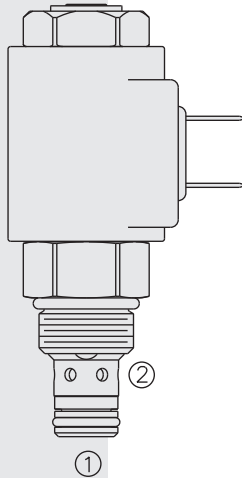


TS08-27 Proportional Electrohydraulic Relief Valve

U.S.
Patents
6,267,350
&
7,137,406



DESCRIPTION

A screw-in, cartridge-style, pilot-operated, spool-type proportional electrohydraulic pressure relief valve, which can be infinitely adjusted across a prescribed range using a variable electric input. Pressure output is inversely proportional to DC current input. This valve is intended for use as a pressure limiting device in demanding applications.

OPERATION

The TS08-27 blocks flow from 1 to 2 until sufficient pressure is present at 1 to open the valve by overcoming the preset induced spring force. With no current applied, the valve will relieve at ± 50 psi of the spring maximum. Applying current to the coil reduces the induced spring force thereby reducing the valve setting. The regulated pressure is inversely proportional to the input electrical current.

Note: This valve is ideal for hydraulic fan drive applications. Consult factory for electronic controllers specifically designed for fan drive applications.

FEATURES

- 12 and 24 volt coils standard.
- Industry common cavity.
- Hardened parts for long life.

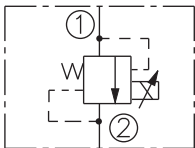
RATINGS

Maximum Operating Pressure: 241 bar (3500 psi)

Electrical Parameters:

	D-Coil				E-Coil	
	10 VDC	12 VDC	20 VDC	24 VDC	12 VDC	24 VDC
Max Control Current (amperes)	1.50	1.31	0.85	0.65	1.40	0.70
Resistance (Nominal) (ohms)	3.1	5.4	12.2	21.7	5.4	21.7

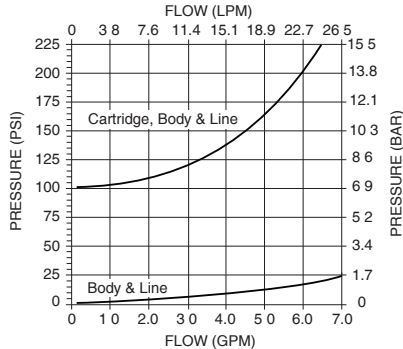
ISO SYMBOL



PERFORMANCE

PRESSURE DROP VS. FLOW CHARACTERISTIC

Flow from Port 1 to Port 2 with Coil Energized, at Maximum Set Current



Relief Pressure Range from Zero to Maximum Control Current: **A:** 207–6.9 bar (3000–100 psi) **B:** 138–6.9 bar (2000–100 psi) **C:** 68.9–6.9 bar (1000–100 psi)

Rated Flow: 24.6 lpm/6.5 gpm; $\Delta P = 13.8$ -17.2 bar (200-250 psi), cartridge only; port 1 to 2 coil energized

Maximum Pilot Flow: 0.76 lpm (0.2 gpm)

Hysteresis at PWM 200 Hz (% of max pressure): **A:** 3.2 **B:** 3.0 **C:** 4.8

Flow Path: Free Flow: 1 to 2 coil energized; Relieving: 1 to 2 coil de-energized

Pressure Rise: **A:** 0.48 bar/lpm (26.5 psi/gpm); **B:** 0.36 bar/lpm (20 psi/gpm) **C:** 0.46 bar/lpm (25 psi/gpm)

Temperature: -40 to 120°C (-40 to 250°F) with standard Buna N seals

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

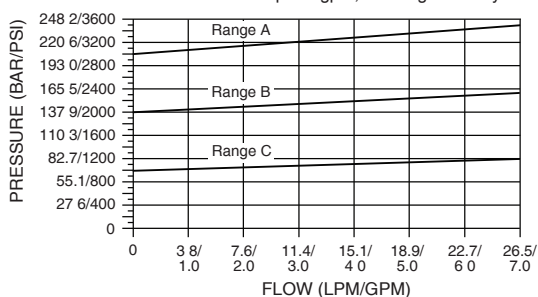
Installation Recommendation: When possible, the valve should be mounted below the reservoir oil level. This will maintain oil in the armature preventing trapped air instability. If this is not feasible, mount the valve horizontally for best results.

