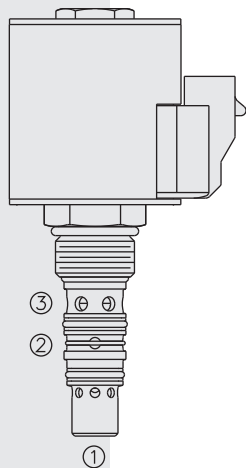


ELECTRO-PROPORTIONAL VALVES—DIRECTIONAL CONTROL

SPCL10-30 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 incorporating an integral load-sense pressure port with isolation check.

OPERATION

When de-energized, the **SPCL10-30** blocks flow at all ports. When energized, proportionally-regulated flow is allowed from 3 to 1 with a check-isolated load-sense 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.

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)
Port 2: 10 drops/minute max. at 250 bar (3625 psi)

Operating Temperature: -40° to 100°C (-40° to 212° F) with standard Buna N seals;
-26° to 204°C (-15° to 400°F) with Fluorocarbon seals;
-54°C to 107°C (-65°F to 225°F) 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

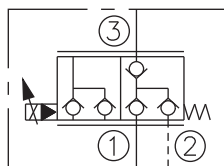
Cavity Tool: CT10-3xx; See page 8.600.1

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

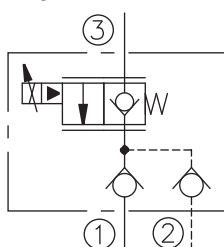
Coil Nut: Part No. 7004400

SYMBOL

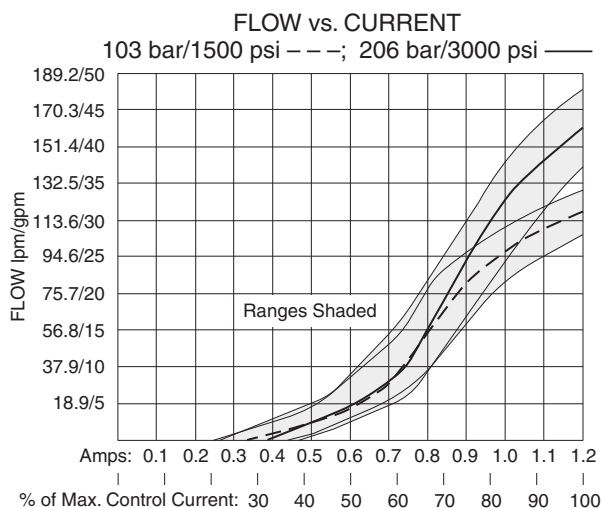
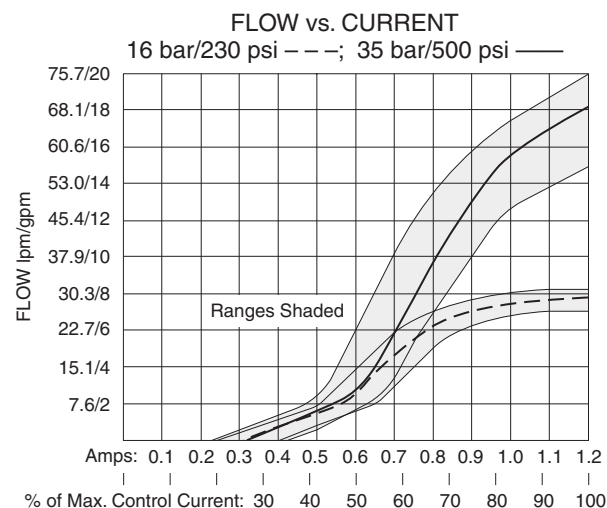
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Expanded:

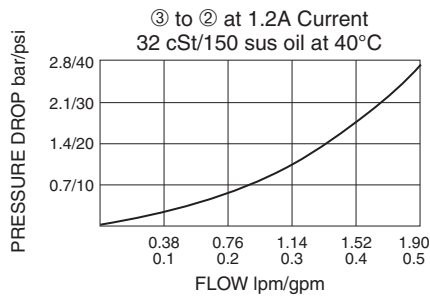
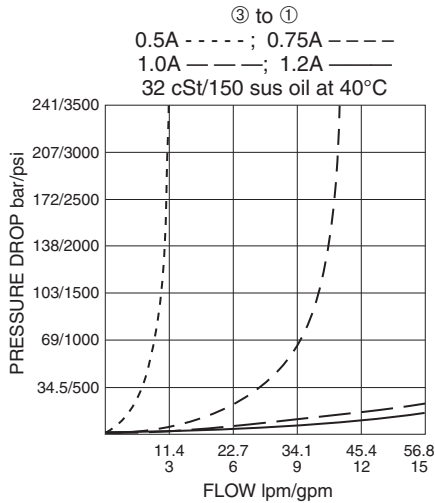


PERFORMANCE (Cartridge Only)



SPCL10-30

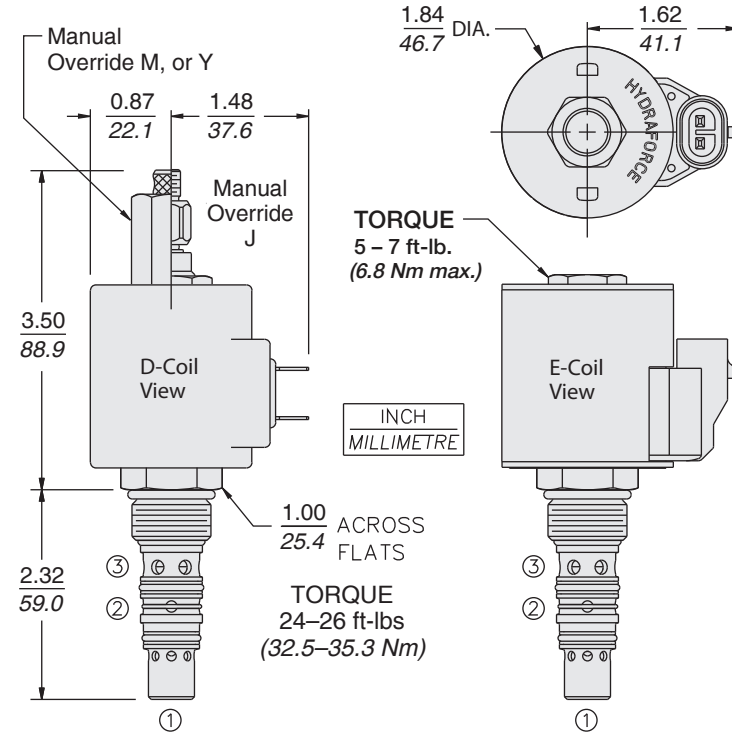
PERFORMANCE (Continued)



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: 0.2 kg. (0.44 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

SPCL10-30

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.

Porting	
Cartridge Only	0

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

Voltage	
0	Less Coil**
12	12 VDC
20	20 VDC ⁺
24	24 VDC

**Includes D-Coil Nut

Coil Termination	E-Coil	D-Coil
Deutsch DT04-2P	ER (IP69K)	DR (IP65)
Metri-Pack® 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