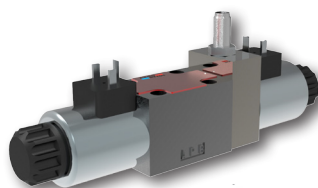


4/2 and 4/3 Directional Control Valve, Solenoid Operated

RPE3-06

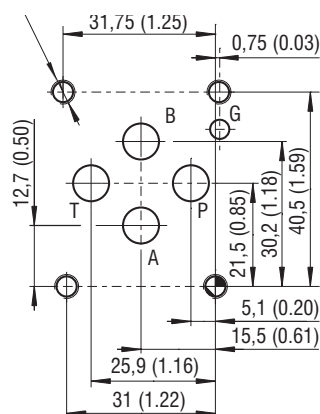
Size 06 (D03) • Q_{max} 80 l/min (21 GPM) • p_{max} 350 bar (5100 PSI)



Technical Features

- › Direct acting, directional control valve with subplate mounting interface acc. to ISO 4401, DIN 24340 (CETOP 03)
- › High transmitted hydraulic power up to 350 bar with optimized design to minimize pressure drop
- › Five chamber housing design with reduced hydraulic power dependence on fluid viscosity
- › The valve is available with interchangeable DC solenoids, also for AC power supply using a built-in rectifier bridge
- › Wide range of solenoid electrical terminal versions available
- › Wide range of interchangeable spools and manual overrides available
- › CSA Certificate upon request
- › Inductive contactless Normally Open and Normally Closed spool position sensor option
- › Soft-shift spool speed control option
- › The coil is fastened to the core tube with a retaining nut and can be rotated by 360° to suit the available space
- › In the standard version, the valve housing is phosphated and steel parts zinc-coated for 240 h salt spray protection acc. to ISO 9227
- › Enhanced surface protection for mobile sector available (ISO 9227, 520 h salt spray)

ISO 4401-03-02-0-05



Ports P, A, B, T - max $\varnothing$ 7.5 mm (0.29 in)

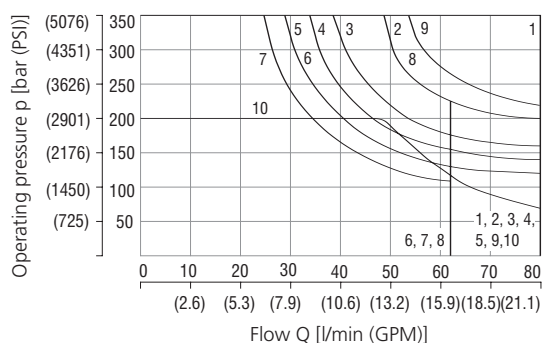
Technical Data

Valve size			06 (D03)	
Max. flow		l/min (GPM)	80 (21.1)	
Max. operating pressure at ports P, A, B		bar (PSI)	standard 350 (5080)	
			320 (4640) acc. to CSA	
Max. operating pressure at port T		bar (PSI)	210 (3050), 50 (730) for monitoring S1, S4	
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 mm³/s (156 SUS)	ON	ms	AC: 30 ... 40	DC: 30 ... 50
	OFF	ms	AC: 30 ... 70	DC: 10 ... 50
Mass - valve with 1 solenoid		kg (lbs)	1.6 (3.52)	
- valve with 2 solenoids			2.2(4.85)	
		Datasheet	Type	
General information		GI_0060	Products and operating conditions	
Coil types / Connectors		C_8007	C22B* / K*	
Mounting pattern		SMT_0019	Size 06	
Spare parts		SP_8010		

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

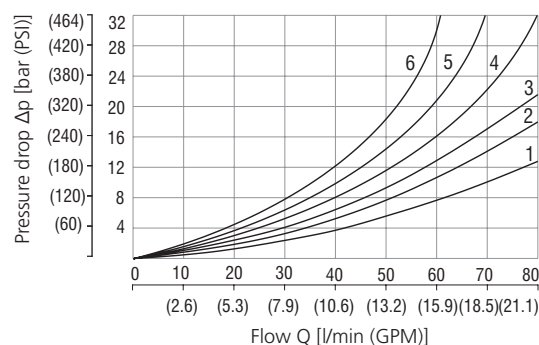
Operating limits

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



1	Z11	5	F11	7	Z91
6	C11	3	R11	5	R31
3	H11	4	R21	7	H51
1	P11	5	A51	7	F51
2	Y11	1	P51	3	X11
5	L21	2	Y51	7	K11
8	B11	6	C51	7	N11
6	Y41	1	Z51	10	X25
1	Z21	7	Z71	1	J15
5	C41	7	Z81	9	J75

Pressure drop related to flow rate



	P-A	P-B	A-T	B-T	P-T		P-A	P-B	A-T	B-T	P-T
Z11,L21,B11,R11						P51		1	3		
R21,X11,N11,J15	2	2	3	3		Y51		2	2		
C11	5	5	5	6	3	C51	2			3	4
H11	2	2	2	3	3	Z71	3	3			
P11	1	1	3	3		Z81			3	3	
Y11	2	2	2	2		Z91	3			3	3
Y41	3	3	3	3		R31	2			3	
Z21,Z51,H51		2	3			F51		2	3		
C41	4	4			5	K11		2	3		
F11	1	2		3	3	X25	3	3	3		
A51,J75	2	2									

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.)

