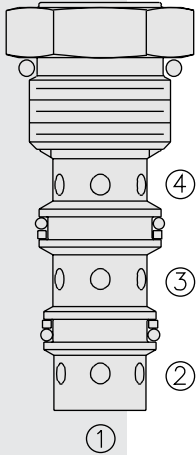# HS10-42 Low Side (Hot Oil) Shuttle, Springless

DESCRIPTION

A spool-type, closed in transition, 2-position, 3-way hot oil shuttle valve, which may be used on hydrostatic transmissions to direct charge pump oil to a heat exchanger or to tank.

OPERATION

With internal piloting at port ①, ② or ④, oil will flow from the port opposite of the port piloted to port ③, thus removing oil from the low-pressure side for cooling or filtration purposes. The valve is **springless**, relying solely on the internal pilot pressure signal to shift to either side. The **HS10-42** is closed in transition.

FEATURES

• Hardened parts for long life.
• Industry common cavity.

RATINGS

Operating Pressure:
   HS10-42: 207 bar (3000 psi)
   HS50-42: 345 bar (5000 psi)

Flow Rate: See Performance Chart

Internal Leakage: 115 cc/minute (7 cu. in./minute) max.

Temperature: -40 to 120°C

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: VC10-4; See page 9.110.1

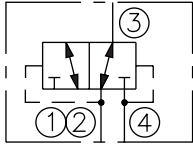**Cavity Tool:** CT10-4XX; See page 8.600.1

Seal Kit:
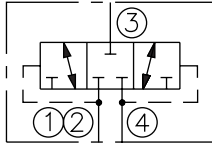   HS10-42: SK10-4N-TTT/BBB; See page 8.650.1
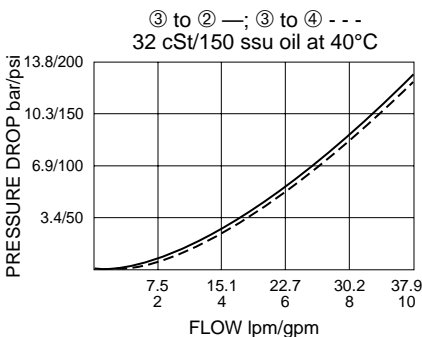   HS50-42: SK10-4P-TTT/BBB; See page 8.650.1

SYMBOLS

USASI/ISO: **TRANSITION:**
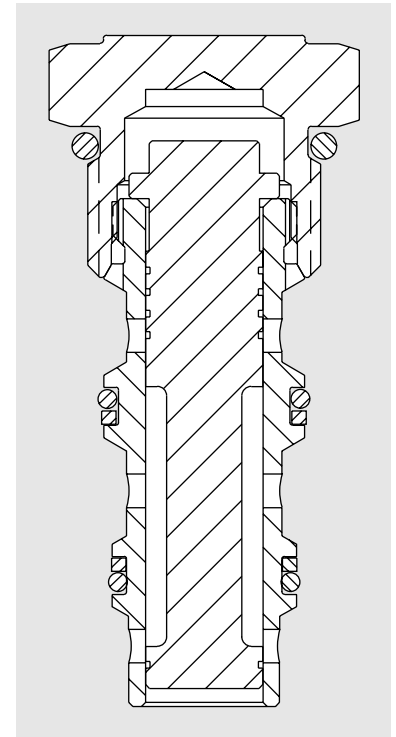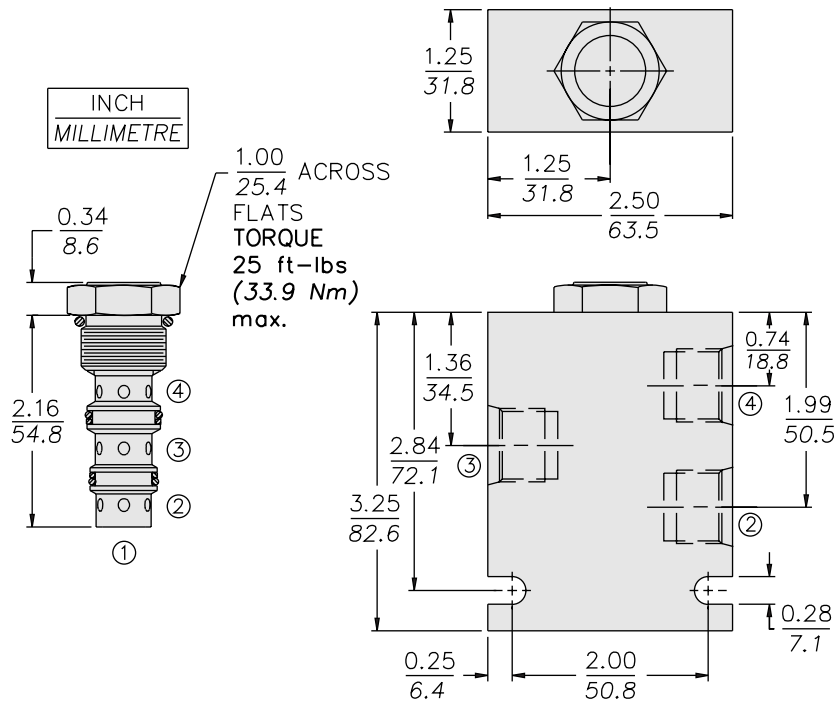
PERFORMANCE (Cartridge Only)

③ to ② —; ③ to ④ - - -
32 cSt/150 ssu oil at 40°C

DIMENSIONS

INCH
MILLIMETRE

$\frac{1.00}{25.4}$ ACROSS FLATS
TORQUE
25 ft-lbs
(33.9 Nm)
max.

$\frac{0.34}{8.6}$

$\frac{2.16}{54.8}$

④ ③ ② ①

$\frac{1.25}{31.8}$

$\frac{1.25}{31.8}$ $\frac{2.50}{63.5}$

$\frac{1.36}{34.5}$

$\frac{2.84}{72.1}$ ③

$\frac{3.25}{82.6}$

$\frac{0.25}{6.4}$ $\frac{2.00}{50.8}$

$\frac{0.74}{18.8}$

④ $\frac{1.99}{50.5}$

②

$\frac{0.28}{7.1}$

MATERIALS

Cartridge: Weight: 0.15 kg. (0.32 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-ups standard. Polyurethane seals optional for high pressure.

Standard Ported Body: Weight: 0.34 kg. (0.75 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron body required for operation over 241 bar (3500 psi); dimensions may differ. See page 8.010.1

TO ORDER

HS__ 0 - 42 - __ __ __ - __

Pressure
207 bar (3000 psi) **1**
345 bar (5000 psi) **5**

Porting
Cartridge Only **0**
SAE 6 **6T**
SAE 6 (Ductile) **6TD**
SAE 8 **8T**
1/4 in. BSP* **2B**
3/8 in. BSP* **3B**

*BSP Body;
U.K. Mfr. Only

Note: Steel or Ductile body required for operation over 241 bar (3500 psi).

Seals
N Buna N (Std. for 3000 psi)
P Polyurethane (Std. for 5000 psi)