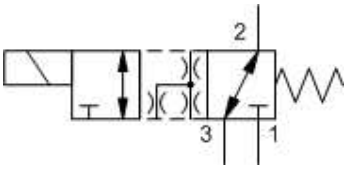
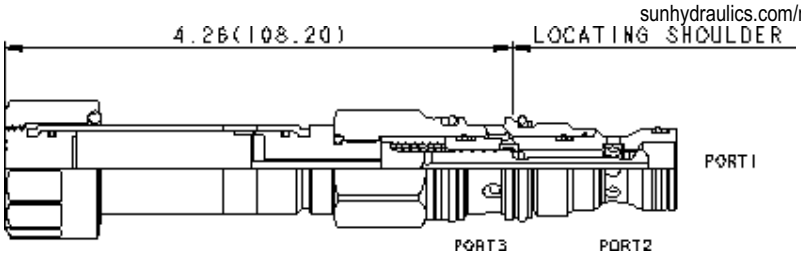
MODEL
DMDA

3-way, solenoid-operated directional spool valve
SERIES 1 / CAPACITY: 45 L/min. / CAVITY: T-11A

sunhydraulics.com/model/DMDA



X-Control, N-Spool



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool directional valve.

CONFIGURATION

X	Control	No Manual Override
N	Spool Configuration	Normally Open 2 to 3, Closed 1 to 2
N	Seal Material	Buna-N
(none)	Coil	No coil

TECHNICAL DATA

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

Cavity	T-11A
Series	1
Capacity	45 L/min.
Maximum Operating Pressure	350 bar
Maximum Valve Leakage at 110 SUS (24 cSt)	80 cc/min.@210 bar
Manual Override Force Requirement	33 N/100 bar @ Port 1
Manual Override Stroke	2,5 mm
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: 990411007
Seal kit - Cartridge	EPDM: 990411014
Seal kit - Cartridge	Viton: 990411006
Seal and nut kit - Coil	Viton: 990770006
Model Weight	0.49 kg.

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.

CONFIGURATION OPTIONS

Model Code Example: DMDAXNN

CONTROL (X)

- **X** No Manual Override
- **M** Manual Override
- **D** Twist/Lock (Dual) Manual Override
- **L** Twist/Lock (Detent) Manual Override
- **T** Twist (Momentary) Manual Override

SPOOL CONFIGURATION (N)

- **N** Normally Open 2 to 3, Closed 1 to 2
- **A** Normally Open 1 to 2, Closed 2 to 3
- **B** Normally Open 1 to 2, Closed 2 to 3, Closed Transition
- **P** Normally Open 1 to 3, Closed 1 to 2
- **R** Normally Open 2 to 3, Closed 1 to 2, Closed Transition

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

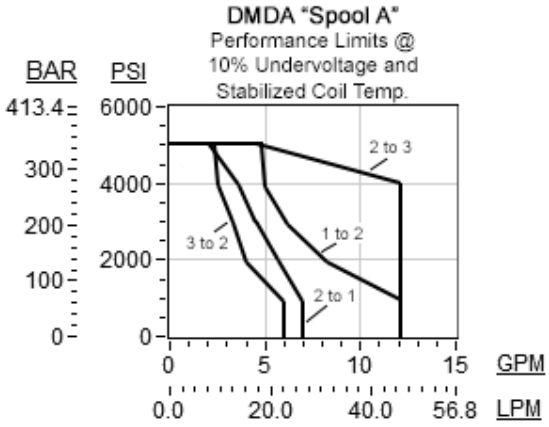
* Additional coil options are available

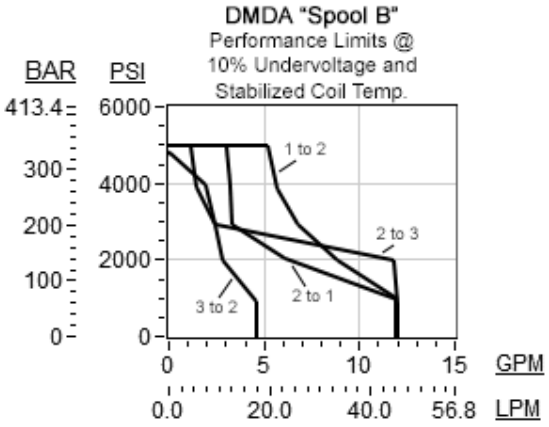
© 2025 Sun Hydraulics

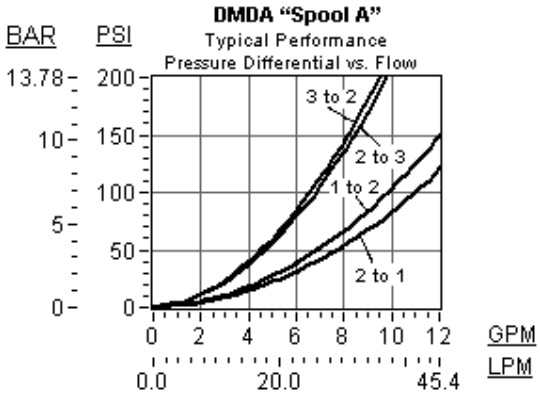
TECHNICAL FEATURES

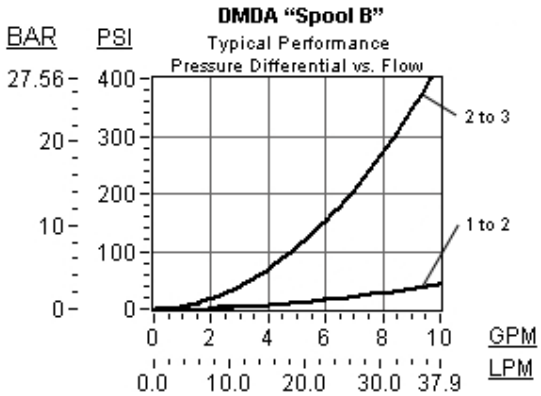
- The solenoid tube assembly is fatigue rated for 5000 psi (350 bar) service.
- Spools B and R are closed in the transition between their two positions. This results in a higher performance limit at the expense of lower capacity. When used as pilot controls, where capacity is not a factor, the closed transition will provide faster and more consistent response times.
- This valve is direct actuated and requires no minimum hydraulic pressure for operation.
- 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.
- 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.
- Coils are interchangeable with other Sun Series 1 solenoid products and 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.

