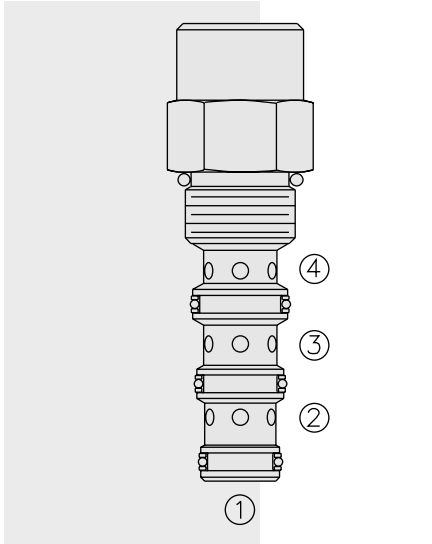


# DIRECTIONAL VALVES

## PD10-42 Piloted 3-Way Spool, Internal Vent



### DESCRIPTION

A screw-in, cartridge-style, pilot-operated, spool-type, hydraulic directional valve for three-way circuits requiring remote pilot actuation.

### OPERATION

In neutral (unpiloted), the **PD10-42** allows flow from ③ to ② bidirectionally. ④ is blocked.

On remote pilot signal at ①, the valve shifts to open from ③ to ④, while blocking flow at ②.

Since ④ is common to the spring chamber, pressure on ④ will directly (1:1) affect the pilot pressure required, and must always be added to the bias spring value.

**Note:** Consult factory for applications where bi-directional flow is required when the valve is in the normal or spring-offset position.

### FEATURES

- Hardened spool and cage for long life.
- Industry common 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:**

To Spool Crossover – 4.1 bar (60 psi) Spring: 4.7 bar (68.2 psi)  
7.6 bar (110 psi) Spring: 7.6 bar (110 psi)

To Full Spool Shift – 4.1 bar (60 psi) Spring: 5.2 bar (75 psi)  
7.6 bar (110 psi) Spring: 8.6 bar (125 psi)

**Oil Volume Required to Full Shift:** 0.65 cc (0.04 cu. in.)

**Temperature:** -40 to 120°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 ssu)

**Installation:** No restrictions; See page 9.020.1

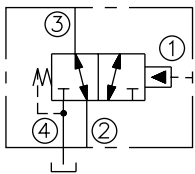
**Cavity:** VC10-4; See page 9.110.1

**Cavity Tool:** CT10-4XX; See page 8.600.1

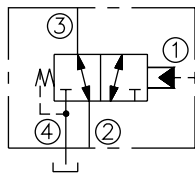
**Seal Kit:** SK10-4X-MMM; See page 8.650.1

### SYMBOLS

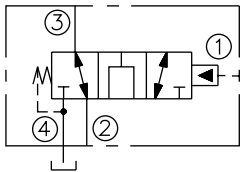
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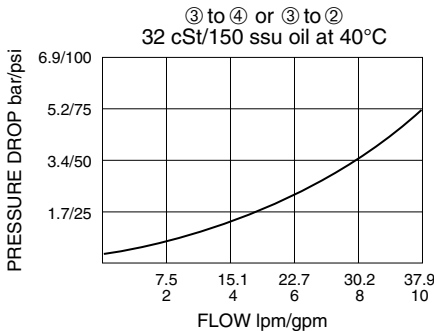
#### ISO:



