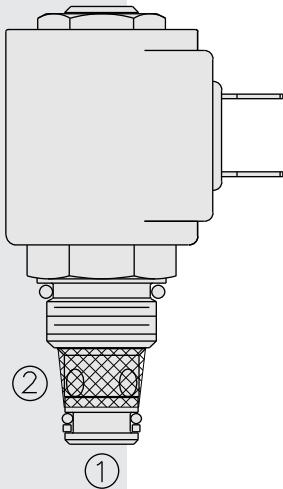


# ELECTRO-PROPORTIONAL VALVES—FLOW CONTROL

## SP08-22 Poppet, 2-Way, Normally Closed



### DESCRIPTION

A proportional solenoid-operated, 2-way, bi-directional, poppet-type, normally closed, screw-in hydraulic cartridge valve for low-leakage blocking and load-holding.

### OPERATION

When de-energized, the **SP08-22** acts as a check valve, allowing flow from 1 to 2, while blocking flow from 2 to 1. When energized, the poppet lifts to open the 2 to 1 flow path. Flow is proportional to current applied to the coil. The reverse-flow check allows unrestricted flow from 1 to 2 when the valve is energized, but this flow is not proportional to the current.

Note: External circuitry is required to ramp current.

**Note: If low voltage is expected on the machine, 12 or 24 volt systems will require the use of 10 volt or 20 volt coils respectively. See "SP Valves and Coil Operating Parameters," page 2.002.1.**

### FEATURES

- Industry-common cavity.
- Hardened steel work surfaces.
- Continuous-duty rated coils.
- Optional waterproof E-Coils rated up to IP69K

### RATINGS

**Operating Pressure:** 207 bar (3000 psi)

**Flow:** 30.3 lpm (8 gpm) nominal

**Max. Internal Leakage:** 5 drops per minute at 207 bar (3000 psi)

**Temperature:** -40 to 100°C with standard Buna seals

**Filtration:** Recommend ISO 4406 16/13; 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:** No Restrictions. See page 9.020.1

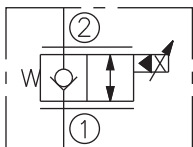
**Cavity:** VC08-2; See page 9.108.1; **Cavity Tool:** CT08-2XX; See page 8.600.1

**Seal Kit:** SK08-2X-M; See page 8.650.1

**Coil Nut:** Part No. 7004400; For E-coils manuf. prior to 1-1-04, see page 3.400.1

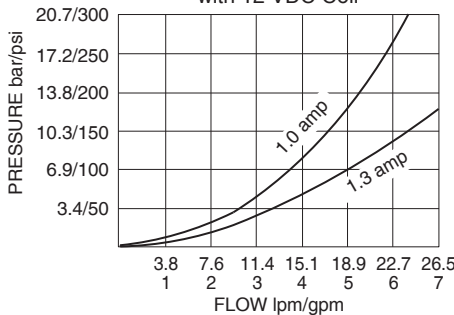
### SYMBOLS

#### USAS/ISO:

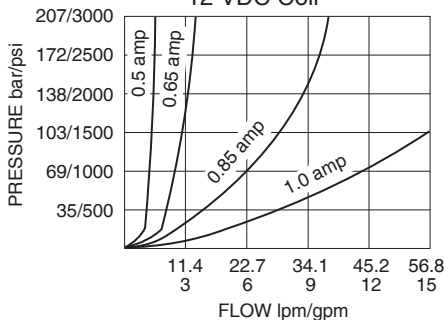


### PERFORMANCE

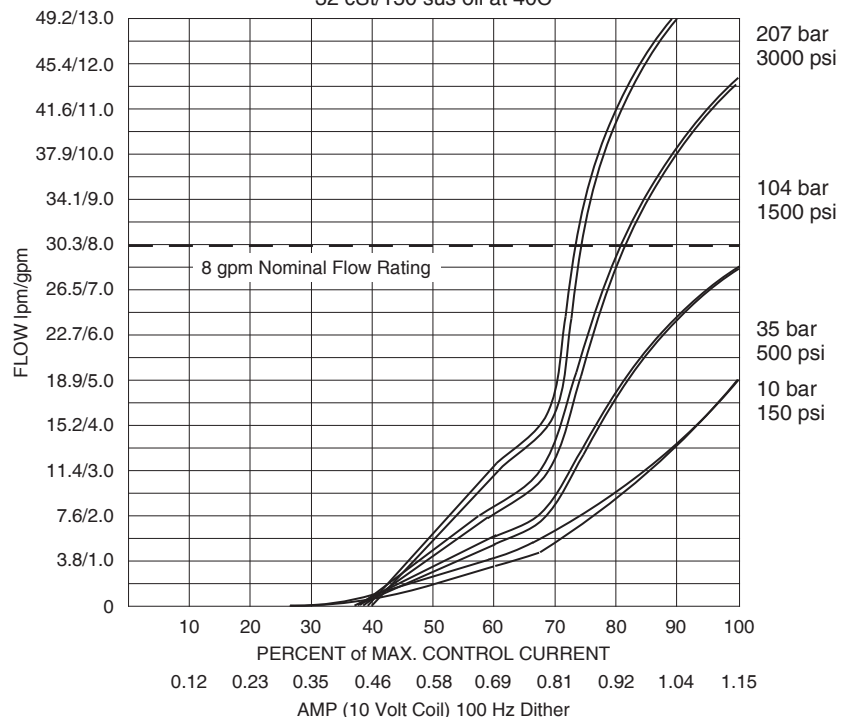
TYPICAL PRESSURE DROP 2 to 1 with 12 VDC Coil



