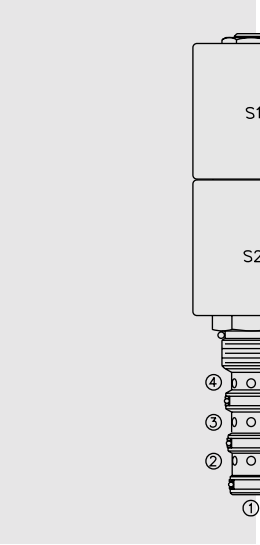
SP10-47C Spool, 4-Way, 3-Position, Closed Center



DESCRIPTION

A proportional solenoid-operated, 4-way, 3-position, spool-type, closed center, screw-in hydraulic cartridge valve.

OPERATION

When de-energized, the **SP10-47C** blocks flow to all ports. When coil S1 is energized, flow is allowed from ③ to ④, and from ② to ①. When coil S2 is energized, flow is allowed from ③ to ②, and from ④ to ①.

Initial meter-in flow begins at a nominal 0.4 amp on a 12 VDC system. Full flow of 6 gpm occurs at 1.1 to 1.2 amp on a 12 VDC system. Each coil has its own metering characteristics, which are quite similar (see performance chart).

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

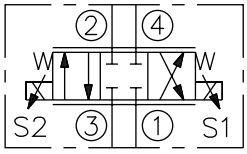
In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port ②.

FEATURES

- Continuous-duty rated solenoids.
- 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.
- Optional manual override.
- Industry-common cavity.
- Designed for good linearity and hysteresis.

SYMBOLS

USASI:



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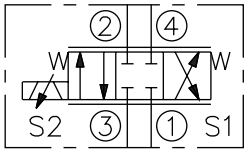


RATINGS

Operating Pressure: 248 bar (3600 psi)

Flow: 22.7 lpm (6 gpm) max. (see performance chart)

Internal Leakage: 164 cc/minute (10 cu. in./minute) max. per side at 248 bar (3600 psi)

Hysteresis: Less than 7%

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

Coil Duty Rating: Standard Coils and E-Coils: Continuous up 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 Recommendation: When possible, the valve should be mounted below the reservoir oil level. This will maintain oil in the armature preventing trapped air instability. If this is not feasible, mount the valve horizontally for best results. See page 9.020.1

Cavity: VC10-4; See page 9.110.1; **Cavity Tool:** CT10-4XX; See page 8.600.1

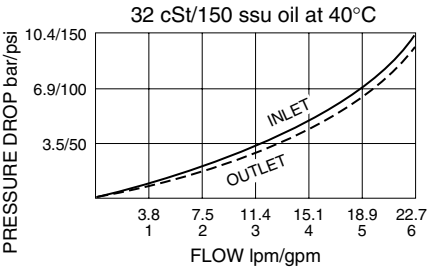
Seal Kit: SK10-4X-MMM; See page 8.650.1

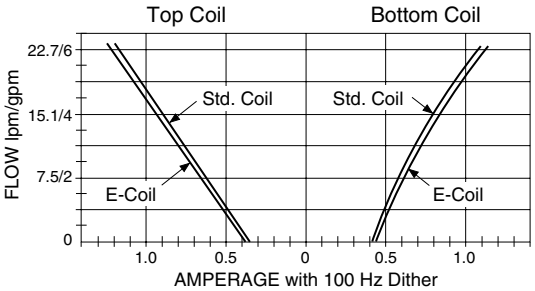
Coil Nut: Part No. 7004400; **Manual Override Coil Nut:** Part No. 4528180

Coil Spacer: Part No. 4539700

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

PERFORMANCE (Cartridge Only)

