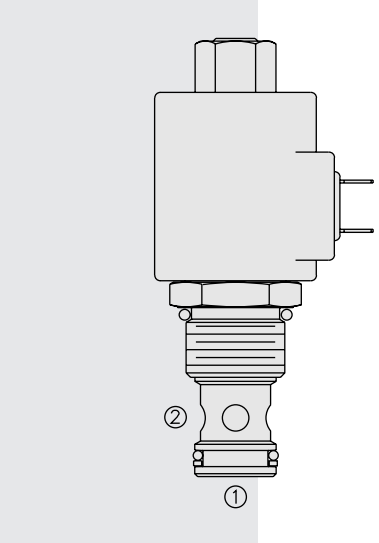
Blue rectangles are links to other catalog pages.

SV12-23 Poppet, 2-Way, Normally Open



DESCRIPTION

A solenoid-operated, two-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 de-energized, the **SV12-23** allows bidirectional flow from 2 to 1.
With the sensor option, the neutral sensor will signal OFF or LOW.

When energized, the valve's poppet closes to block flow from 2 to 1. In this mode, the cartridge allows free reverse flow from 1 to 2 after overcoming the solenoid force (requires 3.4 to 10.3 bar / 50 to 150 psi). With the sensor option, the neutral sensor will signal ON or HIGH.

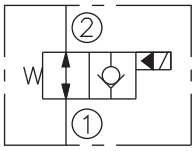
Operation of Manual Override Option: To override, push and hold override button.

FEATURES

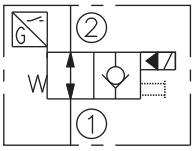
- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Optional waterproof E-Coils rated up to IP69K.
- Unitized, molded coil design.
- Manual override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

SYMBOLS

ISO:



with Sensor:



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: with standard Buna N seals: -40 to 100°C (-40° to 212°F);
with Fluorocarbon seals: -26 to 204°C (-15°F to 400°F)

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: 80 msec.; De-energized: 30 msec.
Response Time with Sensor: 158 ms pull-in, 57 ms drop-out

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

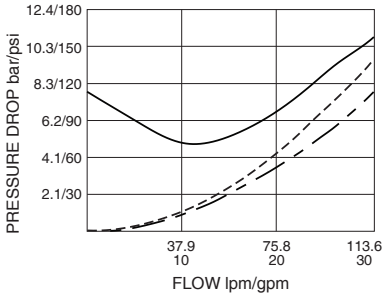
Cavity Tool: CT12-2XX; See page 8.600.1

Seal Kit: SK12-2X-T; See page 8.650.1

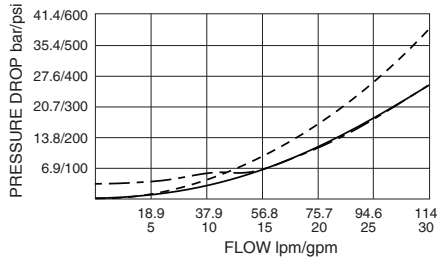
Coil Nut: Part No. 7004420

PERFORMANCE (Cartridge Only)

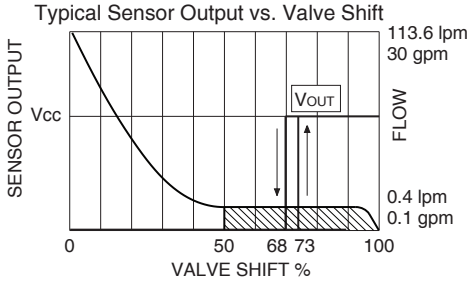
Port 2 to 1 De-energized - - - - -
Port 1 to 2 De-energized — - —
Port 1 to 2 Energized ——
32 cSt/150 sus oil at 40°C



SV12-23 with Sensor
Port 2 to 1 Energized - - - - -
Port 1 to 2 Energized — - —
Port 1 to 2 De-energized ——
32 cSt/150 sus oil at 40°C

