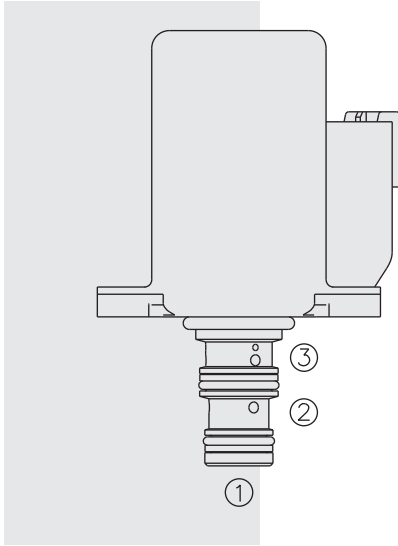


ELECTRO-PROPORTIONAL VALVES—PRESSURE CONTROLS

EHPR98-T35 Proportional Reducing/Relieving



DESCRIPTION

A direct-acting, spool-type, drop-in-style, flange-mounted, pressure 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. The Coil is an integral part of the valve assembly, and cannot be replaced or field-serviced.

OPERATION

The EHPR98-T35 allows free flow from ① to ③ when no current is applied to the coil. When the coil is energized, ② is connected to ①. Increasing current applied to the coil will increase the control (reduced) pressure proportionally. If pressure at ① exceeds the setting induced by the coil, pressure from ① is relieved to ③.

Note: Back pressure on port ③ becomes additive to the pressure setting at a 1:1 ratio.

FEATURES

- Economical drop-in style.
- Integral waterproof coil standard.
- 10, 12, 20 or 24 VDC coils.
- Several push-on termination options.
- 1000-hour salt spray protection.

RATINGS

Maximum Inlet Pressure: 103 bar (1500 psi); If higher inlet pressure is required (103 bar/1500 psi to 241 bar/3500 psi) select the "A" option in the model code.

Maximum Tank Pressure: 34.5 bar (500 psi);
with Manual Override Option: 17.2 bar (250 psi)

Control Pressure at Maximum Control Current: 20.7 bar (300 psi)

Maximum Control Current: 1.38 amps for 10 VDC coil; 1.30 amps for 12 VDC coil;
0.69 amps for 20 VDC coil; 0.65 amps for 24 VDC coil

Resistance: 4.2Ω (10V); 5.1Ω (12V); 17.0Ω (20V); 19.3Ω (24V)

Inductance: 80 mH (12V); **Hysteresis:** Less than 4% with 100 Hz PWM

Rated Flow: 5.7 lpm (1.5 gpm), cartridge only, ① to ③ coil de-energized

Maximum Internal Leakage:

De-energized: 75 ml/minute (4.58 cu. in./minute) at 25 bar (365 psi);
200 ml/minute (12.2 cu. in. minute) at 241 bar (3500 psi).

Energized at I-Max.: 125 ml/minute (7.63 cu. in./minute) at 25 bar (365 psi);
400 ml/minute (24.4 cu. in. minute) at 241 bar (3500 psi)

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)

Environmental Rating: IP69K

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: Flange Mount

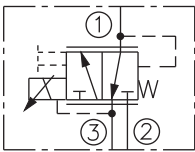
Mounting Screws: M4 x 0.7 x 12 Long; Part No. 4001015 (not provided with valve)

Cavity and Cavity Tool: VC-T009; See page 9.111.1

Seal Kit: SKEHPR98-T3X; See page 8.650.1

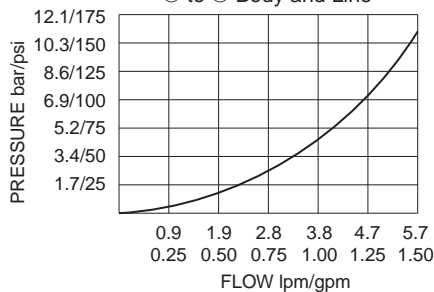
SYMBOLS

USAS/ISO:

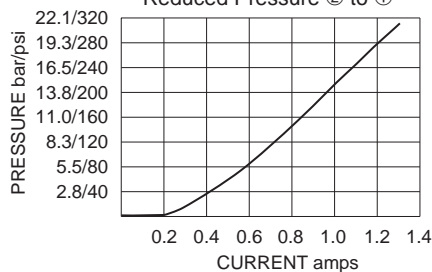


PERFORMANCE

Pressure Drop vs. Flow
② to ① Body and Line

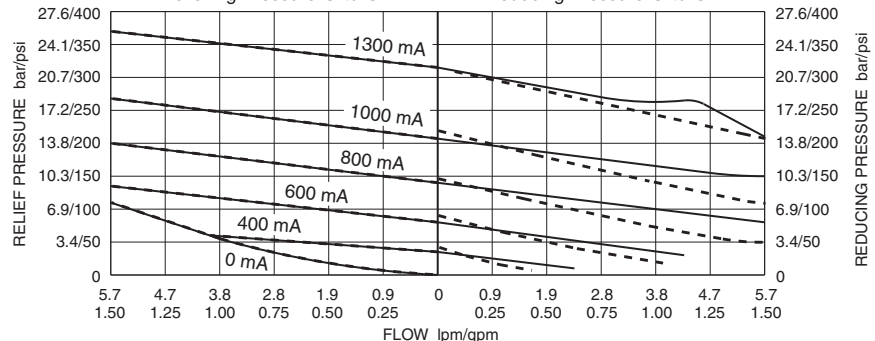


Reducing Pressure vs. Current
Inlet: 25 bar/365 psi; 100 Hz PWM
Reduced Pressure ② to ①



