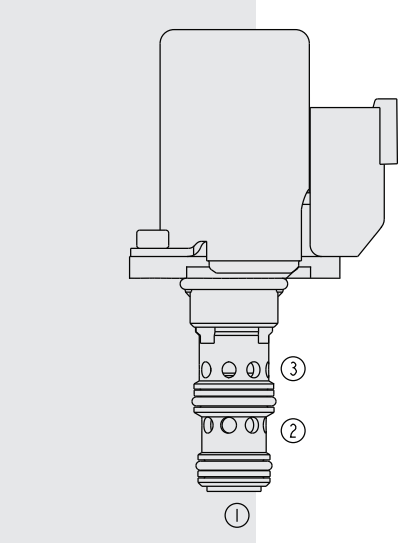
EHPR98-T38B Proportional Reducing/Relieving



DESCRIPTION

A direct-acting, spool-type, proportional, 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 E-coil is an integral part of the valve assembly, and cannot be replaced or field-serviced.

OPERATION

The **EHPR98-T38B** 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 2.

Note: Operation of manual override option: Rotate manual override screw clockwise until desired regulated pressure is achieved.

FEATURES

- Economical drop-in style.
- Integral waterproof coil standard.
- 1000-hour salt spray protection.
- Optional 142 micron screen at inlet.

RATINGS

Maximum Inlet Pressure: 241 bar (3500 psi) at Port 2; 57 bar (820 psi) at Port 1; 34 bar (500 psi) at Port 3.

Flow Rating: 18.9 lpm (5.0 gpm)

Maximum Internal Leakage: Energized: 393 ml/min. (24 cu. in./min.) at 241 bar (3500 psi); De-energized: 100 ml/min. (6 cu. in./min.) at 241 bar (3500 psi)

Cycle Life: One million cycles.

Oil Operating Fluid Temperature: -40° to 149°C (-40° to 300°F)

Storage Temperature: -40° to 70°C (-40° to 160°F)

Ambient Temperature: -40° to 80°C (-40° to 176°F)

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

Control Pressure at Maximum Control Current: 56.6 bar (820 psi)

Hysteresis: at 100 Hz PWM: 4% of maximum control pressure

Resistance: 4.3 ohm (10V); 5.2 ohm (12V); 17.5 ohm (20V); 20.9 ohm (24V)

Valve Inductance: 80 mH (12V)

Environmental Rating: IP69K

Filtration: See page 9.010.1

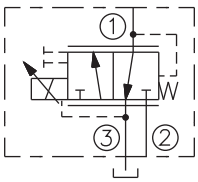
Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Cavity: VC-T011; See page 9.111.1

Cavity Tool: CT-T011R0-x-G; See page 8.600.1

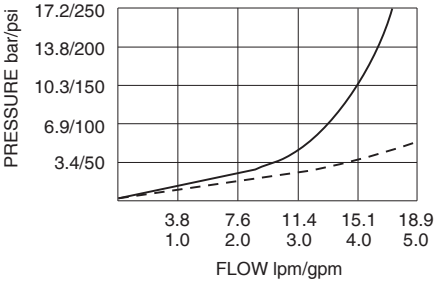
Seal Kits: SK-T011-N; SK-T011-V; See page 8.650.1

ISO SYMBOL

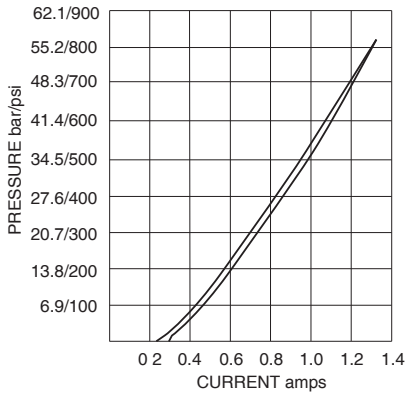


PERFORMANCE

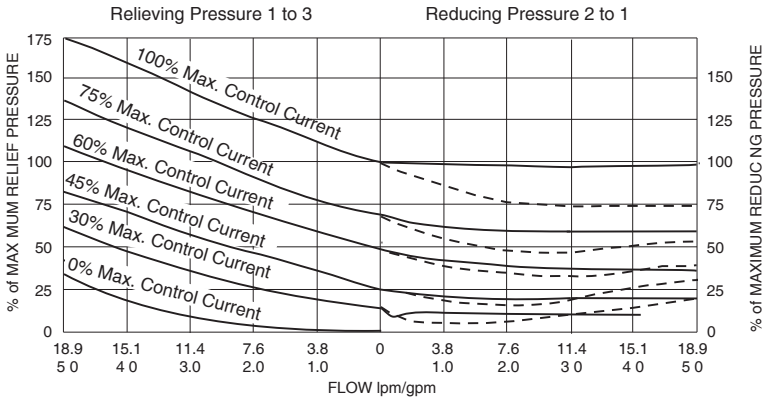
Pressure Drop vs. Flow
Cartridge Only
1 to 3 ——; 2 to 1 - - - - -



Reducing Pressure vs. Current
Inlet: 34.5 bar/500 psi; 150 Hz PWM; 12V Coil
Reducing Pressure 2 to 1



