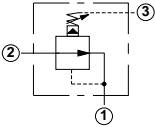
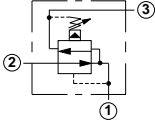
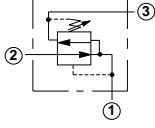
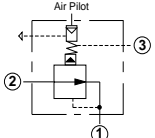
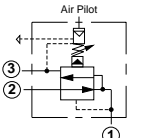
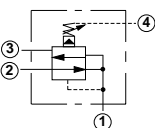
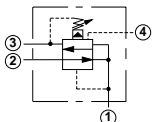
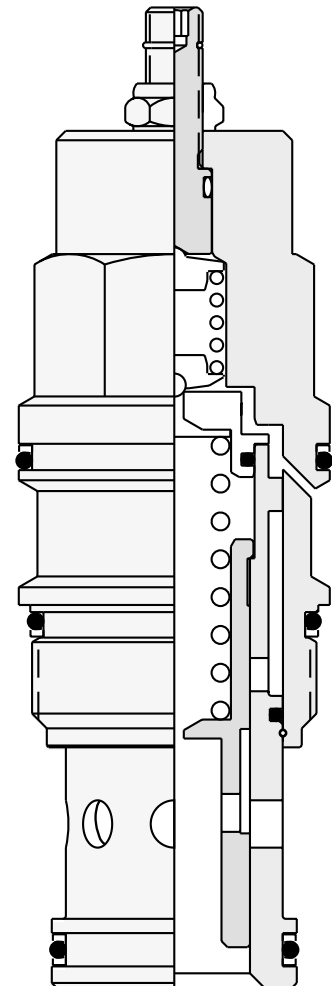


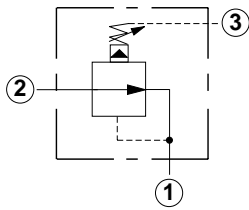
Reducing and Reducing/Relieving Cartridge Valves

	<i>Cartridge Type</i>	<i>Page</i>
	Pilot Operated Reducing	14
	Pilot Operated Reducing/Relieving	14
	Direct Acting Reducing/Relieving	15
	Air Controlled, Pilot Operated Reducing, 20:1 Ratio	15
	Air Controlled, Pilot Operated Reducing/Relieving, 20:1 Ratio	16
	Pilot Operated Reducing/Relieving, External Drain	16
	Pilot Operated Reducing/Relieving, External Vent	17



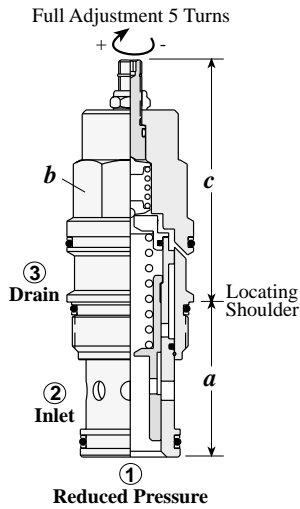
Reducing and Reducing/Relieving Valves

PILOT OPERATED REDUCING



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions					Installation Torque (lb. ft.)
			a	b	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



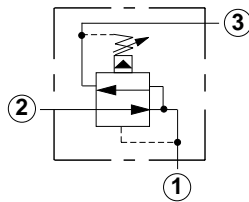
PB ★ B – ★ ★ ★

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

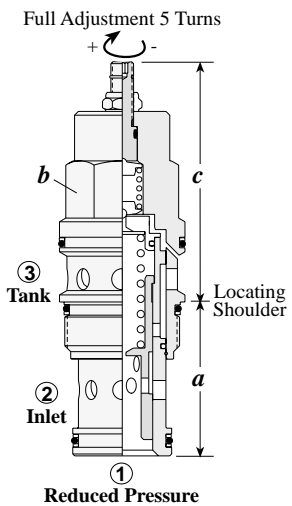
** See page 92 for information on Control Options

PILOT OPERATED REDUCING/RELIEVING



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions					Installation Torque (lb. ft.)
			a	b	L	C	K	
10 GPM	PPDB – LAN	T - 11A	1.38	7/8"	2.50	2.56	2.75	30/35
20 GPM	PPFB – LAN	T - 2A	1.38	1 1/8"	2.81	2.88	3.06	45/50
40 GPM	PPHB – LAN	T - 17A	1.81	1 1/4"	3.28	3.31	3.53	150/160
80 GPM	PPJB – LAN	T - 19A	2.50	1 5/8"	3.94	4.09	4.19	350/375

OPTION ORDERING INFORMATION



PP ★ B – ★ ★ ★

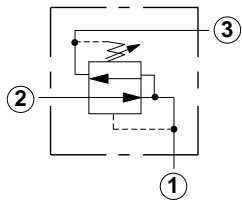
Nominal Capacity	Control**	Adjustment Range	Seal
D 10 GPM	L Standard Screw	A 100 - 3000 psi	N Buna-N
F 20 GPM	C Tamper Resistant	B 50 - 1500 psi	V Viton
H 40 GPM	K Handknob	N 60 - 800 psi	
J 80 GPM		Q 60 - 400 psi	
		W 150 - 4500 psi	

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.
Customer may specify pressure setting.

