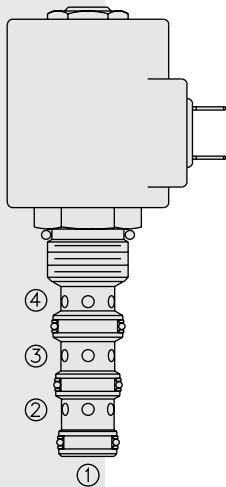


# ELECTRO-PROPORTIONAL VALVES—DIRECTIONAL CONTROL

## SP10-46R Spool, 4-Way, 2-Position



### DESCRIPTION

A proportional, solenoid-operated, four-way, two-position, screw-in hydraulic cartridge valve.

### OPERATION

When de-energized, the **SP10-46R** allows flow from ②, ① and ④, while blocking flow at ③. When energized, metered flow is allowed from ③ to ④, as well as metered return flow from ② to ①.

### FEATURES

- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Good linearity and hysteresis.
- Industry common cavity.

### RATINGS

**Operating Pressure:** 247 bar (3625 psi) with standard Buna N seals

**Flow:** 22.7 lpm (6 gpm) maximum; see performance chart

**Internal Leakage:** 328 ml/minute (20 cu. in./minute) max. at 207 bar (3000 psi)

**Temperature:** -40 to 120°C with standard Buna seals

**Coil Duty Rating:** Standard Coils and E-Coils: Continuous from 85% to 115% of nominal voltage

**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:** VC10-4; See page 9.110.1

**Cavity Tool:** CT10-4XX; See page 8.600.1

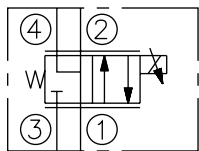
**Seal Kit:** SK10-4X-MMM; See page 8.650.1

**Coil Nut:** Part No. 7004400;

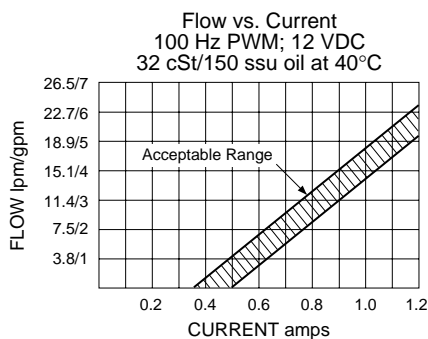
For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.

