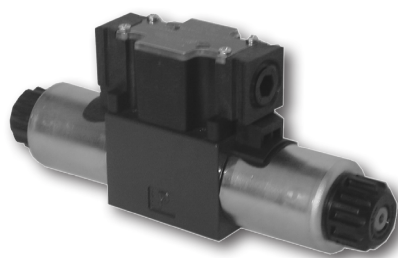


## 4/2 and 4/3 Directional Control Valve, Solenoid Operated, Wire Box

### RPEW4-06

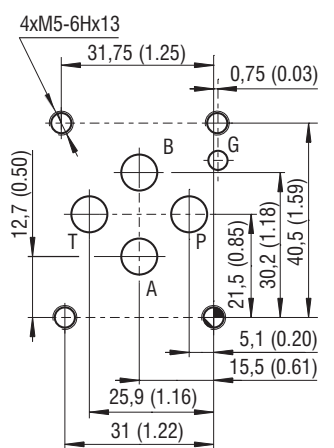
Size 06 (D03) •  $Q_{max}$  80 l/min (21 GPM) •  $p_{max}$  350 bar (5100 PSI)



#### 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
- › Wire box for solenoid electrical connection with cable gland [1/2" NPT]
- › Optional 3-pin or 5-pin connector acc. to ANSI/B93.55M
- › Type for AC power supply with a rectifier bridge built in the wire box
- › Wide range of interchangeable spools and manual overrides available
- › CSA Certificate upon request
- › Soft-shift spool speed control option
- › Optional shift position indicators (raised arrows) installed on the terminal plate
- › 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 Ø7.5 mm (0.29 in)

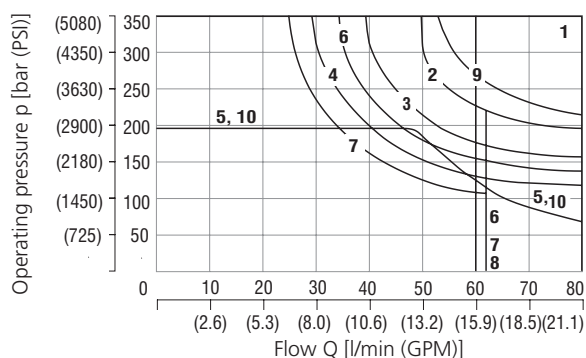
#### Technical Data

| Valve size                                               |                          | 06 (D03)                      |                                   |
|----------------------------------------------------------|--------------------------|-------------------------------|-----------------------------------|
| Max. flow                                                | l/min (GPM)              | 80 (21.1)                     |                                   |
| Max. operating pressure at ports P, A, B                 | bar (PSI)                | 350 (5080) 320 (4640) for CSA |                                   |
| 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                        |                                   |
| Enclosure type acc. to EN 60529                          |                          | IP 65                         |                                   |
| 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       |
| Mass                                                     | - valve with 1 solenoid  | kg (lbs)                      | 1.3 (2.8)                         |
|                                                          | - valve with 2 solenoids | kg (lbs)                      | 1.9 (4.2)                         |
|                                                          |                          | Datasheet                     | Type                              |
| General information                                      |                          | GI_0060                       | Products and operating conditions |
| Coil types                                               |                          | C_8007                        | C22B*                             |
| Mounting interface / tolerances                          |                          | SMT_0019                      | Size 06                           |
| Spare parts                                              |                          | SP_8010                       |                                   |