** See page 92 for information on Control Options

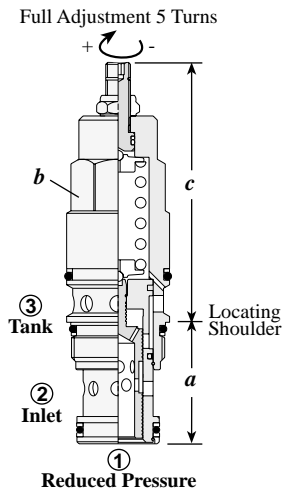
Reducing and Reducing/Relieving Valves

DIRECT ACTING REDUCING/RELIEVING



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions						Installation Torque (lb. ft.)
			a	b	c				
					L	C	K		
10 GPM	PRDB – LAN	T - 11A	1.38	7/8"	3.09	3.16	3.34	30/35	
20 GPM	PRFB – LAN	T - 2A	1.38	1 1/8"	3.47	3.53	3.75	45/50	
40 GPM	PRHB – LAN	T - 17A	1.81	1 1/4"	3.94	4.00	4.19	150/160	

OPTION ORDERING INFORMATION



PR ★ B – ★ ★ ★

Nominal Capacity	Control**	Adjustment Range <i>Available for PRDB only</i>	Seal
D 10 GPM	L Standard Screw	A 500 - 3000 psi	N Buna-N
F 20 GPM	C Tamper Resistant	B 50 - 1500 psi	V Viton
H 40 GPM	K Handknob	D 20 - 800 psi	
		E 20 - 400 psi	
		S 20 - 200 psi	
		W 750 - 4500 psi	

Adjustment Range Options:

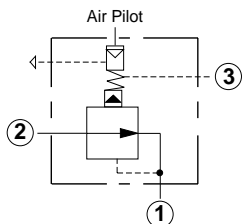
PRDB Only:
 A, W are standard set at 1000 psi.
 B, D, E, S are standard set at 200 psi.

PRFB, PRHB:
 A, W are standard set at 1000 psi.
 B is standard set at 500 psi.
 D is standard set at 400 psi.
 E is standard set at 200 psi.
 S is standard set at 100 psi.

** See page 92 for information on Control Options

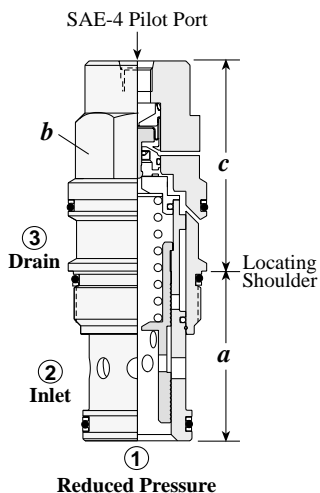
Customer may specify pressure setting.

AIR CONTROLLED, PILOT OPERATED REDUCING, 20:1 RATIO



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions				Installation Torque (lb. ft.)
			a	b	c		
					A	B	
20 GPM	PBFC – ABN	T - 2A	1.38	1 1/8"	2.01	-	45/50
40 GPM	PBHC – BBN	T - 17A	1.81	1 1/4"	-	2.48	150/160
80 GPM	PBJC – BBN	T - 19A	2.50	1 5/8"	-	3.11	350/375

OPTION ORDERING INFORMATION



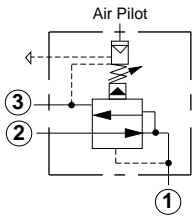
PB ★ C – ★ ★ ★

Nominal Capacity	Control**	Adjustment Range	Seal
F 20 GPM	<i>Available in PBFC only</i>	B 50 - 1500 psi	N Buna-N
H 40 GPM	A 1/4" NPTF Pilot Port at end of Cartridge*		V Viton
J 80 GPM	<i>Available for PBHC, PBJC only</i>		
	B SAE-4 Pilot Port at end of Cartridge*		

* Maximum air pilot pressure should not exceed 150 psi.

