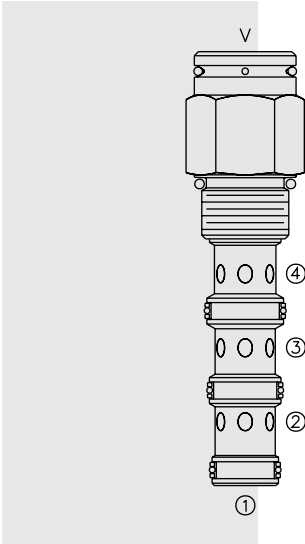


## PD12-40 Piloted 3-Way Spool, External Vent



### 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 **PD12-40** allows flow from ③ to ② bidirectionally, while flow is blocked at ④. V is a spring chamber vent-to-atmosphere, which is internally O-ring sealed from the cartridge flow paths.

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

Because of the vented spring chamber, the cartridge may be fully pressurized at any port without affecting required pilot pressure.

### FEATURES

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

### RATINGS

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

**Proof Pressure:** 420 bar (6090 psi)

**Flow:** See Performance Chart

**Internal Leakage:** 164 cc/minute (10 cu. in./minute) max. at 207 bar (3000 psi)

**Pilot Pressure Required with 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

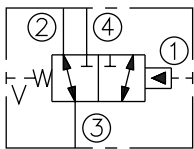
**Cavity Tool:** CT12-4XX; See page 8.600.1

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

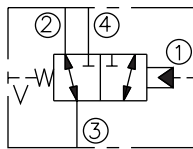
**Cap Vent Seal:** Part Number 6003121

### SYMBOLS

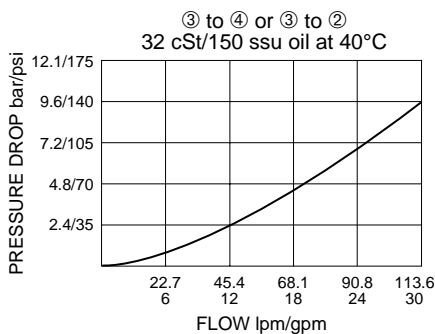
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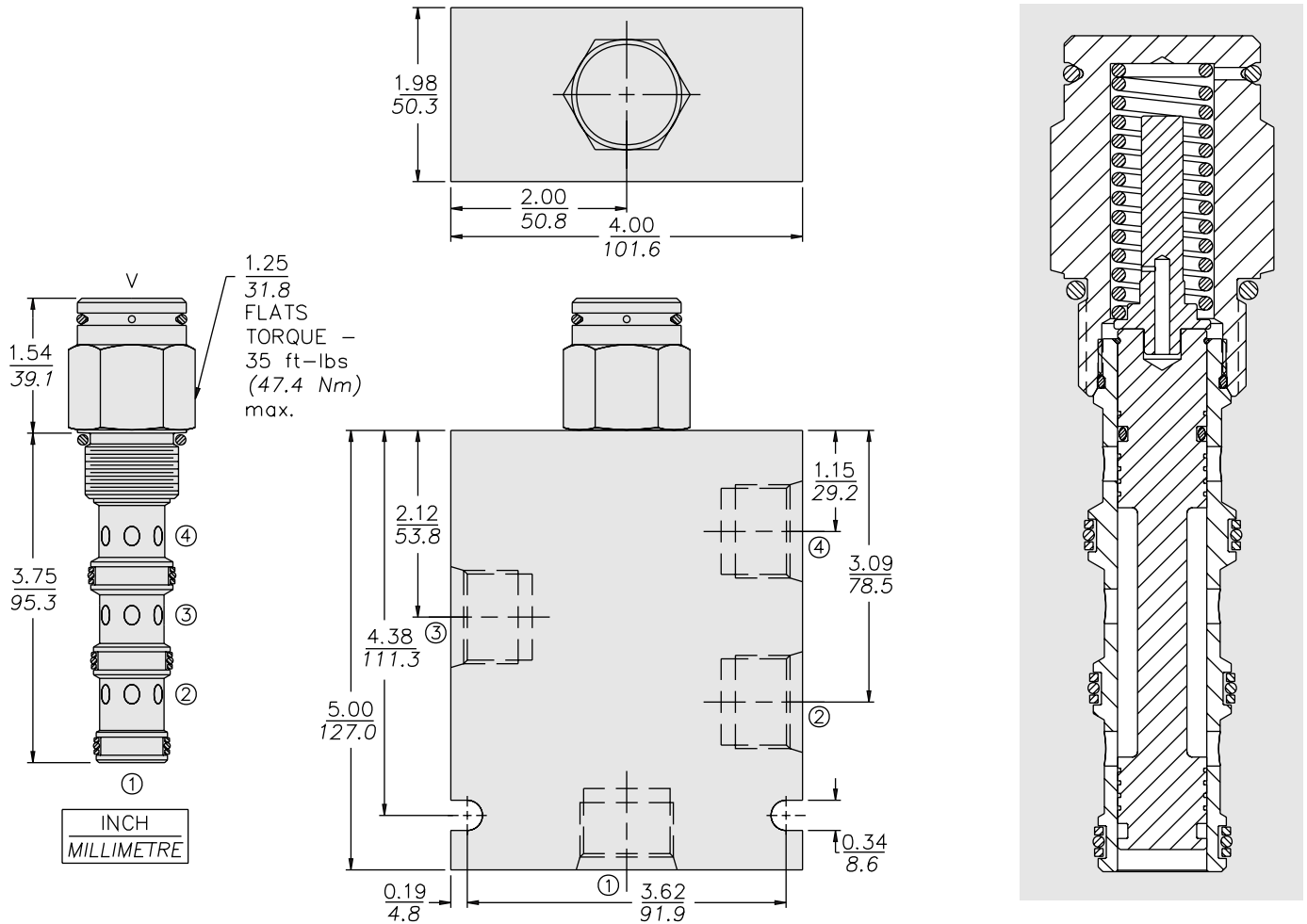


### PERFORMANCE (Cartridge Only)



**Note:** This valve is designed with a dynamic oil-to-atmosphere seal in the vent section. Ambient conditions will cause this vent seal to degrade which will reduce the valve's cycle life. If this could cause a problem, we suggest that a non-vented model be selected. Consult factory for assistance.

**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:  
1.50 kg. (3.30 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**

**PD12-40**

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

**Porting**  
Cartridge Only **0**  
SAE 10 **10T**  
SAE 12 **12T**

**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