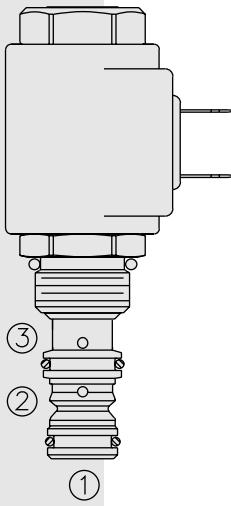


ELECTRO-PROPORTIONAL VALVES—PRESSURE CONTROLS

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 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

- 12 and 24 volt coils standard.
- Optional manual override.
- Industry common cavity.
- Waterproofed coils standard.

RATINGS

Maximum Port Pressure: 207 bar (3000 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), $\Delta P=6$ bar (87 psi), Cartridge only,
① to ③ coil de-energized

Step Response: $T_{ON} < 30$ ms; $T_{OFF} < 12$ ms

Flow Path: Free Flow: ① to ③ coil de-energized; Reduced: ② to ① coil energized;
Relieving: ① to ③ 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 ssu)

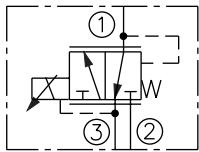
Installation: No restrictions; See page 9.020.1

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

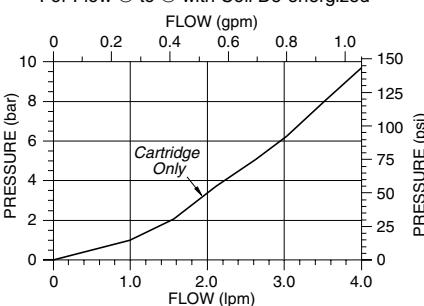
SYMBOLS

USASI/ISO:

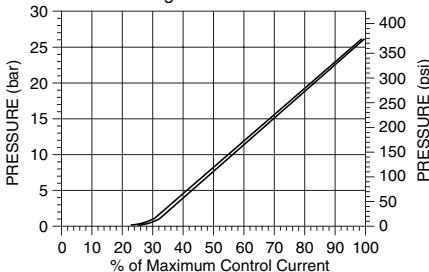


PERFORMANCE

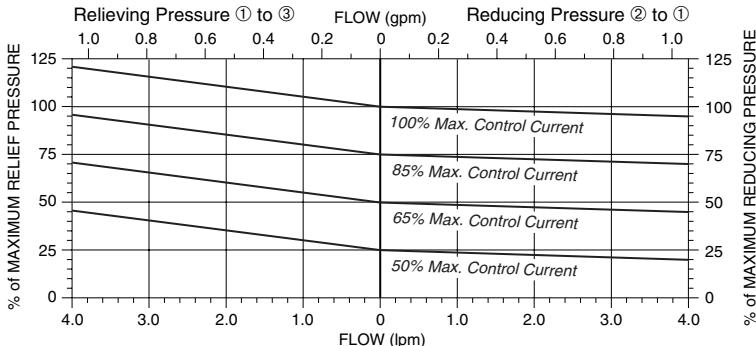
Pressure Drop vs. Flow Characteristic
For Flow ① to ③ with Coil De-energized

