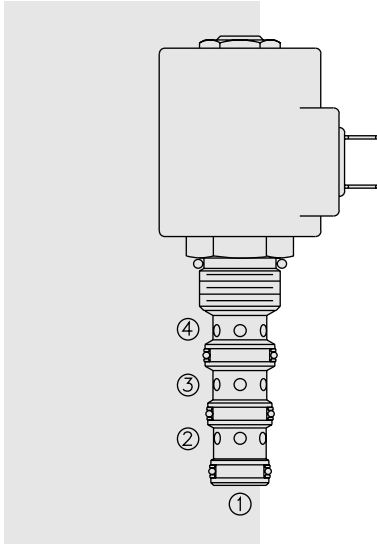


# ELECTRO-PROPORTIONAL VALVES—DIRECTIONAL CONTROL

## SP10-41 Spool, 4-Way, 2-Position, Normally Closed



### DESCRIPTION

A proportional, solenoid-operated, 4-way, 2-position, normally closed, spool-type, screw-in hydraulic cartridge valve.

### OPERATION

When de-energized, the **SP10-41** blocks flow to all ports. When the coil is energized, metered flow is allowed from ③ and ④, as well as metered return flow from ② to ①.

While port ① may be fully pressurized, it is not intended for use as the valve's inlet.

In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port ②.

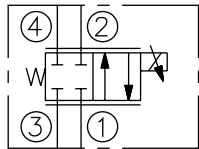
**Note:** Valve will allow flow from ① to ② and from ④ to ③ but flow will not be metered.

### FEATURES

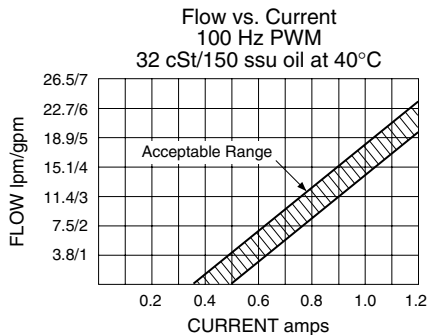
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Good linearity and hysteresis.
- Industry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

### SYMBOLS

#### USAS/ISO:



### PERFORMANCE (Cartridge Only)



### RATINGS

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

**Flow:** 20.8 lpm (5.5 gpm) maximum; see performance chart

**Internal Leakage:** 164 ml/minute (10 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 ssu)

**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

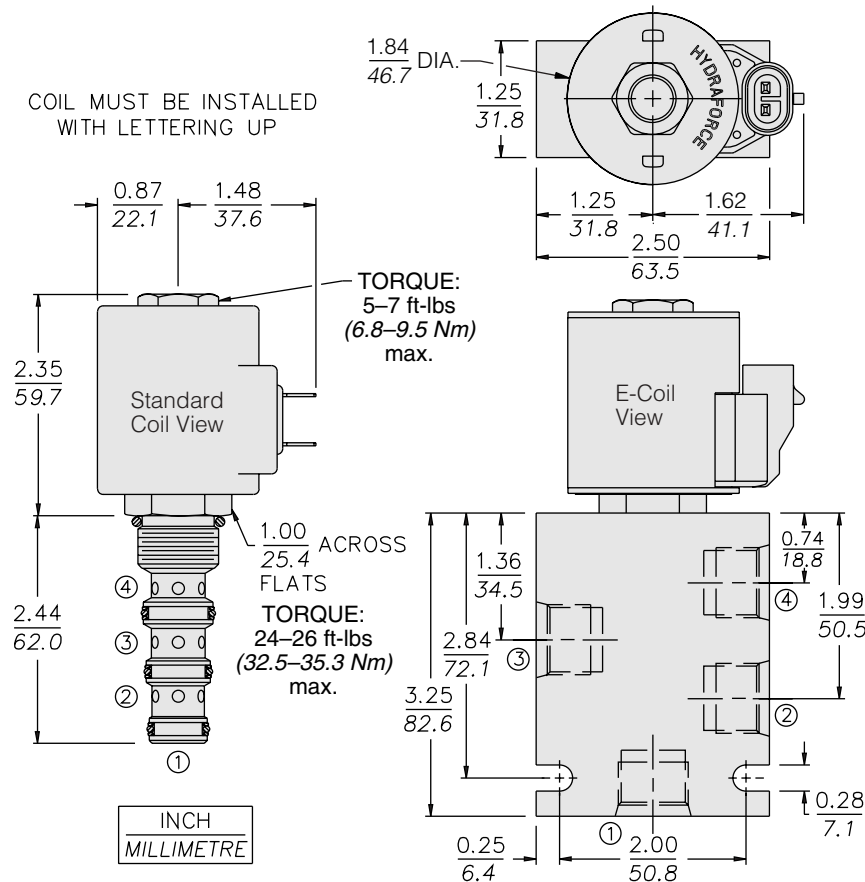
**Coil Nut:** Part No. 7004400;

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

### Recommended Controllers (See Section 3)

Input Sig. w/12V Coil	DIN Coil Mount	PCB Board	Metal Box	DIN Rail Mount
0-5 VDC	7114950	4000046	4000049	4000136
0-10 VDC	4000070	4000141	4000124	4000137
4-20 mA	4000123	4000143	4000130	4000139
PWM	—	4000144	4000133	4000140
w/24V Coil				
0-5 VDC	4000161	4000194	4000174	4000136
0-10 VDC	4000165	4000141	4000182	4000137
4-20 mA	4000169	4000143	4000186	4000139
PWM	—	4000144	4000133	4000140

## DIMENSIONS



## MATERIALS

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

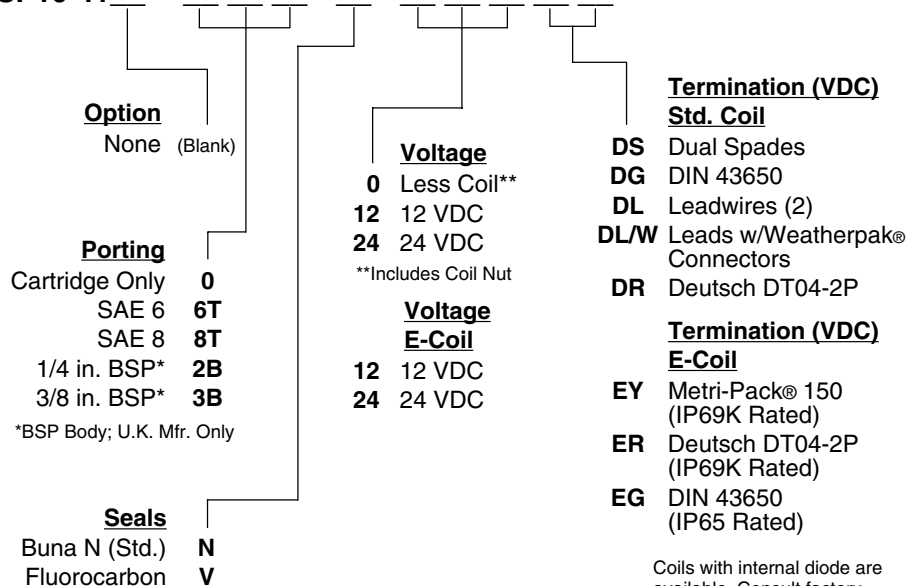
**Standard Ported Body:** Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 240 bar (3500 psi); See page 8.010.1. Ductile iron and steel bodies available; dimensions may differ; consult factory.

**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.); 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

### SP10-41



Coils with internal diode are available. Consult factory.