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

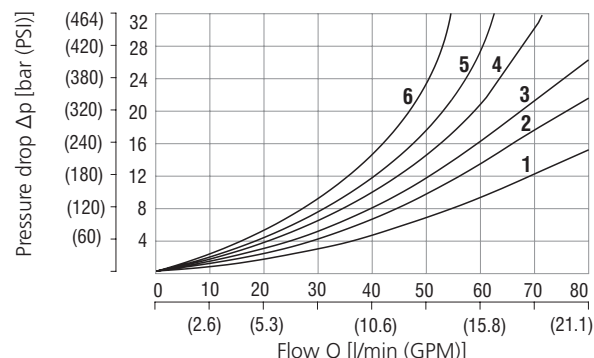
##### Operating limits

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



|   |     |   |     |    |     |
|---|-----|---|-----|----|-----|
| 1 | Z11 | 1 | Z21 | 6  | C51 |
| 6 | C11 | 9 | J75 | 1  | Z51 |
| 3 | H11 | 5 | F11 | 7  | H51 |
| 1 | P11 | 3 | R11 | 7  | F51 |
| 2 | Y11 | 4 | R21 | 3  | X11 |
| 5 | L21 | 5 | A51 | 7  | N11 |
| 8 | B11 | 1 | P51 | 10 | X25 |
| 1 | J15 | 2 | Y51 |    |     |

##### 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 | 2   | 2   | 3   | 3   |     | P51 |     | 1   | 3   |     |     |
| R21,X11,N11,J15 |     |     |     |     |     |     |     |     |     |     |     |
| C11             | 5   | 5   | 5   | 6   | 3   | Y51 |     | 2   | 2   |     |     |
| H11             | 2   | 2   | 2   | 3   | 3   | C51 | 2   |     |     | 3   | 4   |
| P11             | 1   | 1   | 3   | 3   |     | C51 | 2   |     |     | 3   | 4   |
| A51,J75         | 2   | 2   |     |     |     | F11 | 1   | 2   |     | 3   | 3   |
| Z21,Z51,H51,F51 | 2   | 3   |     |     |     | Y11 | 2   | 2   | 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.)

**Ordering Code**
**RPEW4 - 06**
**4/2 and 4/3  
directional control valve,  
solenoid operated, wire box**
**Valve size**
**Number of valve positions**

two positions  
three positions

2  
3

**Spool symbols**

see the table "Spool symbols"

**Rated supply voltage of solenoid**

(at the wire box terminal)

12 V DC / 2.72 A

24 V DC / 1.29 A

120 V AC / 0.26 A, 60 Hz\*

01200

02400

12060

\*DC coils with rectifier in wire box

**Connector for wire box**

DC solenoid (DC-rectified)

DC solenoid with quenching diode

EW1

EW2

**Wire box power supply**

DC power supply

AC power supply (rectifier in wire box)

K

R

**No designation**  
U

**CSA Certified**  
standard  
CSA marking

**Surface treatment**

standard

**No designation**
**A** zinc-coated (ZnCr-3), ISO 9227 (240 h)

**B** zinc-coated (ZnNi), ISO 9227 (520 h)

**Seals**

NBR

FPM (Viton)

**No designation**

V

**Soft-shift spool speed control**

without soft-shift control

**No designation**

T1

orifice Ø 0.7 mm (0.03 inch) in solenoid

**Manual override**

standard

cap nut covered

rubber boot protected

detent assembly

hand screw

socket head screw

without manual override

**Wire box version, supply connector**

without connector, 1/2 NPT thread at both ends (either side can be used for wiring, remove cover-plug accordingly)

50 with LED (B side plugged, A side with feed-through plug)

3-pin connector (ANSI/B93.55M) mounted on A-side (B-side plugged, only for single solenoid valves)

3-pin connector (ANSI/B93.55M) mounted on B-side (A-side plugged, only for single solenoid valves)

52 with LED

53 with LED

5-pin connector (ANSI/B93.55M) mounted on A-side (B-side plugged, only for double solenoid valves)

5-pin connector (ANSI/B93.55M) mounted on B-side (A-side plugged, only for double solenoid valves)

56 with LED

57 with LED

50

51

52

53

54

55

56

57

58

59

- For directional valves with two solenoids, one solenoid must be de-energized before the other solenoid can be charged.
- 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 Nm (6.56 ft-lbf).
- 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**

