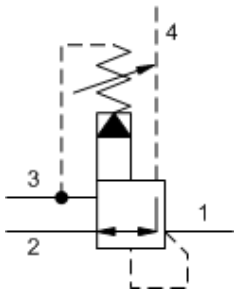
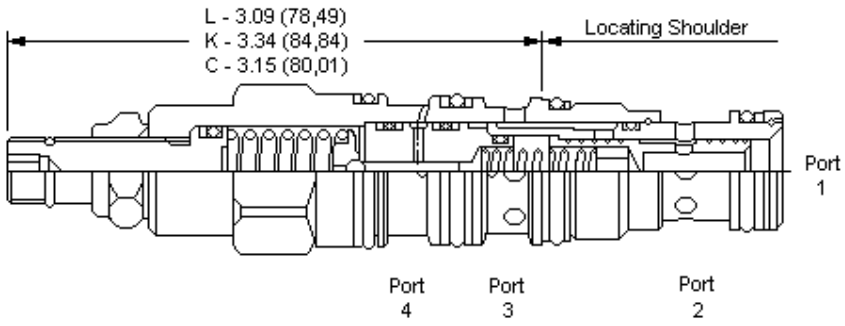
MODEL
PVDD

Ventable, pilot-operated, pressure reducing/relieving valve with drilled piston orifice

SERIES 1 / CAPACITY: 10 gpm / CAVITY: T-21A

sunhydraulics.com/model/PVDD





in (mm)

CONFIGURATION

L	Control	Standard Screw Adjustment
D	Adjustment Range	25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting
N	Seal Material	Buna-N

Ventable, pilot-operated pressure reducing/relieving valves reduce a high primary pressure at the inlet to a constant reduced pressure at port 1, with a full-flow relief function from port 1 to tank (port 3). The vent port (port 4) can be used as a means for remote control by pilot or 2-way valves.

TECHNICAL DATA

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

Cavity	T-21A
Series	1
Capacity	10 gpm
Factory Pressure Settings Established at	blocked control port (dead headed)
Maximum Operating Pressure	5000 psi
Control Pilot Flow	7 - 10 in³/min.
Adjustment - No. of CW Turns from Min. to Max. setting	5
Valve Hex Size	7/8 in.
Valve Installation Torque	30 - 35 lbf ft
Adjustment Screw Internal Hex Size	5/32 in.
Locknut Hex Size	9/16 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990021007
Seal kit - Cartridge	Polyurethane: 990021002
Seal kit - Cartridge	Viton: 990021006
Model Weight	0.41 lb.

CONFIGURATION OPTIONS

Model Code Example: PVDDLDN

CONTROL (L)

- **L** Standard Screw Adjustment
- **C** Tamper Resistant - Factory Set
- **K** Handknob

ADJUSTMENT RANGE (D)

- **D** 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting
- **A** 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting
- **B** 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting
- **E** 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting
- **W** 150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting

SEAL MATERIAL (N)

- **N** Buna-N
- **V** Viton

TECHNICAL FEATURES

- These valves have the main stage orifice drilled into the piston rather than a staked-in orifice. This allows the valve to survive physically demanding applications.
- Pressure at port 3 is directly additive to the valve setting at a 1:1 ratio and should not exceed 3000 psi (210 bar).
- Pilot operated valves exhibit very low dead-band transition between reducing and relieving modes.
- Recommended maximum inlet pressure is determined by the adjustment range. Ranges D, E, N, and Q are tested with a 2000 psi (140 bar) maximum differential between inlet and reduced pressure. Ranges A, B, and H are tested with a 3000 psi (210 bar) maximum differential between inlet and reduced pressure. Ranges C and W are tested with 5000 psi (350 bar) of inlet pressure.
- Pilot operated valves exhibit exceptionally flat pressure/flow characteristics, are very stable and have low hysteresis.
- 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.
- By controlling the pressure at the vent (port 4), the effective setting of the valve can be controlled below the nominal valve setting.
- 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.