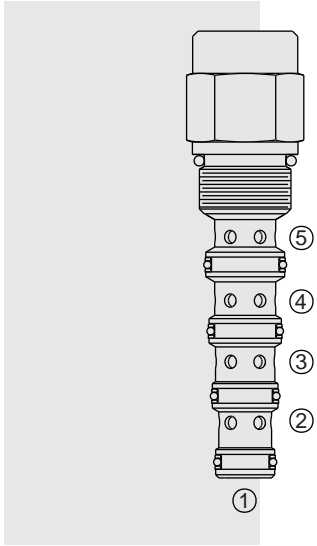


# DIRECTIONAL VALVES

## PD10-50 Piloted 3-Way Spool



### DESCRIPTION

A screw-in, cartridge-style, pilot-operated, spool-type, hydraulic directional valve which is open in transition, for three-way circuits requiring remote pilot operation.

### OPERATION

In neutral (unpiloted), the **PD10-50** allows flow from ③ to ② bidirectionally, while flow is blocked from ③ to ④. The spring chamber is vented to tank at port ⑤, and is internally O-ring sealed from the cartridge flow paths.

On remote pilot signal at ①, the valve shifts to block flow from ③ to ②, while opening flow between ③ and ④ bidirectionally. Any pressure at port ⑤ is added to the spring value.

### FEATURES

- Hardened spool and cage for long life.
- Cost-effective cavity.

### RATINGS

**Operating Pressure:** 240 bar (3500 psi)

**Proof Pressure:** 350 bar (5075 psi)

**Flow:** See Performance Chart

**Internal Leakage:** 82 cc/minute (5 cu. in./minute) max. at 207 bar (3000 psi)

**Pilot Pressure Required using 10.3 bar (150 psi) Spring:**

To Spool Crossover: 10.3 bar (150 psi)

To Full Spool Shift: 12.2 bar (177 psi)

**Oil Volume Required to Full Shift:** 0.44 cc (0.027 cu. in.)

**Temperature:** -40 to 100°C with standard Buna 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:** VC10-5; See page 9.110.1

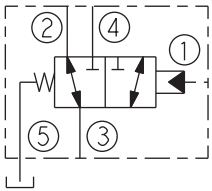
**Cavity Tool:** CT10-5XX; See page 8.600.1

**Seal Kit:** SK10-5X-MMMM; See page 8.650.1

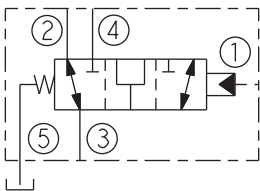
**Cap Vent Seal:** Part No. 6003117

### SYMBOLS

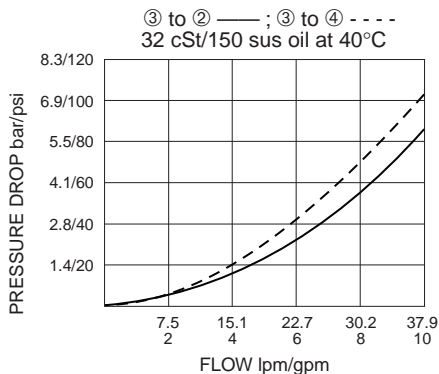
#### ISO:



