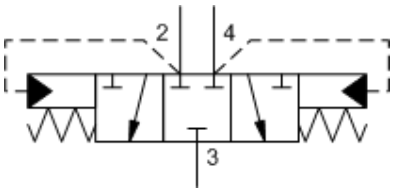
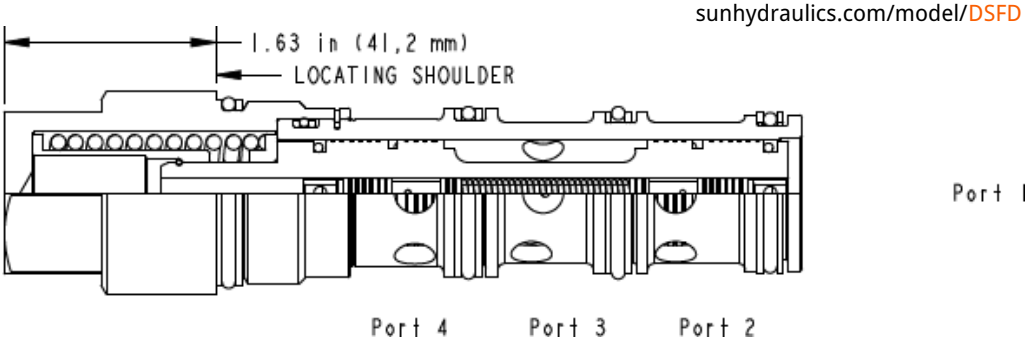
MODEL
DSFD

Low side, 3-position, hot oil shuttle valve with delayed shift
SERIES 3 / CAPACITY: 40 gpm / CAPACITY: T-33A

sunhydraulics.com/model/DSFD





CONFIGURATION

X	Control	Not Adjustable
E	Shifting Pressure	75 psi (5 bar)
N	Seal Material	Buna-N
(none)	Material/Coating	

Low-side (hot oil) shuttle cartridges allow hot oil to be diverted from the low pressure side of a closed loop system. When both work ports (ports 2 and 4) are at equal pressures the valve is spring-centered to an all-ports-blocked position. When one of the work ports (port 2 or 4) sees a higher pressure the opposite work port is connected to the common port (port 3). The delay shift shuttle prevents flow transients downstream of the hot oil circuit.

TECHNICAL DATA

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

Cavity	T-33A
Series	3
Capacity	40 gpm
Maximum Operating Pressure	5000 psi
Pilot Flow	23 in³/min.
Valve Hex Size	1 1/4 in.
Valve Installation Torque	150 - 160 lbf ft
Seal kit - Cartridge	Buna: 990033007
Seal kit - Cartridge	Polyurethane: 990033002
Seal kit - Cartridge	Viton: 990033006
Model Weight	1.69 lb.

CONFIGURATION OPTIONS

Model Code Example: DSFDArray

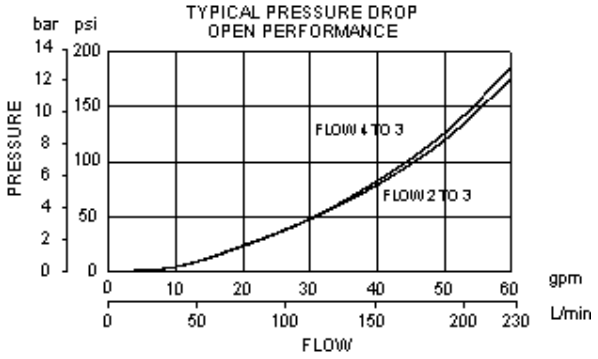
CONTROL (X)	SHIFTING PRESSURE (E)	SEAL MATERIAL (N)	MATERIAL/COATING
X Not Adjustable	**E** 75 psi (5 bar)	**N** Buna-N	Standard Material/Coating
		V Viton	**/LH** Mild Steel, Zinc-Nickel

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TECHNICAL FEATURES

- The valve is designed to center quickly and stay centered until conditions are correct for it to open as explained in the next 2 technical features.
- The valve prevents flow transients downstream of the hot oil relief in 2 ways. The shuttle stays centered until one side of the transmission actually becomes the low side. Once a low side has been established the valve opens in a controlled fashion after a delay of about 2 seconds.
- The valve centers and remains centered as long as pressures at ports 2 and 4 are both at or above a value equal to 300 psi (20 bar) plus the setting of the hot oil relief. For instance, if the hot oil relief is set at 200 psi (14 bar) the shuttle will not open unless one side of the transmission drops below 500 psi (34 bar).
- The spool incorporates a hydraulic stop that eliminates mechanical impact and therefore the potential for internal damage.
- The hydraulic stop results in a small pilot flow from the high side work port (port 2 or 4) to the common port (port 3).
- A unique feature due to the hydraulic stop is that the hot oil relief setting can be confirmed with the transmission in neutral.
- Although this valve goes into a 4-port cavity, the nose (port 1) is not used.
- 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



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