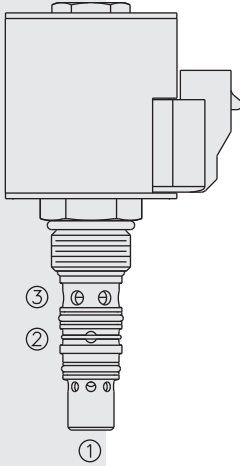


# SPCL10-32 Poppet, 3-Port, Normally Closed

U.S. Patent  
7,921,880



## DESCRIPTION

A solenoid-operated, normally-closed, proportional, poppet-type screw-in hydraulic cartridge valve providing an integral, non-isolated load signal to pilot counterbalance or other control valves in bridge circuit applications.

## OPERATION

When de-energized, the **SPCL10-32** blocks flow at 1 and 3, while allowing the port 2 load signal to bleed to the low-pressure side of the circuit. When energized, proportionally-controlled flow is allowed from 3 to 1 with a load signal supplied at 2. Reverse flow is not allowed from 1 to 3.

Note: When using this valve in bridge circuits, seals should not be used on the pilot pistons of the pilot-operated check valves. This is to avoid trapping oil which would keep the pilot-operated check valve open.

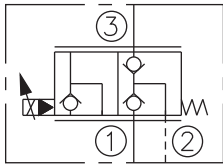
**Note: If low voltage is expected on the machine, 12 or 24 volt systems will require the use of 10 volt or 20 volt coils respectively. See “SP Valves and Coil Operating Parameters,” page 2.002.1.**

## FEATURES

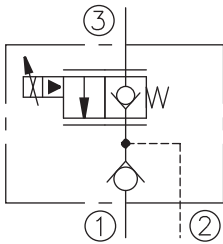
- Industry-common cavity.
- Efficient wet-armature construction.
- Continuous-duty rated coils.
- Optional waterproof E-Coils rated up to IP69K.
- Reduce manifold space claim.

## SYMBOL

### ISO:



### Expanded:



## RATINGS

**Operating Pressure:** 250 bar (3625 psi); Holding Pressure at 1: 350 bar (5000 psi)

**Internal Leakage:** Ports 1 and 3: 5 drops/minute max. at 250 bar (3625 psi)

**Operating Fluid Temperature:** -40 to 121°C with Buna N seals;  
-35 to 204°C with Fluorocarbon seals; -54 to 107°C with Polyurethane seals

**Coil Duty Rating:** Continuous from 85% to 115% of nominal voltage

**Initial Coil Current Draw at 20°C:** Standard D-Coil: 1.67 amps at 12 VDC;  
0.18 amps at 115 VAC (full wave rectified).  
E-Coil: 1.7 amps at 12 VDC; 0.85 amps at 24 VDC

**Minimum Pull-in Voltage:** 85% of nominal at 207 bar (3000 psi)

**Installation:** No restrictions; See page 9.020.1; **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

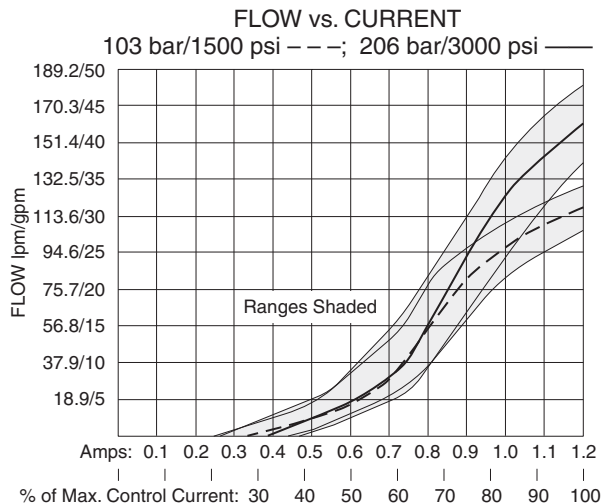
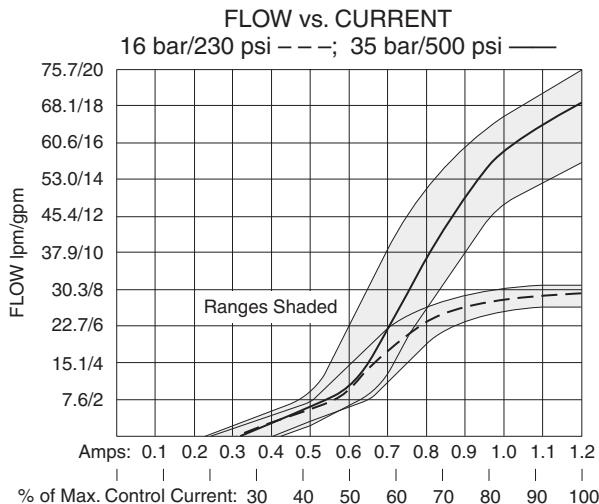
**Cavity:** VC10-3, Variation “B”; See page 9.110.1

