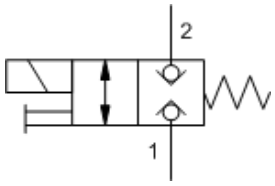
MODEL
DTDF

2-way, direct-acting, solenoid-operated directional blocking poppet valve
SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-13A

sunhydraulics.com/model/DTDF



M-Control, C-Poppet

This solenoid-operated 2-way, 2-position cartridge is a direct-acting, poppet-style directional valve. The valve is available in either a normally open or normally closed configuration and is designed to be used with FLeX Series coils.

Due to the poppet style construction, this valve has extremely low leakage.

CONFIGURATION

M	Control	Manual Override
C	Poppet Configuration	Normally Closed
N	Seal Material	Buna-N
(none)	Coil	No coil

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
Manual Override Force Requirement	5 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
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
Seal kit - Cartridge	Buna: 990413007
Seal kit - Cartridge	Polyurethane: 990413002
Seal kit - Cartridge	Viton: 990413006
Model Weight	0.54 lb.

NOTES

Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.

CONFIGURATION OPTIONS

Model Code Example: DTDFMCN

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

* Additional coil options are available

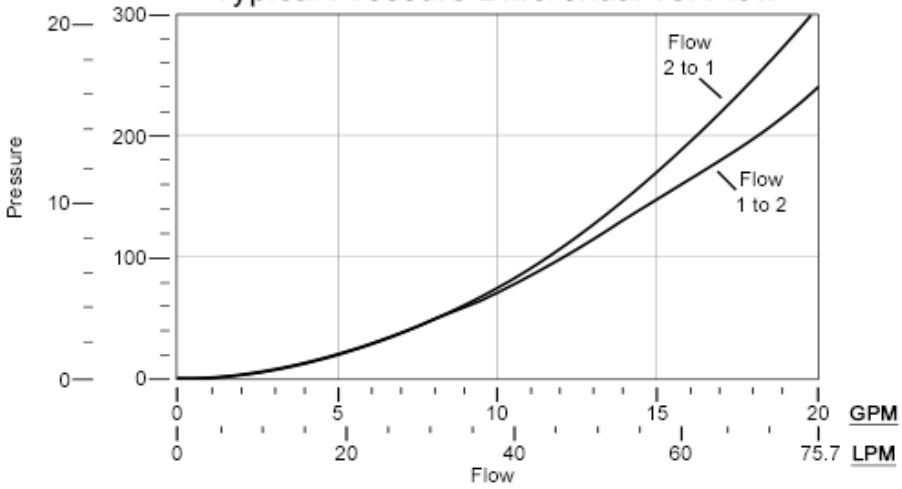
TECHNICAL FEATURES

- 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.
- This valve is suitable for load holding applications when using the Normally Closed option. 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 assembly has a mechanical life expectancy of approximately 7,000 cycles.
- All configurations of this valve include zinc-nickel plating as standard for 1000-hour salt fog protection.
- Coil connector options offer ratings up to IP69K. See individual coil product pages for details.
- This cartridge utilizes both 740 Series high-power and 747 Series hazardous location coils.
- This cartridge has an option for manual override. See the CONFIGURATION section.
- Valves exhibit extremely low leakage rates; less than 10 drops/min. @ 5000 psi (0,7 cc/min @ 350 bar).
- A FULL DATA SHEET is available for this model using the link at the top of the page.
- 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.
- A wide variety of coil termination and voltage options are available, with and without surge protection. See the CONFIGURATION section.
- 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.

