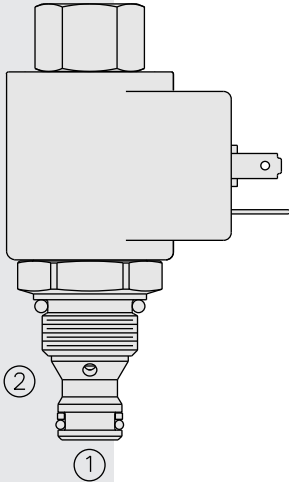


TS08-20 Proportional Electrohydraulic Relief Valve



DESCRIPTION

A screw-in, cartridge-style, direct acting, poppet-type electro hydraulic relief 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 limiting device in demanding applications.

OPERATION

The TS08-20 blocks flow from 1 to 2 until sufficient pressure is present at 1 to offset the electrically induced solenoid force. With no current applied to the solenoid, the valve will free flow from 1 to 2. Note: Back pressure on port 2 becomes additive to the pressure setting at a 1:1 ratio.

FEATURES

- 12 and 24 volt coils standard.
- Optional waterproof E-Coils rated up to IP69K.
- Industry common cavity.
- Waterproofed coils standard.

RATINGS

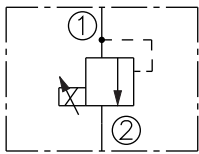
Maximum Inlet Pressure: 34.5 bar (500 psi)

Electrical Parameters:

Coil	Typical Max. Current (A) at 0 gpm		Typical Resistance ± 5% @ 20°C (ohms)		Typical Apparent Inductance (mH)	
	12 VDC	24 VDC	12 VDC	24 VDC	12 VDC	24 VDC
D-Coil	0.65	0.32	9.8 ±5%	39.3 ±5%	88.9	N/A
E-Coil	0.75	0.37	8.8 ±5%	33.8 ±5%	12.4	62.1

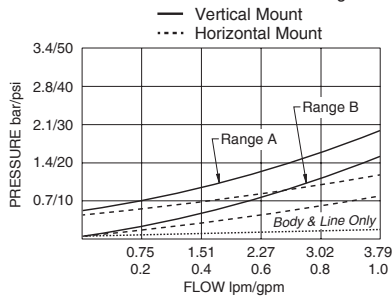
SYMBOLS

USASI/ISO:

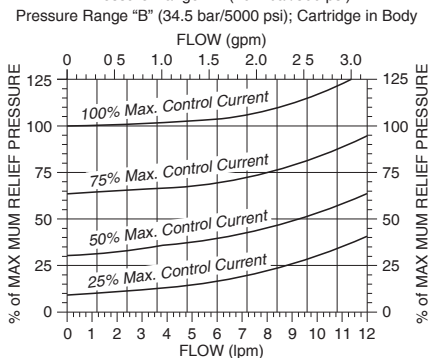


PERFORMANCE

Pressure Drop vs. Flow Characteristic
For Flow 1 to 2 with Coil De-energized



Typical Relief Pressure vs. Flow Characteristic
Typical Relieving Pressure 1 to 2
at Various %'s of Maximum Control Current
Pressure Range "A" (20.7 bar/300 psi)



Control Signal: DC or PWM (Significant improvements in valve performance occur with superimposed dither, with either control method.)

Hysteresis with Dither 250 Hz: 3.0% (7% maximum without dither)

Rated Flow: A: 3.8 lpm/1 gpm @ 1.4 bar/20 psi pressure drop

B: 3.8 lpm/1 gpm @ 0.8 bar/12 psi pressure drop

Step Response: T_{ON} <27 ms; T_{OFF} <50 ms

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

Temperature: -40 to 100°C (-40 to 212°F) with standard Buna N seals; -26 to 204°C (-15 to 400°F) with Viton 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.

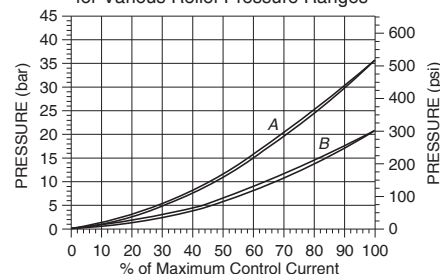
Cavity: VC08-2; See page 9.108.1

Cavity Tool: CT08-2XX; See page 8.600.1

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

Coil Nut: Part No. 7004410; For E-coils manufactured prior to 1-1-04, see page 3.400.1.