Cavity: VC08-2; See page 9.108.1; **Cavity Tool:** CT08-2XX; See page 8.600.1

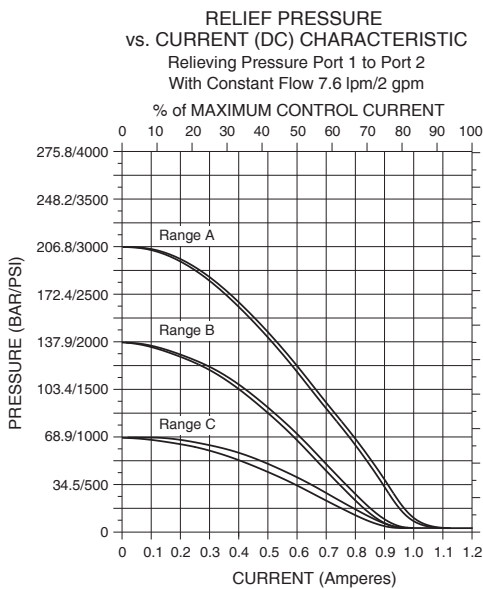
Seal Kit: SK08-2X-B; See page 8.650.1

TYPICAL RELIEF PRESSURE VS. FLOW CHARACTERISTIC

Typical Relieving Pressure Port 1 to Port 2 at No Current Applied With Constant Flow 7.1 lpm/2 gpm; Cartridge in Body



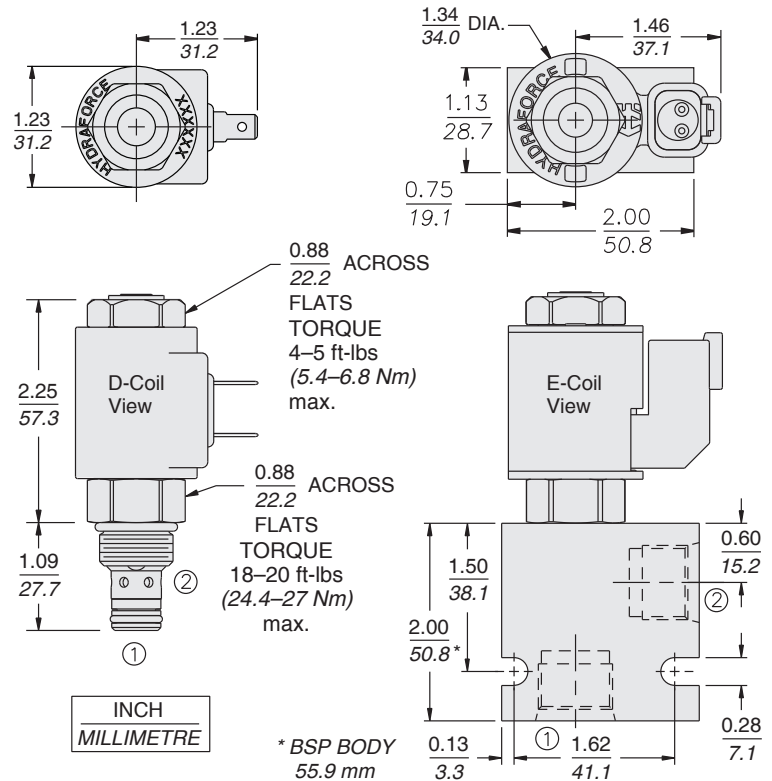
PERFORMANCE (continued)



Recommended Electronic Controllers:
Model **EFDR2** Multi-Input Fan Drive Controller.
For more information go to:
<http://www.hydraforce.com/Electro/fandrive.htm>
or
Recommended Electronic Controllers
catalog page 2.001.1 (Table 2)

DIMENSIONS

U.S. Patent 6,267,350



MATERIALS

Cartridge: Weight: 0.15 kg. (0.33 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and polyester elastomer back-ups 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 Coils:

D-Coil: Weight: 0.11 kg. (0.25 lbs.)
Unitized thermoplastic encapsulated, 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

TS08-27		-	-	-	-	-
Maximum Operating Pressure						
207 bar (3000 psi)	A					
138 bar (2000 psi)	B					
70 bar (1000 psi)	C					
Porting						
Cartridge Only	0					
SAE 6	6T					
3/8 in. BSP*	3B					
*BSP Body; U.K. Mfr. Only						
Seals						
Buna N (Std.)	N					
Fluorocarbon	V					
Polyurethane	P					
D-Coil Terminations						
DR	Integral Deutsch					
DS	Dual Spades (J858a)					
DG	DIN 43650					
DL	Leadwires (2)					
DL/W	Leads w/Weatherpak® Connectors					
E-Coil Terminations						
ER	Deutsch DT04-2P (IP69K Rated)					
Coils with internal diode are available. Consult factory.						
Voltage						
0	Less Coil					
10	10 VDC					
12	12 VDC					
20	20 VDC					
24	24 VDC					