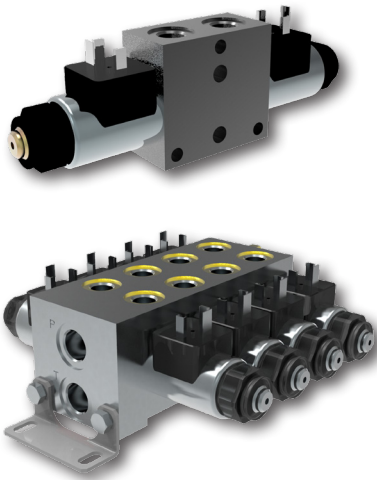


4/2 and 4/3 Directional Control Valve, Solenoid Operated, Bankable

RPEK1-03

Size 03 • Q_{max} 20 l/min (5 GPM) • p_{max} 250 bar (3600 PSI)

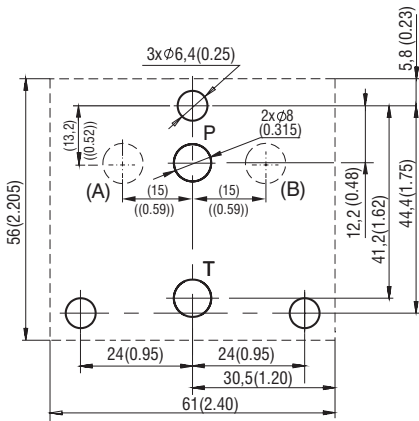


Technical Features

- › Direct acting, directional control valve with bankable mounting interface
- › Designed to be assembled in series or parallel, mounting up to 8 body modules
- › High transmitted hydraulic power up to 250 bar, optimized design to minimize the pressure drop
- › Housing with three chambers for production cost savings
- › The valve is available with interchangeable DC solenoids
- › Wide range of solenoid electrical terminal versions available
- › Wide range of interchangeable spools and manual overrides available
- › Suitable for compact applications in the mobile and mini-power pack industries
- › Space and cost saving! With optional end valves
- › No need for bar manifold to construct complex circuit assemblies from stock
- › 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)

Technical Data

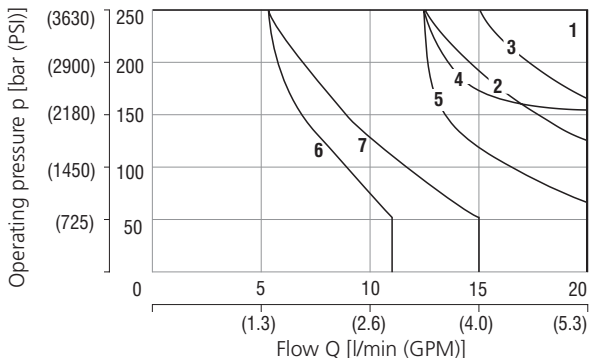
Valve size	03		
Max. flow	l/min (GPM)	20 (5.3)	
Max. operating pressure at port P, A, B	bar (PSI)	250 (3630)	
Max. operating pressure at port T	bar (PSI)	210 (3050)	
Fluid temperature range (NBR)	°C (°F)	-30 ... +80 (-22 ... +176)	
Fluid temperature range (FPM)	°C (°F)	-20 ... +80 (-4 ... +176)	
Ambient temperature range	°C (°F)	-30 ... +50 (-22 ... +122)	
Supply voltage tolerance	%	DC: ±10	
Max. switching frequency	1/h	15 000	
Switching time at $v=32$ mm ² /s (156 SUS)	ON	ms	30 ... 50
	OFF	ms	30 ... 50
Weight	- valve with 1 solenoid	kg (lbs)	0.90 (1.98)
	- valve with 2 solenoids		1.05 (2.32)
	Datasheet	Type	
General information	GI_0060	Products and operating conditions	
Coil types / connectors	C_8007 / K_8008	C14B* / K*	
Mounting interface	SMT_0019	Size 03	
Spare parts	SP_8010		



Characteristics measured at $v = 32$ mm²/s (156 SUS)

