**PV16-23 Proportional Flow Control Cartridge,**

**DESCRIPTION**
A solenoid-operated, two-way, normally closed, electro-proportional, hydraulic cartridge valve intended for use with an external pressure compensator or load-sensing-style pump control.

**OPERATION**
When de-energized, the PV16-23 blocks flow from ➀ to ➁. With increasing current applied to the solenoid, output flow from ➀ to ➁ will increase proportionally.

The PV16-23 is intended for use with an operating differential across the valve of 7 bar to 11 bar (100 psi to 160 psi). The set value of the external pressure compensator or pump control must provide for both the valve operating differential, as well as for system losses between the compensator and the PV16-23 at the maximum required flow.

**Operation of Manual Override:** To Engage: Turn clockwise approximately 1 turn to reach start point. Continue another approximately 5 turns to full shift. To Disengage: Turn counterclockwise approximately 6 turns to positive stop.

**FEATURES**
- Manual override options.
- Hardened spool and cage for long life.
- Efficient wet armature construction.
- Optional coil voltages and terminations.
- Excellent linearity and hysteresis characteristics.

**RATINGS**
- **Pressure Rating:** 241 bar (3500 psi)
- **Burst Pressure:** 896 bar (13000 psi)
- **Flow Rating:** 95 to 170 lpm (25 to 45 gpm)
- **Maximum Internal Leakage:** 0.38 lpm (0.10 gpm) at port ➁ with 13.8 bar (200 psi) at port ➀ with no current applied.

**Electrical: (With EHPR08 E-series and D-series coils)**

<table>
<thead>
<tr>
<th>Coil Voltage</th>
<th>Resistance at 20°C</th>
<th>Threshold Current</th>
<th>Max. Control Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 VDC</td>
<td>5.4 ohms</td>
<td>400 ± 100 mA</td>
<td>1400 ± 100 mA</td>
</tr>
<tr>
<td>24 VDC</td>
<td>21.7 ohms</td>
<td>200 ± 50 mA</td>
<td>700 ± 50 mA</td>
</tr>
</tbody>
</table>

**Pressure Drop vs. Flow ➀ to ➁ at Maximum Control Current**

- 12V EHPR08 Coil, 110 Hz PWM 138 bar/2000 psi load at ➁ 32 cSt/150 sus oil at 40°C (104°F)

**Flow vs. Current at 207 bar/3000 psi Compensating Inlet at 10.3 bar/150 psi 12V EHPR08 Coil, 110 Hz PWM 32 cSt/150 sus oil at 40°C (104°F)**

**PERFORMANCE** (Cartridge Only)

**Filtration:** See page 9.010.1

**Fluids:** Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

**Installation:** No restrictions; See page 9.020.1.

**Cavity:** VC16-2; See page 9.116.1; **Cavity Tool:** CT16-2XX; See page 8.600.1

**Seal Kit:** SK16-2X-M; See page 8.650.1 for seal kit options and appropriate seals based on application temperature range.

**Recommended Electronic Controllers:**
See page 2.001.1 or our Electronics catalog.
2-Way, Normally Closed  \( \text{PV16-23} \)

**DIMENSIONS**

COIL MUST BE INSTALLED WITH LETTERING UP

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**MATERIALS**

**Cartridge:** Weight: 0.46 kg (1.02 lbs.); With M option: 0.53 kg (1.17 lb); With G option: 0.59 kg (1.31 lb). Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

**Standard Ported Body:** Weight: 0.57 kg (1.25 lbs.). Anodized high-strength aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.016.1

**EHP108 D-Coil:** Weight: 0.10 kg, (0.22 lbs.). Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

**EHP108 E-Coil:** Weight: 0.14 kg, (0.3 lbs.) Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1

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**TO ORDER**

**PV16-23**

**Option**

*None* (Blank), Manual Override 'M', Manual Override 'G' with Guard

For Manual Override info. see page 1.001.1

**Porting**

Cartridge Only

*SAE 12 12T
SAE 16 16T
3/4 in. BSP* 6B
1 in. BSP* 8B
*BSP Body; U.K. Mfr. Only

**Seals**

Buna N (Std.), Fluorocarbon

**Termination (VDC)**

**D-Coil**

DS Dual Spades
DG DIN 43650
DL Leadwires (2)
DL/W Leads w/Weatherpak® Connectors

**E-Coil**

ER Deutsch DT04-2P (IP69K Rated)
EY Metri-Pack® 150 (IP69K Rated)

Coils with internal diode are available. Consult factory.