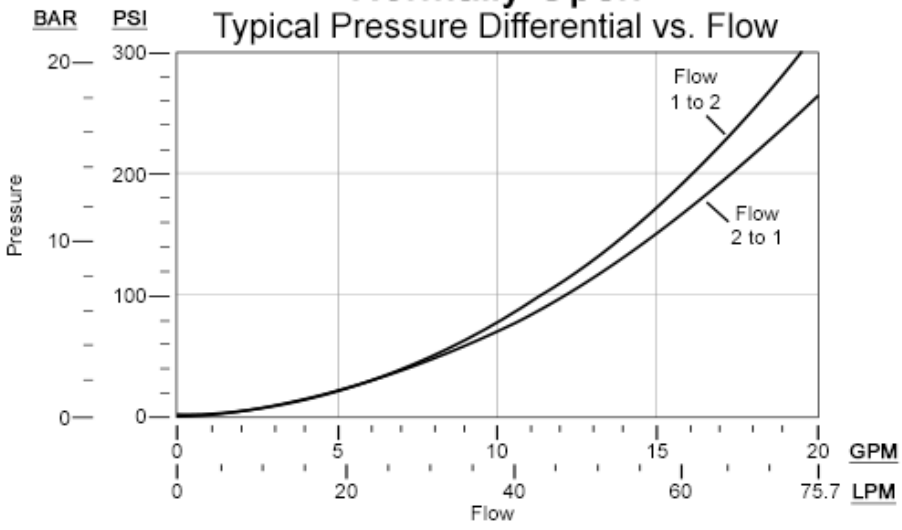
PERFORMANCE CURVES

© 2019 Sun Hydraulics

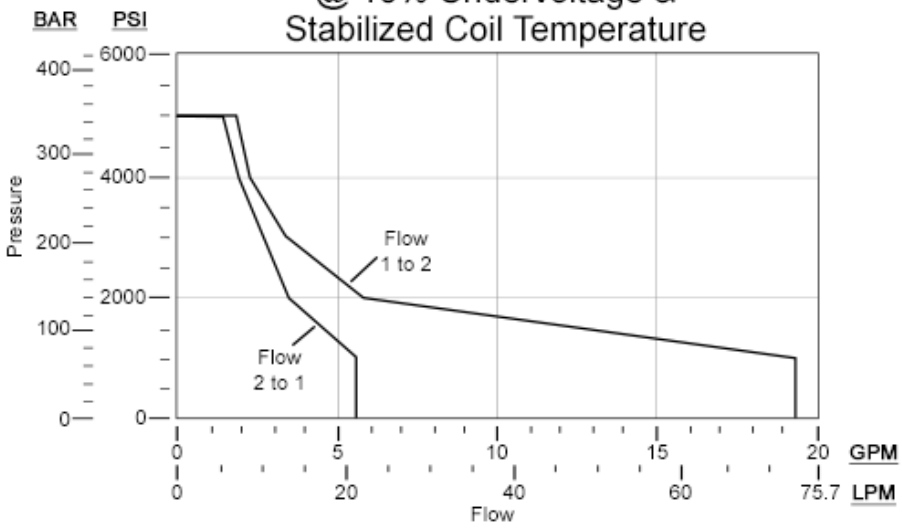
DTDF
Normally Closed
Typical Pressure Differential vs. Flow



DTDF
Normally Open
Typical Pressure Differential vs. Flow

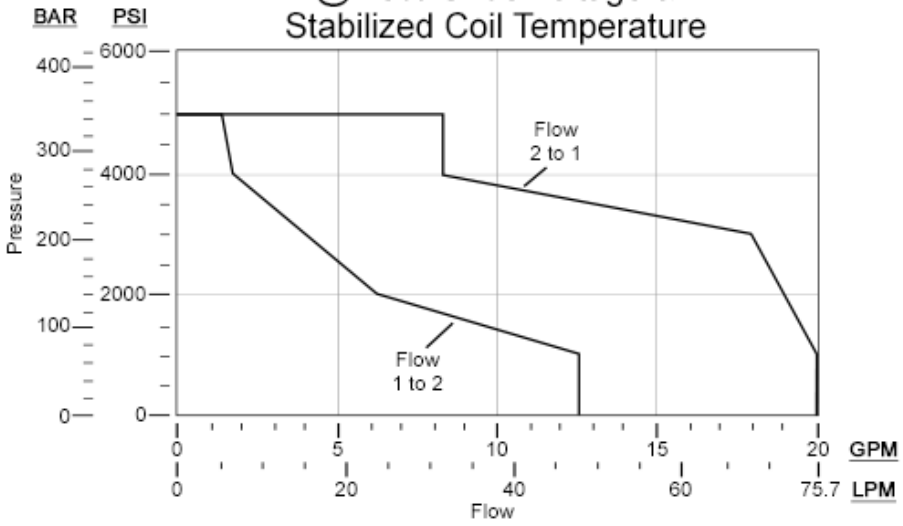


DTDF
Normally Closed
Valve Performance Limits
@ 10% Undervoltage &
Stabilized Coil Temperature



© 2019 Sun Hydraulics

DTDF
Normally Open
Valve Performance Limits
@ 10% Undervoltage &
Stabilized Coil Temperature



© 2019 Sun Hydraulics