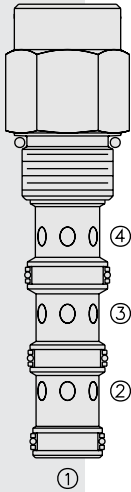


# DIRECTIONAL VALVES

## PD12-45 Piloted 2-Way Spool



### DESCRIPTION

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

### OPERATION

In neutral (unpiloted), the **PD12-45** allows flow from ③ to ② bidirectionally. The spring chamber is directed to port ④.

On remote pilot signal at ①, the valve shifts to block from ③ to ②, bidirectionally. 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.

### FEATURES

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

### RATINGS

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

**Flow:** See Performance Chart

**Internal Leakage:** 115 cc/minute (7 cu. in./minute) max. at 207 bar (3000 psi)

**Pilot Pressure Required Using 7.6 bar (110 psi) Spring:**

To Spool Crossover: 7.6 bar (110 psi)

To Full Spool Shift: 9.1 bar (132 psi)

**Oil Volume Required to Full Shift:** 1.32 cc (0.08 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 sus); See Temperature and Oil Viscosity, page 9.060.1

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

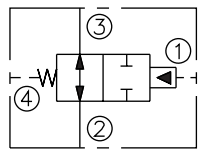
**Cavity:** VC12-4; See page 9.112.2

**Cavity Tool:** CT12-4XX; See page 8.600.1

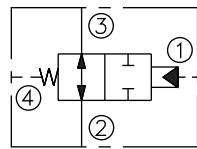
**Seal Kit:** SK12-4X-MMM; See page 8.650.1

### SYMBOLS

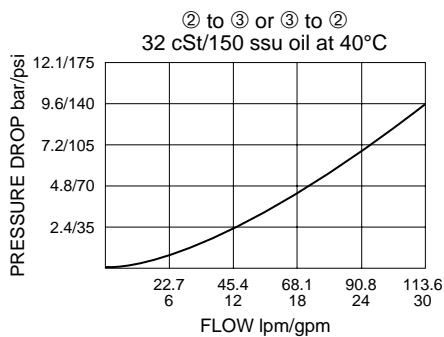
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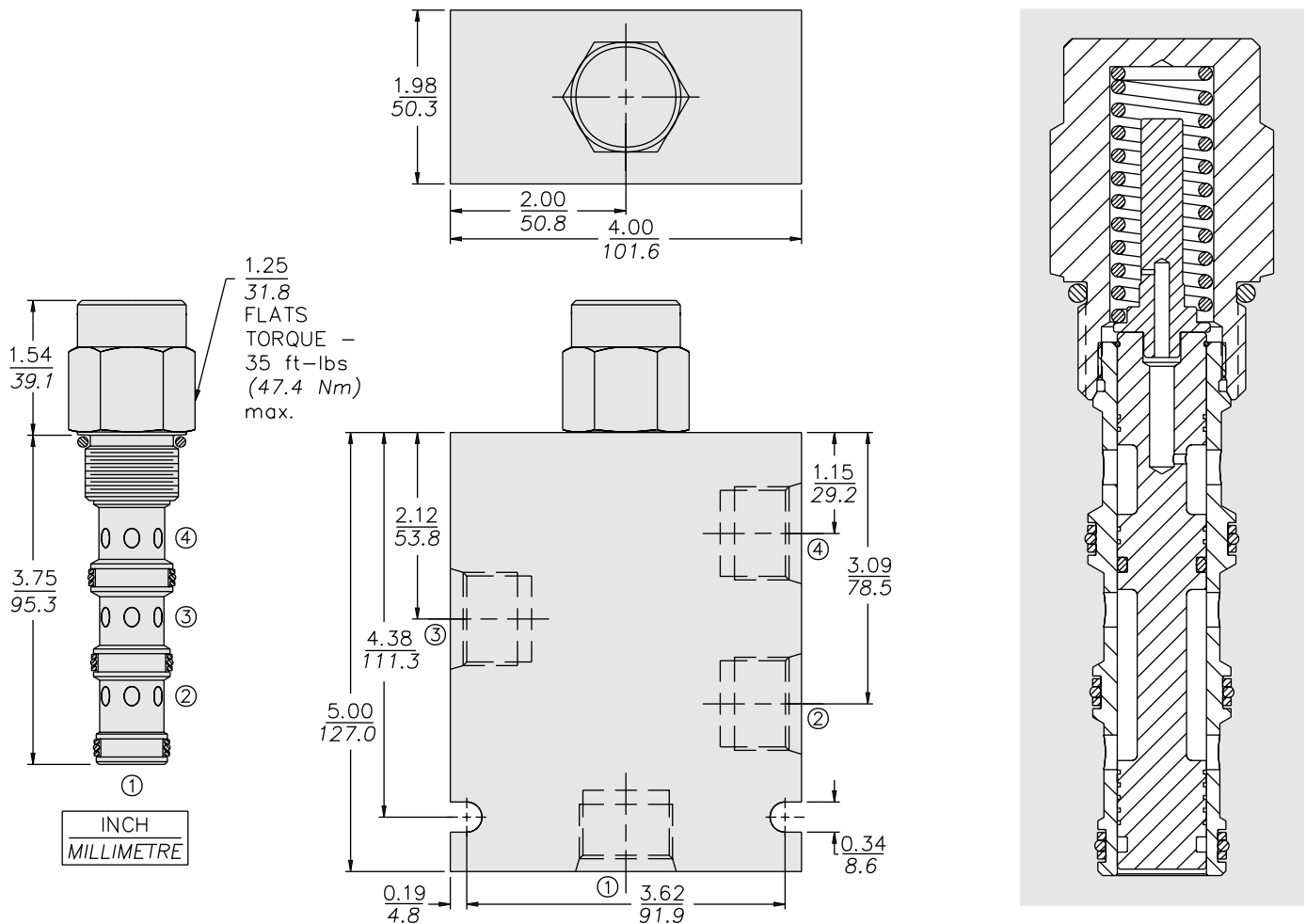
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### PERFORMANCE (Cartridge Only)



**DIMENSIONS**



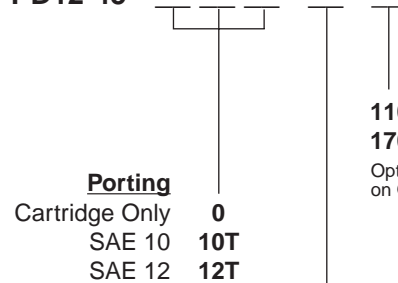
**MATERIALS**

**Cartridge:** Weight: 0.28 kg. (0.61 lbs.)  
Steel with hardened work surfaces.  
Zinc-plated exposed surfaces.  
Buna N O-rings and polyester  
elastomer back-ups standard.

**Standard Ported Body:** Weight:  
1.5 kg. (3.3 lbs.) Anodized high-  
strength 6061 T6 aluminum alloy,  
rated to 207 bar (3000 psi). Ductile  
iron bodies available; dimensions  
may differ. See page 8.012.1

**TO ORDER**

PD12-45 -



**Bias Spring**

110 7.6 bar (110 psi)

170 11.7 bar (170 psi)

Optional bias springs considered  
on OEM request.

**Seals**

N Buna N (Std.)

NS Buna N with Sealed Spool

V Fluorocarbon

VS Fluorocarbon with Sealed Spool