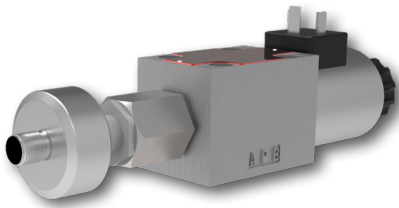


4/2 Solenoid operated directional control valve with axial sensor

RPE3-062x/xS3

Size 06 (D03) • Q_{max} 80 l/min (21 GPM) • p_{max} 350 bar (5100 PSI)



Technical Features

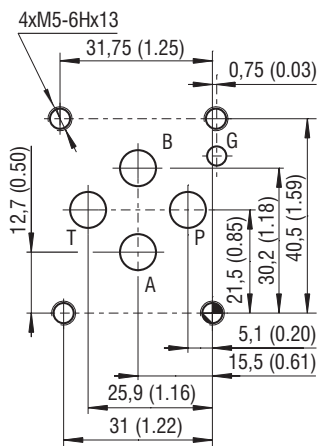
- › Directly solenoid operated spool valve with subplate mounting interface acc. to standards ISO 4401, DIN 24340 (CETOP 03)
- › Contactless inductive spool position sensor with double output signal for safe operation (e.g. of presses or forming machines)
- › High transmitted hydraulic power and low pressure drop
- › Wide range of control voltages and solenoid electrical terminals
- › Various spool types (other possible)
- › Additional damping of the spool moving to prevent pressure surges in the circuit
- › In the standard version the valve body is phosphated. The steel parts are zinc coated (240 h corrosion protection in NSS acc. to ISO 9227).
- › With optional increased surface corrosion protection of the whole valve 520 h in NSS, e.g. for mobile applications

Technical Data

Valve size	06 (D03)		
Max. flow	l/min (GPM)	80 (21.1)	
Max. operating pressure at ports P, A and B	bar (PSI)	350 (5080)	
Max. operating pressure at port T	bar (PSI)	210 (3050)	
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	%	AC: ±10 DC: ±10	
Max. switching frequency	1/h	15 000	
Switching time at $v=32 \text{ mm}^2/\text{s}$ (156 SUS)	ON	ms	AC: 30 ... 40 DC: 30 ... 50
	OFF	ms	AC: 30 ... 70 DC: 10 ... 50
Weight	kg (lbs)	1.9 (4.2)	

	Datasheet	Type
General information	GI_0060	Products and operating conditions
Coil types / connectors	C_8007 / K_8008	C22B* / K*
Mounting interface	SMT_0019	Size 06
Spare parts	SP_8010	

ISO 4401-03-02-0-05

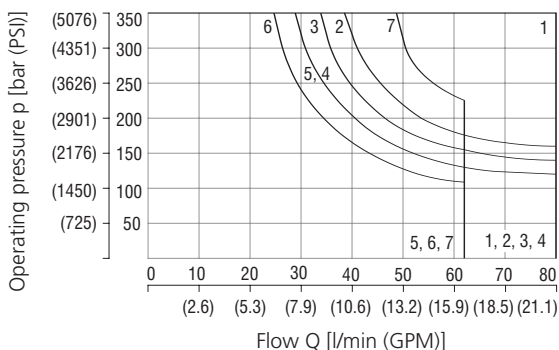


Ports P, A, B, T - max. $\varnothing 7,5 \text{ mm}$ (0.29 in)

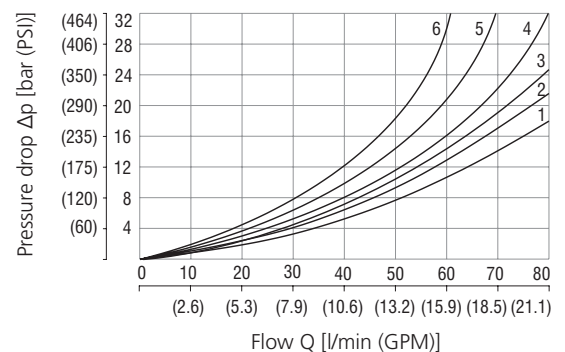
Characteristics measured at $v = 32 \text{ mm}^2/\text{s}$ (156 SUS)

Operating limits

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



Pressure drop related to flow rate



Spool symbol														
Z11	C11	H11	R11	R21	C51	Z51	R31	H51	X11	K11	X32	V51	R30	X30
1	5	4	2	3	5	1	4	4	2	6	3	3	7	7

Spool symbol	P-A	P-B	A-T	B-T	P-T
Z11,R1,R21,X11,X32	1	1	2	2	
C11	5	5	5	6	2
H11	1	1	1	2	2
Z51,H51		1	2		
C51	1			2	4
R31	1			2	
K11		1	2		
R30	3	1	1	2	
X30	1	1	2	3	
V51	3	3			

For operating limits under conditions and flow directions other than shown contact our technical support. Admissible operating limits may be considerably lower with only one direction of flow (A or B plugged, or without flow.)

