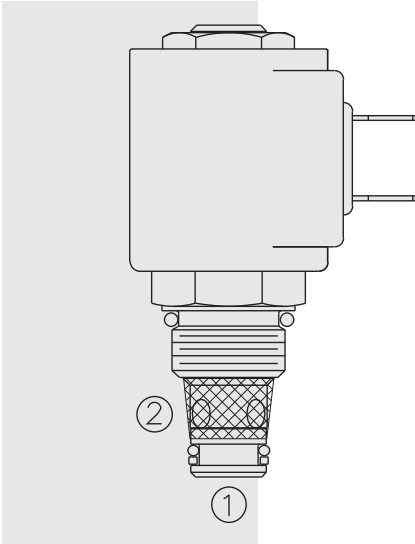


SP08-20A Poppet, 2-Way, Normally Closed



DESCRIPTION

A proportional solenoid-operated, two-way, poppet-type, normally closed, screw-in hydraulic cartridge valve for low-leakage blocking and load-holding applications

OPERATION

When de-energized, the **SP08-20A** acts as a check valve, allowing flow from 1 to 2, and blocking flow from 2 to 1. When energized, the 2 to 1 flow path is opened. Flow is proportional to current applied to the coil. Flow varies with manual override.

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.
- Manual override option.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Flow: 30.3 lpm (8 gpm) nominal; see performance charts

Minimum Operating Dither/Pulse Frequency: 70 Hz

Hysteresis: Less than 5% up to 85% of I-max.; Less than 10% above 85% of I-max.

Max. Internal Leakage: 5 drops per 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

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

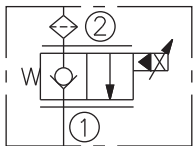
Filtration: See page 9.010.1; **Installation:** No Restrictions. See page 9.020.1

Cavity: VC08-2; See page 9.108.1; **Cavity Tool:** CT08-2XX; See page 8.600.1

Seal Kit: SK08-2X-T; See page 8.650.1

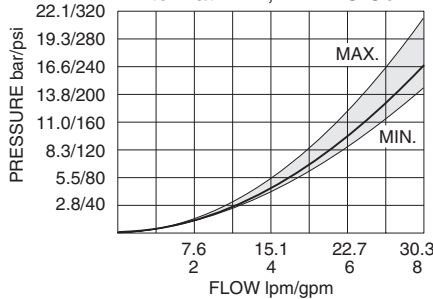
Coil Nut: Part No. 7004400

SYMBOL

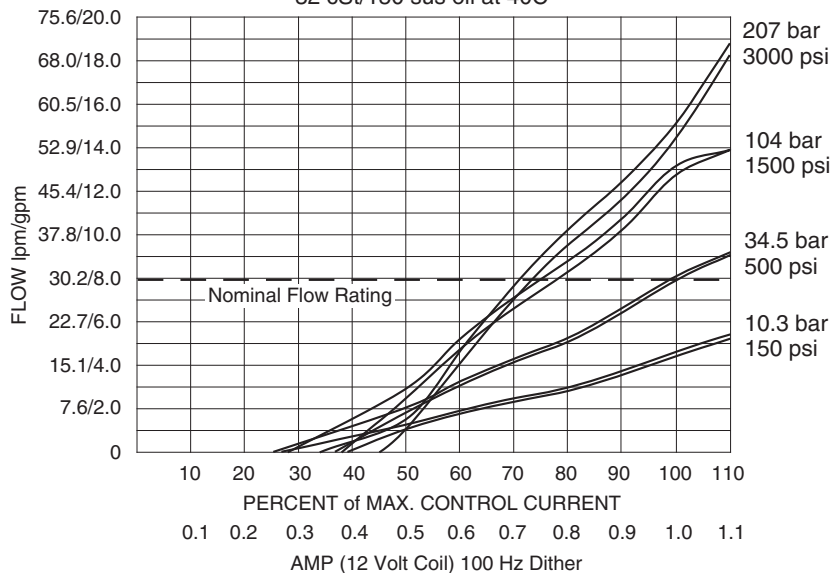


PERFORMANCE

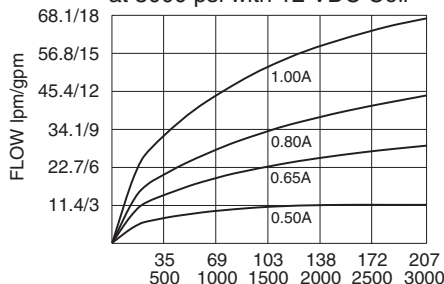
WIDE OPEN PRESSURE DROP
2 to 1 at 1.2A, 12 VDC Coil