**Cavity Tool:** CT10-3XX; See page 8.600.1

**Seal Kit:** SK10-3X-MM; See page 8.650.1

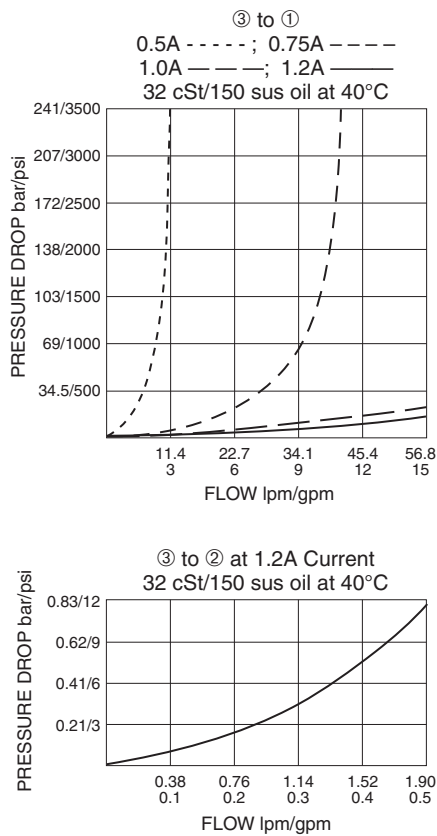
**Coil Nut:** Part No. 7004400

## PERFORMANCE (Cartridge Only)



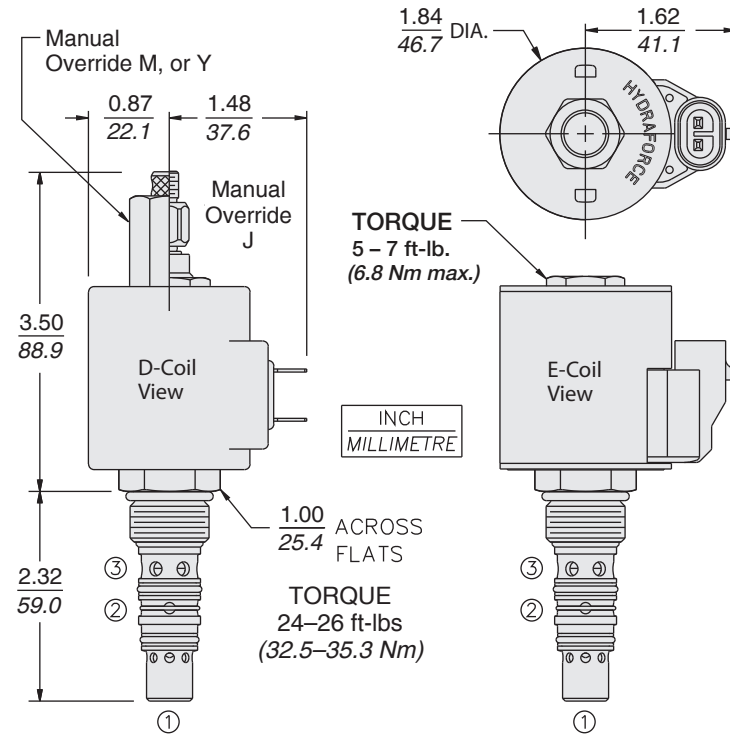
**PERFORMANCE** (Continued)

**DIMENSIONS**



U.S. Patent 7,921,880

COIL MUST BE  
INSTALLED WITH  
LETTERING UP



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

**MATERIALS**

**Cartridge:** Weight: 0.18 kg. (0.40 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

**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.); 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**

**SPCL10-32**

**Option**  
None (Blank)  
Manual Override **M**  
Manual Override **Y**  
Manual Override **J**

For Manual Override details see page 1.001.1

**Note:** Flow performance varies with manual override options. Consult factory for details.

**Voltage**

**0** Less Coil\*\*  
**12** 12 VDC  
**20** 20 VDC<sup>†</sup>  
**24** 24 VDC

\*\*Includes D-Coil Nut

**Porting**  
Cartridge Only **0**

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

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