Ordering Code

RPE3 - 06 2 / / N1 / S3 -

4/2 Solenoid operated directional control valve

Valve size

Number of spool positions
two positions

Spool symbols
see the table "Spool Symbols"

Rated supply voltage of solenoids
(at the coil terminals)

12 V DC / 2.72 A	01200
24 V DC / 1.29 A	02400
27 V DC / 1.07 A	02700
205 V DC / 0.15 A	20500
24 V AC / 1.56 A / 50 (60 Hz)	02450
120 V AC / 0.26 A / 60 Hz	12060
230 V AC / 0.15 A / 50 (60) Hz	23050

- For AC voltage supply use coils with connector type E5.
- 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 M5 x 45 DIN 912-10.9 or studs must be ordered separately. Tightening torque is 8.9+1 Nm (7+0.7 lbf.ft).
- Besides the commonly used valve versions shown other special models are available. Contact our technical support for their identification, feasibility and operating limits.

Surface treatment
standard
No designation
A zinc-coated (ZnCr-3), ISO 9227 (240 h)
B zinc-coated (ZnNi), ISO 9227 (520 h)

Spool monitoring
axial sensor with two outputs

Seals
NBR
V FPM (Viton)

Soft-shift spool speed control
without soft-shift control

Manual override
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
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 (2 pins; male)
E13A	E12A with quenching diode

Spool Symbols

Type	Symbol	Interposition	Type	Symbol	Interposition
R11			X11		
R30*			X30*		
Z51			K11		
R31			Z11		
C51			C11		
H51			H11		
R21			X32		
V51			* Three-chamber design		

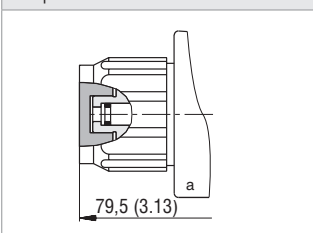
Solenoid Coil in millimeters (inches)

E1, E2 Protection degree IP65	E3A, E4A Protection degree IP67	E5 Protection degree IP65	E8, E9 Protection degree IP65	E12A, E13A Protection IP67 / 69K
			Note: A = Standard 300 mm (11.8 in) other lengths on demand	

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

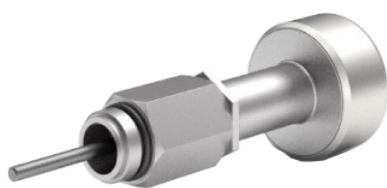
Manual Override in millimeters (inches)

Designation N1
- cap nut covered

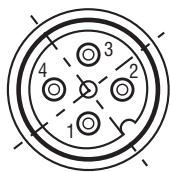


In case of solenoid malfunction or power failure, the spool of the valve can be shifted by manual override as long as the pressure in port T does not exceed 25 bar (363 PSI). For alternative manual overrides contact our technical support.

Spool Position Sensor

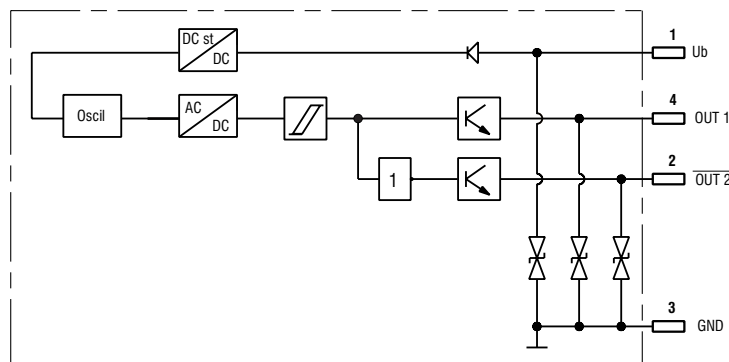


4-pin connector with the thread M12



Technical Data		
Max. pressure resistance	bar (PSI)	315 (dynamic)
Operating temperature	°C (°F)	-20 ... +85 (-4 ... +185)
Storage temperature	°C (°F)	-25 ... +85 (-13 ... +185)
Supply voltage U_b	V	24 V DC \pm 20 %
Current consumption (max.)	mA	20
Output voltage (min.)	V	$U_b - 2.5$ V
Output current	mA	2 x 250
Enclosure type (EN 60529)		IP65
Hysteresis of switching point (max.)	mm (in)	0.06 (0.002)
Reproducibility at 25 °C (77 °F)	mm (in)	\pm 0.02 (\pm 0.0008)
Temperature drift	mm / °C	0.002
Weight	kg (lbs)	0.250 (0.55)