Solenoid Coil in millimeters (inches)

E1, E2	E3A, E4A	E5	E8, E9	E12A, E13A
Protection degree IP65	Protection degree IP65	Protection degree IP65	Protection degree IP65	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.

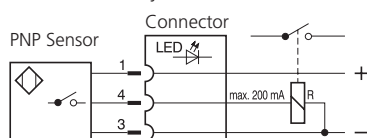
Manual Override in millimeters (inches)

No designation - standard	Designation N1 - cap nut covered	Designation N2 - rubber boot protected	Designation N3 - detent assembly	Designation N4 - hand screw	Designation N5 - socket head screw, size 3	Designation N9 - without manual override

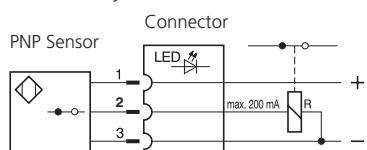
In case of solenoid malfunction or power failure, the spool of the valve can be shifted by manual override as long as the pressure in port T does not exceed 25 bar (363 PSI). For alternative manual overrides contact our technical support.

Spool Position Sensor

S1, S2 - Circuit diagram for the normally - **OPEN** sensor



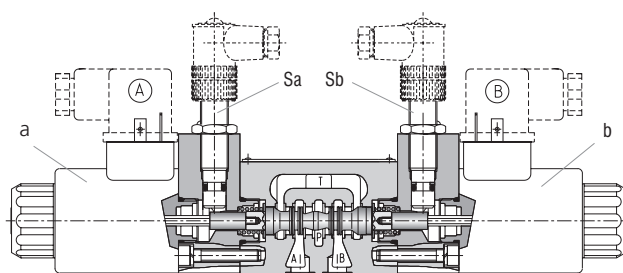
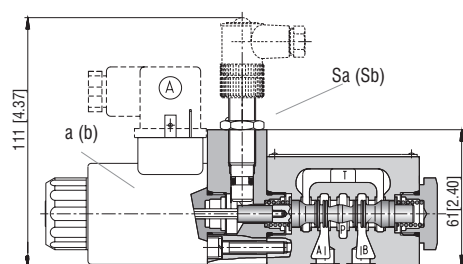
S4 - Circuit diagram of the normally - **CLOSED** sensor



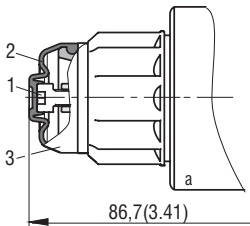
Technical Data of the Sensor		S1, S4		S2	
Rated power supply voltage	V	24 DC			
Power supply voltage range	V	10 ... 30 DC			
Rated current	mA	200			
Sensor enclosure protection (EN 60529)		IP 67			
Max. operating pressure	bar (PSI)	50 (725)		210 (3046)	
Switching frequency	Hz	1000			
Ambient temperature range	°C (°F)	-25 ... +80 (-13 ... +176)			
Technical Data of the Connector					
Power supply voltage range	V	10 ... 30 DC			
Ambient temperature range	°C (°F)	-25 ... +80 (-13 ... +176)			
Indicator		yellow LED			

Two-Position Directional Control Valve					
① a(b)	③ Sa(Sb)	LED			
	S1, S2	S4	S1, S2	S4	
0	1	0	ON	OFF	
1	0	1	OFF	ON	