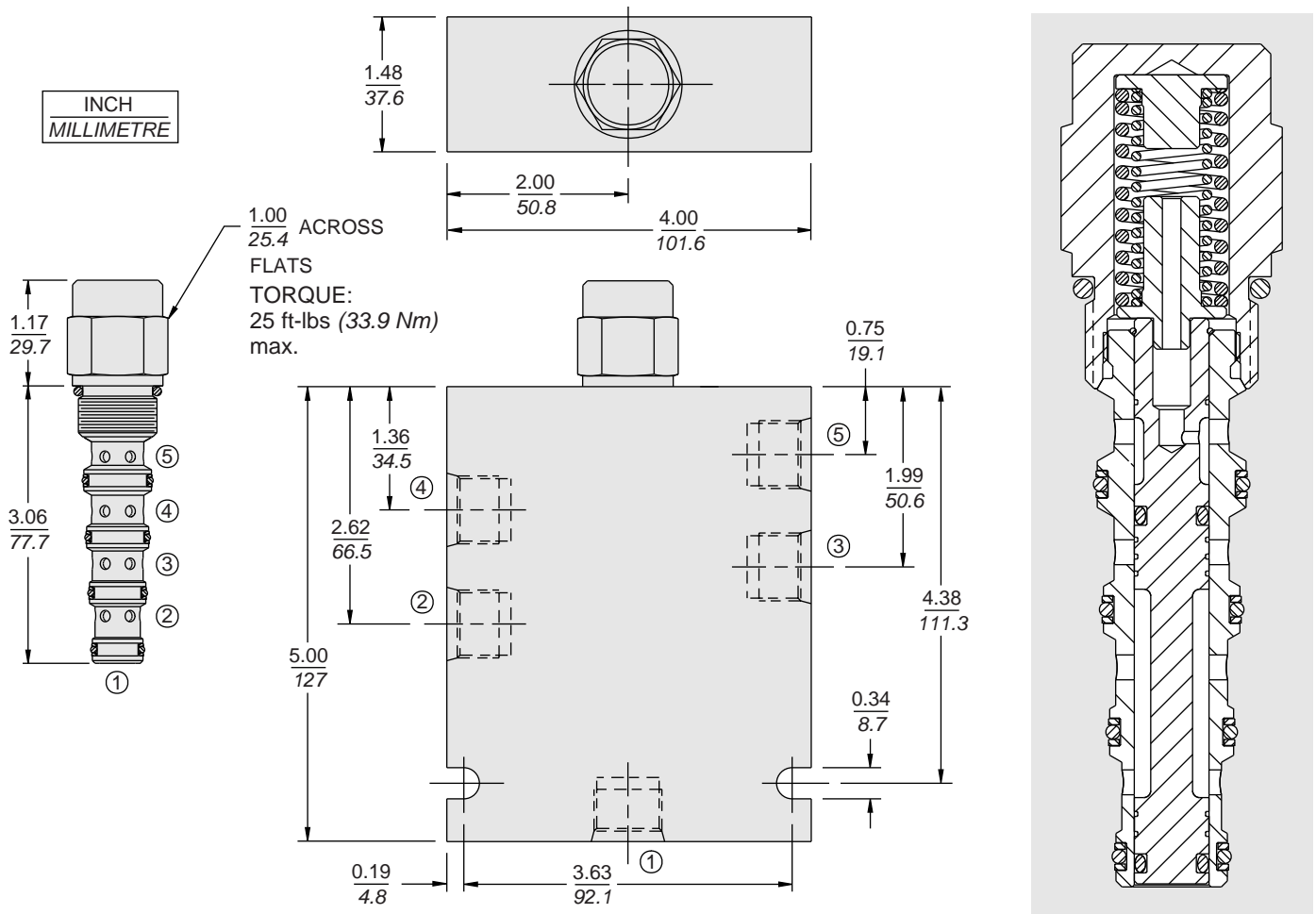
#### Open Transition:



### PERFORMANCE (Cartridge Only)



## DIMENSIONS



## MATERIALS

**Cartridge:** Weight: 0.20 kg. (0.44 lbs.)  
Steel with hardened work surfaces;  
Zinc-plated exposed surfaces.  
Buna N O-rings and polyester  
elastomer back-ups standard.

**Standard Ported Body:** Weight:  
0.41 kg. (0.85 lbs.) Anodized high-  
strength 6061 T6 aluminum alloy,  
rated to 207 bar (3000 psi). Ductile  
iron bodies available; dimensions  
may differ. See page 8.010.1

## TO ORDER

### PD10-50

**Option**  
None (Blank)  
Open Transition **N**

**Porting**  
Cartridge Only **0**  
SAE 6 **6T**  
SAE 8 **8T**

### Bias Spring

**100** 6.9 bar (100 psi)  
**150** 10.3 bar (150 psi)  
**230** 15.9 bar (230 psi)

### Seals

**N** Buna N (Std.)  
**NS** Buna N with Sealed Spool  
**V** Fluorocarbon  
**VS** Fluorocarbon with Sealed Spool