A (gray)			16202200	
K2	Connector B (black)	without rectifier with LED and quenching diode - M16x1.5 (bushing bore Ø 6-8)	12...24 V DC	16202700	
	Connector A (gray)			16202800	

Caution!

- For applications outside the given parameters, please consult us.
- For directional control valves with two solenoids, one solenoid must be without power before the other solenoid can be powered charged. Other spool types are available on request.
- The packing foil is recyclable.
- The protective plate can be returned to the manufacturer.
- The tightening torque is 8,9 Nm.
- The technical information regarding the product presented in this catalogue is for descriptive purposes only. It should not be construed in any case as a guaranteed representation of the product properties in the sense of the law.

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