Proportional Pressure Control Valve, Reducing - Relieving, Direct-Acting

PVRM1-063  M20 x 1.5  •  Qmax 20 l/min (5 GPM)  •  pmax 50 bar (700 PSI)

Technical Features

› Excellent stability throughout flow range with rapid response to proportional current input change
› Low hysteresis, accurate pressure control and low pressure drop
› Precise pressure control vs current and excellent repeatability
› Integrated relief function for protection against pressure peaks
› Solenoid electrical terminal acc. to EN 175301-803-A, AMP Junior Timer, or Deutsch DT04-2P
› 12 or 24 V DC coils
› Optional mesh screen
› In the standard version, the valve is zinc-coated for 240 h protection acc. to ISO 9227

Functional Description

A direct-operated, spool-type hydraulic pressure reducing-relieving valve in the form of a screw-in cartridge. Reduced pressure output is proportional to DC current input. This valve is intended for use as a pressure limiting device. Note: Consult factory for special OEM versions of this product.

Valve size / Cartridge cavity                      M20 x 1.5 / QE3
Max. operating pressure (port P)     bar (PSI)  50 (730)
Max. reduced pressure (port A)        bar (PSI)  20 (290)   32 (464)
Max. flow rate P-A (l/min (GPM))      20 (5.3)
Fluid temperature range (NBR)         °C (°F)   -30 ... 90 (-22 ... 194), +100 (212) short-time
Fluid temperature range (FPM)         °C (°F)   -20 ... 90 (-4 ... 194), +100 (212) short-time
Ambient temperature range             °C (°F)   -30 ... 90 (-22 ... 194), +100 (212) short-time
Response time at 100% signal          ms    < 50

Solenoid data

Supply voltage      V  12 DC  24 DC
Max. current        A  1   0,75
Rated resistance at 20 °C (68 °F)  Ω  7.1±6.5%  20.6±6.5%
Duty cycle          %  100
Optimal PWM frequency Hz  100
Quenching diode     BZW06-28B  BZW06-33B
Enclosure type acc. to EN 60529**     (acc.to terminal type) IP65 / IP67 / IP69K
Weight with solenoid kg (lbs)  0.4 (0.88)

Dimensions in millimeters (inches)

Connector type

E3, E4 - IP67
AMP Junior Timer
- radial

E1, E2 - IP65
EN 175301-803-A

E3A, E4A - IP67
AMP Junior Timer
- axial

E12A, E13A - IP67/ IP69K
Deutsch DT04-2P

Data sheet

Type

General information  GI_0060  Products and operating conditions
Cavity details       SMT_0019  SMF-QE3*
Spare parts          SP_8010

**The indicated IP protection level is only reached with a properly mounted connector.
### Proportional pressure control valve, reducing - relieving, direct-acting

**Model**
- screw-in cartridge

**Valve cavity**
- M20 x 1.5 / QE3

**Supply voltage / maximum current**
- 12 V DC / maximum 1 A
- 24 V DC / maximum 0.75 A

**Max. reduced pressure**
- 20 bar (290 PSI)
- 32 bar (464 PSI)

**Connector**
- E1: EN 175301-803-A
- E2: E1 with quenching diode
- E3: AMP Junior Timer - radial direction (2 pins; male)
- E4: E3 with quenching diode
- E3A: AMP Junior Timer - axial direction (2 pins; male)
- E4A: E3A with quenching diode
- E12A: Deutsch DT04-2P - axial direction
- E13A: E12A with quenching diode

**Seals**
- NBR
- FPM (Viton)

**Mesh screen**
- without mesh screen
- port P, 125 microns

**Surface treatment**
- zinc-coated (ZnCr-3), ISO 9227 (240 h)
- zinc-coated (ZnNi), ISO 9227 (520 h)

### Characteristics measured at \( v = 32 \text{ mm}^3/\text{s} \) (156 SUS)

**Reduced pressure related to control signal**

Port A, range 0 - 20 bar (290 PSI), \( Q = 0 \text{ lpm (GPM)} \)
Port P, inlet pressure 50 bar (730 PSI)

**PVRM1-063/S*20**

**Flow Q [l/min (GPM)]**

<table>
<thead>
<tr>
<th>Current [mA]</th>
<th>0</th>
<th>200</th>
<th>400</th>
<th>600</th>
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<tbody>
<tr>
<td>12 V coil</td>
<td>0</td>
<td>0.7</td>
<td>1.4</td>
<td>2.1</td>
<td>2.8</td>
<td>3.5</td>
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**Pressure drop \( \Delta p \) [bar (PSI)]**

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**Connections**

- E1 with quenching diode
- E3 with quenching diode
- E3A with quenching diode
- E4A with quenching diode
- Deutsch DT04-2P - axial direction

**No designation**

- V

**Reduced pressure related to control signal**

Port A, range 0 - 32 bar (464 PSI), \( Q = 0 \text{ lpm (GPM)} \)
Port P, inlet pressure 50 bar (730 PSI)

**PVRM1-063/S*32**

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### Ordering Code

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- Valve cavity M20 x 1.5 / QE3
- Model screw-in cartridge
- Max. reduced pressure
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- Supply voltage / maximum current
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- Connector
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