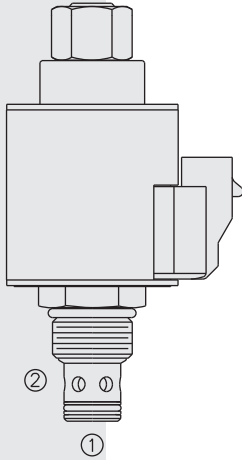


# SP10-24 Spool, 2-Way, Normally Closed, Metering



## DESCRIPTION

A proportional solenoid-operated, 2-way, spool-type, normally-closed, direct-acting, screw-in hydraulic cartridge valve for bi-directional metering.

## OPERATION

When energized, the **SP10-24** acts as a bi-directional metering valve. When de-energized, the valve blocks flow in both directions.

**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.
- Manual Override option.
- Efficient wet-armature construction.
- Optional waterproof E-Coils rated up to IP69K.

## RATINGS

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

**Minimum Operating Dither/Pulse Frequency:** 70 Hz

**Flow:** 0 to 26.5 lpm (0 to 7 gpm)

**Max. Internal Leakage:** 328 cc/minute (20 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 Fluorocarbon 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

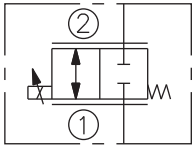
**Cavity:** VC10-2; See page 9.110.1;

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

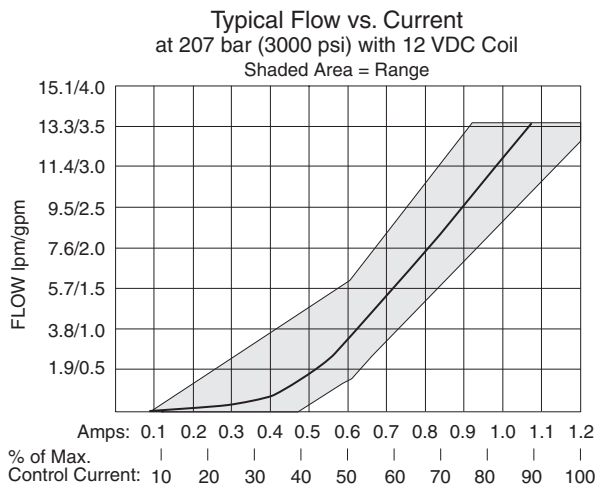
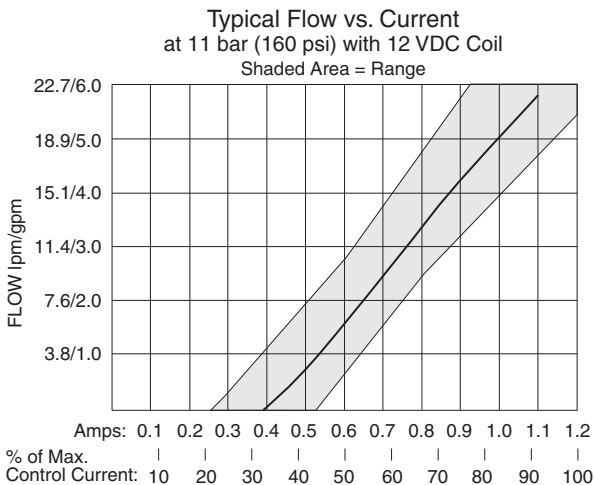
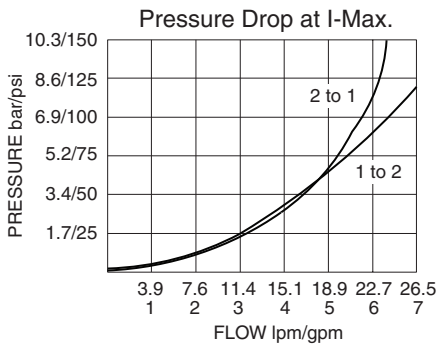
**Seal Kit:** SK10-2X-M; See page 8.650.1

