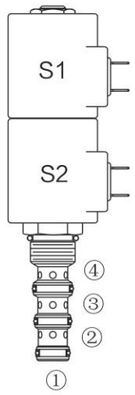
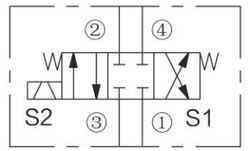
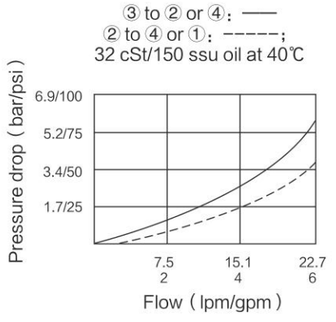



## ISO SYMBOL




## PERFORMANCE (Cartridge Only)




## DESCRIPTION

A solenoid-operated, 4-way, 3-position, direct-acting, spool-type, closed center, screwin hydraulic cartridge valve.

## OPERATION

When de-energized, INSV10-47C blocks flow to all ports. When coil #1 is energized,flow is allowed from ③ to ④, and from ② to ①. When coil #2 is energized, flow is allowed from ③ to ②, and from ④ to ①. In circuits where work port flows are unequal due to cylinder ratios, the higher return flow should be directed to port ②. NOTE: While ① may be fully pressurized, it is not intended for use as the valve's inlet.

Operation of Manual Override Option: To override, push the knurled button to activate the coil #2 (S2) function, or pull the knob to activate the coil #1 (S1) function.

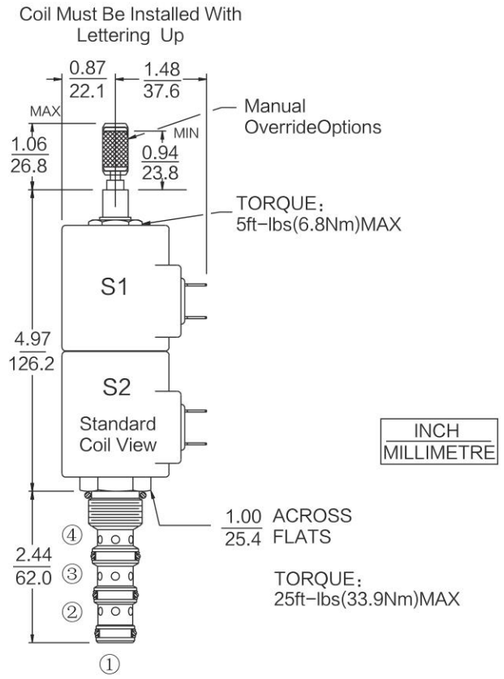
## FEATURES

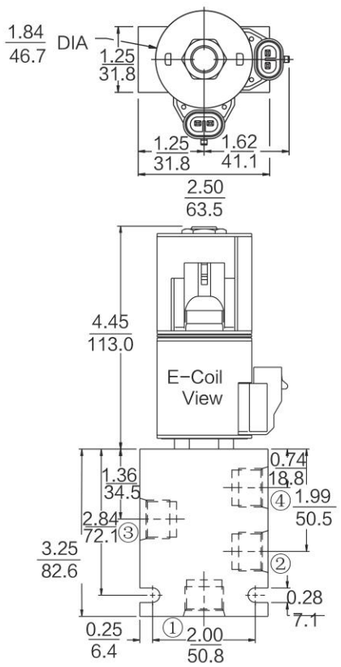
- Continuous-duty rated solenoid.
- Hardened precision spool and cage for long life.
- Optional coil voltages and terminations.
- Manual OverrideOptions.
- Optional waterproof E-Coils rated up to IP69K.
- Efficient wet-armature construction.
- All ports may be fully pressurized.
- Cartridges are voltage interchangeable.
- Unitized, molded coil design.
- Industry common cavity.

## RATINGS

**Operating Pressure:**207 bar (3000 psi)
**Proof Pressure:** 390 bar (5700 psi)
**Flow:**MAX 23 lpm (6 gpm)
**Internal Leakage:**
328 ml/minute (20 cu. in./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
**Initial Coil Current Draw at 20℃:**
**Standard Coil:** 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:** T10-4A; See bottom of this catalog.

## DIMENSIONS




## MATERIALS

**Cartridge: Weight:**0.30kg ( 0.65lbs ); Steel with hardened work surfaces. Zinc-plated exposed surfaces; Buna N O-rings and back-ups standard.

**Standard Ported Body:Weight:** 0.36kg ( 0.80lbs ); 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

INSV10-47C - - - - -

**Options**

| | |
|---|---|
| None | (Blank) |
| Manual Override | M |
| Manual Override | T |

**Porting**

| | |
|---|---|
| Cartridge Only | 0 |
| SAE 6 | 6T |
| SAE 8 | 8T |
| 1/4 in. BSP* | 2B |
| 3/8 in. BSP* | 3B |

**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