**EHPR08-33 Proportional Reducing/Relieving Valve**

**DESCRIPTION**
A screw-in, cartridge-style, direct acting, spool-type reducing/relieving valve, which can be infinitely adjusted across a prescribed range using a variable electric input. Pressure output is proportional to DC current input. This valve is intended for use as a pressure control device in demanding applications.

**OPERATION**
The EHPR08-33 allows free flow from ➊ to ➋ when no current is applied to the coil. When the coil is energized, ➋ is connected to ➊. Increasing current applied to the coil will increase the control (reduced) pressure proportionally. If pressure at ➊ exceeds the setting induced by the coil, pressure from ➊ is relieved to ➋.

Note: Back pressure on port ➋ becomes additive to the pressure setting at a 1:1 ratio.

**FEATURES**
- 12 and 24 volt coils standard.
- Optional manual override.
- Industry common cavity.
- Optional waterproof E-coils rated up to IP69K.

**RATINGS**
- Maximum Inlet Pressure at port ➋: 207 bar (3000 psi)
- Maximum Tank Pressure at port ➋: 34.5 bar (500 psi)
- Maximum Control Current: 1.2 amps for 12 VDC coil; 0.6 amps for 24 VDC coil; For other voltages, consult factory
- Dither Frequency Required: 200 Hz
- Typical Frequency Response: See Section 10
- Hysteresis: Less than 3%
- Reducing/Relieving Pressure Range from Zero to Maximum Control Current: 0–26 bar (0–375 psi)
- Rated Flow: 4.0 lpm (1.05 gpm), ΔP=6 bar (87 psi), Cartridge only, ➊ to ➋ coil de-energized
- Step Response: TON <30 ms; TOFF <12 ms
- Flow Path: Free Flow: ➊ to ➋ coil de-energized; Reduced: ➋ to ➊ coil energized; Relieving: ➊ to ➋ coil energized
- Temperature: -40 to 120°C (-40 to 250°F), with standard Buna N seals
- Ambient Air Temperature: -40 to 80°C (-40 to 176°F)
- 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: VC08-3; See page 9.108.1; Cavity Tool: CT08-3XX; See page 8.600.1
- Seal Kit: SK08-3X-00; See page 8.650.1
**PERFORMANCE** (continued)

**Typical Frequency Response Curves**

- **Input Current and Regulated Pressure**
  - Signal 25% ±10%
  - Signal 50% ±50%
  - Signal 85% ±10%

**Typical Step Response Curve**

- **Pressure**
  - Inlet: 35 bar (500 psi), 4 lpm (1 gpm)
  - Regulated: Blocked

- **Current**
  - Input Signal: Sinusoidal

**DIMENSIONS**

- **Manual Override Hex Socket**
  - 0.16 in (4.1 mm)
  - 0.60 in (15.2 mm)
  - 2.06 in (52.3 mm)
  - 0.88 in (22.4 mm)

- **TORQUE**
  - 5 ft-lbs (6.8 Nm) max.
  - 20 ft-lbs (27.1 Nm) max.

- **INCH MILLIMETRE**

**MATERIALS**

- **Cartridge**:
  - Weight: 0.25 kg. (0.55 lbs.)
  - Steel with hardened work surfaces.
  - Zinc-plated exposed surfaces.
  - Buna N O-rings standard.

- **Standard Ported Body**:
  - Weight: 0.16 kg. (0.35 lbs.)
  - Anodized high-strength 6061 T6 aluminum alloy,
  - rated to 207 bar (3000 psi).
  - Ductile iron bodies available; dimensions may differ. See page 8.008.1

- **EHPR Series Coil**:
  - **D-Coil**:
    - Weight: 0.11 kg. (0.25 lbs.)
    - Unitized, thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1
  - **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

**TO ORDER**

**EHPR08-33**

- **Option**
  - None (Blank)
  - Manual Override M

- **Porting**
  - Cartridge Only 0
  - SAE 6 6T
  - SAE 8 8T
  - 3/8 in. BSP* 3B
  - 1/2 in. BSP* 4B

- **Seals**
  - Buna N (Std.) N
  - Fluorocarbon V

**D-Coil Terminations**

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

**E-Coil Terminations**

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

**Voltage** (Consult factory for other voltages.)

- 0 Less Coil
- 10 10 VDC* (1.5 amps max.)
- 12 12 VDC (1.2 amps max.)
- 20 20 VDC* (0.75 amps max.)
- 24 24 VDC (0.6 amps max.)

*For use where there is a voltage drop across the controller.