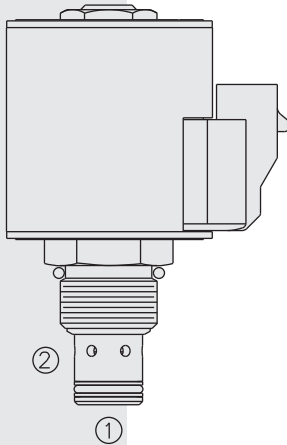


# SP10-25 Proportional, Spool, 2-Way, Normally Closed



## DESCRIPTION

A proportional solenoid-operated, two-way, spool-type, normally open, bi-directional, screw-in hydraulic cartridge valve.

## OPERATION

When de-energized, the **SP10-25** allows flow from 2 to 1 or from 1 to 2. When partially energized, the valve begins to throttle the flow in either direction. When fully energized, flow is blocked in either direction.

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.
- Continuous-duty rated coils.
- Hardened precision spool and cage for long life.
- Optional waterproof E-Coils rated up to IP69K.

## RATINGS

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

**Electrical Parameters:**

| Coil   | Typical Max. Current (amp) at 0 gpm |          | Typical Resistance $\pm 5\%$ at 20°C (ohms) |                |
|--------|-------------------------------------|----------|---|----------------|
|        | 12 VDC                              | 24 VDC   | 12 VDC                                      | 24 VDC         |
| D-Coil | 1.20 amp                            | 0.60 amp | 7.2 $\pm 3\%$                               | 28.8 $\pm 5\%$ |
| E-Coil | 1.40 amp                            | 0.70 amp | 7.09 $\pm 3\%$                              | 28.5 $\pm 5\%$ |

**Flow Rating:** 18.9 lpm (5 gpm)

**Max. Internal Leakage:** 196 cc/minute (10 cu. in./minute) at 207 bar (3000 psi)

**Operating Temperature:** -40 to 100°C (-40° to 212°F) with standard Buna N seals

-26 to 204°C (-15°F to 400°F) with Viton seals

-54 to 107°C (-65°F to 225°F) with Polyurethane 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:** No Restrictions. See page 9.020.1

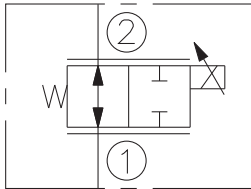
**Cavity:** VC10-2; See page 9.110.1;

**Cavity Tool:** CT10-2XX; See page 8.600.1

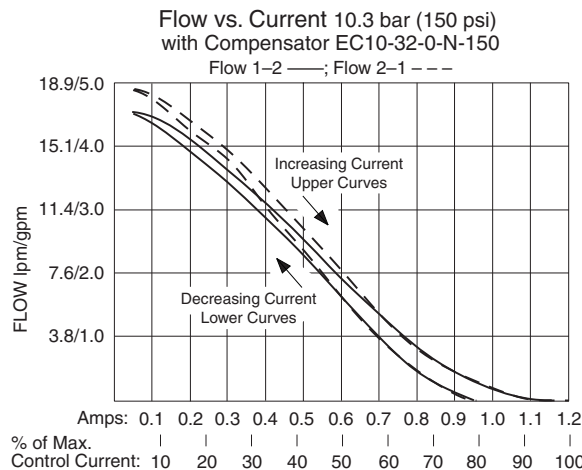
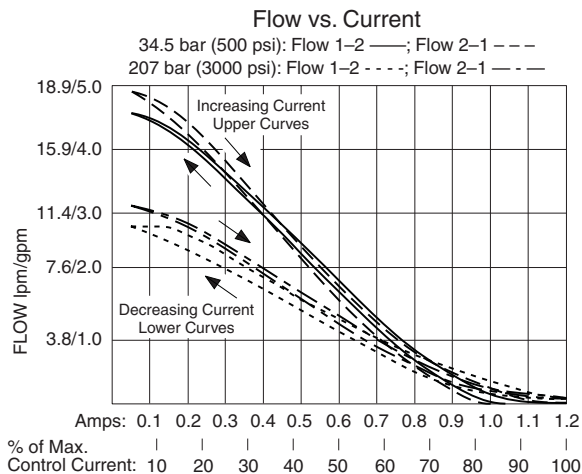
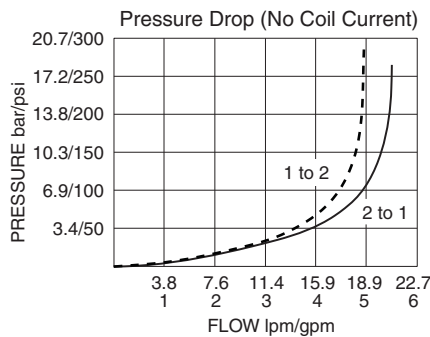
**Seal Kit:** SK10-2X-M; See page 8.650.1