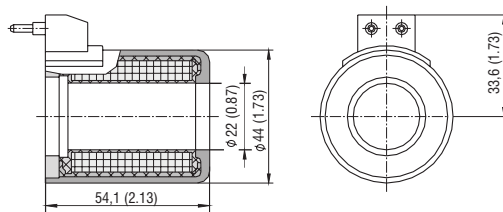
| Type | Symbol | Interposition | Type | Symbol | Interposition | Type | Symbol | Interposition |
|------|--------|---------------|------|--------|---------------|------|--------|---------------|
| Z11  |        |               | R11  |        |               | Z11  |        |               |
| C11  |        |               | R21  |        |               | X11  |        |               |
| H11  |        |               | A51  |        |               | C11  |        |               |
| P11  |        |               | P51  |        |               | H11  |        |               |
| Y11  |        |               | X25  |        |               | N11  |        |               |
| L21  |        |               | Y51  |        |               | F11  |        |               |
| B11  |        |               | C51  |        |               | J15  |        |               |
| Z21  |        |               | Z51  |        |               | J75  |        |               |
| F11  |        |               | H51  |        |               |      |        |               |
|      |        |               | F51  |        |               |      |        |               |

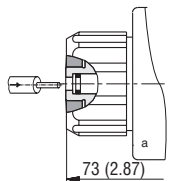
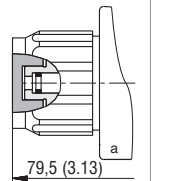
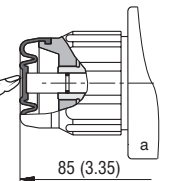
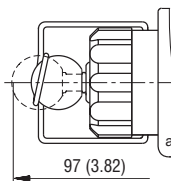
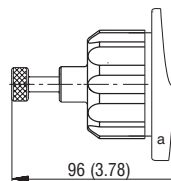
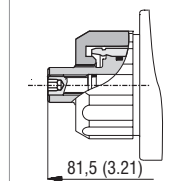
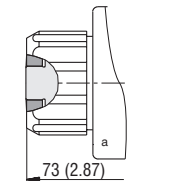
**Solenoid Coil for Wire Box** in millimeters (inches)

EW1 - Plug-In Coil

EW2 - EW1 with quenching diode

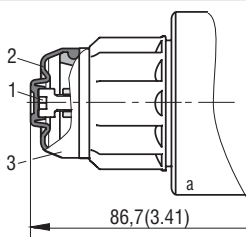
Protection degree IP65


**Manual Override** in millimeters (inches)

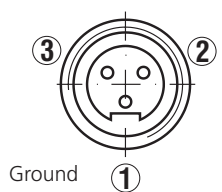
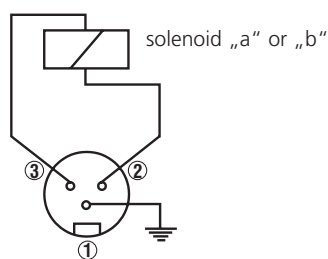
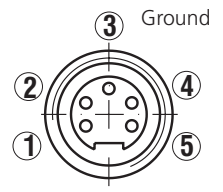
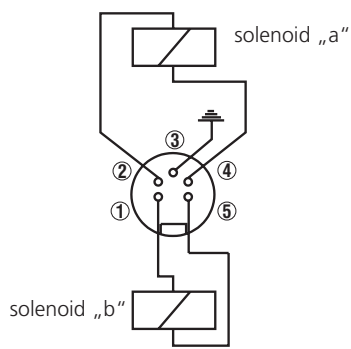
| No designation<br>- standard                                                      | Designation N1<br>- cap nut covered                                               | Designation N2<br>- rubber boot protected                                         | Designation N3<br>- detent assembly                                               | Designation N4<br>- hand screw                                                     | Designation N5<br>- socket head screw, size 3                                       | Designation N9<br>- 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 Speed Control Orifice** 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. |                                                                                                                                                                                                                                                                                                                                                  |