Typical Relieving/Reducing Pressure vs. Flow Characteristic

Inlet: 25 bar/365 psi ———; Inlet: 241 bar/3500 psi - - - -
100 Hz PWM (Both Directions); Note: Curves overlap on Relieving Pressure (LH) side of graph



Drop-In-Style Valve

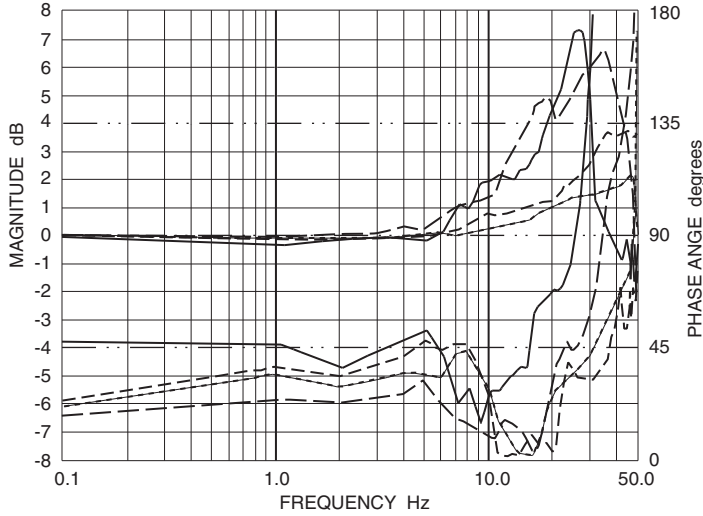
EHPR98-T35

PERFORMANCE (continued)

Typical Frequency Response Curves

Inlet: 25 bar/365 psi; DC Current; Regulated Port Blocked

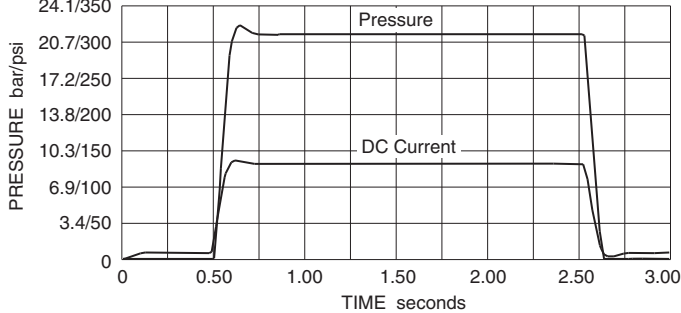
Signals: 40% ±10% —; 50% ±25% — —; 70% ±20% - - -; 80% ±10% - - - -



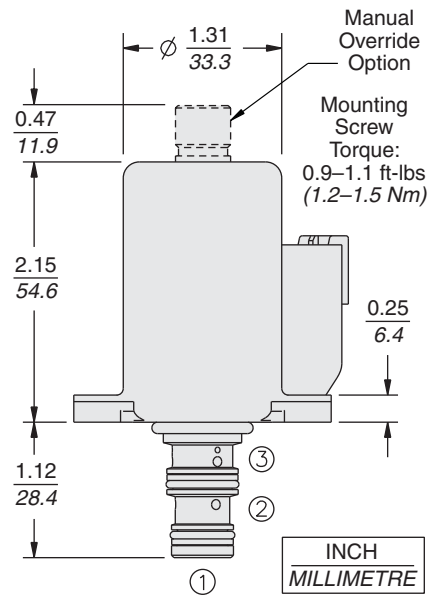
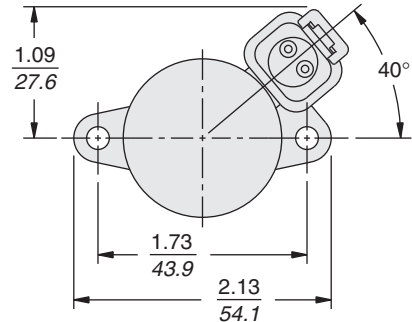
Note: For additional Frequency Response or Step Response information, consult factory.

Typical Step Response Curve

Inlet 25 bar/365 psi; Regulated Port Blocked



DIMENSIONS



Recommended Electronic Controllers:
See page 2.001.1 or our Electronics catalog.

MATERIALS

Cartridge including Coil: Weight: 0.20 kg. (0.44 lbs.) Steel with hardened work surfaces. Zinc-Nickel plated exposed surfaces. HNBR O-rings standard. Coil is encapsulated, class H high-temperature magnetwire, with zinc-nickel plated shell.

Ported Test Body: Consult Factory

Mounting Screws: Must be ordered separately: Part No. 4001015

TO ORDER

EHPR98-T35

Inlet Pressure

0 to 103 bar (0 to 1500 psi) (Blank)
103 to 241 bar (1500 to 3500 psi) **A**

Option

None (Blank)
Manual Override **M**

Porting

Cartridge Only **0**

Seals

N Hydrogenated Nitrile (HNBR)
V Fluorocarbon

Termination

ER Deutsch DT04-2P
EJ Amp Junior Timer

Voltage

10 10 VDC
12 12 VDC
20 20 VDC
24 24 VDC

Other voltages and coils with internal diode are available. Consult factory.