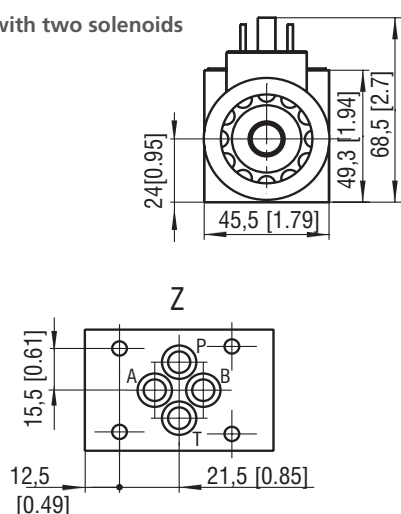
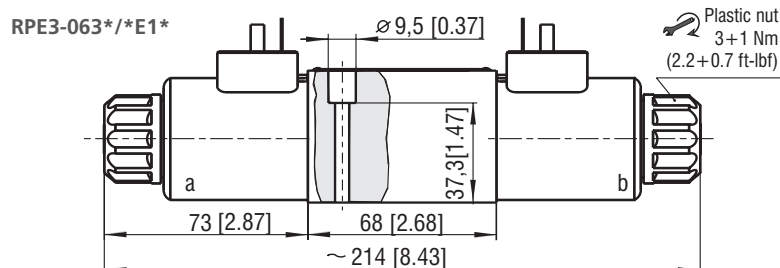
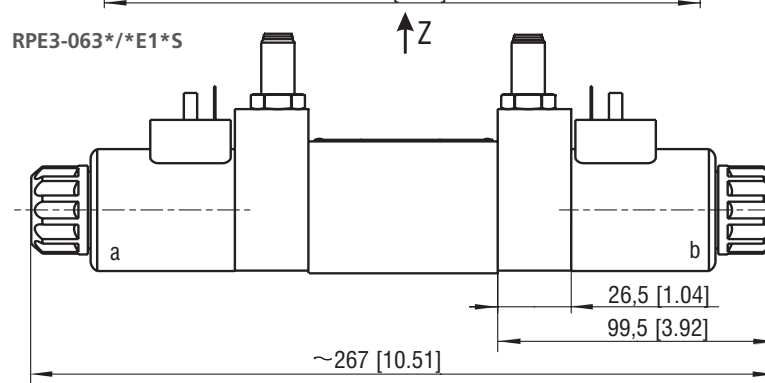
Three-Position Directional Control Valve									
① a(b)	③ Sa(Sb)	LED							
	S1, S2	S4	S1, S2	S4					
a	b	Sa	Sb	Sa	Sb	Sa - LED	Sb - LED	Sa - LED	Sb - LED
0	0	1	1	0	0	ON	ON	OFF	OFF
1	0	0	1	1	0	OFF	ON	ON	OFF



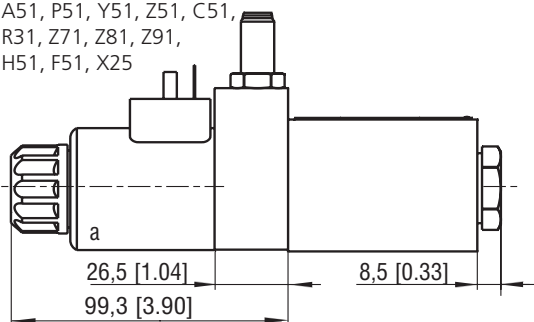
Spool Speed Control in millimeters (inches)

Designation T1	Important:
	This directional valve provides the means to control spool soft shifting by an orifice situated in the solenoid armature. To ensure the proper function of the valve, unobstructed venting of the solenoid is required through the bleeding plug (1). The plugs are accessible after removing the rubber boot (2) from the solenoid cap nut (3).
Switching time ON and OFF	300 ... 800 ms
The switching times shown are valid for viscosity $\nu = 32 \text{ mm}^2/\text{s}$ (156 SUS) and nominal voltage. They depend on working pressure and flow rate of the directional control valve.	

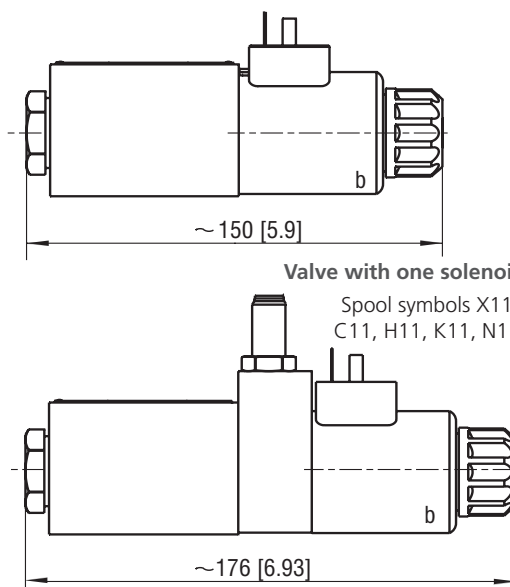
Dimensions in millimeters (inches)

Valve with two solenoids

RPE3-063*/E1*

RPE3-063*/E1*S

Valve with one solenoid „a“

Spool symbols R11, R21, A51, P51, Y51, Z51, C51, R31, Z71, Z81, Z91, H51, F51, X25


Valve with one solenoid „b“

Spool symbols X11, Z11, C11, H11, K11, N11, F11



Mounting screws  8.9 Nm (7 ft-lbf)
M5 x 45 DIN 912-10.9
(for steel manifold) - not supplied