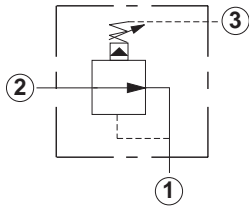


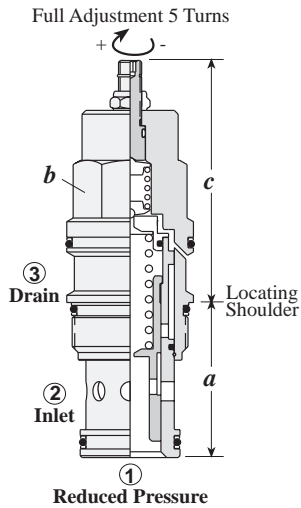
Pressure Reducing Valves

PILOT OPERATED REDUCING



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions					Installation Torque (lb. ft.)
			a	b	c			
					L	C	K	
5 GPM	PBBB – LAN	T - 163A	1.22	3/4"	2.55	2.63	2.77	25/30
10 GPM	PBDB – LAN	T - 11A	1.38	7/8"	2.50	2.56	2.75	30/35
20 GPM	PBFB – LAN	T - 2A	1.38	1 1/8"	2.81	2.88	3.06	45/50
40 GPM	PBHB – LAN	T - 17A	1.81	1 1/4"	3.28	3.31	3.53	150/160
80 GPM	PBJB – LAN	T - 19A	2.50	1 5/8"	3.94	4.09	4.19	350/375

OPTION ORDERING INFORMATION



PB * B - * * *

Nominal Capacity	Control**	Adjustment Range	Seal
B 5 GPM*	L Standard Screw	A 100 - 3000 psi	N Buna-N
D 10 GPM	C Tamper Resistant	W 150 - 4500 psi	V Viton
F 20 GPM	K Handknob	B 50 - 1500 psi	
H 40 GPM		N 60 - 800 psi	
J 80 GPM		Q 60 - 400 psi	

Adjustment Range Options:
 All are standard set at 200 psi.
 Maximum pressure differentials for spring ranges:
 A and B are 3000 psi.
 N and Q are 2000 psi.
 W is 5000 psi inlet pressure.
 * Minimum setting 75 psi on all ranges.
Customer may specify pressure setting.

** See page 244 for information on Control Options

TECHNICAL TIPS / PERFORMANCE CURVES

Pressure Reducing Valves, Pilot Operated

Applications

Pilot operated reducing cartridges reduce high primary pressure at port 2 (inlet) to a controlled lower pressure at port 1. Port 3 is the pilot drain connection and pressure in this port is directly additive to the reduced pressure setting.

- Provide a controlled lower pressure to a secondary circuit function.
- Provide accurate reduced pressure control for clamp and hold down circuits.

Design Concepts and Features

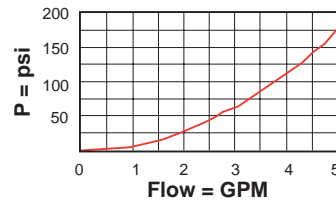
- Low hysteresis for accurate pressure regulation.
- High flow capacity relative to physical size.
- Low pilot flow (from 7 to 20 in.³/min.) dependent on frame size.
- Incorporates a 150 micron screen to protect main stage control orifice from contamination.
- Multiple spring ranges for optimum adjustment control.
- See page 34 for maximum operating pressure differentials for individual spring ranges.

Note: Sun also offers reducing/relieving cartridges (PP*B) that are functionally interchangeable with reducing cartridges. However, with the reducing/relieving valves it is necessary to have a full flow capacity return passage from port 3. See page 42 for further details.

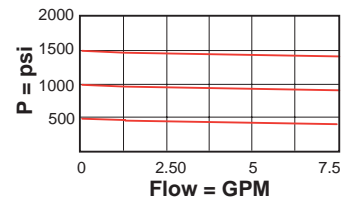
Performance Curves

No Load Pressure Drop with Valve Full Open

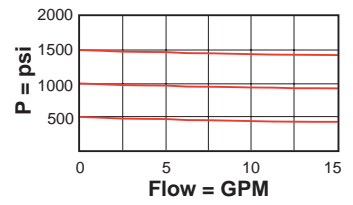
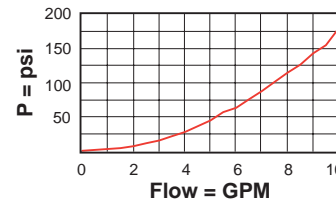
PBBB-L*N



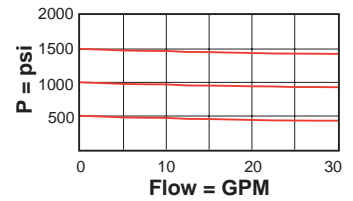
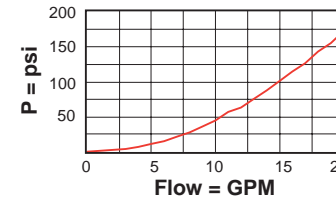
Regulated Pressure



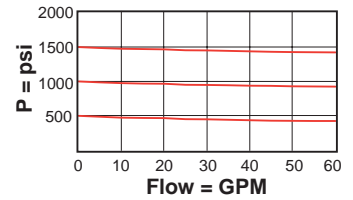
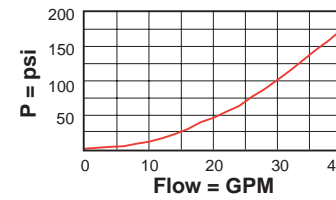
PBDB-L*N



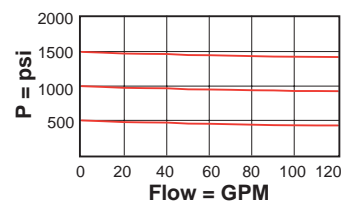
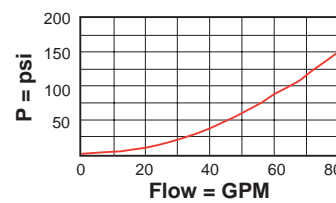
PBFB-L*N



PBHB-L*N



PBJB-L*N



General Application Requirements

- Operating Temperature Range: Buna-N seals -50° F to 200° F, Viton seals 0° F to 250° F.
- Viscosity Range: 60-3000 SUS.
- Fluid Contamination Level: ISO 4406 18/15 or better; Recommend $\beta_{10} \geq 75$ to achieve ISO 18/15 or better in most systems.
- Factory Pressure Setting for cartridge is established at zero flow rate.