



The direct-acting reducer/reliever main section is meant to act as an interface between a low flow pressure source at port 4 and a circuit with higher flow requirements. The valve will reduce a high primary pressure at the inlet (port 2) to a reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The valve incorporates a damped construction for stable operation allowing the use of high reduced pressure.

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

Cavity	T-21A
Series	1
Capacity	10 gpm
Maximum Operating Pressure	5000 psi
Maximum Valve Leakage at 110 SUS (24 cSt)	2.5 in <sup>3</sup> /min.
Valve Hex Size	7/8 in.
Valve Installation Torque	30 - 35 lbf ft
Model Weight	.30 lb
Seal kit - Cartridge	Buna: 990-021-007
Seal kit - Cartridge	EPDM: 990-021-014
Seal kit - Cartridge	Polyurethane: 990-021-002
Seal kit - Cartridge	Viton: 990-021-006

## OPTION SELECTION EXAMPLE: PSDTXNV

CONTROL

(X) SEAL MATERIAL

(V)

**X** Not Adjustable

**V** Viton

E EPDM

N Buna-N

### TECHNICAL FEATURES

- The valve is biased to the relieving mode with a 100 psi (7 bar) spring. Pressure at port 4 is directly added to the setting of the valve once this threshold is exceeded. For example, 1000 psi (70 bar) at port 4 will result in a setting of 900 psi (63 bar) at port 1.
- Maximum pressure at port 3 should be limited to 3000 psi (210 bar).
- All spring ranges are tested for correct operation with 5000 psi (350 bar) inlet pressure.
- 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.
- Direct operated version offers superior dynamic response compared to equivalent pilot operated models.
- Pressure on the drain (port 4) is directly additive to the valve setting at a 1:1 ratio and should not exceed 5000 psi (350 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.
- 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.
- 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

