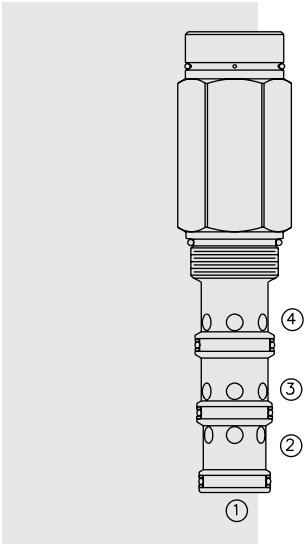


# PD42-M41 Piloted 3-Way Spool, Internal Vent



## 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 **PD42-M41** allows flow from ③ to ④ while ② is blocked. On remote pilot signal at ①, the valve shifts to open from the ③ to ② flow path, while blocking flow to ④.

Note that ④ is common to the spring chamber. Pressure on ④ will directly (1:1) affect required pilot pressure 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.
- Optional sealed pilot.
- Industry-standard ISO cavity.

## RATINGS

**Maximum Operating Pressure:** With Polyurethane Seals: Ports ①, ②, & ③: 345 bar (5000 psi); Port ④: 210 bar (3000 psi)

**Flow:** See Performance Chart

**Internal Leakage at Maximum Operating Pressure:**

Ports ②, ③, & ④: 246 cc/minute (15 cu. in./minute);

Port ①: 524 cc/minute (32 cu. in./minute)

With the sealed pilot there is no leakage at ① at maximum operating pressure.

**Pilot Pressure Required:**

To Begin Spool Movement: 11 bar (160 psi)

To Bring Spool to Cross-Over Point: 16.2 bar (235 psi)

To Fully Shift the Spool: 18.3 bar (265 psi)

**Oil Volume Required to Full Shift:** 2.5 cc (0.15 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

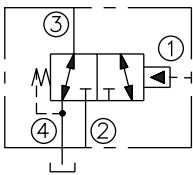
**Cavity:** VC42-M4; See page 9.142.1

**Cavity Tool:** CT42-M4XX; See page 8.600.1

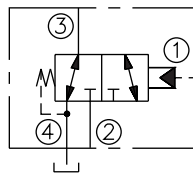
**Seal Kit:** SK42-4X-MMM; See page 8.650.1

## SYMBOLS

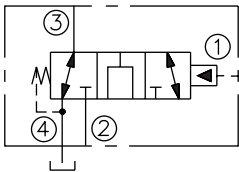
USASI:



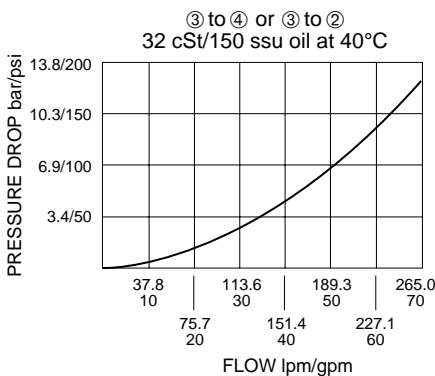
ISO:



