

sunhydraulics.com/model/PPDB

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).

## CONFIGURATION

L	Control	Standard Screw Adjustment
B	Adjustment Range	50 - 1500 psi (3,5 - 105 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-11A
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: 990011007
Seal kit - Cartridge	EPDM: 990011014
Seal kit - Cartridge	Polyurethane: 990011002
Seal kit - Cartridge	Viton: 990011006
Model Weight	0.15 kg.

## NOTES

- Maximum pressure differentials for spring ranges: A and B are 3000 psi (210 bar) N and Q are 2000 psi (140 bar) W is 5000 psi (350 bar) inlet pressure
- For Series 1 cartridges configured with an O control (panel mount handknob), a .75 in. (19 mm) diameter hole is required in the panel.

## CONFIGURATION OPTIONS

### Model Code Example: PPDBLBN

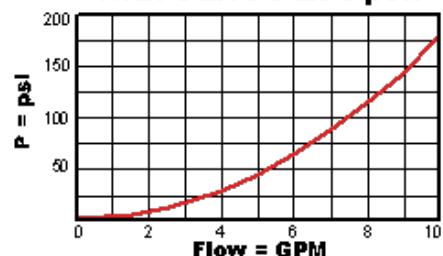
CONTROL	(L)	ADJUSTMENT RANGE	(B)	SEAL MATERIAL	(N)	MATERIAL/COATING
L Standard Screw Adjustment	B	50 - 1500 psi (3,5 - 105 bar), 200 psi (14 bar) Standard Setting	N	Buna-N		Standard Material/Coating
C Tamper Resistant - Factory Set			V	Viton		/AP Stainless Steel, Passivated
K Handknob	A	100 - 3000 psi (7 - 210 bar), 200 psi (14 bar) Standard Setting				/LH Mild Steel, Zinc-Nickel
Y Tri-Grip Handknob	W	150 - 4500 psi (10,5 - 315 bar), 200 psi (14 bar) Standard Setting				
	N	60 - 800 psi (4 - 55 bar), 200 psi (14 bar) Standard Setting				
	Q	60 - 400 psi (4 - 28 bar), 200 psi (14 bar) Standard Setting				

## TECHNICAL FEATURES

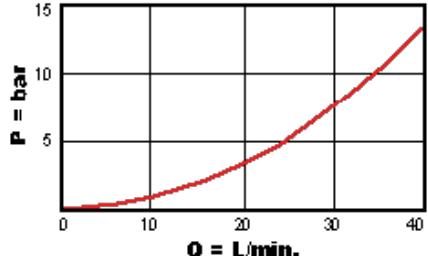
- All three-port pressure reducing and reducing/relieving cartridges are physically interchangeable (i.e. same flow path, same cavity for a given frame size). When considering mounting configurations, it is sometimes recommended that a full capacity return line (port 3) be used with reducing/relieving cartridges.
- 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.
- If pilot flow consumption is critical, consider using direct acting reducing/relieving valves.
- 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.
- Pressure at port 3 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.
- 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

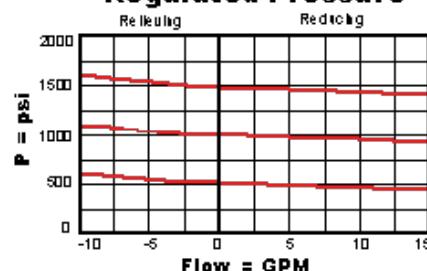
**No Load Pressure Drop with Valve Full Open**



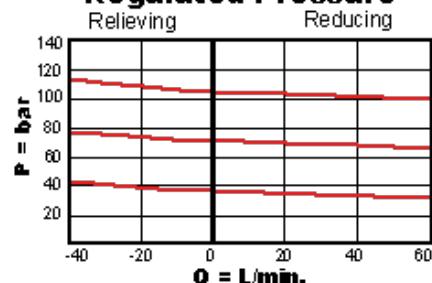
**No Load Pressure Drop with Valve Full Open**



**Regulated Pressure**



**Regulated Pressure**



## RELATED MODELS

- [PPDB8](#) Pilot-operated, pressure reducing/relieving main stage with integral T-8A control cavity