TYPICAL PRESSURE RESPONSE 12 VDC Coil

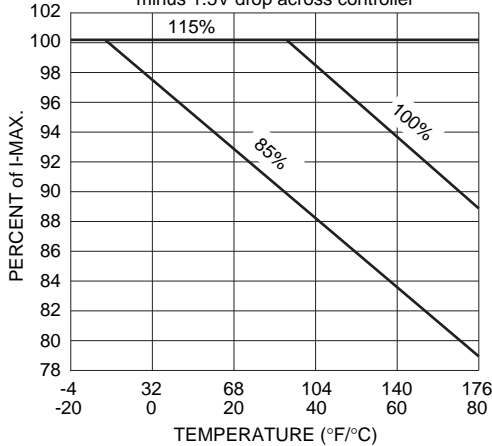


FLOW vs. CURRENT at Various Differential Pressures for Standard Coils (consult factory for E-Coils) 32 cSt/150 sus oil at 40C



**PERFORMANCE** (cont'd.)

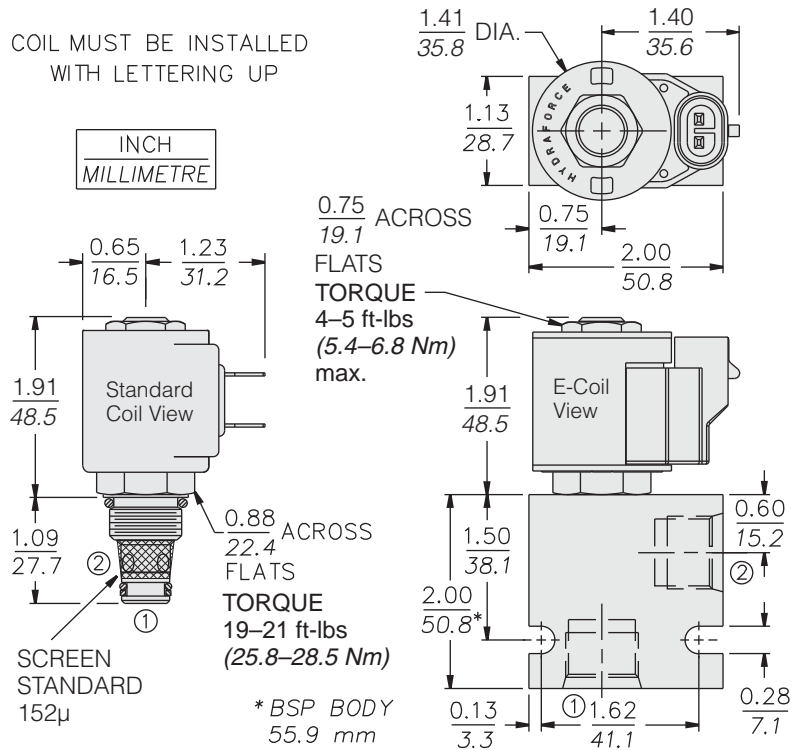
**PERCENT I-MAX. vs. TEMPERATURE**  
for 10 or 20 VDC Coil (for 10V Coil I-Max. = 1.15A)  
Curves show percent of nominal system voltage  
minus 1.5V drop across controller



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

**DIMENSIONS**

COIL MUST BE INSTALLED  
WITH LETTERING UP



**MATERIALS**

**Cartridge:** Weight: 0.10 kg. (0.23 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and back-ups standard.

**Standard Ported Body:** Weight: 0.16 kg. (0.35 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 240 bar (3500 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: 0.14 kg. (0.3 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**

