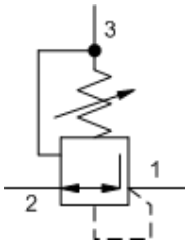
MODEL
PRBB

Direct-acting, pressure reducing/relieving valve
CAPACITY: 5 gpm / CAVITY: T-163A

sunhydraulics.com/model/PRBB



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.

CONFIGURATION

L	Control	Standard Screw Adjustment
A	Adjustment Range	500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting
N	Seal Material	Buna-N
(none)	Material/Coating	

TECHNICAL DATA

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

Cavity	T-163A
Series	0
Capacity	5 gpm
Maximum Operating Pressure	5000 psi
Factory Pressure Settings Established at	0.25 gpm
Maximum Valve Leakage at 110 SUS (24 cSt)	2 in^3/min.
Adjustment - No. of CW Turns from Min. to Max. setting	7
Valve Hex Size	3/4 in.
Valve Installation Torque	20 - 25 lbf ft
Locknut Hex Size	1/2 in.
Locknut Torque	80 - 90 lbf in.
Seal kit - Cartridge	Buna: 990163007
Seal kit - Cartridge	EPDM: 990163014
Seal kit - Cartridge	Viton: 990163006
Model Weight	0.30 lb.

CONFIGURATION OPTIONS

Model Code Example: PRBBLAN

CONTROL (L)

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

ADJUSTMENT RANGE (A)

- **A** 500 - 3000 psi (35 - 210 bar), 700 psi (50 bar) Standard Setting
- **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), 100 psi (7 bar) Standard Setting
- **W** 750 - 4500 psi (50 - 315 bar), 1000 psi (70 bar) Standard Setting

SEAL MATERIAL (N)

- **N** Buna-N
- **E** EPDM
- **V** Viton

MATERIAL/COATING

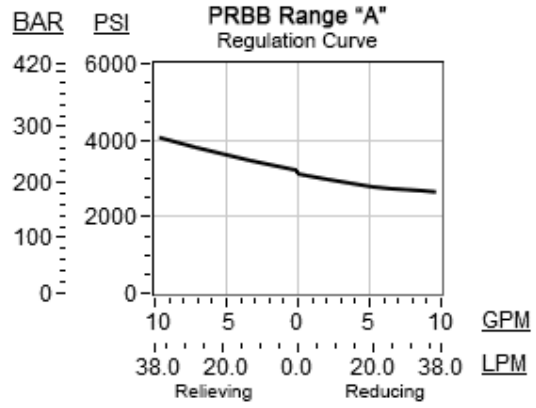
- Standard Material/Coating
- **/AP** Stainless Steel, Passivated
- **/LH** Mild Steel, Zinc-Nickel

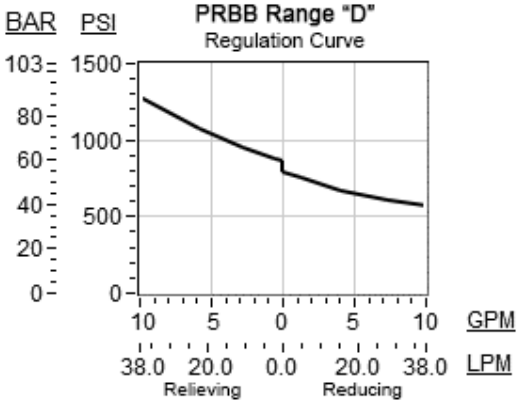
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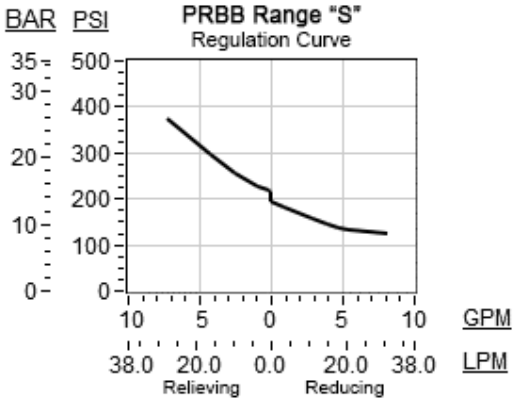
TECHNICAL FEATURES

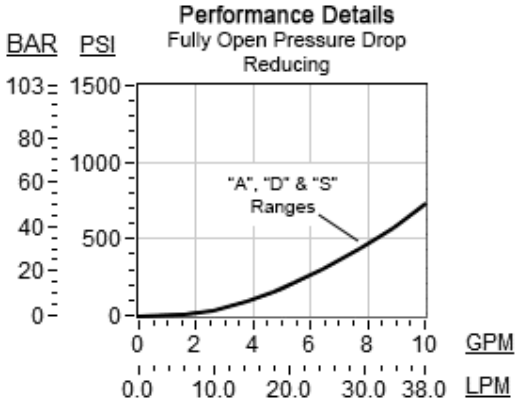
- Full reverse flow from reduced pressure (port 1) to inlet (port 2) may cause the main spool to close. If reverse free flow is required in the circuit, consider adding a separate check valve to the circuit.
- All spring ranges are tested for correct operation with 5000 psi (350 bar) inlet pressure.
- 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.
- 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.
- 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.

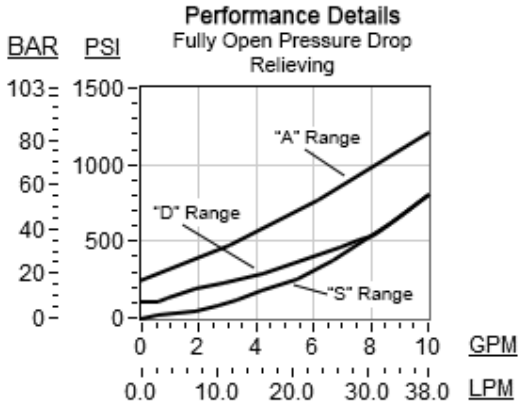
PERFORMANCE CURVES











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