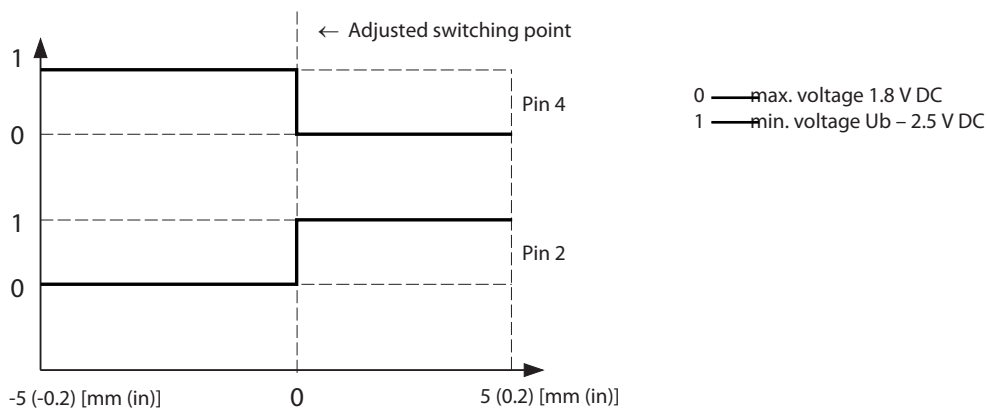
Connection scheme of the spool position sensor



Description of sensor:

Contactless inductive sensor with two transistor switched outputs. The output $\overline{\text{OUT 2}}$ is inverted. The double output signal is protected against mutual interference and increases the reliability of the spool end position signalization, which is important for command system ensuring the safety of such machines as presses, forming machines etc. The switching point can be set within \pm 2 mm by rotating the sensor housing with a coil after loosening the locknut (hexagon 24) and its positioning to the valve body.

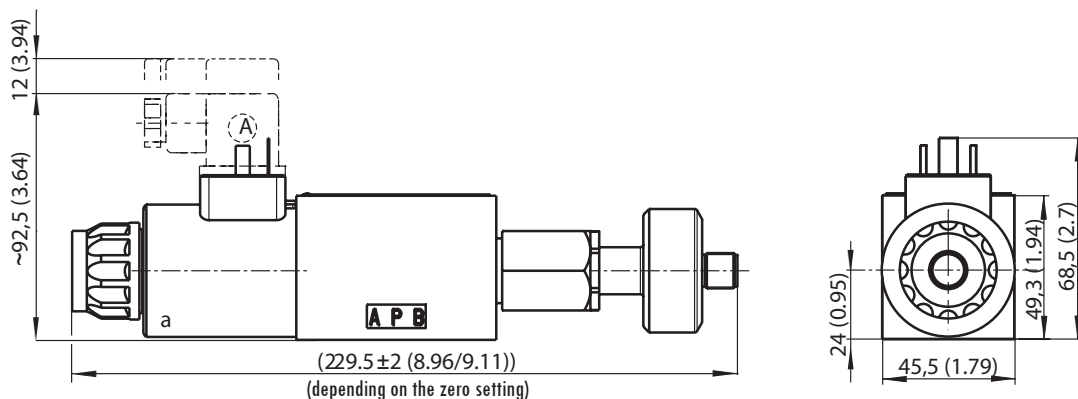
Switching diagram of contacts:



Dimensions in millimeters (inches)

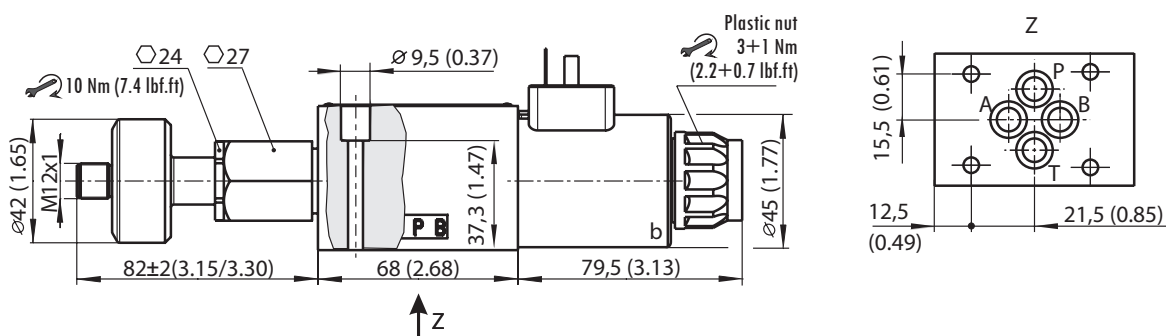
Valve with one solenoid „a“

Spool symbols
R11, Z51, R31...



Valve with one solenoid „b“

Spool symbols
X11, K11, Z11...



Mounting screws 8.9+1 Nm (7+0.7 lbf.ft)
M5 x 45 DIN 912-10.9

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