### SYMBOLS

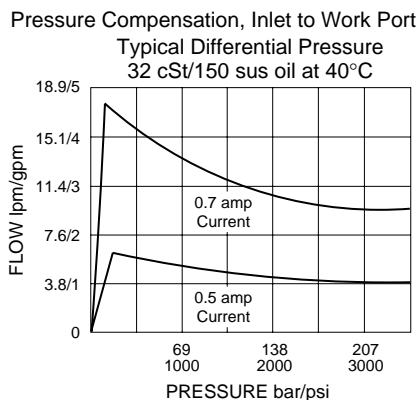
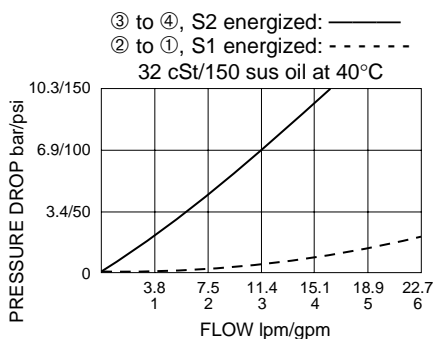
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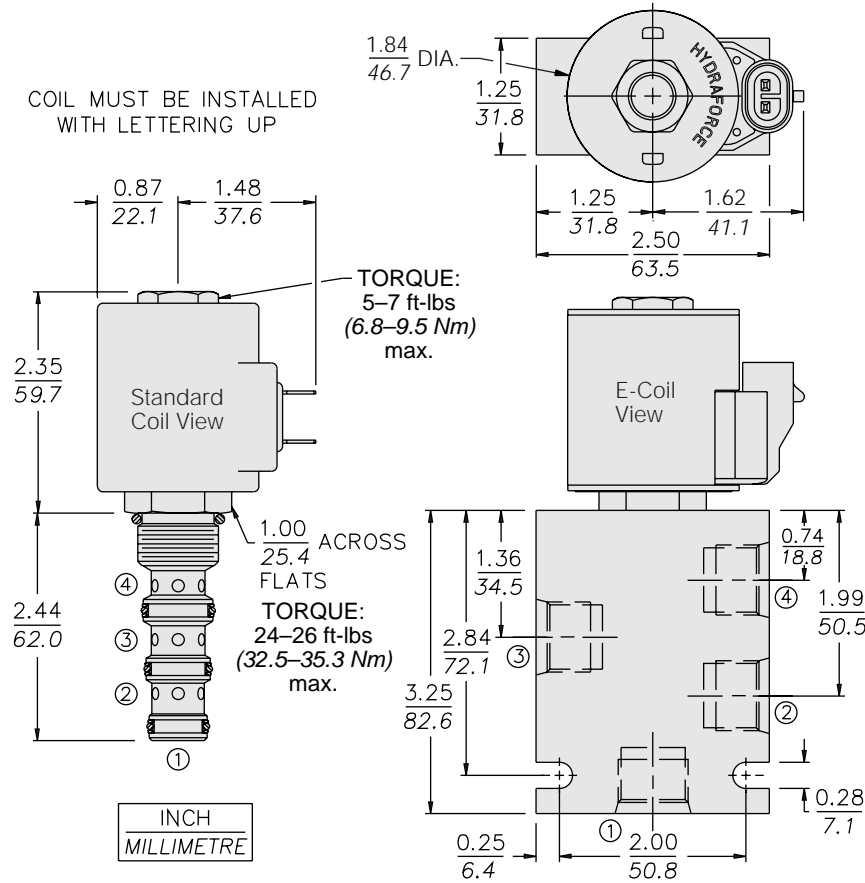
### PERFORMANCE (Cartridge Only)



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



**DIMENSIONS**



**MATERIALS**

**Cartridge:** Weight: 0.20 kg. (0.45 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

**Standard Ported Body:** Weight: 0.36 kg. (0.80 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.

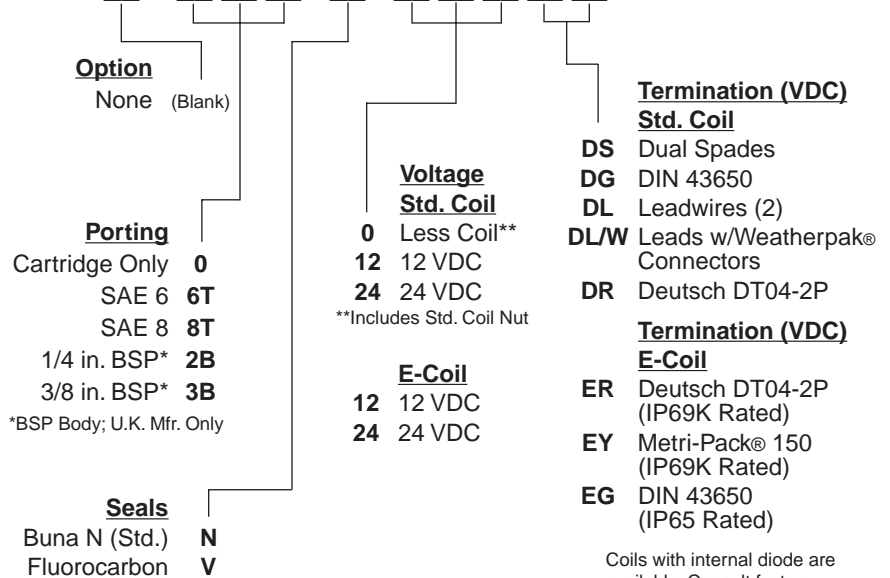
**Standard Coil:** Weight: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire. See page 3.200.1.

**E-Coil:** Weight: 0.41 kg. (0.9 lbs.); 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**

**SP10-46R**



Coils with internal diode are available. Consult factory.