

Externally drained, pilot-operated pressure reducing/relieving valves reduce 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). Draining the pilot section at port 4 makes these valves insensitive to pressure at tank (port 3) and provides a means for remote control by pilot or 2-way valves.

CONFIGURATION

| | | |
|---------------|------------------|---|
| L | Control | Standard Screw Adjustment |
| A | Adjustment Range | 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting |
| N | Seal Material | Buna-N |
| (none) | Material/Coating | Standard Material/Coating |

TECHNICAL DATA

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

| | |
|--|------------------------------------|
| Cavity | T-21A |
| Series | 1 |
| Capacity | 40 L/min. |
| Factory Pressure Settings Established at | blocked control port (dead headed) |
| Maximum Operating Pressure | 350 bar |
| Control Pilot Flow | 0,11 - 0,16 L/min. |
| Adjustment - No. of CW Turns from Min. to Max. setting | 5 |
| Valve Hex Size | 22,2 mm |
| Valve Installation Torque | 41 - 47 Nm |
| Adjustment Screw Internal Hex Size | 4 mm |
| Locknut Hex Size | 15 mm |
| Locknut Torque | 9 - 10 Nm |
| Seal kit - Cartridge | Buna: 990021007 |
| Seal kit - Cartridge | EPDM: 990021014 |
| Seal kit - Cartridge | Polyurethane: 990021002 |
| Seal kit - Cartridge | Viton: 990021006 |
| Model Weight | 0.19 kg. |

NOTES

Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) D and E are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure

CONFIGURATION OPTIONS

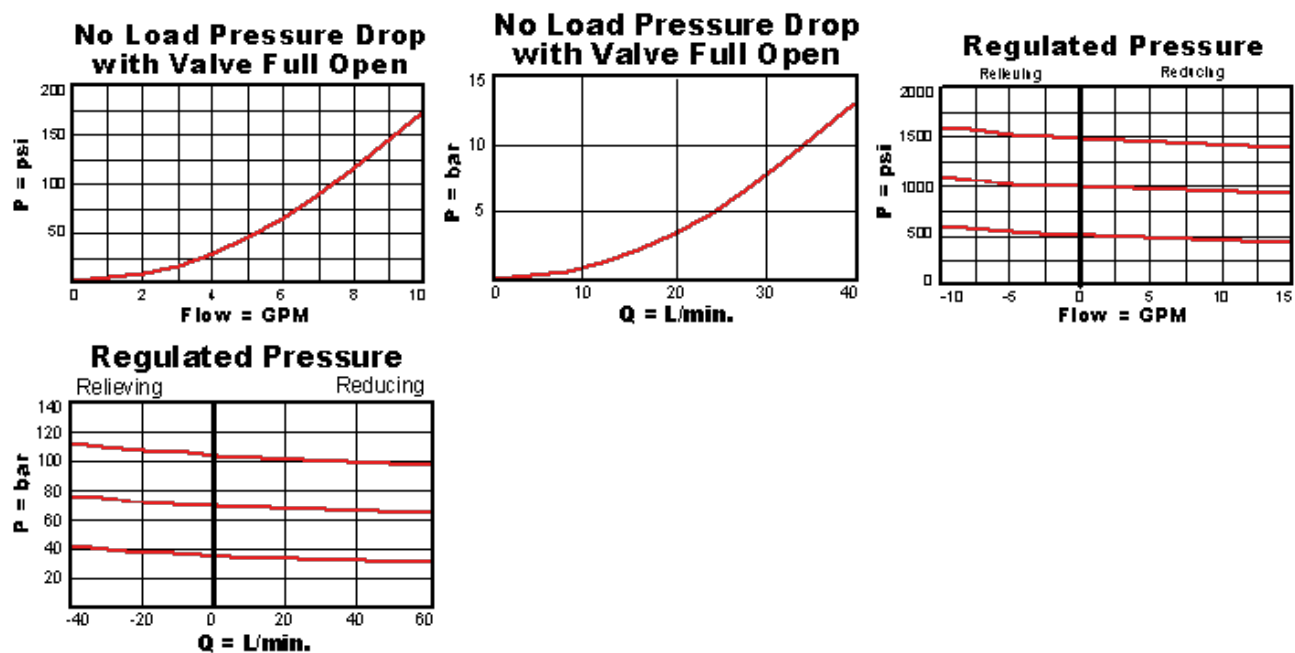
Model Code Example: PVDALAN

| CONTROL | (L) | ADJUSTMENT RANGE | (A) | SEAL MATERIAL | (N) | MATERIAL/COATING |
|---|-----|---|-----|-----------------|-----|---------------------------------|
| L Standard Screw Adjustment | | A 100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting | | N Buna-N | | Standard Material/Coating |
| C Tamper Resistant - Factory Set | | B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting | | V Viton | | /AP Stainless Steel, Passivated |
| K Handknob | | D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting | | | | /LH Mild Steel, Zinc-Nickel |
| Y Tri-Grip Handknob | | 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 | | | | |

TECHNICAL FEATURES

- Maximum pressure at port 3 should be limited to 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.
- Pressure at port 4 should not exceed 5000 psi (350 bar).
- Pilot operated valves exhibit exceptionally flat pressure/flow characteristics, are very stable and have low hysteresis.
- 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).
- Pilot operated reducing, reducing/relieving valves by nature are not fast acting valves. For superior dynamic response, consider direct acting valves.
- W and Y controls (where applicable) can be specified with or without a special setting. When no special setting is specified, the valve is adjustable throughout its full range using the W or Y control. When a special setting is specified, this setting represents the maximum setting of the valve.
- 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.
- By controlling the pressure at the drain (port 4), the effective setting of the valve can be increased over 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.

PERFORMANCE CURVES



RELATED MODELS

- [PVDA8](#) Pilot-operated, pressure reducing/relieving main stage with integral T-8A control cavity and drain to port 4