**Coil Nut:** Part No. 7004400

## ISO SYMBOL



## PERFORMANCE



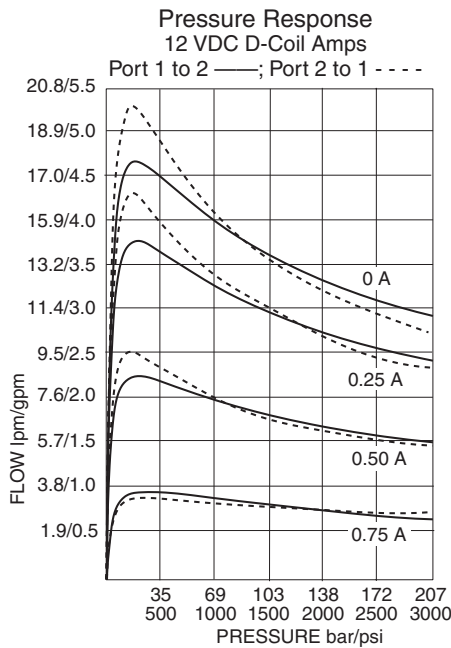
**Graphs based on 12 VDC "D" coil current.**

**NOTE:** Curves shown are at constant pressure. Limiting flow to the valve or significant changes in differential pressure will change valve performance. Without a pressure compensator, the valve requires a minimum of 250 psid to achieve stable control of the spool as shown on the flow vs. current graphs.

# Reverse Flow Check

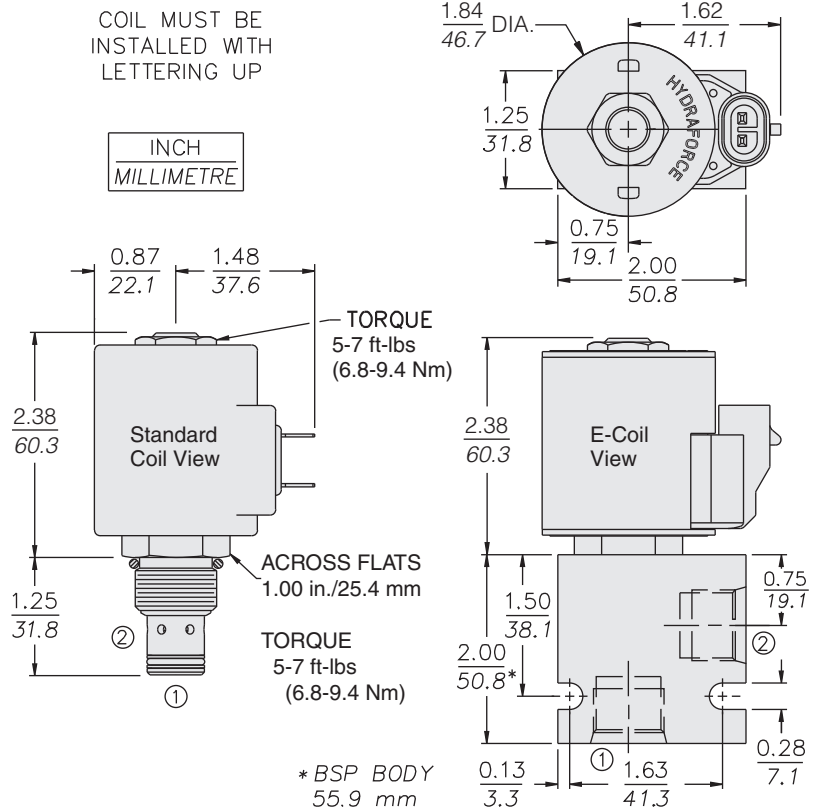
# SP10-25

## PERFORMANCE (cont'd.)



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

## DIMENSIONS



## MATERIALS

**Cartridge:** Weight: 0.17 kg. (0.371 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 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

**Standard D-Coil:** Weight: 0.27 kg. (0.60 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1

**E-Coil:** Weight: 0.41 kg. (0.9 lbs.) Perfect wound, fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1

## TO ORDER

