# DIRECTIONAL VALVES

## HPD42-S52   HyPerformance™ Piloted 3-Way Spool

## ISO SYMBOL

## PERFORMANCE (Cartridge Only)

Pressure Drop vs. Flow
Neutral; Cartridge Only
3 to 2 - - - -; 3 to 4 ———
3 to 2 and 4 — - — -
32 cSt/150 sus oil at 40°C



### DESCRIPTION
A screw-in, cartridge-style, pilot-operated, spool-type, hydraulic directional valve for use in high pressure applications.

### OPERATION
When in neutral the **HPD42-S52** blocks flow between all ports. On remote pilot signal at 1, the valve's spool shifts to allow flow between ports 2, 3 and 4. The spring chamber is vented to the tank through port 5. The vented spring chamber allows the valve to be fully pressurized at ports 1, 2, 3, and 4 without affecting required pilot pressure. Pressure at port 5 will increase the required pilot pressure at a 1:1 ratio.

### FEATURES
• Hardened spool and cage for long life.
• All HyPerformance™ products are tested to the rigorous standards of the NFPA specification T2.6.1.
• All HyPerformance™ valves are tested at a verification level of 90% and an assurance of 99%.

### 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.

**Proof Pressure:**  690 bar (10000 psi)

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

**Flow Rating:** Maximum total input flow 265 lpm (70 gpm)

**Internal Leakage:** 328 ml/minute (20 cu. in./minute) at 350 bar (5075 psi)

**Operating Temperature:** -54 to 107°C (-65 to 225°F) with 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
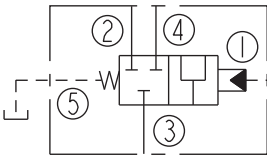
**Installation:** No restrictions; See page 9.020.1

**Cavity:** HVC42-S5; See page 9.142.1
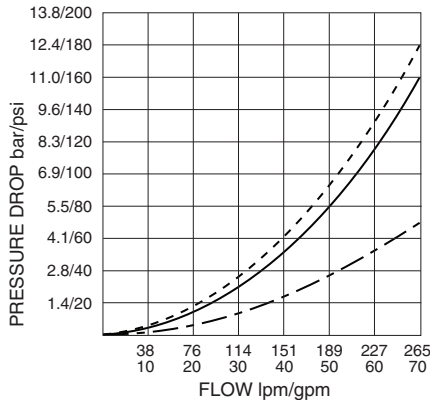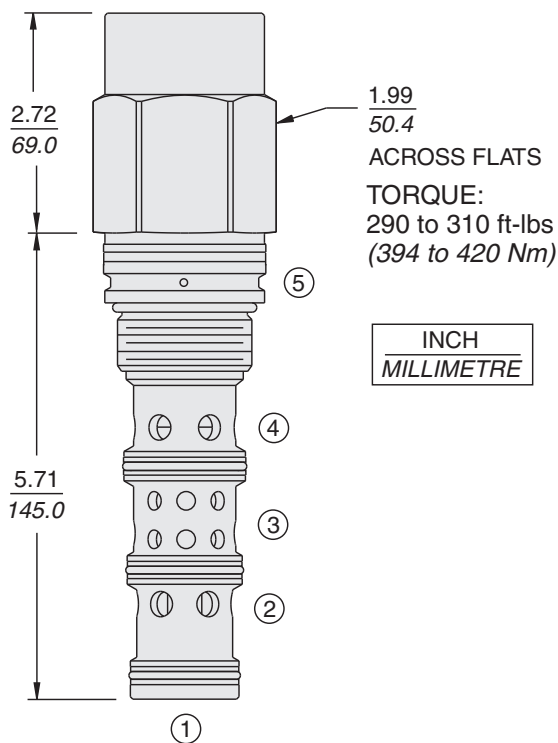
**Cavity Tool:** HCT42-5XX; See page 8.600.1

**Seal Kit:** HSK42-S5U-0000 (Urethane); See page 8.650.1

## DIMENSIONS



2.72
69.0

1.99
50.4
ACROSS FLATS

TORQUE:
290 to 310 ft-lbs
*(394 to 420 Nm)*

INCH
*MILLIMETRE*
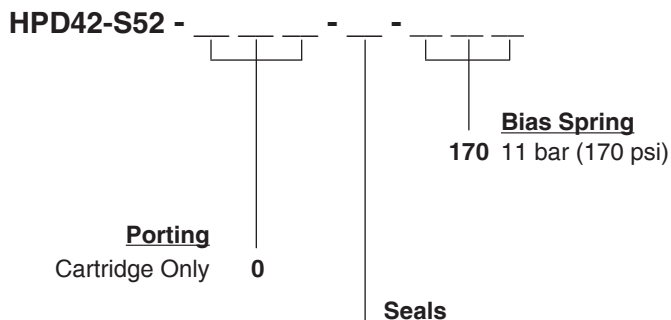
⑤

④

5.71
145.0

③

②

①

ORIFICE DISC SHOULD NOT
BE USED WITH THIS PRODUCT.

## MATERIALS

**Cartridge:** Weight: 1.9 kg. (4.2 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
PPDI Urethane seals and no
back-up rings standard.

**Ported Body:** Weight: 14.0 kg
(30.90 lbs) HyPerformance™ ductile
iron (code 'D') standard. Rated to
345 bar (5000 psi).
See page 8.042.1.

## TO ORDER

**HPD42-S52 -** __ __ __ __ **-** __ __ **-** __ __ __

**Bias Spring**
**170** 11 bar (170 psi)

**Porting**
Cartridge Only     **0**

**Seals**
**U**   PPDI Urethane
**US**  Sealed spool between ports 1 and 2

**Note:** *Urethane seals recommended for operating
pressures above 241 bar (3500 psi).*

**Note:** *Consult factory for additional seal options.*