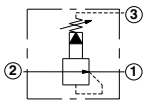
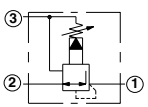
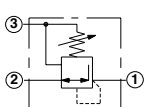
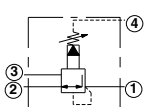
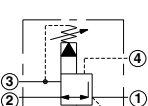
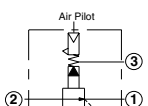
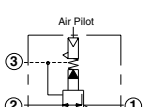
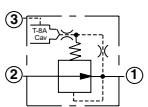
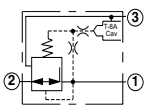
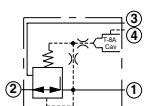
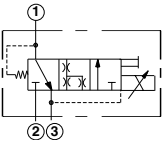
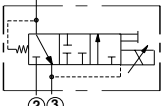
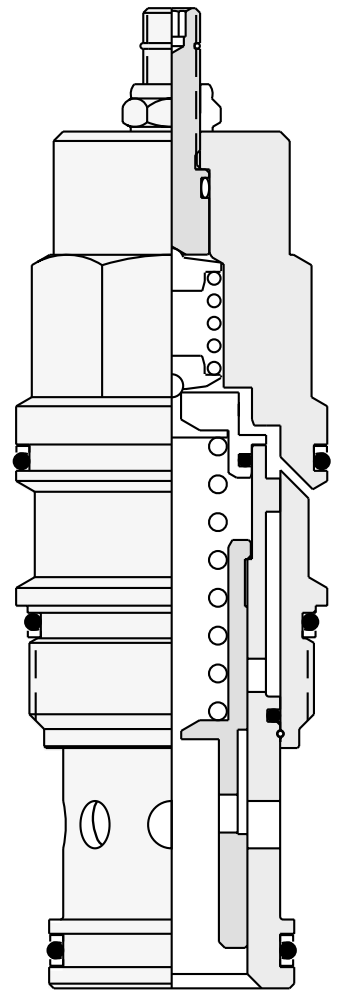
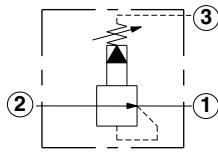
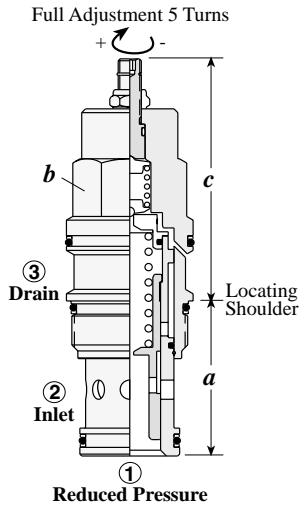


Reducing and Reducing/Relieving Cartridge Valves

<i>Cartridge Type</i>	<i>Page</i>
	Pilot Operated Reducing 30
	Pilot Operated Reducing/Relieving 31
	Direct Acting Reducing/Relieving 32
	Pilot Operated Reducing/Relieving, Externally Drained 33
	Pilot Operated Reducing/Relieving, Ventable 34
	Air Controlled, Pilot Operated Reducing 35
	Air Controlled, Pilot Operated Reducing/Relieving 36
	Modulating Element with Integral Pilot Control Cavity 37
	3-Way, Modulating Element with Integral Pilot Control Cavity 38
	3-Way, Externally Drained, Modulating Element with Integral Pilot Control Cavity 39
	Electro-proportional, Direct Acting Reducing/Relieving 40
	Electro-proportional, Direct Acting with Low Leakage 41

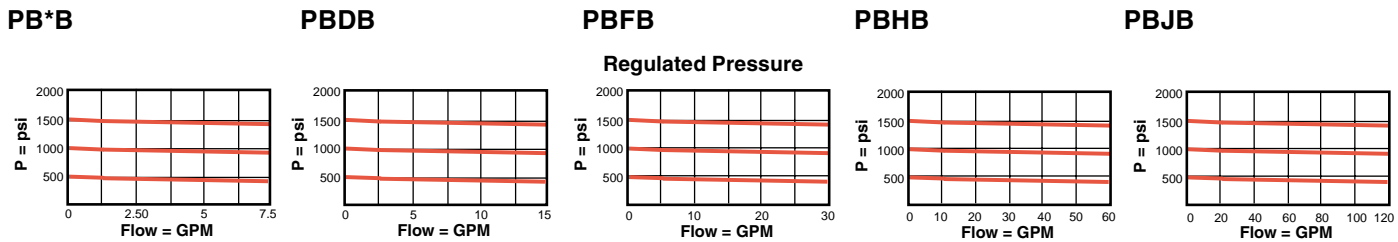


PILOT OPERATED REDUCING



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

Performance Curves



- Maximum operating pressure = 5000 psi
- Factory pressure setting established at blocked control port (deadhead)
- Control pilot flow = **PBBB, PBDB**: 7 to 10 in³/min., **PBFB**: 10 to 15 in³/min., **PBHB, PBJB**: 15 to 20 in³/min.
- Pressure at port 3 is directly additive to the valve setting at a 1:1 ratio and should not exceed 3000 psi.

OPTION ORDERING INFORMATION Model Codes printed in Red are Preferred Versions and most readily available

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

** See page 162 for information on Control Options

* Minimum setting 75 psi on all ranges.
Customer may specify pressure setting.