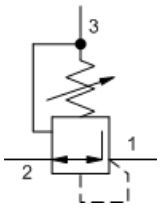
Direct-acting, pressure reducing/relieving valve

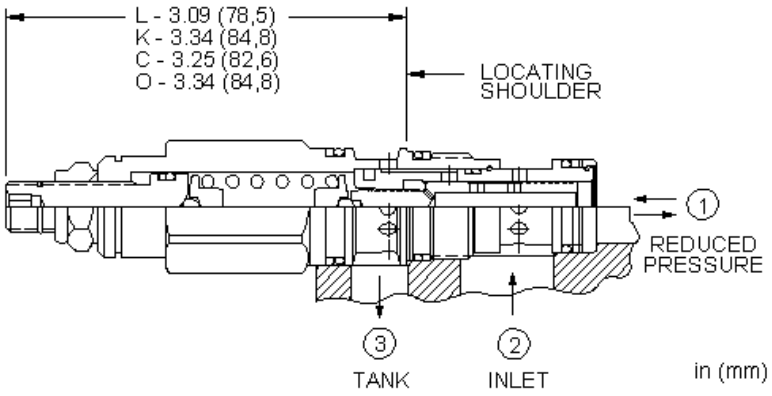
Capacity:
10 gpm (40 L/min.)

Model:
PRDB

Product Description

Direct-acting, 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). These valves incorporate a damped construction for stable operation allowing the use of high reduced pressure.





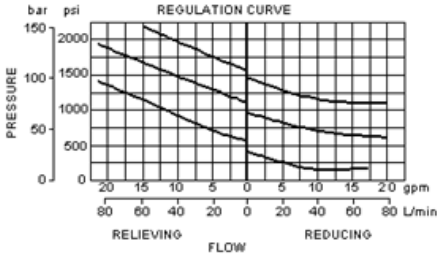
Technical Features

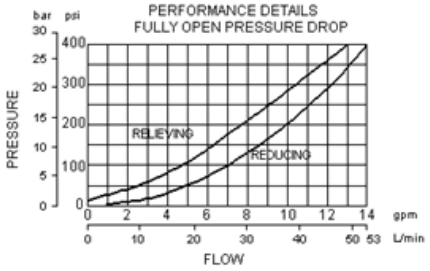
- Full reverse flow from reduced pressure (port 1) to inlet (port 2) may cause the main spool to close. If reverse free flow is required in the circuit, consider adding a separate check valve to the circuit.
- All spring ranges are tested for correct operation with 5000 psi (350 bar) inlet pressure.
- 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.
- Unlike pilot operated versions, direct acting valves exhibit a transitional step between reducing and relieving modes. This step equals 5% of the high end of the adjustment range, independent of the valve setting. Therefore, these valves may not be suitable for counterbalancing applications.
- Direct operated version offers superior dynamic response compared to equivalent pilot operated models.
- Pressure at port 3 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.
- 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.
- 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.

Technical Data

	U.S. Units	Metric Units
Cavity	T-11A	
Capacity	10 gpm	40 L/min.
Factory Pressure Settings Established at	blocked control port (dead headed)	
Maximum Operating Pressure	5000 psi	350 bar

Maximum Valve Leakage at 110 SUS (24 cSt)	2 in³/min.	30 cc/min.
Series (from Cavity)	Series 1	
Adjustment - Number of Clockwise Turns to Increase Setting	5	
Valve Hex Size	7/8 in.	22,2 mm
Valve Installation Torque	30 - 35 lbf ft	40 - 50 Nm
Adjustment Screw Internal Hex Size	5/32 in.	4 mm
Adjustment Locknut/Cap Hex Size	9/16 in.	15 mm
Adjustment Nut Torque	80 - 90 lbf in.	9 - 10 Nm
Seal Kits - Cartridge	Buna: 990-011-007	
Seal Kits - Cartridge	Viton: 990-011-006	
Model Weight	0.43 lb.	0.20 kg.





PRDB-LAN

Control

Preferred Options

L Standard Screw Adjustment

Standard Options

C* Tamper Resistant - Factory Set

K Handknob

Adjustment Range

Preferred Options

A 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting

W 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting

Standard Options

B 50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting

D 25 - 800 psi (1,7 - 55 bar), 200 psi (14 bar) Standard Setting

E 25 - 400 psi (1,7 - 28 bar), 200 psi (14 bar) Standard Setting

S 25 - 200 psi (1,7 - 14 bar), 200 psi (14 bar) Standard Setting

Seal Material

Preferred Options

N Buna-N

Standard Options

V Viton

Material/Coating Modifier

Preferred Options

No modifier (standard material with no special coating)

Special Options

/AP Stainless Steel, Passivated

Control:C

Control:L

Our stainless product line is growing! If you are interested in a stainless option for this model which is not shown please contact Sun.

Additional Options

Control

O Handknob with Panel Mount

W* Max. Setting Limiter

Adjustment Range

Seal Material

When the modifier is /AP, the control must be C or L

* Special Setting required, specify at time of order
Customer specified setting stamped on hex.