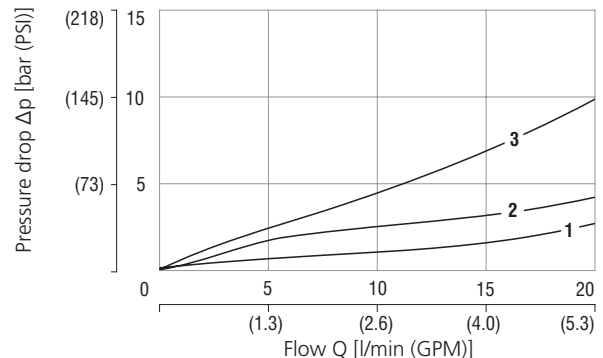
Operating limits

Operating limits for maximum hydraulic power at rated temperature and supplied with voltage equal to 90 % of the nominal value



Spool symbol	
Z11, Z51, R11, P11	1
C11, C51, X11	2
H11, H51	3
Y11, Y51	4
R21	5
A51, Y82	6
Z81	7

Pressure drop related to flow rate



Spool symbol	P-A	P-B	A-T	B-T	P-T
Z11, Y11, P11	1	1	1	1	
R11, R21, X11	2	2	2	2	
Y51, Z51		1	1		
C11	3	3	3	3	2
H11, H51	1	1	1	1	2
C51	3			3	2
A51	2	2			
X11	2	2	2	2	
Y82	2	2	1	3	
Z81			1	2	

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

Ordering Code

RPEK1-03 [] [] [] / [] [] [] [] - []

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

Valve size

Type of connection

thread A, B - G1/4
thread A, B SAE6 - 9/16-18UNF
stackable

Number of valve positions

two positions **2**
three positions **3**

Spool symbols

see the table of "Spool Symbols"

Rated supply voltage of solenoids (at the coil terminal)

12 V DC / 1.83 A **01200**
24 V DC / 0.92 A **02400**

Connector

EN 175301-803-A **E1**
E1 with quenching diode **E2**
AMP Junior Timer - axial direction (2 pins; male) **E3A**
E3A with quenching diode **E4A**
Deutsch DT04-2P - axial direction (2 pins; male) **E12A**
E12A with quenching diode **E13A**

No designation

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

Surface treatment

standard

No designation

V

Seals

NBR
FPM (Viton)

Model

No designation standard, P, T through ports, without ports A1, B1
P1 P, T through ports, A1, B1 side ports, all ports sealed
P2 P, T through ports, A1, B1 side ports inverted (not sealed)
Z1 end valve, one side P, T sealed ports
Z2 end valve, one side P, T ports inverted (not sealed)
Z3 end valve, one side P, T ports, A1, B1 side ports, all ports not sealed
Z4 end valve, one side P, T, A1, B1 side ports inverted, all ports not sealed

Manual override

No designation standard
N2 protected with rubber boot
N5 socket head screw

- For directional valves with two solenoids, one solenoid must be de-energized before the other solenoid can be energized.
- For other solenoid voltages see datasheet C_8007.
- The solenoid operated valves are delivered without connectors. For connectors version see datasheet K_8008.
- Besides the commonly used valve versions shown other special models are available. Contact our technical support for their identification, feasibility and operating limits.

Spool Symbols

Type	Symbol	Interposition	Type	Symbol	Interposition	Type	Symbol	Interposition
Z11			R11			H51		
C11			R21			Z51		
H11			A51			Z11		
P11			Y51			X11		
Y11			C51			C11		
Y82			Z81			Y11		