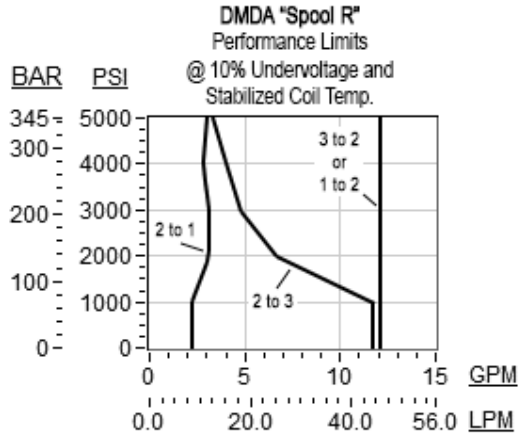
PERFORMANCE CURVES

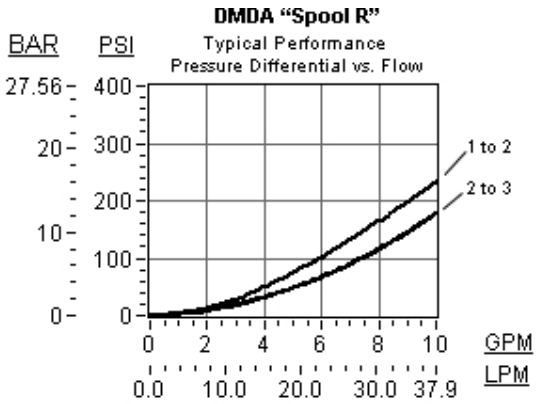


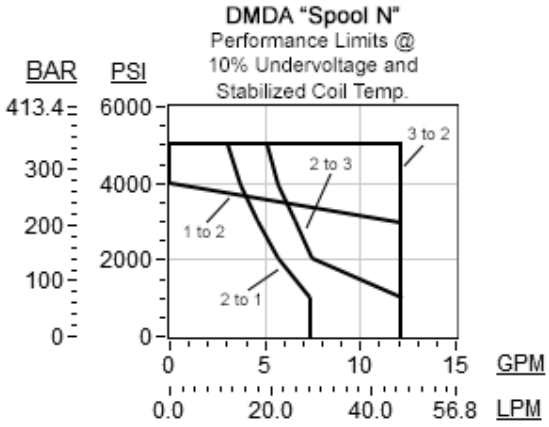


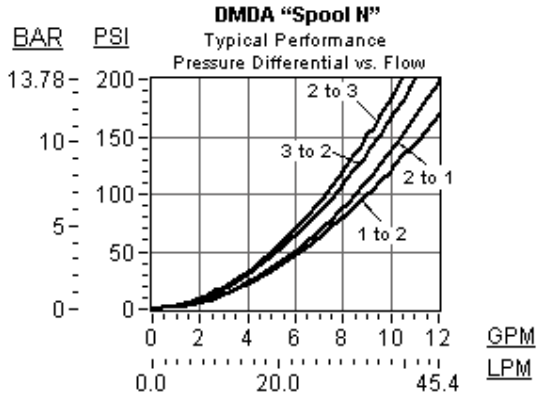


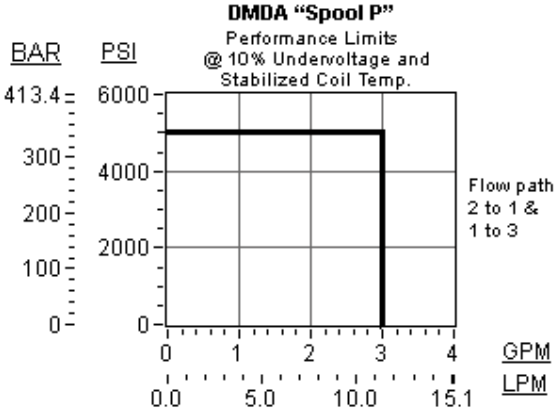


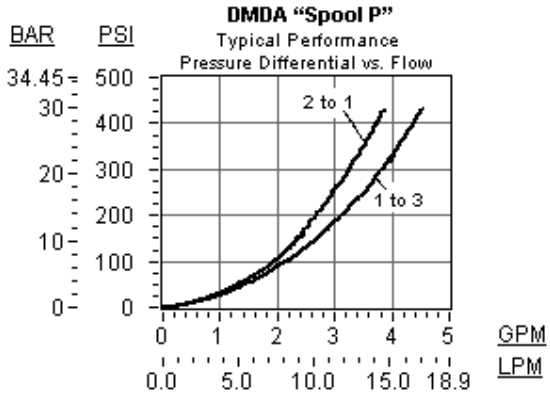












RELATED MODELS

- DMDAS 3-way, soft shift, solenoid-operated directional spool valve
- DMDAZ 3-way, solenoid-operated directional spool valve with position switch

© 2025 Sun Hydraulics