Relief Pressure vs.
Current (DC) 260 Hz Dither
Relieving Pressure 1 to 2
for Various Relief Pressure Ranges



Recommended Electronic Controllers:

Model **EFDR2** Multi-Input Fan Drive Controller.

For more information go to:

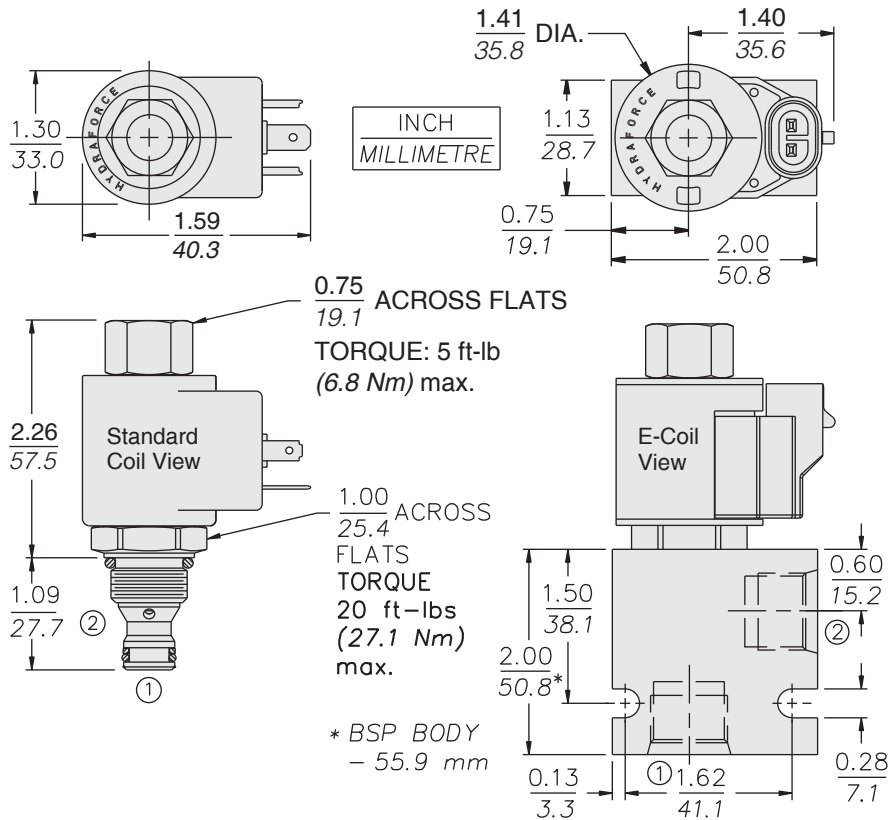
<http://www.hydraforce.com/Electro/fandrive.htm>

or

Recommended Electronic Controllers

catalog page 2.001.1 (Table 2)

DIMENSIONS



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

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

E-Coil: Weight: 0.16 kg. (0.35 lbs.)
 Perfect wound, fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. **Note: See page 3.400.1 for all E-Coil retrofit applications.**

TO ORDER

TS08-20		-	-	-	-	-	-	-
Maximum Relief Pressure								
34.5 bar (500 psi)	A							
20.7 bar (300 psi)	B							
Porting								
Cartridge Only	0							
SAE 6	6T							
3/8 in. BSP*	3B							
1/2 in. BSP*	4B							
*BSP Body; U.K. Mfr. Only								
Seals								
Buna N (Std.)	N							
Fluorocarbon	V							
Termination Std. Coil								
DS	Dual Spades (SAE J858a)							
DG	DIN 43650							
DL	Leadwires (2)							
DL/W	Leads w/Weatherpak® Connectors							
DR	Deutsch DT04-2P							
DJ	Amp Junior Timer							
DK	Kostal (UK only)							
DP	DL with 0.5" conduit							
Termination E-Coil								
ER	Deutsch DT04-2P (IP69K Rated)							
EY	Metri-Pack® 150 (IP69K Rated)							
Coils with internal diode are available. Consult factory.								
Voltage								
0	Less Coil							
10	10 VDC (0.80 amps max.)							
12	12 VDC (0.65 amps max.)							
20	20 VDC (0.40 amps max.)							
24	24 VDC (0.33 amps max.)							