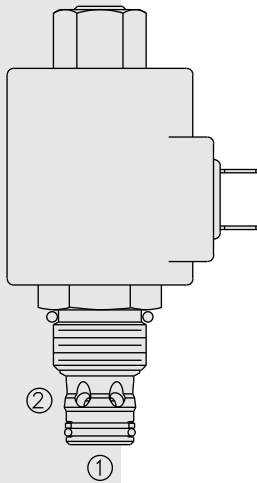


SVRV10-26 Spool, 2-Way,

U.S. Patent
7,137,406



DESCRIPTION

A solenoid-operated, two-way, spool-type, normally open, screw-in, hydraulic relief valve.

OPERATION

When the coil is activated, the pilot closes the drain flow and the spool closes port 2. In this position, the valve works as a relief valve, relieving flow from port 1 to 2. The pilot opens when the pressure at port 1 exceeds the set pressure. Pilot flow is discharged to port 2.

FEATURES

- Multi-function.
- Various pressure ranges.
- Continuous-duty rated solenoid.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- Cartridges are voltage interchangeable.
- Efficient wet-armature construction.
- Unitized, molded coil design.
- Factory pre-set option.
- Industry common cavity.

RATINGS

Operating Pressure: 297 bar (4300 psi); **Proof Pressure:** 344.7 bar (5000 psi)

Burst Pressure: 689.5 bar (10000 psi); minimum to seat press fit

Flow Rating: 83.3 lpm (22 gpm)

Relief Pressure Settings – defined as pressure evident at 7.57 lpm (2 gpm):

- A:** 241 ±6.9 bar (3500 ±100 psi)
- B:** 207 ±3.5 bar (3000 ±50 psi)
- C:** 172 ±3.5 bar (2500 ±50 psi)
- D:** 138 ±3.5 bar (2000 ±50 psi)
- E:** 103 ±3.5 bar (1500 ±50 psi)
- F:** Factory Pre-Set (must specify pressure setting)

Reseat Pressure: 80% of relief pressure setting

Relief Pressure Range: 20.7 - 296.5 bar (300-4300 psi)
 20.7 - 206.8 bar + 3.5 bar (300 - 3000 psi + 50 psi)
 206.9 - 296.5 bar + 6.9 bar (3001 - 4300 psi + 100 psi)

Pressure Drop: 6.6 bar (95 psi) at 83.3 lpm (22 gpm)

Pressure Rise at Max. Current (Relief Mode): 0.73 bar/lpm (40.0 psi/gpm)

Response Time: 0.065 sec with flow of 7.6 lpm (2 gpm) at 275.8 bar (4000 psi)

Cycle Life: 970,000 cycles at 241 bar (3500 psi) and 15.1 lpm (4 gpm);
 1,004,000 cycles at 296.5 bar (4300 psi) and 9.5 lpm (2.5 gpm)

Electrical Parameters:

Coil Series	Nominal Voltage	Typical Resistance at 20 °C (68 °F)	Max Control Current
D	12 Vdc	7.25 ± 5% ohms	1.20 Amps
E	12 Vdc	7.1 ± 5% ohms	1.20 Amps

Pull-In: Maximum 1.14 A (12V D-series coil) defined as attaining relief pressure setting. **Drop Out:** Minimum 0.08A (12V D-series coil) defined as relief pressure returning to pressure drop across the valve.

Pilot Flow & Leakage at 80% of relief pressure setting:
 21.4 cu. in./min. (350 ml per min.)

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 to 107 °C (-65 to 224 °F) with polyurethane seals.

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

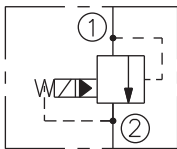
Cavity: VC10-2; See page 9.110.1

Cavity Tool: CT10-2XX; See page 8.600.1

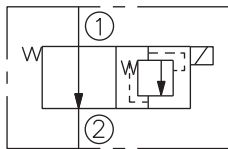
Seal Kit: SK10-2X-B; See page 8.650.1 **Coil Nut:** Part No. 4540560

SYMBOLS

ISO:



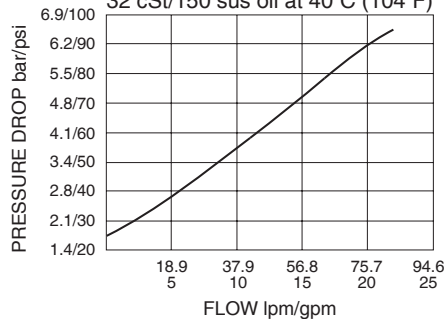
Expanded:



PERFORMANCE (Cartridge Only)

