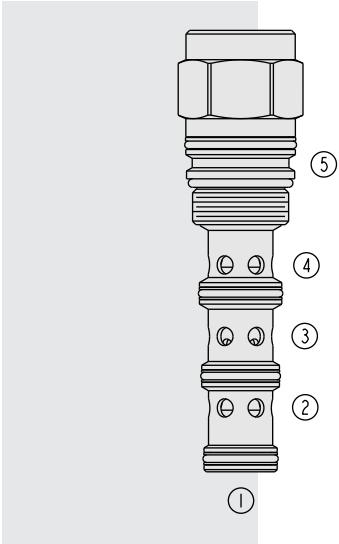


# PD16-S51 Piloted 3-Way Spool



## DESCRIPTION

A screw-in, cartridge-style, pilot-operated, spool-type, hydraulic directional valve.

## OPERATION

When in neutral the PD16-S51 allows flow between ports 2, 3 and 4. On remote pilot signal at 1, the valve's spool shifts to block all ports. The spring chamber is vented to the tank through port 5. The vented spring chamber allows the valve to be fully pressurized at ports 1, 2, 3, and 4 without affecting required pilot pressure. Pressure at port 5 will affect required pilot pressure.

## FEATURES

- Hardened spool and cage for long life.
- 70, 90 and 140 psi bias springs available.

## RATINGS

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

**Flow:** 0–151 lpm (0–40 gpm); See Performance Chart

**Internal Leakage at 207 bar (3000 psi):** 410 ml/minute (25 cu. in./minute) between ports 3 and 2. 820 ml/minute (50 cu. in./minute) between ports 3 and 4.

**Pilot Pressure Required:** 4.1 bar (60 psi) minimum

**Oil Volume Required to Full Shift:** 1.83 cc (0.11 cu. in.)

**Temperature:** -40 to 120°C

**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 A 6-way body can be used for this valve by plugging body port 2 and using body ports 3, 4, 5 and 6 as ports 2, 3, 4 and 5 for the valve.

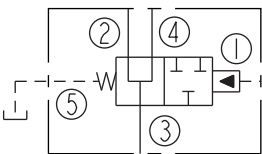
**Cavity:** VC16-S5; See page 9.116.1

**Cavity Tool:** CT16-S5XX; See page 8.600.1

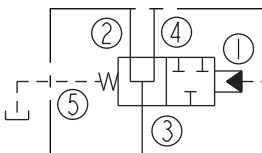
**Seal Kit:** SK16-S5X-BMMM; See page 8.650.1

## SYMBOLS

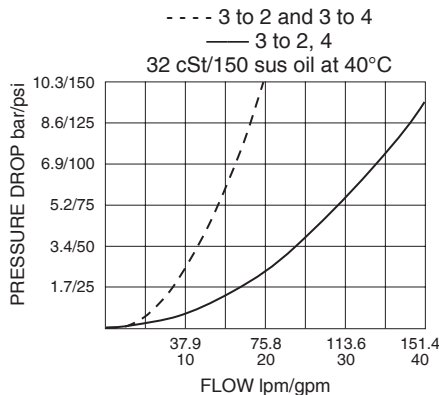
### USASI:



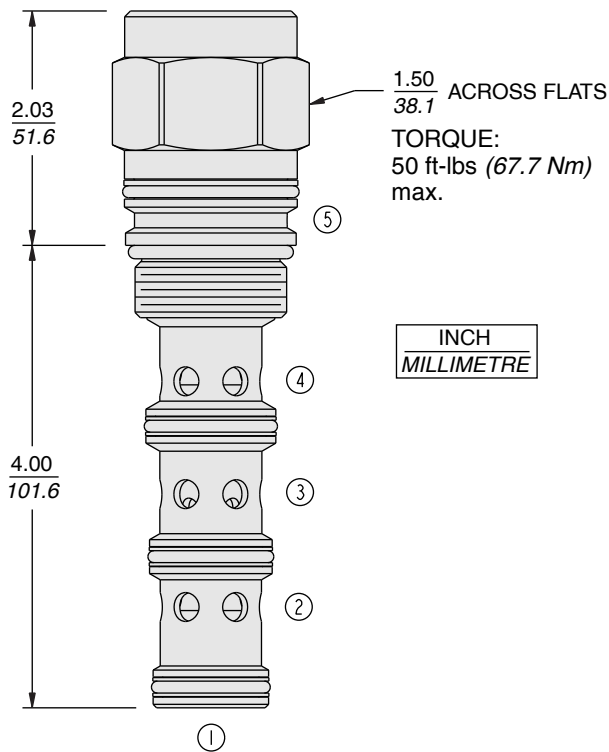
### ISO:



## PERFORMANCE (Cartridge Only)



## DIMENSIONS



## MATERIALS

**Cartridge:** Weight: 0.25 kg. (0.55 lbs.)  
Steel with hardened work surfaces.  
Zinc-plated exposed surfaces.  
Buna N O-rings and polyester elastomer back-ups standard.

**Ported Body:** Consult factory. A 6-way body can be used for this valve by plugging body port 2 and using body ports 3, 4, 5 and 6 as ports 2, 3, 4 and 5 for the valve.

## TO ORDER

PD16-S51 -

**Porting**  
Cartridge Only 0

**Bias Spring<sup>†</sup>**

**70** 4.8 bar (70 psi)  
**90** 6.2 bar (90 psi)  
**140** 9.7 bar (140 psi)

Optional bias springs considered on OEM request.

<sup>†</sup>Note: 90 psi bias spring is the minimum required for use with sealed spool.

**Seals**

**N** Buna N (Std.)  
**V** Fluorocarbon  
**NS** Buna N w/Sealed Spool 1 to 2 only  
**VS** Fluorocarbon w/Sealed Spool 1 to 2 only