



This electro-proportional, direct-acting reducer/reliever valve reduces a high primary pressure at the inlet (port 2) to a constant reduced pressure at port 1, with a full flow relief function from port 1 to tank (port 3). The valve is biased to the relieving mode. Energizing the coil connects port 2 to port 1. Increasing the current to the coil will proportionally increase the reduced pressure at port 1. If pressure at port 1 exceeds the setting induced by the coil, pressure at port 1 is relieved to port 3. This valve is closed in the transition between reducing and relieving resulting in very low consumption of oil. Optional full manual control is available. This valve is designed to be used with 740 and 747 Series coils.

PROPORTIONAL PERFORMANCE DATA

Hysteresis (with dither)	6%
Hysteresis with DC input	<8%
Linearity (with dither)	<2%
Repeatability (with dither)	<2%
Recommended dither frequency	140 Hz

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

Cavity	T-11A
Series	1
Capacity	5 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2.5 in ³ /min.
Solenoid Tube Diameter	.63 in.
Valve Hex Size	7/8 in.
Valve Installation Torque	30 - 35 lbf ft
Model Weight (with coil)	1.20 lb
Seal and nut kit - Coil	Viton: 990-740-006
Seal kit - Cartridge	Buna: 990-511-007
Seal kit - Cartridge	Viton: 990-511-006

- 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.

OPTION SELECTION EXAMPLE: PRDGMXDN

CONTROL	(M) OPERATING RANGE	(D) SEAL MATERIAL	(N) COIL
M Manual Override (Standard)	D 50 - 485 psi (3,5 - 33,5 bar)	N Buna-N	No coil
X No Manual Override	B 100 - 1125 psi (7 - 77,5 bar)	V Viton	
	E 25 - 250 psi (1,7 - 18 bar)		

TECHNICAL FEATURES

- Maximum pressure at port 3 should be limited to 3000 psi (210 bar).
- Pressure at port 3 is directly additive to the valve setting at a 1:1 ratio and should not exceed 3000 psi (210 bar).
- Leakage specified in Technical Data is out of port 3 with a supply pressure of 2000 psi (140 bar) and the valve set at mid range. This leakage is directly proportional to pressure differential and inversely proportional to viscosity expressed in centistokes.
- The transition from reducing to relieving is closed. The result is very low leakage. However, there is a transitional step increase in pressure between reducing and relieving modes. This step equals about 5% of the high end of the adjustment range, independent of the valve setting.
- For optimum performance, an amplifier with current sensing and adjustable dither should be used. Dither should be adjustable between 100 - 250 Hz.
- NOTE: There is no upper limit to the pressure setting when using the M control. The more force you exert on the manual override, the higher the resulting pressure.
- Fully compatible with the XMD Expandable Mobile Drivers from Sun.
- Suitable for accumulator circuits since the absence of pilot control flow results in reduced secondary circuit leakage.
- Direct acting concept provides highly reliable operation in contaminated systems, especially at dead headed conditions.
- All three-port pressure reducing and reducing/relieving cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size). When considering mounting configurations, it is sometimes recommended that a full capacity return line (port 3) be used with reducing/relieving cartridges.
- Full reverse flow from reduced pressure (port 1) to inlet (port 2) may cause the main spool to close. If reverse free flow is required in the circuit, consider adding a separate check valve to the circuit.
- 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