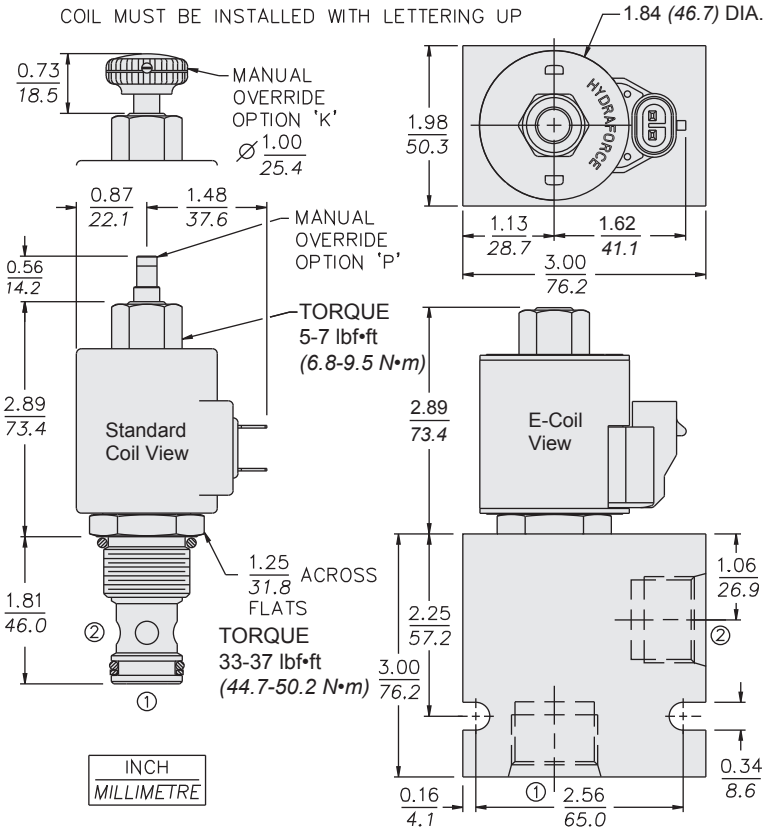


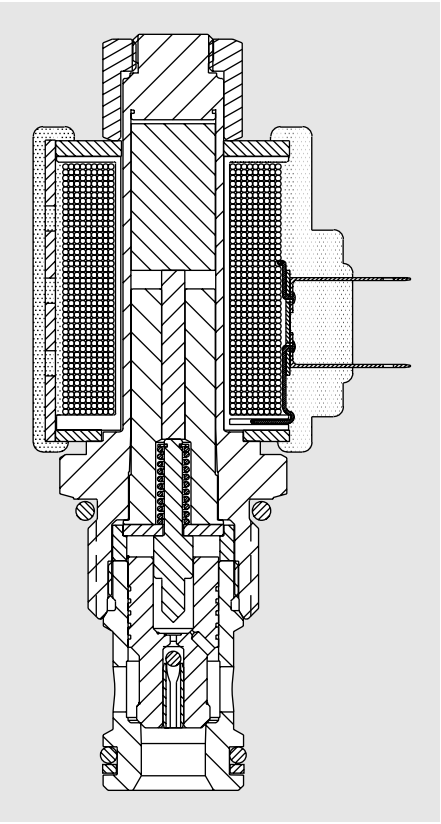
Typical Sensor Output vs. Valve Shift



Hatched Area: Overlapping Stroke, Leakage Flow

DIMENSIONS





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

MATERIALS

Cartridge: Weight: 0.25 kg. (0.55 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: 0.57kg. (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.

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. See page 3.400.1.

TO ORDER

SV12-(P)23(A)__ - __ __ __ - __ - __ __ __ __ __ - __ __ Sensor Option: See page 3.010.1

Position Indicator
None (Blank)
Switch **P**
Restricted Flow **A**
with sensor, valve is rated 3000 psi (207 bar)

Option
None (Blank)
Manual Override **P**
Manual Override **K**
For Manual Override options see page 1.001.1

Porting
Cartridge Only **0**
SAE 12 **12T**

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
**Includes Coil Nut
† DS, DW or DL terminations only
E-Coils: 10,12,20 or 24 VDC only.

Seals
N Buna N (Std.)
V Fluorocarbon

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

Sensor/Connector
(Blank) None
N Neutral Sense/DT04-4P
M Neutral Sense/M12-4P
Mating Connectors:
DT06-4S: Part No. 4001953
M12-4S: available at www.turck.com or www.binder-usa.com

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