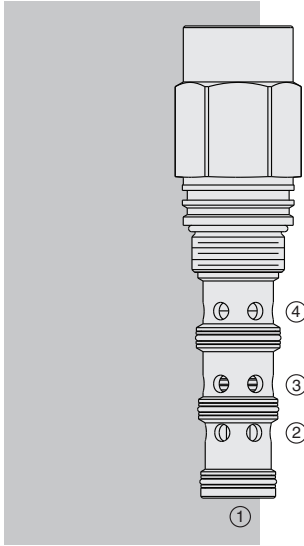


## HPD42-M45 HyPerformance™ Piloted 2-Way Spool



### DESCRIPTION

A high performance, screw-in, cartridge-style, pilot-operated, spool-type, hydraulic directional valve for two-way circuits requiring remote pilot actuation and vented spring chamber.

### OPERATION

In neutral (unpiloted), the **HPD42-M45** 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 3 to 2 bidirectionally.

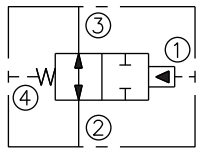
Note that 4 is common to the spring chamber. Pressure on 4 will directly (1:1) affect required pilot pressure and must always be added to the bias spring value.

### FEATURES

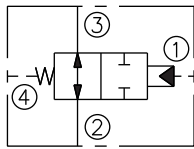
- Multiple function/application potential.
- Smooth shift transition.
- Low pressure drop.
- Hardened spool and cage for long life.
- Optional sealed pilot.
- Industry-standard ISO cavity.
- All HyPerformance products are tested to the rigorous standards of NFPA specification T2.6.1.
- All HyPerformance products are tested at a verification level of 90% and an assurance of 99%.

### SYMBOLS

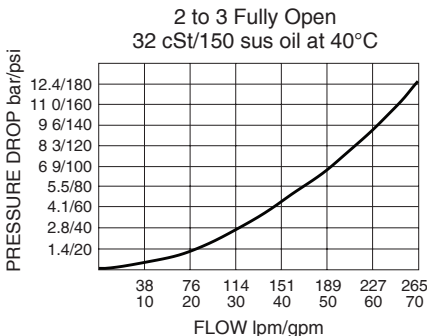
#### USASI:



#### ISO:



### PERFORMANCE (Cartridge Only)



### RATINGS

**Operating Pressure:** 350 bar (5075 psi); 10% cycle life: 420 bar (6090 psi)

Note: All HyPerformance products are tested for 900K cycles at 350 bar and 100K at 420 bar

**Fatigue Rating:** 2 million cycles at 420 bar

**Burst Pressure:** 1380 bar (20000 psi)

**Flow:** 265 lpm (70 gpm)

**Internal Leakage:** 560 ml/min (30 cu. in./minute) max at 350 bar (5075 psi)

#### Pilot Pressure Required:

To Spool Crossover: 5.51 bar (80 psi) with 180 psi bias spring

To Full Spool Shift: 12.4 bar (180 psi) with 180 psi bias spring

**Oil Volume Required to Full Shift:** 5.07 cu. cm. (0.31 cu. in.)

**Temperature:** -54°C to 107°C (-65°F to 225°F) with standard PPDI Urethane 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