#### OPEN TRANSITION:

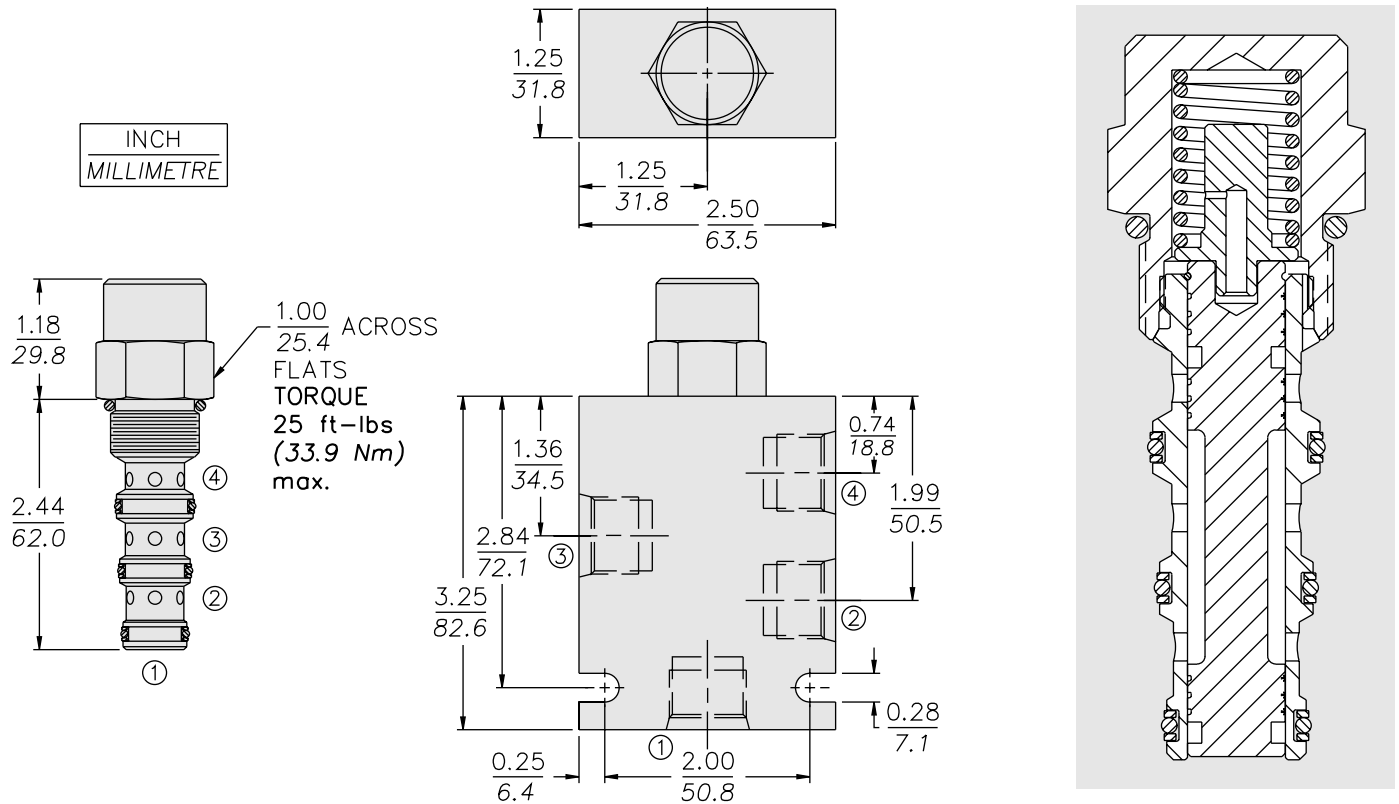


### PERFORMANCE (Cartridge Only)



**PD10-42**

**DIMENSIONS**



**MATERIALS**

**Cartridge:** Weight: 0.16 kg. (0.35 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-ups standard.

**Standard Ported Body:** Weight: 0.34 kg. (0.75 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 240 bar (3500 psi); See page 8.010.1. Ductile iron and steel bodies available; dimensions may differ; consult factory.

**TO ORDER**

<b>PD10-42</b> - - -		
<b>Option</b>		<b>Bias Spring†</b>
None (Blank)		<b>60</b> 4.1 bar (60 psi)
Open Transition	<b>N</b>	<b>110</b> 7.6 bar (110 psi)
		<b>170</b> 11.7 bar (170 psi)
		†Note: 110 psi bias spring is the minimum required for use with sealed spool.
<b>Porting</b>		<b>Seals</b>
Cartridge Only	<b>0</b>	<b>N</b> Buna N (Std.)
SAE 6	<b>6T</b>	<b>NS</b> Buna N with Sealed Spool
SAE 8	<b>8T</b>	<b>V</b> Fluorocarbon
1/4 in. BSP*	<b>2B</b>	<b>VS</b> Fluorocarbon with Sealed Spool
3/8 in. BSP*	<b>3B</b>	
*BSP Body U.K. Mfr. Only		