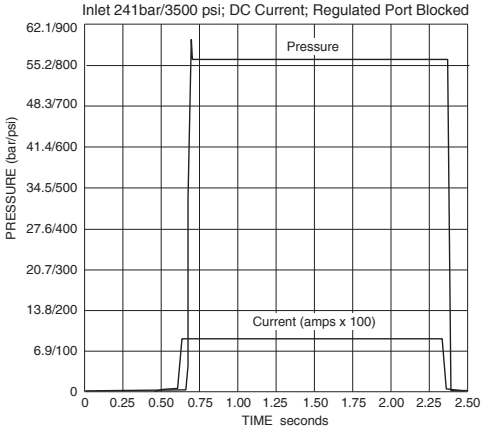
Typical Relieving/Reducing Pressure vs. Flow Characteristic
Typical Relieving Pressure at Various %s of Maximum Control Current
Inlet: 69 bar/1000 psi ——; Inlet 241 bar/3500 psi – – –
(Curves overlap on Relieving Pressure side of graph); 150 Hz PWM (Both Directions)



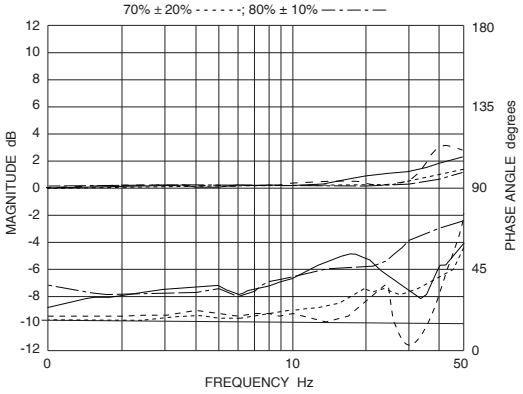
Drop-In-Style Valve — EHPR98-T38B

PERFORMANCE (continued)

Typical Step Response Curve
Inlet 241bar/3500 psi; DC Current; Regulated Port Blocked



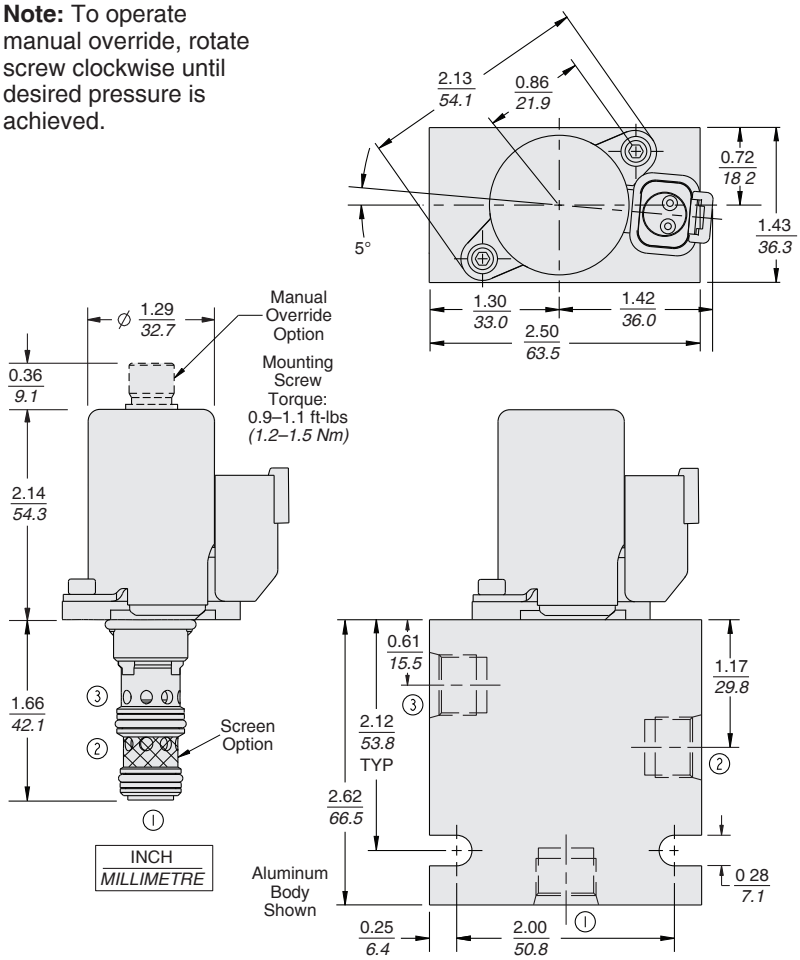
Typical Frequency Response Curves
Inlet: 69 bar/1000 psi; DC Current; Regulated Port Blocked
(For 241 bar/3500 psi inlet frequency response curves, consult factory.)
Signals: 40% ± 10% ———; 50% ± 25% — — —
70% ± 20% - - - - -; 80% ± 10% — - — -



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

DIMENSIONS

Note: To operate manual override, rotate screw clockwise until desired pressure is achieved.



MATERIALS

Cartridge including Coil: Weight: 0.32 kg. (0.70 lbs.) Steel with hardened work surfaces. Zinc-Nickel plated exposed surfaces. HNBR O-rings standard. Coil is encapsulated, high-temperature magnet wire with zinc-nickel plated shell.

Ported Body: Consult Factory

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

TO ORDER

EHPR98-T38B ___ - ___ - ___ ___ - ___ - ___ ___ ___ ___ ___

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

Screen Option
None (Blank)
142 micron inlet port **S**

Porting
Cartridge Only **0**
SAE 6 **6T**
SAE 8 **8T**
1/4 in. BSP* **2B**
3/8 in. BSP* **3B**
*BSP Body; U.K. Mfr. Only

Seals
N Hydrogenated Nitrile (HNBR)
V Fluorocarbon

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

Other voltages are available. Consult factory.

Termination
ER Deutsch DT04-2P
EJ Amp Junior Timer

Diode
(Blank) None
Z Zener Diode, Bidirectional