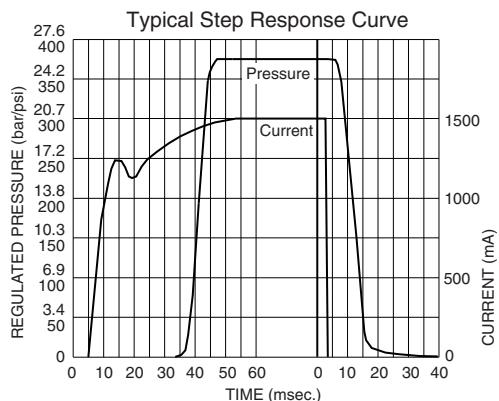
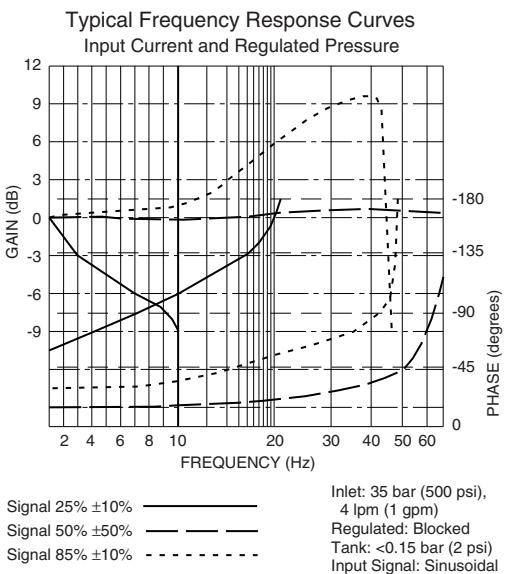
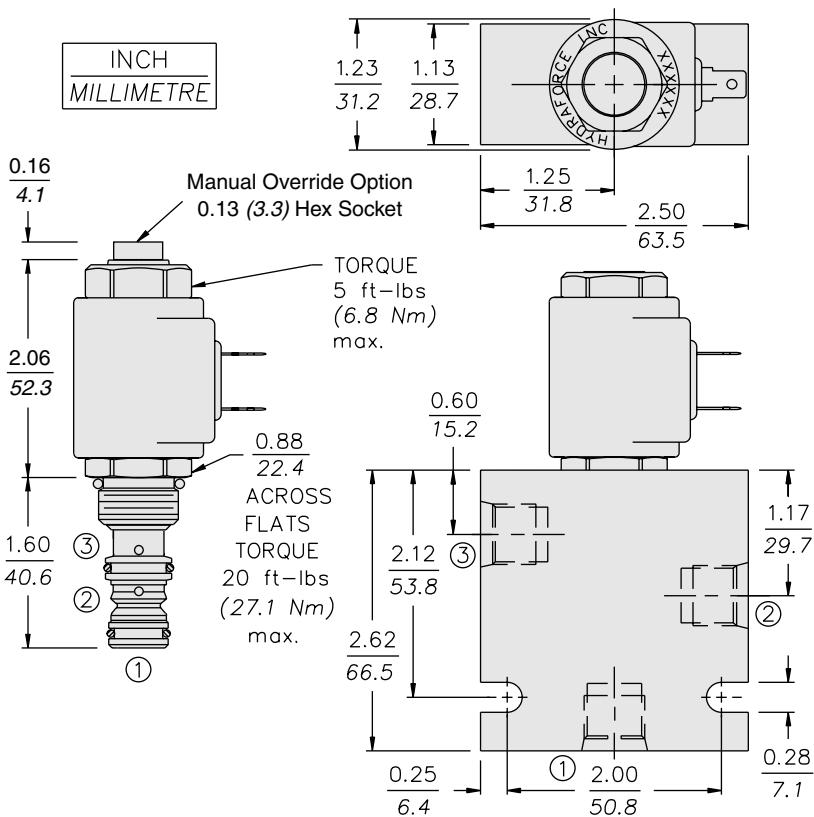


Relief Pressure vs.
Current (DC) Characteristic
Reducing Pressure ② to ①



Typical Relieving/Reducing Pressure vs. Flow Characteristic
Typical Relieving Pressure at Various %'s of Maximum Control Current
Pressure Range "A" (26 bar/375 psi); Cartridge in Body



PERFORMANCE (continued)

DIMENSIONS

Recommended Controllers (See Section 3)

Input Sig. w/12V or 24V Coil	DIN Coil Mount	PCB Board	Metal Box	DIN Rail Mount
0-5 VDC	4000161	4000194	4000174	4000136
0-10 VDC	4000165	4000141	4000182	4000137
4-20 mA	4000169	4000143	4000186	4000139
PWM	—	4000144	4000133	4000140

MATERIALS

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

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 240 bar (3500 psi); See page 8.008.1. Steel bodies available; consult factory.

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

TO ORDER
EHPR08-33

<u>Option</u>	None (Blank)	<u>Terminations</u>
Manual Override	M	DS Dual Spades
<u>Porting</u>		DG DIN 43650
Cartridge Only	0	DL Leadwires (2)
SAE 6	6T	DL/W Leads w/Weatherpak® Connectors
SAE 8	8T	DR Deutsch DT04-2P
3/8 in. BSP*	3B	
1/2 in. BSP*	4B	
*BSP Body; U.K. Mfr. Only		Coils with internal diode are available. Consult factory.
<u>Seals</u>	N	0 Less Coil
Buna N (Std.)	N	10 *10 VDC (1.5 amps max.)
Fluorocarbon	V	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. Consult factory for other voltages.