SV12-21  Poppet, 2-Way, Normally Open

DESCRIPTION
A solenoid-operated, 2-way, normally open, poppet-type, screw-in hydraulic cartridge valve, designed to function as a load holding or blocking valve in applications requiring low internal leakage.

OPERATION
When energized, the SV12-21 acts as a check valve, allowing flow to pass from 1 to 2, while blocking flow in the reverse direction.

When de-energized, the poppet lifts to open the 2 to 1 flow path after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi). In this mode, flow from 1 to 2 is severely restricted. If this path is required, see model SV12-23, page 1.054.1.

Operation of Manual Override Option: To override, push and hold override button.

FEATURES
• Continuous-duty rated solenoid.
• Hardened seat for long life and low leakage.
• Optional coil voltages and terminations.
• Efficient wet-armature construction.
• Cartridges are voltage interchangeable.
• Unitized, molded coil design.
• Manual override option.
• Optional waterproof E-Coils rated up to IP69K.
• Cost effective cavity.

RATINGS
Operating Pressure: 240 bar (3500 psi)
Flow: Up to 114 lpm (30 gpm); see performance chart
Internal Leakage: 0.15 cc/minute (3 drops/minute) max. at 240 bar (3500 psi)
Temperature: -40 to 120°C with standard Buna seals
Coil Duty Rating: Continuous from 85% to 115% of nominal voltage
Response Time: First indication of change of state with 100% voltage supplied at 80% of nominal flow rating: Energized: 110 msec.; De-energized: 40 msec.
Initial Coil Current Draw at 20°C: Standard 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 240 bar (3500 psi)
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: VC12-2; See page 9.112.1
Cavity Tool: CT12-2XX; See page 8.600.1
Seal Kit: SK12-2X-T; See page 8.650.1
Coil Nut: Part No. 7004420; For E-coils manufactured prior to 1-1-04, see page 3.400.1 for coil nut info.
**DIMENSIONS**

- **Manual Override Option** 'K'
- **TORQUE** 5-7 lb-ft (6.8-9.5 Nm)
- **TORQUE** 33-37 lb-ft (44.7-50.2 Nm)

**MATERIALS**

- **Cartridge**: Weight: 0.26 kg. (0.58 lbs.) Weight with Sensor option: 0.61 kg. (1.35 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-up standard.

- **Standard Ported Body**: Weight: 0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1

- **Standard Coil**: Weight: 0.27 kg. (0.60 lbs.) Unitized thermostatic encapsulated, Class H high temperature magnetwire.

- **E-Coil**: Weight: 0.41 kg. (0.9 lbs.); Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors. See page 3.400.1

**TO ORDER**

- **SV12-(P)21(A)**
  - **Porting**
    - Cartridge Only
    - SAE 12
  - **Option**
    - Manual Override
    - Switch: P
    - Manual Override: K
  - ** FOR Manual Override options see page 1.001.1

- **Voltage**
  - **Std. Coil**
    - 0: Less Coil
    - 10: 10 VDC
    - 12: 12 VDC
    - 24: 24 VDC
    - 36: 36 VDC
    - 48: 48 VDC
    - 24: 24 VAC
    - 115: 115 VAC
    - 230: 230 VAC
  - **Option**
    - 3: Dual Output, N.C./N.O.

- **Sensor Type**
  - (Blank)
  - None
  - 3: Dual Output, N.C./N.O.

- **Sensor/Connector**
  - (Blank)
  - None
  - Neutral Sense/DT04-4P
  - Neutral Sense/M12-4P

- **Mating Connectors**
  - DT06-4S: Part No. 4001953
  - M12-4S: available at www.turck.com
  - or www.binder-usa.com

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

Dimensions will differ significantly with Sensor Option; see page 3.010.1.

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Blue rectangles are links to other catalog pages.