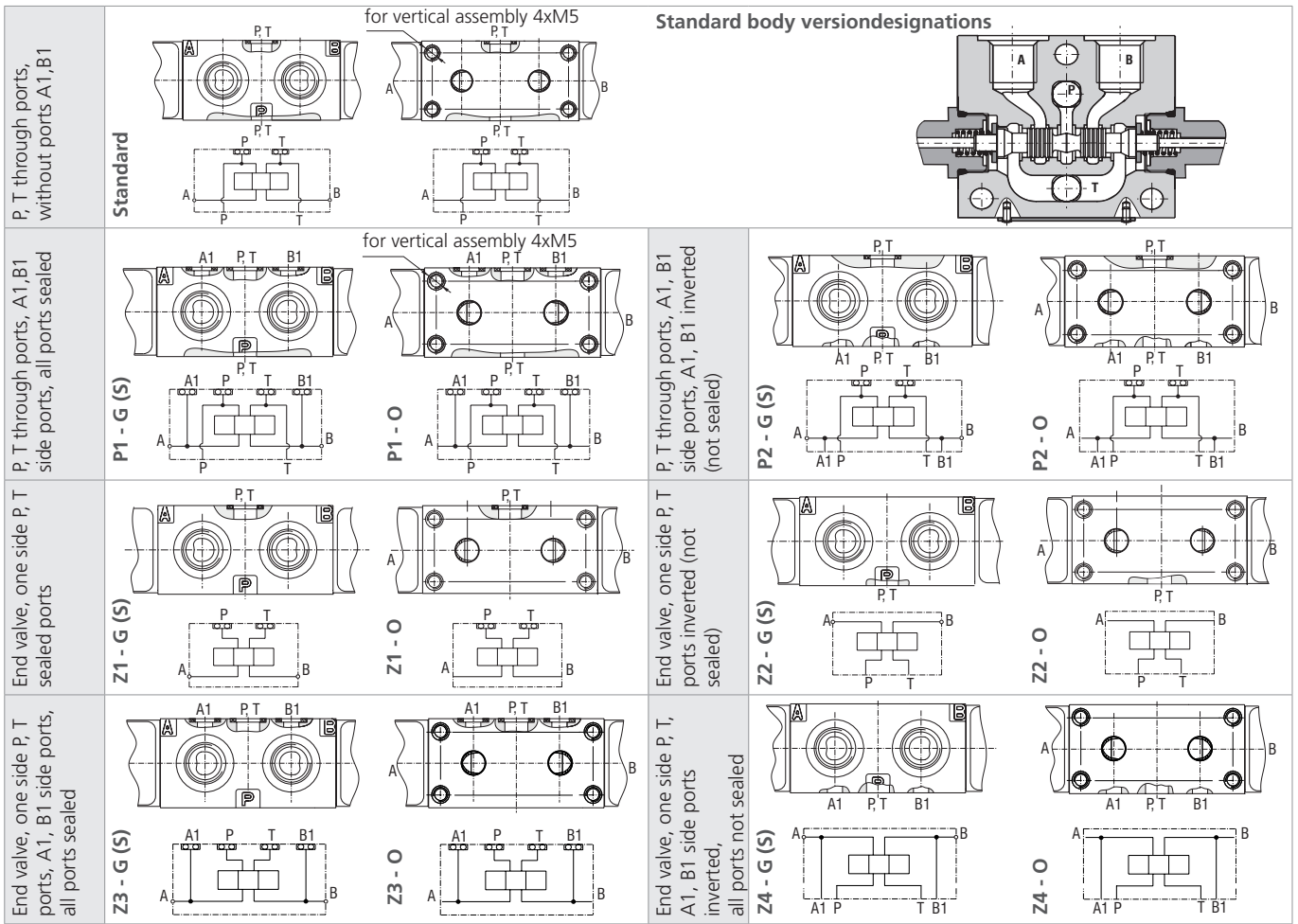
Solenoid Coil in millimeters (inches)

E1, E2 - Protection degree IP65	E3A, E4A - Protection degree IP67	E12A, E13A - Protection degree IP67 / IP69	
			The indicated IP protection level is only reached with a properly mounted connector.

