



This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is only available in a normally closed configuration. Due to the poppet style construction, this valve has extremely low leakage. Many poppet style directional valves pass a small amount of fluid when the pressure across them changes suddenly. This is due to the compressibility of the fluid. This valve has been designed to prevent this from happening. This valve is designed to be used with 740 and 747 Series coils.

TECHNICAL DATA NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

| | |
|---|---------------------------|
| Cavity | T-13A |
| Series | 1 |
| Capacity | 6 gpm |
| Maximum Operating Pressure | 5000 psi |
| Manual Override Force Requirement | 5 lbs/1000 psi @ Port 1 |
| Manual Override Stroke | .10 in. |
| Maximum Valve Leakage at 110 SUS (24 cSt) | 10 drops/min.@5000 psi |
| Response Time - Typical | 50 ms |
| Switching Frequency | 15,000 max. cycles/hr |
| Solenoid Tube Diameter | .63 in. |
| Valve Hex Size | 7/8 in. |
| Valve Installation Torque | 30 - 35 lbf ft |
| Model Weight | 0.52 lb. |
| Seal and nut kit - Coil | Viton: 990-740-006 |
| Seal kit - Cartridge | Buna: 990-413-007 |
| Seal kit - Cartridge | Polyurethane: 990-413-002 |
| Seal kit - Cartridge | Viton: 990-413-006 |

- NOTES:**
- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
 - An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

OPTION SELECTION EXAMPLE: DTCFXCN

| CONTROL | (X) POPPET CONFIGURATION | (C) SEAL MATERIAL | (N) COIL |
|--|--------------------------|-------------------|----------|
| X No Manual Override | C Normally Closed | N Buna-N | No coil |
| D Twist/Lock (Dual) Manual Override | | E EPDM | |
| L Twist/Lock (Detent) Manual Override | | V Viton | |
| M Manual Override | | | |
| T Twist (Momentary) Manual Override | | | |

TECHNICAL FEATURES

- The solenoid tube assembly is fatigue rated for 5000 psi (350 bar) service.
- This valve is direct actuated and requires no minimum hydraulic pressure for operation.
- Valves exhibit extremely low leakage rates; less than 10 drops/min. @ 5000 psi (0,7 cc/min @ 350 bar).
- Coil connector options offer ratings up to IP69K. See individual coil product pages for details.
- This cartridge has an option for manual override. See the CONFIGURATION section.
- Provides a combination seat/spool design for increased sealing integrity.
- This valve is suitable for load holding applications. In the event of power failure, the valve will spring closed.
- On models equipped with the D or L control, the detent mechanism in the manual override is meant for temporary actuation. The D, L and T manual control assemblies have a mechanical life expectancy of approximately 7,000 cycles.
- This valve utilizes a wet armature design. This means that the working fluid surrounds the armature and is exposed to the heat generated by the coil. This can be a factor if the coil is energized for long periods of time. Some fluids, notably water/glycol mixtures, break down at these temperatures over time and form varnishes that will affect the function of the cartridge.
- The solenoid's unique magnetic design results in a high efficiency solenoid, yielding high spool actuating force per Watt expended, leading to reliable valve shifting.
- Coils can be mounted on the tube in either direction.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

PERFORMANCE CURVES

