



This manually operated, 2-position, 2-way directional cartridge is a direct-acting, poppet-style valve used to control the direction of flow in a hydraulic circuit. The valve is available in either a normally open or normally closed configuration. Manual operation is achieved via Sun's Twist/Lock manual override mechanism and is designed for intermittent (infrequent) use only. Due to the poppet-style construction, this valve has extremely low leakage.

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

Cavity	T-13A
Series	1
Capacity	10 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Operating Torque	10 lbf in.
Valve Hex Size	7/8 in.
Valve Installation Torque	30 - 35 lbf ft
Seal kit - Cartridge	Buna: 990-413-007
Seal kit - Cartridge	Polyurethane: 990-413-002
Seal kit - Cartridge	Viton: 990-413-006

OPTION SELECTION EXAMPLE: DTDMCN

POPPET CONFIGURATION

(C) SEAL MATERIAL

(N)

- C** Normally Closed
- H Normally Open

- N** Buna-N
- E EPDM
- V Viton

TECHNICAL FEATURES

- This valve is designed for intermittent use such as a manual override. The manual control assembly has a mechanical life expectancy of approximately 7,000 cycles.
- The momentary/twist control option "T" allows the operator to momentarily shift the valve by twisting the knob clockwise and releasing. Once released, the valve returns to its normal position.
- The detent/lock control option "L" allows the operator to shift the valve into a mechanically detented position by twisting the knob counter-clockwise. This detented position will be maintained until the operator twists the knob clockwise and allows the valve to return to its normal position. Please note that the detented position is for temporary shifting only and not intended to be a permanent detent.
- The dual-operation control option "D" allows the operator to either shift the valve momentarily by twisting the knob clockwise or shift it into a mechanically detented position by twisting counter-clockwise. Please note that the detented position is for temporary shifting only and not intended to be a permanent detent.
- The control on this valve is meant to be operated by a person's hand. The control should not be modified, for instance fastening a lever to the knob. Under no circumstances should the control be operated by other mechanical devices.
- Valves exhibit extremely low leakage rates; less than 10 drops/min. @ 5000 psi (0,7 cc/min @350 bar).
- This valve is suitable for load holding applications when using the Normally Closed option. The detent mechanism in the manual override is meant for temporary actuation.
- Cartridges configured with EPDM seals are for use in systems with phosphate ester fluids. Exposure to petroleum based fluids, greases and lubricants will damage the seals.
- 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