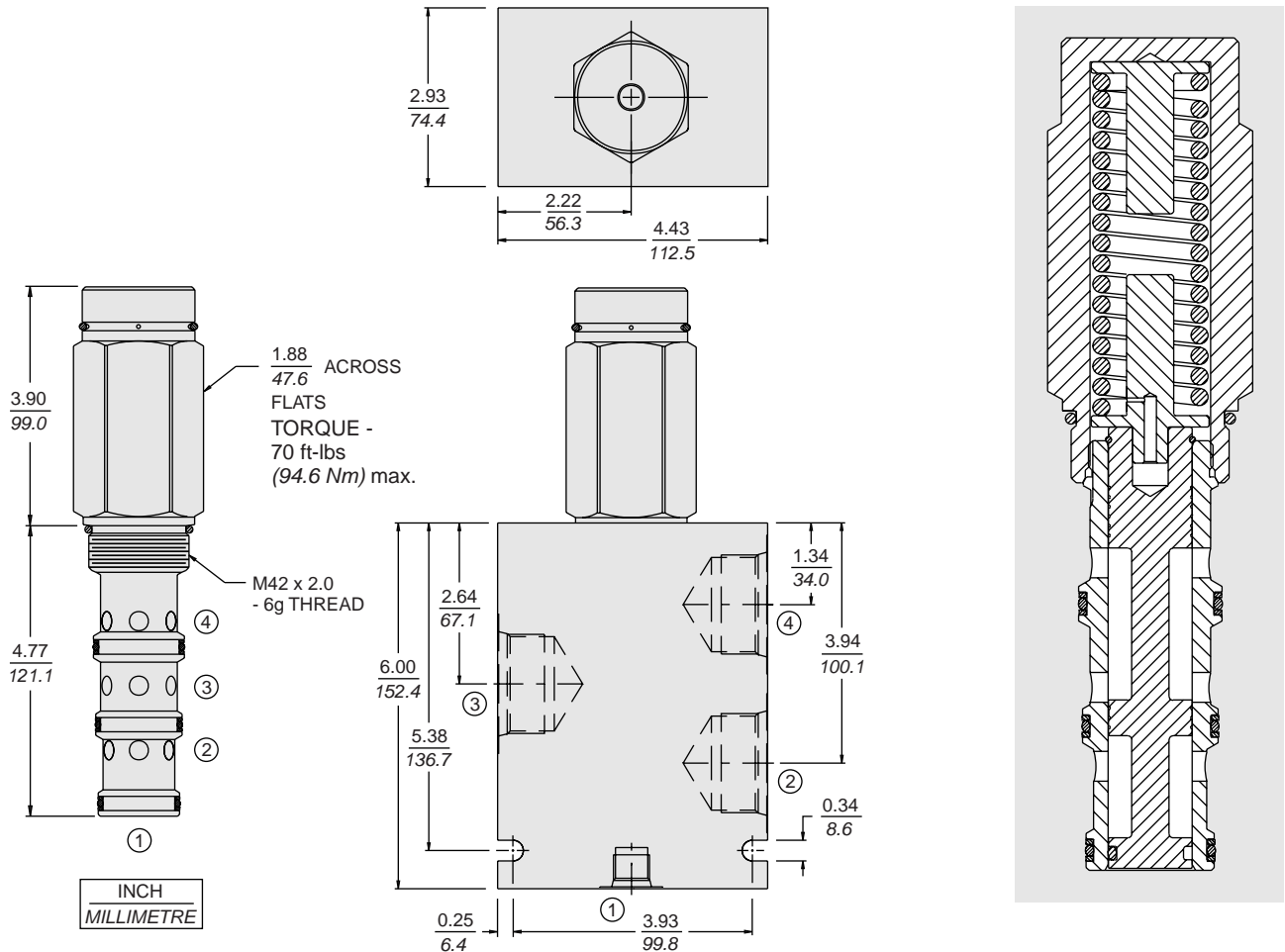
OPEN TRANSITION:



## PERFORMANCE (Cartridge Only)



**DIMENSIONS**



**MATERIALS**

**Cartridge:** Weight: 0.52 kg. (1.15 lbs.)  
Steel with hardened work surfaces.  
Zinc-plated exposed surfaces.  
Buna N O-rings and polyester  
elastomer back-ups standard.

**Standard Ported Body:** Weight:  
2.8 kg. (6.2 lbs.) Anodized high-  
strength 6061 T6 aluminum alloy,  
rated to 207 bar (3000 psi). Ductile  
iron bodies available; dimensions  
may differ. See page 8.042.1

**TO ORDER**

**PD42-M41** - - - **-160<sup>†</sup>**

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

**Porting**  
Cartridge Only **0**  
SAE 16, SAE 6 Pilot **16T**  
\*SAE 16, SAE 6 Pilot **16TD**  
SAE 20, SAE 6 Pilot **20T**

**Seals**  
**N** Buna N (Std.)  
**NS** Buna N with Sealed Spool  
**V** Fluorocarbon  
**VS** Fluorocarbon with Sealed Spool  
**P** Polyurethane\*\*  
**PS** Polyurethane with Sealed Spool\*\*

<sup>†</sup>160 psi bias spring standard.  
Optional bias springs considered  
on OEM request.

\*Ductile iron body for pressures  
over 207 bar/3000 psi  
Note: All bodies are PD type.

\*\*Required for pressures over 3500 psi