



This solenoid-operated 3-way, 2-position cartridge is a direct-acting, balanced spool pilot valve used to pilot other full-flow valves. The valve is normally open between port 1 and port 2 or port 1 and port 3 and all flow paths are bidirectional. This valve is designed to be used with 740 and 747 Series coils.

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

Cavity	T-9A
Series	P
Capacity	.25 gpm
Maximum Operating Pressure	5000 psi
Manual Override Force Requirement	10 lbs/1000 psi @ Port 1
Manual Override Stroke	.10 in.
Maximum Valve Leakage at 110 SUS (24 cSt)	10 drops/min.@5000 psi
Solenoid Tube Diameter	.63 in.
Valve Hex Size	7/8 in.
Valve Installation Torque	20 - 25 lbf ft
Seal kit - Cartridge	Buna: 990-009-007
Seal kit - Cartridge	Polyurethane: 990-009-002
Seal kit - Cartridge	Viton: 990-009-006

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

OPTION SELECTION EXAMPLE: DBAFSCN

POPPET CONFIGURATION

- C** Normally Closed
- H Normally Open

(C) SEAL MATERIAL

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

(N) COIL

No coil

TECHNICAL FEATURES

- The soft shift cartridge is interchangeable with the standard cartridge, however, the performance limits are lower.
- The soft shift feature can reduce shock due to valve actuation but should not be counted upon in applications where timing is critical. If you need accurate ramping or timing control, consider Sun's electro-proportional valves.
- The soft shift feature results in an increase in response time over Sun's standard solenoid. Response time is dependent on flow, pressure, coil voltage, oil viscosity and ambient temperature.
- For consistent soft shift performance, port 1 should be at a positive pressure.
- 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.
- Valves exhibit extremely low leakage rates; less than 10 drops/min. @ 5000 psi (0,7 cc/min @ 350 bar).
- 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 740 Series low-power and high-power coils, and 747 Series hazardous location coils for both Normally Open and Normally Closed configurations.
- 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.
- 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