Manual Override in millimeters (inches)

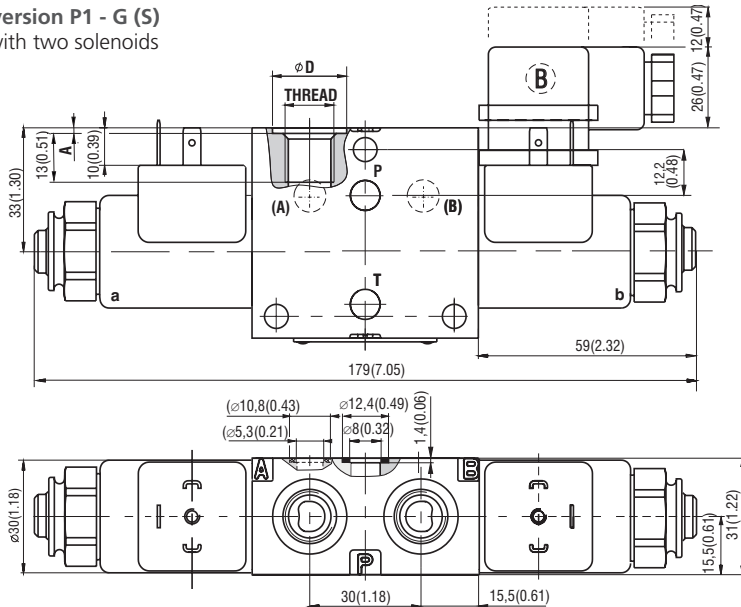
No designation - standard	N2- protected with rubber boot	N5 - socket head screw 3	
			In case of solenoid malfunction or power failure, the spool of the valve can be shifted by manual override as long as the pressure in port T does not exceed 25 bar (363 PSI). For alternative manual overrides contact our technical support.

Design Forms G (S), O in millimeters (inches)

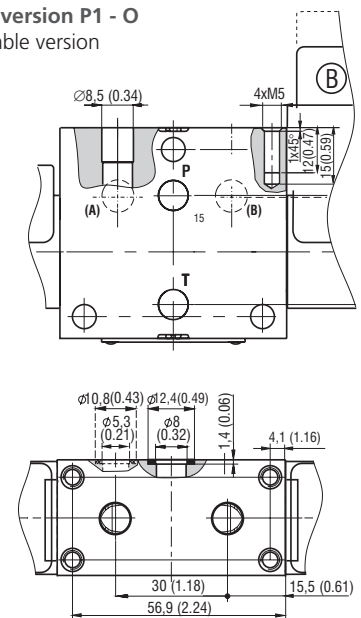


Dimensions in millimeters (inches)

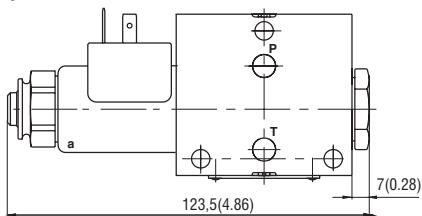
Body version P1 - G (S)
Valve with two solenoids