FLOW vs. CURRENT at Various Differential Pressures
32 cSt/150 sus oil at 40C



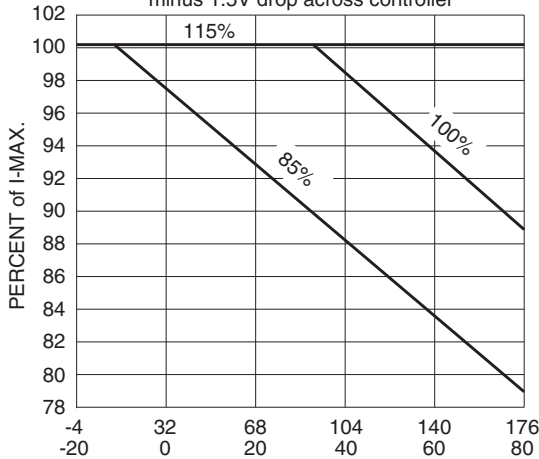
TYPICAL PRESSURE RESPONSE
at 3000 psi with 12 VDC Coil



PERFORMANCE (cont'd.)

PERCENT I-MAX. vs. TEMPERATURE
for 10 or 20 VDC Coil (for 10V Coil I-Max. = 1.15A)

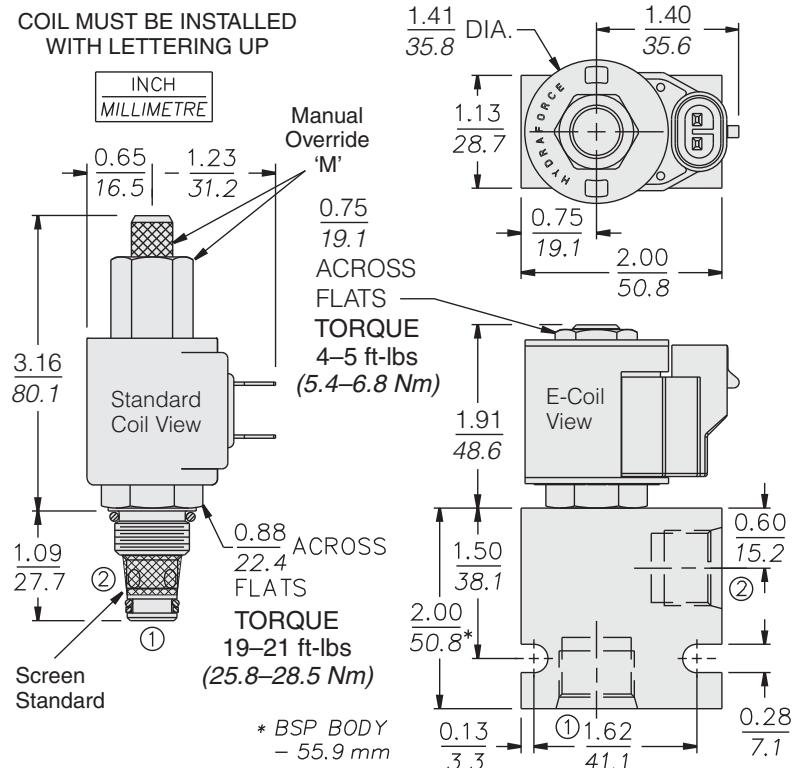
Curves show percent of nominal system voltage minus 1.5V drop across controller



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

DIMENSIONS

COIL MUST BE INSTALLED WITH LETTERING UP



MATERIALS

- Cartridge:** Weight: 0.10 kg. (0.23 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up 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 8.008.1.
- Standard Coil:** Weight: 0.11 kg. (0.25 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.
- E-Coil:** Weight: 0.14 kg. (0.3 lbs.); Fully encapsulated with rugged external metal shell; Rated up to IP69K with integral connectors; See page 3.400.1.

TO ORDER

SP08-20A

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

- 0** Less Coil**
 - 10** 10 VDC (D- or E-Coil)
 - 12** 12 VDC (D- or E-Coil)
 - 20** 20 VDC (E-Coil)
 - 24** 24 VDC (D- or E-Coil)
- **Includes Std. D-Coil Nut.

Note: 10 VDC 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 Coil 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