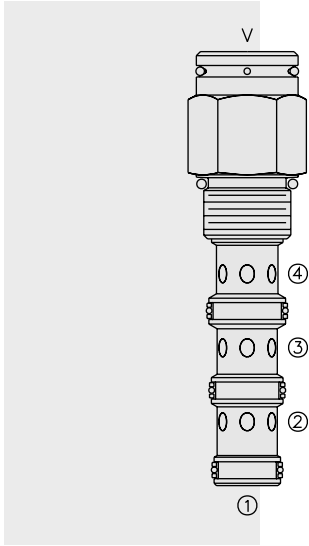


# DIRECTIONAL VALVES

## 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 ssu)

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

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

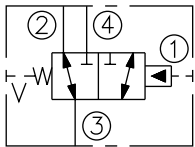
**Cavity Tool:** CT12-4XX; See page 8.600.1

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

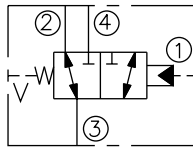
**Cap Vent Seal:** Part Number 6003121

### SYMBOLS

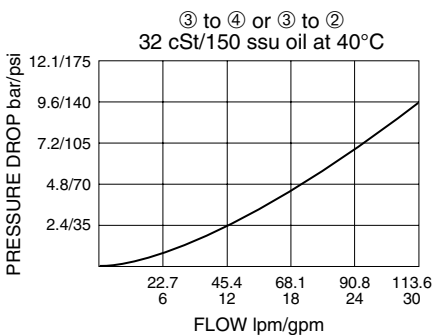
#### USASI:



#### ISO:



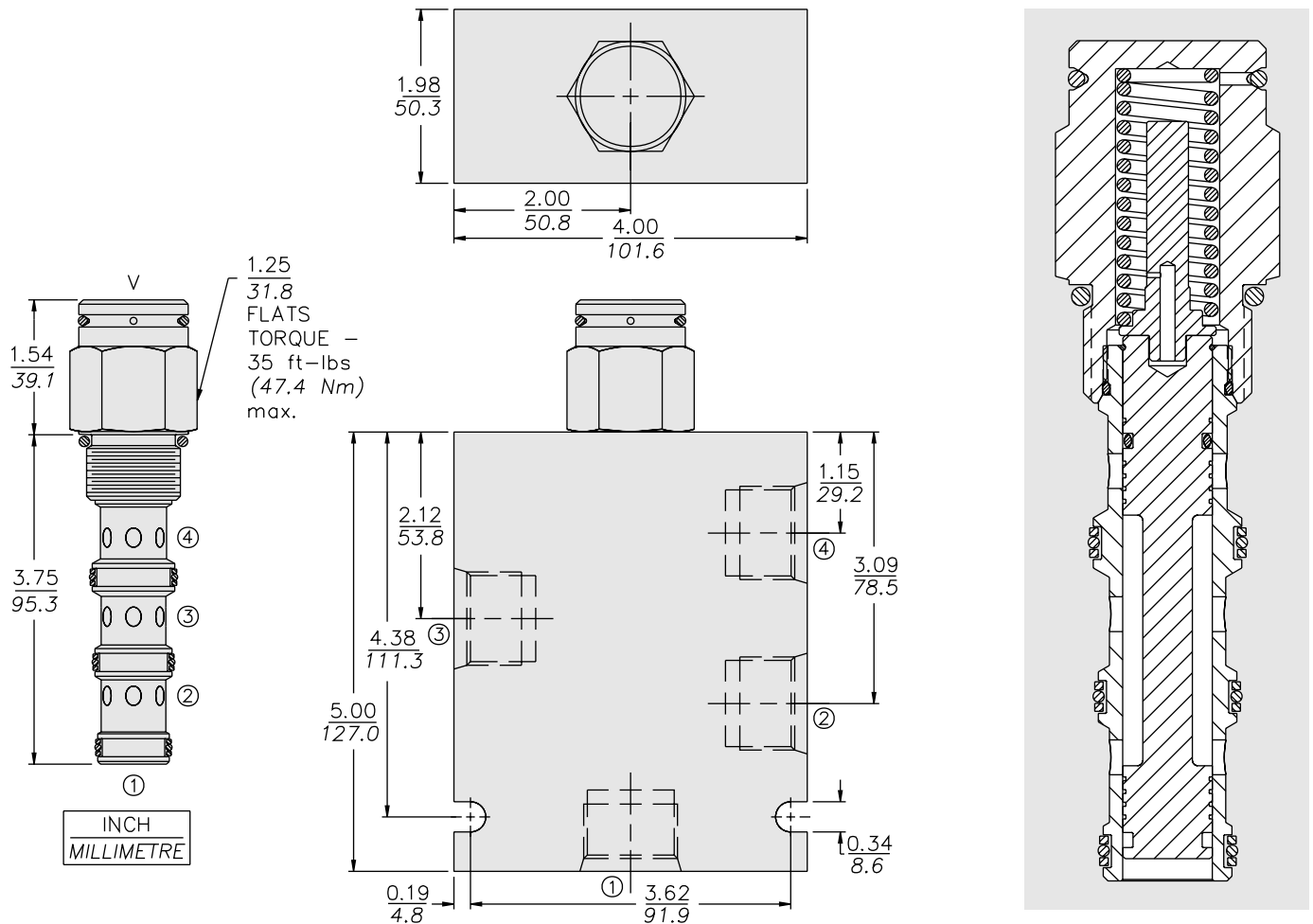
### PERFORMANCE (Cartridge Only)



**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, or special seal be used. Consult factory for assistance.

**PD12-40**

**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 240 bar (3500 psi); See page 8.012.1. Ductile iron and steel bodies available; dimensions may differ; consult factory.

**TO ORDER**

<b>PD12-40</b>		-	-	-
<b>Option</b>	None (Blank)			
Open Transition	<b>N</b>			
<b>Porting</b>				
Cartridge Only	<b>0</b>			
SAE 10	<b>10T</b>			
SAE 12	<b>12T</b>			
				<b>Bias Spring</b>
				<b>110</b> 7.6 bar (110 psi)
				<b>170</b> 11.7 bar (170 psi)
				Optional bias springs considered on OEM request.
				<b>Seals</b>
				<b>N</b> Buna N (Std.)
				<b>NS</b> Buna N with Sealed Spool
				<b>V</b> Fluorocarbon
				<b>VS</b> Fluorocarbon with Sealed Spool