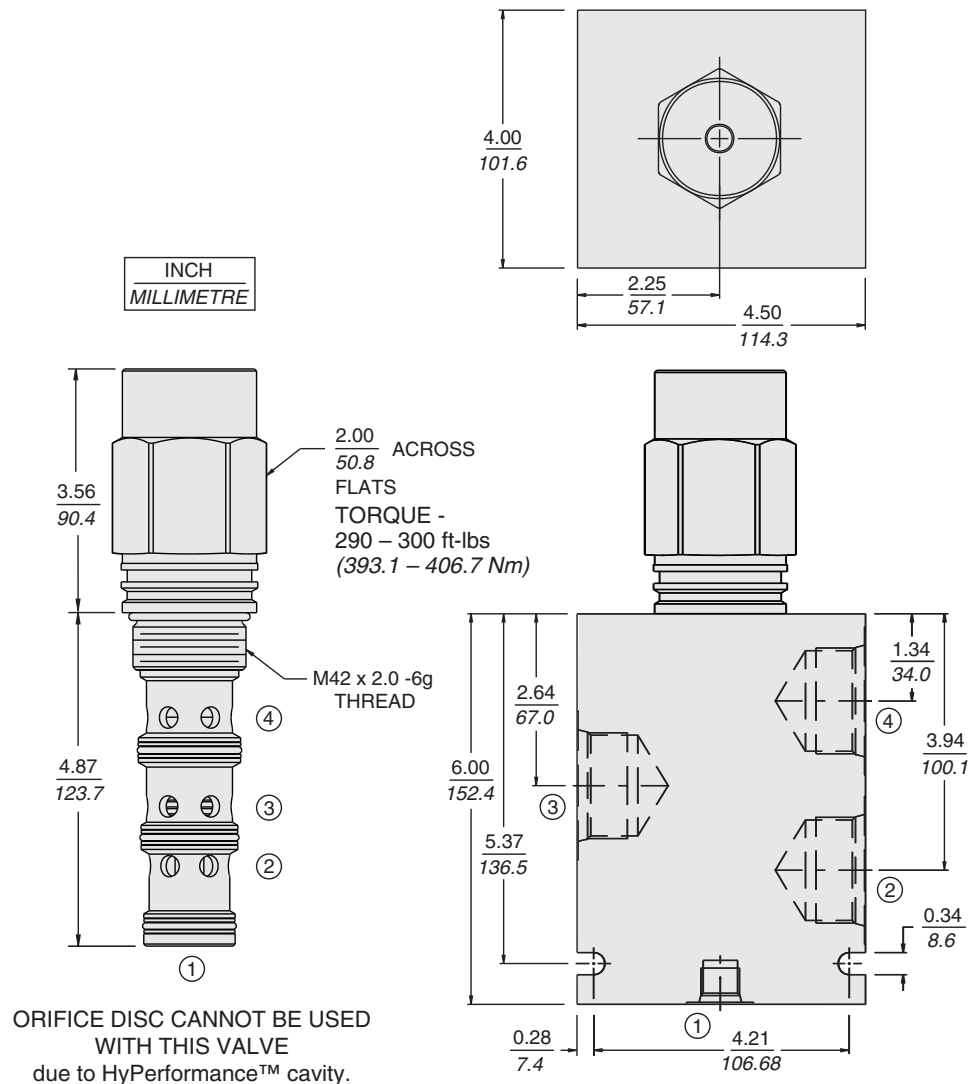
**Installation:** No restrictions; See page 9.020.1

**Cavity:** HVC42-M4 See page 9.142.1

**Cavity Tool:** HCT42-M4XX; See page 8.600.1

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

## DIMENSIONS



## MATERIALS

**Cartridge:** Weight: 1.9 kg. (4.2 lbs.)  
Steel with hardened work surfaces.  
Zinc-nickel plated exposed surfaces. PPDl urethane O-rings and polyester elastomer back-ups standard.

**Ported Body:** Weight: 10.68 kg (23.56 lbs.) HyPerformance™  
Ductile iron (code 'D') standard. PD type. Rated to 345 bar (5000 psi).

## TO ORDER

HPD42-M45 - - -180<sup>‡</sup>

**Option**  
None (Blank)

**Porting**  
Cartridge Only 0  
SAE 20 20TD  
1-1/4" BSP\* 10BD

<sup>‡</sup>180 psi bias spring standard. Optional bias springs considered on OEM request.

**Seals**  
**U** PPDl Urethane (Standard)  
**US** PPDl Urethane with Sealed Spool

\*BSP body; U.K. mfr. Only

NOTE: All bodies are PD type.