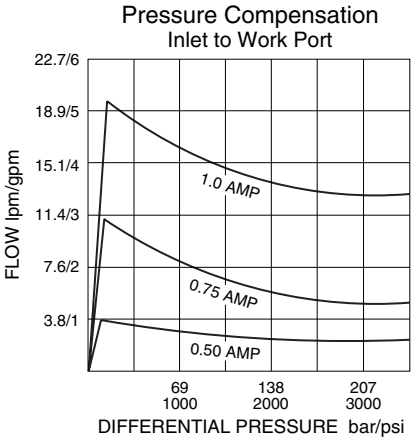




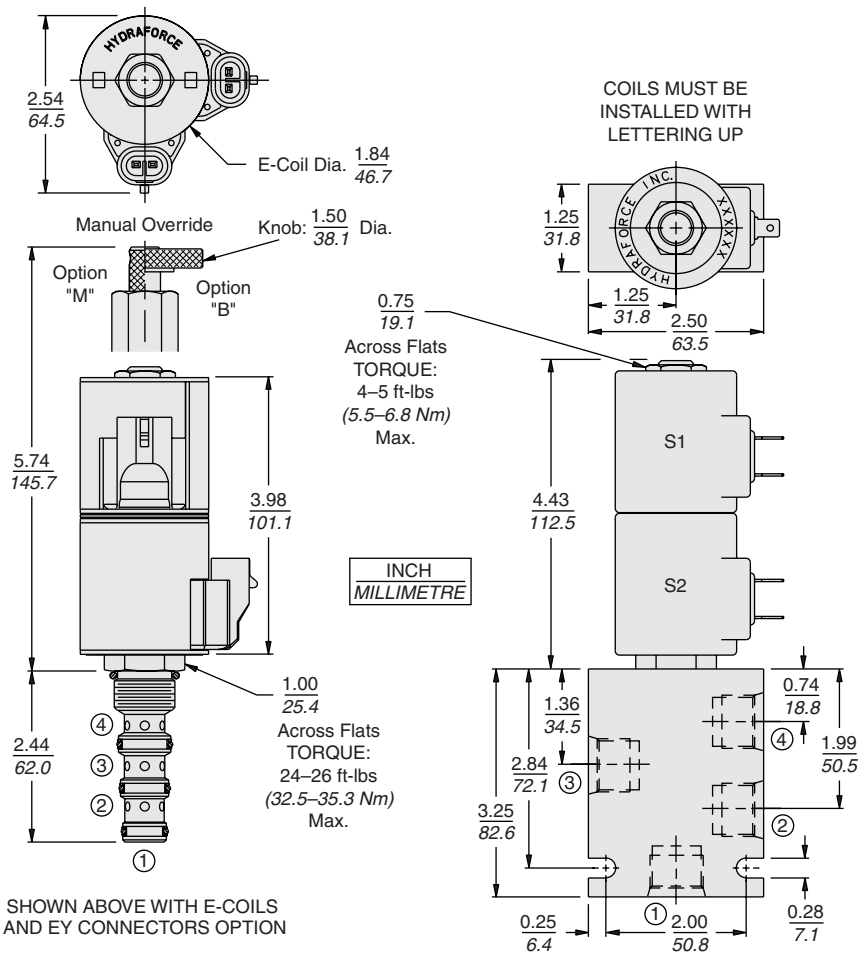
Recommended Controller
Dual Solenoid Driver **Part No. 4000149** (See page 3.550.1)

Performance information continued on following page.

PERFORMANCE (cont'd.)



DIMENSIONS



MATERIALS

Cartridge: Weight: 0.30 kg. (0.65 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and single-turn polyester elastomer back-ups standard.

Standard Ported Body: Weight: 0.34 kg. (0.75 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: (2 required) Weight each: 0.27 kg. (0.60 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

E-Coil: (2 required) Weight each: 0.41 kg (0.9 lbs.); Fully encapsulated with external metal shell; See page 3.400.1.

TO ORDER

SP10-47C__ - ___ - __ - ____

Option
None (Blank)
Manual Override **B**
Manual Override **M**

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

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

Voltage
Standard Coil
0 Less Coil**
12 12 VDC
24 24 VDC
**Includes Std. Coil Nut

Voltage
E-Coil
12 12 VDC
24 24 VDC

Termination (VDC)
Std. Coil
DS Dual Spades
DG DIN 43650
DL Leadwires (2)
DL/W Leads w/Weatherpak® Connectors
DR Deutsch DT04-2P

Termination (VDC)
E-Coil
EY Metri-Pack® 150 (IP69K Rated)
ER Deutsch DT04-2P (IP69K Rated)

Coils with internal diode are available. Consult factory.