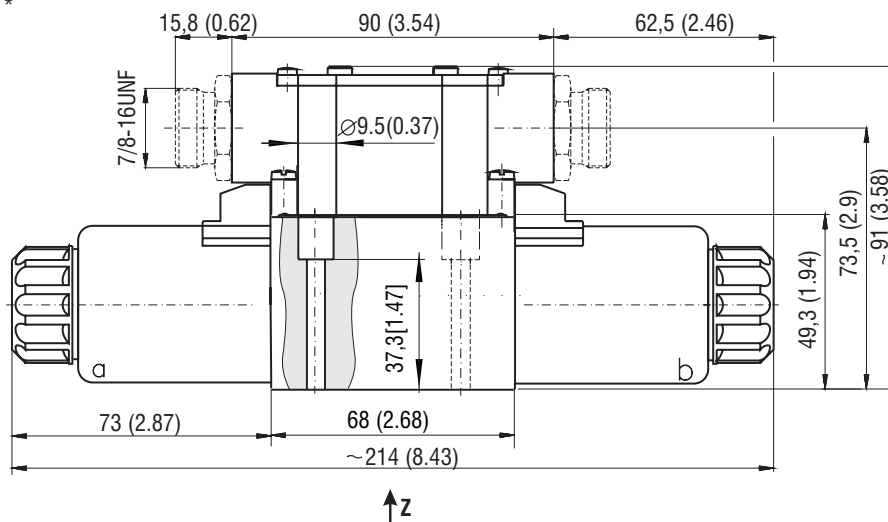
**Connector - US - Standard - ANSI/B93.55M**

| Pinout - 3-pin connector                                                                                                                                                                                             | Pinout - 5-pin connector                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1 - green<br/>2 - black<br/>3 - white</p>   | <p>1 - white<br/>2 - red<br/>3 - green<br/>4 - orange<br/>5 - black</p>   |

# Dimensions in millimeters (inches)

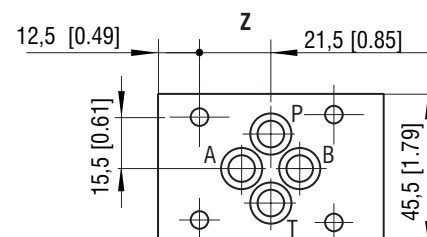
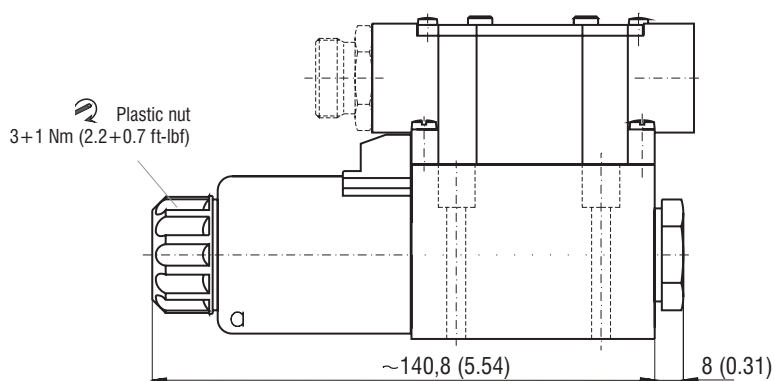
## Valve with two solenoids

RPEW4-063\*/\*EW1\*



## Valve with one solenoid „a”

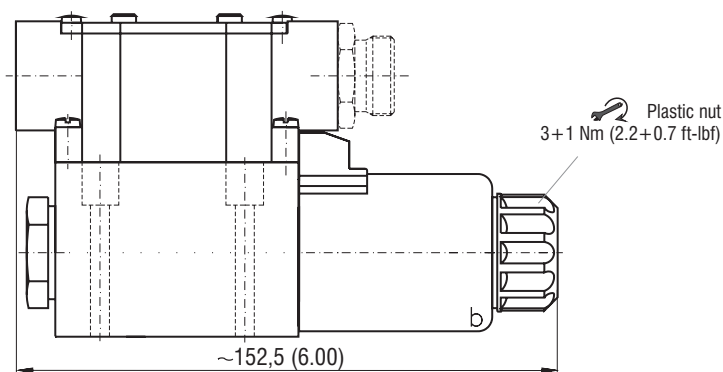
RPEW4-062\*/\*EW1\*



## Valve with one solenoid „b”

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

RPEW4-062\*/\*EW1\*



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