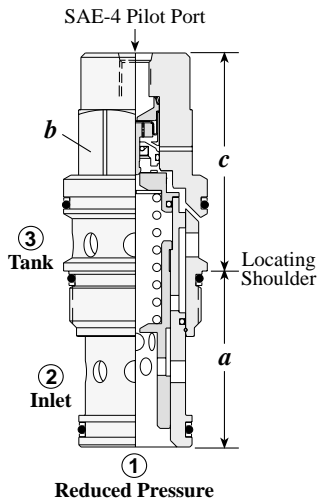
Reducing and Reducing/Relieving Valves

AIR CONTROLLED, PILOT OPERATED REDUCING/RELIEVING, 20:1 RATIO



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions				Installation Torque (lb. ft.)
			a	b	A	B	
20 GPM	PPFC – ABN	T - 2A	1.38	1 1/8"	2.24	-	45/50
40 GPM	PPHC – BBN	T - 17A	1.81	1 1/4"	-	2.48	150/160
80 GPM	PPJC – BBN	T - 19A	2.50	1 5/8"	-	3.11	350/375

OPTION ORDERING INFORMATION

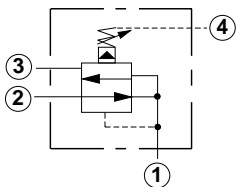


PP * C - * * *

Nominal Capacity	Control**	Adjustment Range	Seal
F 20 GPM	Available in PPFC only	B 50 - 1500 psi	N Buna-N
H 40 GPM	A 1/4" NPTF Pilot Port at end of Cartridge*		V Viton
J 80 GPM	Available for PPHC, PPJC only		
	B SAE-4 Pilot Port at end of Cartridge*		

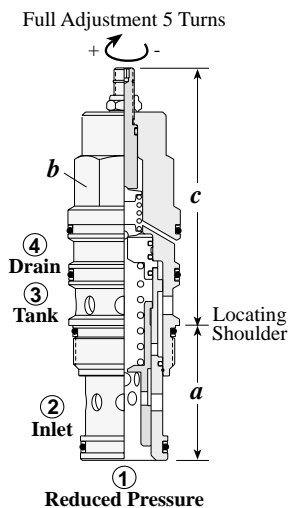
* Maximum air pilot pressure should not exceed 150 psi.

PILOT OPERATED REDUCING/RELIEVING, EXTERNAL DRAIN



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions				Installation Torque (lb. ft.)	
			a	b	L	C		K
10 GPM	PVDA – LAN	T - 21A	1.38	7/8"	3.09	3.15	3.34	30/35
20 GPM	PVFA – LAN	T - 22A	1.38	1 1/8"	3.44	3.50	3.69	45/50
40 GPM	PVHA – LAN	T - 23A	1.81	1 1/4"	3.93	3.99	4.18	150/160
80 GPM	PVJA – LAN	T - 24A	2.50	1 5/8"	4.78	4.90	5.03	350/375

OPTION ORDERING INFORMATION



PV * A - * * *

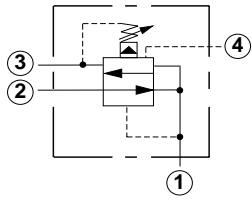
Nominal Capacity	Control**	Adjustment Range	Seal
D 10 GPM	L Standard Screw	A 100 - 3000 psi	N Buna-N
F 20 GPM	C Tamper Resistant	B 50 - 1500 psi	V Viton
H 40 GPM	K Handknob	D 25 - 800 psi	
J 80 GPM		E 25 - 400 psi	
		W 150 - 4500 psi	

Adjustment Range Options:
 All are standard set at 200 psi.
 Maximum pressure differentials for spring ranges:
 A and B are 3000 psi.
 D and E are 2000 psi.
 W is 5000 psi inlet pressure.
 Customer may specify pressure setting.

** See page 92 for information on Control Options

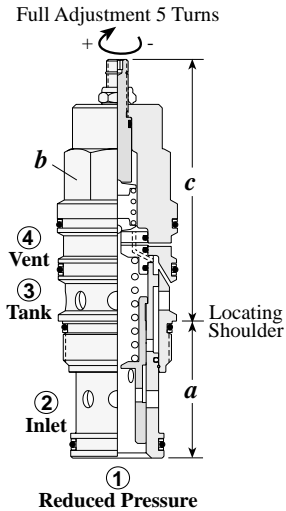
Reducing and Reducing/Relieving Valves

PILOT OPERATED REDUCING/RELIEVING, EXTERNAL VENT



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions			Installation Torque (lb. ft.)		
			a	b	c			
10 GPM	PVDB - LAN	T - 21A	1.38	7/8"	3.09	3.15	3.34	30/35
20 GPM	PVFB - LAN	T - 22A	1.38	1 1/8"	3.44	3.50	3.69	45/50
40 GPM	PVHB - LAN	T - 23A	1.81	1 1/4"	3.93	3.99	4.18	150/160
80 GPM	PVJB - LAN	T - 24A	2.50	1 5/8"	4.78	4.90	5.03	350/375

OPTION ORDERING INFORMATION



PV ★ B - ★ ★ ★

Nominal Capacity	Control**	Adjustment Range	Seal
D 10 GPM	L Standard Screw	A 100 - 3000 psi	N Buna-N
F 20 GPM	C Tamper Resistant	B 50 - 1500 psi	V Viton
H 40 GPM	K Handknob	D 25 - 800 psi	
J 80 GPM		E 25 - 400 psi	
		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.
 D and E are 2000 psi.
 W is 5000 psi inlet pressure.
Customer may specify pressure setting.

** See page 92 for information on Control Options