**Coil Nut:** Part No. 7004420

## SYMBOL

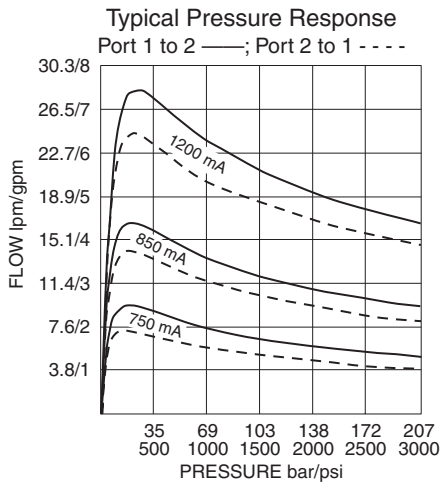


## PERFORMANCE



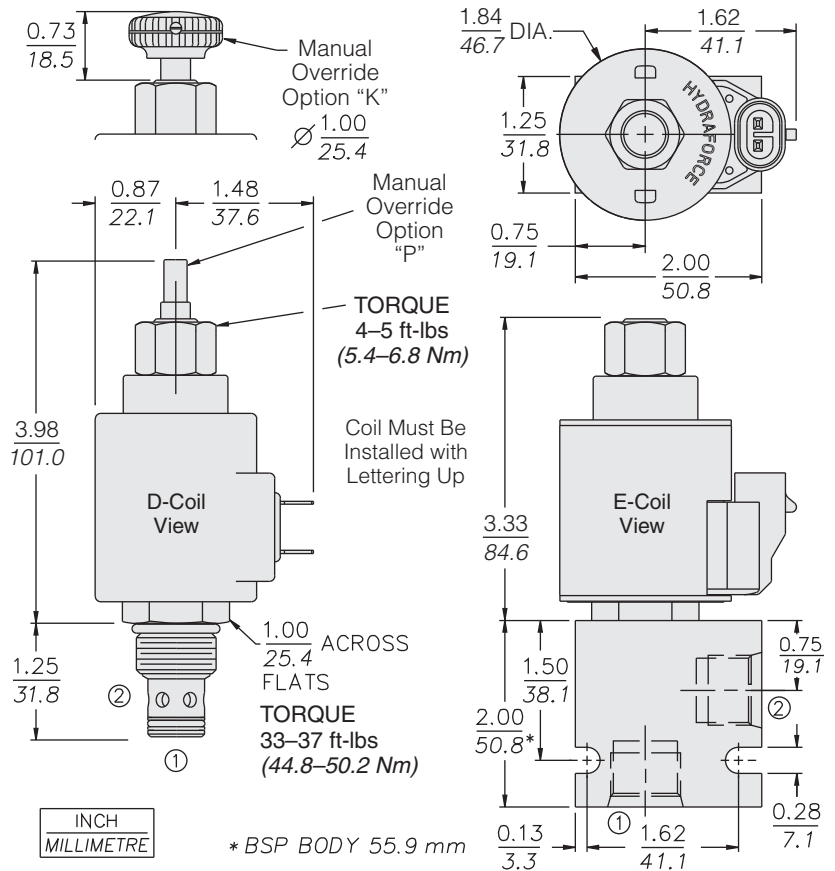
Performance charts continued on next page.

**PERFORMANCE** (cont'd.)



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

**DIMENSIONS**



**MATERIALS**

**Cartridge:** Weight: 0.17 kg. (0.37 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**

**SP10-24**

**Option**  
None (Blank)  
Manual Override **P**  
Manual Override **K**  
For Manual Override details see page 1.001.1

**Porting**  
Cartridge Only **0**  
SAE 6 **6T**  
SAE 8 **8T**  
1/4 in. BSP\* **2B**  
3/8 in. BSP\* **3B**  
1/2 in. BSP\* **4B**  
\*BSP Body; U.K. Mfr. Only

**Seals**  
Buna N (Std.) **N**  
Fluorocarbon **V**  
Polyurethane **P**

**Voltage**  
\*\*Less Coil **0**  
†10 VDC **10**  
12 VDC **12**  
†20 VDC **20**  
24 VDC **24**

\*\*Includes Coil Nut and Spacer.  
†10 and 20 VDC coils should be used for most continuous-duty applications. Consult factory.

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pak 150	EY (IP69K)	DY (IP65)
Dual Lead Wires	EL (IP69K)	DL (IP65)
Amp Jr. Timer	EJ (IP67)	—
DIN 43650	EG (IP65)	DG (IP65)
Dual Spades	—	DS (IP65)

For Coils with Zener Diode, add "Z" to option code. For example: "ER/Z". Not available on all models. See coil option info. on pages 3.200.1 & 3.400.1