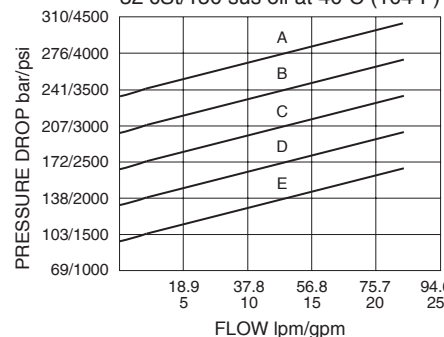
Pressure vs. Flow - No Current; Coil De-energized

32 cSt/150 sus oil at 40°C (104°F)



Pressure vs. Flow - Coil Energized

32 cSt/150 sus oil at 40°C (104°F)

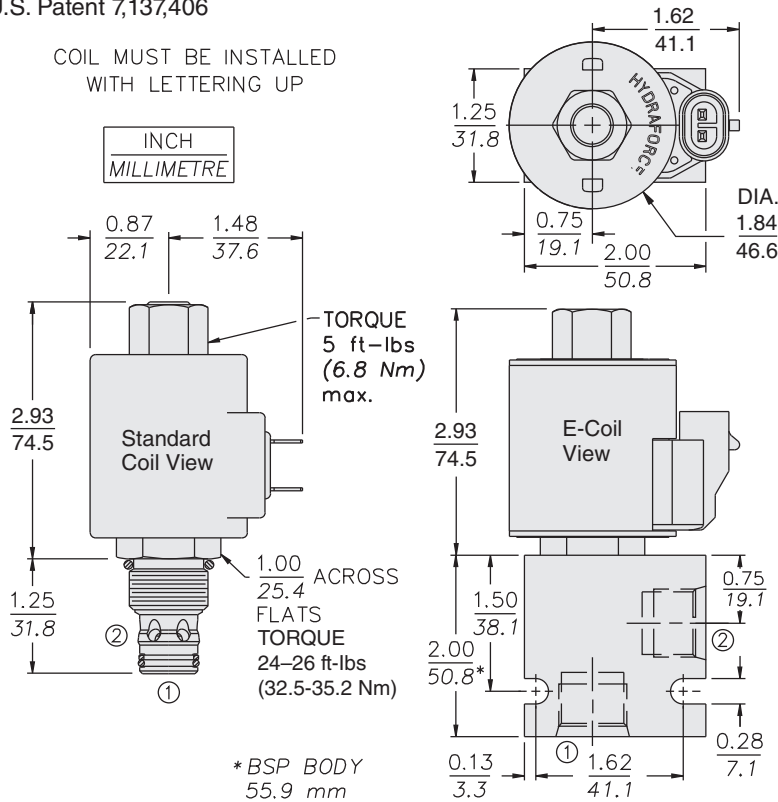


Normally Open, with Internal Relief

SVRV10-26

DIMENSIONS

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MATERIALS

Cartridge: Weight: 0.19 kg (0.42 lb)
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 lb)
Anodized high-strength aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ. See page 8.010.1.

Standard Coil: Weight: 0.27 kg (0.60 lb);
Unitized thermo-plastic encapsulated, Class H high temperature magnet wire; See page 3.200.1.

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

TO ORDER

SVRV10-26

Pressure Settings

- A 241 ± 6.9 bar (3500 ± 100 psi)
- B 207 ± 3.5 bar (3000 ± 50 psi)
- C 172 ± 3.5 bar (2500 ± 50 psi)
- D 138 ± 3.5 bar (2000 ± 50 psi)
- E 103 ± 3.5 bar (1500 ± 50 psi)
- F* Factory Pre-Set

(*For Factory Pre-Set Option F, must specify pressure setting)

Porting

- 0 Cartridge Only
- 8T SAE 8
- 3B 3/8 in. BSP*

*BSP Body; U.K. Mfr. Only

Seals

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

Voltage

- **Less Coil 0
- 10 Vdc (D- or E-Coil) 10
- 12 Vdc (D- or E-Coil) 12
- 20 Vdc (E-Coil) 20
- 24 Vdc (D- or E-Coil) 24
- 36 Vdc (D-Coil) 36
- 48 Vdc (D-Coil) 48
- 24 Vac (D-Coil) 24^{††}
- 115 Vac (D-Coil) 115^{††}
- 230 Vac (D-Coil) 230^{††}

**Includes Std. D-Coil Nut.

^{††}AC Volt Only

Coil Termination

- Deutsch DT04-2P
- Metri-Pak 150
- Dual Lead Wires
- Amp Jr. Timer
- DIN 43650
- Dual Spades
- DIN 43650
- 1/2" Conduit

E-Coil

- ER (IP69K)
- EY (IP69K)
- EL (IP69K)
- EJ (IP67)
- EG (IP65)

D-Coil

- DR (IP65)
- DY (IP65)
- DL (IP65)
-
- DS (IP65)
- AG (IP65)^{††}
- AP (IP65)^{††}

Pressure Setting

- 16 1600 psi
- 30 3000 psi
- M25 25 bar
- M100 100 bar

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