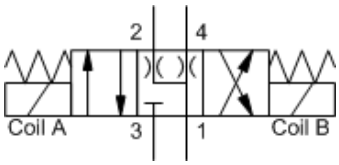
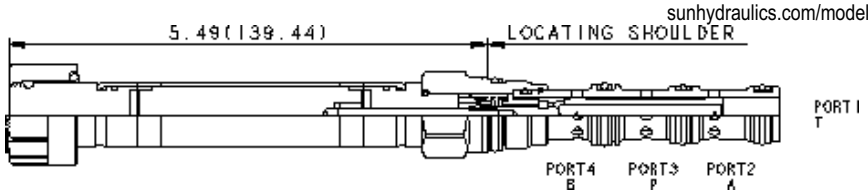
MODEL
DNDC

4-way, 3-position, solenoid-operated directional spool valve
SERIES 1 / CAPACITY: 20 L/min. / CAVITY: T-31A

sunhydraulics.com/model/DNDC



W-Spool



This direct acting, solenoid-operated, 4-way, 3-position spool valve is spring centered to the neutral position. When coil A is energized, the flow is from port 3 (P) to port 2 (A) and from port 4 (B) to port 1 (T). When coil B is energized, the flow is from port 3 to port 4 and from port 2 to port 1.

CONFIGURATION

X	Control	No Manual Override
W	Spool Configuration	A and B Bleed to T Center
N	Seal Material	Buna-N
(none)	Coil	No coil

TECHNICAL DATA

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

Cavity	T-31A
Series	1
Capacity	20 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	160 cc/min.@210 bar
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Solenoid Tube Diameter	19 mm
Valve Hex Size	22,2 mm
Valve Installation Torque	41 - 47 Nm
Seal kit - Cartridge	Buna: 990431007
Seal kit - Cartridge	EPDM: 990431014
Seal kit - Cartridge	Viton: 990431006
Seal and nut kit - Coil	Viton: 990770006
Model Weight	0.44 kg.

NOTES

The two coils used in this assembly are interchangeable with one another, but once installed and wired, the coil closest to the hex body is considered Coil A, and the coil closest to the coil nut is Coil B.

CONFIGURATION OPTIONS

Model Code Example: DNDCXWN

CONTROL (X)

- **X** No Manual Override

SPOOL CONFIGURATION (W)

- **W** A and B Bleed to T Center
- **A** A to T Center
- **B** B to T Center
- **C** Blocked Center
- **H** Open Center
- **R** Regen Center
- **T** Tandem Center
- **Y** A and B to T Center

SEAL MATERIAL (N)

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

COIL *

- No coil
- **212** DIN 43650-Form A, 12 VDC
- **224** DIN 43650-Form A, 24 VDC
- **912** Deutsch DT04-2P, 12 VDC
- **924** Deutsch DT04-2P, 24 VDC

* 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.
- In differential flow circuits, the higher return flow should be directed through port 2 (A) to port 1 (T).
- 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.
- 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 are interchangeable with other Sun Series 1 solenoid products and can be mounted on the tube in either direction.
- Coil connector options offer ratings up to IP69K. See individual coil product pages for details. Additional weatherized coils and kits are available for more complete environmental protection.
- 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