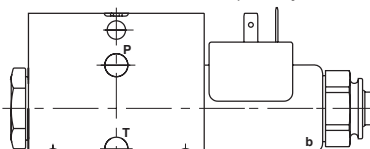
Body version P1 - O
Stackable version



Valve with one solenoid „a“
Spool symbols R11, R21, Y51, C51, Z51

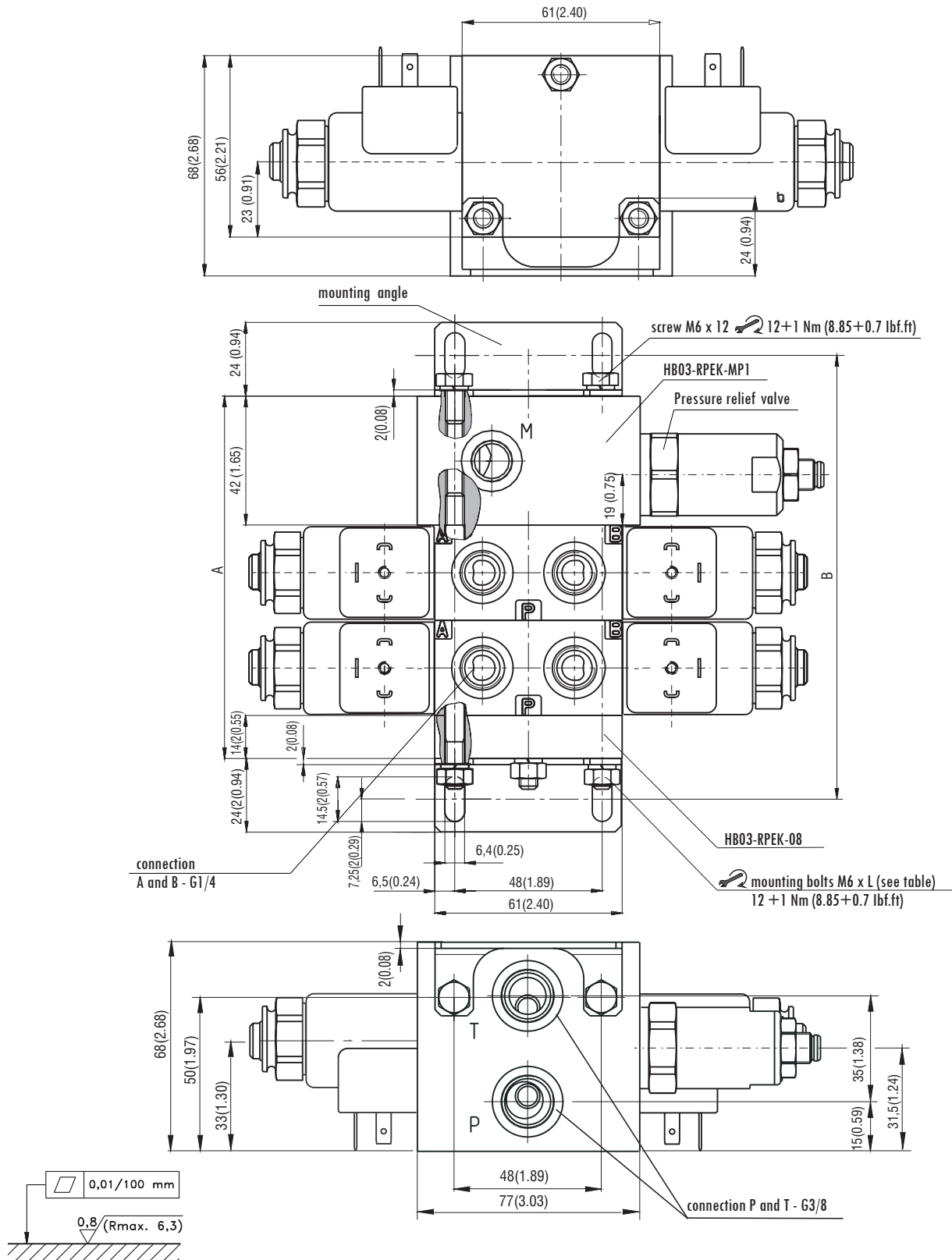


Valve with one solenoid „b“
Spool symbols H11



	G	S
THREAD	G1/4	SAE6-9/16-18UNF
∅ D [mm]	20.9H13	25+0.5
∅ D [in]	0.823	0.984+0.02
A [mm (in)]	1 (0.039)	0.5 (0.020)

VERSION - valve with inlet block and pressure relief valve see datasheet 4057 - RPEK1-03/B



Required surface quality of the counterpart

Dimensions mm (inches)								
Number of sections	1	2	3	4	5	6	7	8
Dimension A	87 (3.43)	118 (4.65)	149 (5.87)	180 (7.09)	211 (8.31)	242 (9.53)	273 (10.75)	304 (11.97)
Dimension B	114 (4.49)	145 (5.71)	176 (6.93)	207 (8.15)	238 (9.37)	269 (10.59)	300 (11.81)	331 (13.03)
Dimension L	60 (2.36)	100 (3.94)	133 (5.24)	163 (6.42)	194 (7.64)	224 (8.82)	256 (10.08)	287 (11.30)