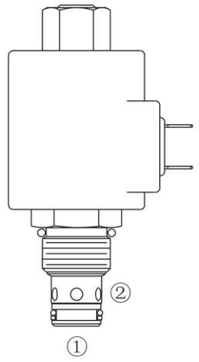
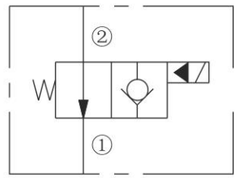
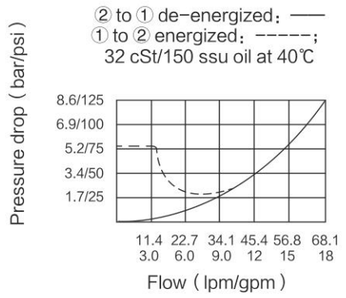



## ISO SYMBOL




## PERFORMANCE (Cartridge Only)




## DESCRIPTION

A solenoid-operated, 2-way, piloted, poppet-type, normally open, screw-in, hydraulic cartridge valve designed for low leakage in load-holding applications.

## OPERATION

When de-energized, INSV10-21 allows flow from ② to ① .
Flow from ① to ② is severely restricted in this mode. If the ① to ② path is required, see model INSV10-23,When energized, the valve's poppet closes on its seat, blocking flow in the ② to ① direction. In this mode the cartridge will allow ① to ② flow after overcoming the solenoid force
(requires 3.4 to 10.3 bar / 50 to 150 psi).
Operation of Manual Override Option: To override, push and hold override button.

## FEATURES

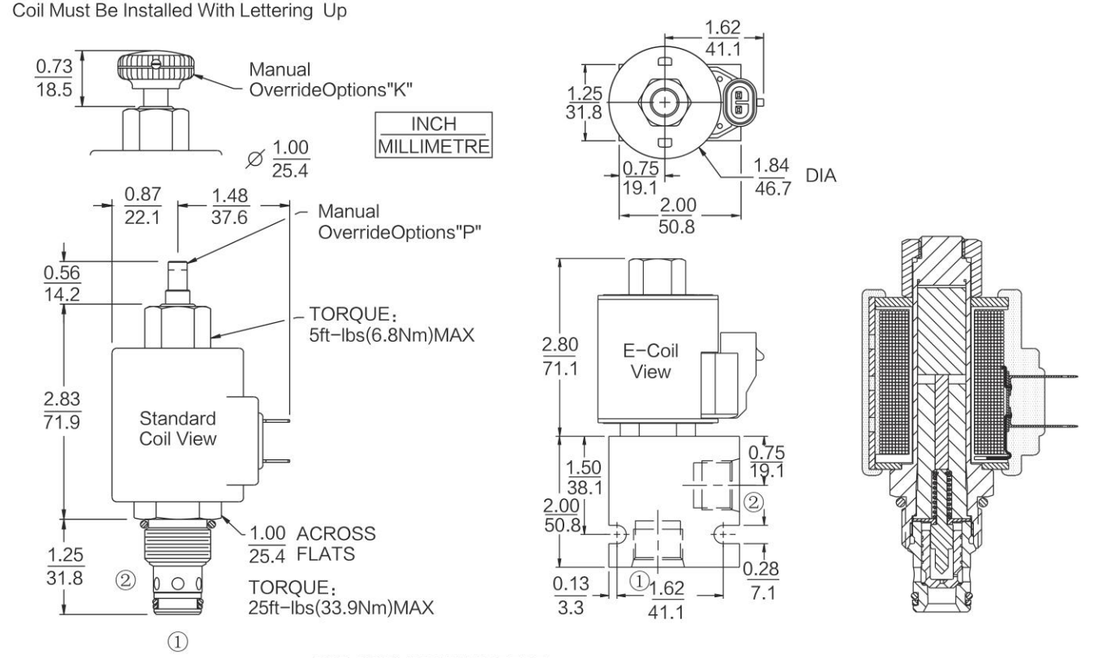
- Continuous-duty rated solenoid.
- Hardened seat for long life and low leakage.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.
- Manual OverrideOptions.
- Optional waterproof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

## RATINGS

**Operating Pressure:**207 bar (3000 psi)
**Proof Pressure:** 345 bar (5000 psi)
**Flow:**See Performance Chart
**Internal Leakage:**
0.15 cc/minute (3 drops/minute) max. at 207 bar (3000 psi)
**Temperature:**-40℃ to 120℃, with Buna N 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: 80 msec.; De-energized: 30 msec.
**Initial Coil Current Draw at 20℃ :**
**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 207 bar (3000 psi)
**Fluids:**Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 ssu)
**Cavity:** T10-2B; See bottom of this catalog.

## DIMENSIONS

Coil Must Be Installed With Lettering Up




BSP BODY55 MILLIMETRE

## MATERIALS

**Cartridge: Weight:**0.16kg ( 0.35lbs )
Steel with hardened worksurfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.
**Standard Ported Body:Weight:**
0.16kg ( 0.35lbs ) ;
Anodized highstrength 6061 T6 aluminum alloy,rated to 240 bar (3500 psi); Ductile iron bodies available; dimensions may differ.
**Standard Coil: Weight:**
0.27kg ( 0.60lbs ) ; Unitized thermoplastic encapsulated, Class H high temperature magnet wire.
**E-Coil: Weight:**0.41kg ( 0.9lbs ) ;
Fully encapsulated with rugged external metal shell. Rated up to IP69K with integral connectors.

## TO ORDER

INSV10-21 - - - - -

| Options | |
|---|---|
| None (Blank) | |
| ScreenManual Override | S |
| Without Knob | P |
| Manual Override Without Knob | K |

| 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 |

| Seals | |
|---|---|
| Buna N (Std.) | N |
| Fluorocarbon | V |

| 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 Std. Coil Nut
†DS, DW or DL terminations only.

| E-Coil | |
|---|---|
| 10 | 10 VDC |
| 12 | 12 VDC |
| 20 | 20 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 (VAC) Std. Coil | |
|---|---|
| AG | DIN 43650 |
| AP | 1/2 in.Conduit |

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

Coils with internal diode are available. Consult factory.