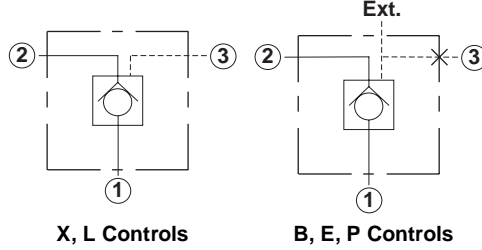
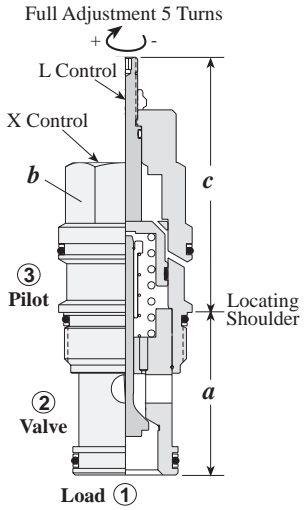


Pilot-to-Open Check Valves

PILOT OPERATED



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions				Installation Torque (lb. ft.)
			a	b	c		
					X, B, E, P	L	
7.5 GPM	CKBB - XCN	T - 163A	1.22	3/4"	1.25	2.55	25/30
15 GPM	CKCB - XCN	T - 11A	1.38	7/8"	1.19	2.50	30/35
30 GPM	CKEB - XCN	T - 2A	1.38	1 1/8"	1.38	2.81	45/50
60 GPM	CKGB - XCN	T - 17A	1.81	1 1/4"	1.81	3.28	150/160
120 GPM	CKIB - XCN	T - 19A	2.50	1 5/8"	2.31	3.94	350/375

OPTION ORDERING INFORMATION

Nominal Capacity	Version	Control**	Cracking Pressure	Seal
B *7.5 GPM	B Bleed through Pilot	X Standard Pilot	A 4 psi	N Buna-N
C 15 GPM	D Sealed Pilot Piston	L Manual Load Release	B 15 psi	V Viton
E 30 GPM		B 1/4" BSPP External Pilot Port 3 blocked	C 30 psi	
G 60 GPM		E SAE-4 External Pilot Port 3 blocked	D 50 psi	
I 120 GPM		P 1/4" NPTF External Pilot Port 3 blocked	E 75 psi	
			F 100 psi	

** See page 244 for information on Control Options

*CKBB, CKBD available with C and E Cracking Pressure Only.

TECHNICAL TIPS / PERFORMANCE CURVES

Pilot-to-Open Check Valves, External Pilot, Non-vented

Applications

Pilot operated checks are used to hold loads in position and for that reason should be mounted as close to the actuator as possible. Pilot-to-open checks are non-modulating, on/off devices that allow free flow through the check valve from port 2 (valve) to port 1 (load). Reverse flow is blocked until a pilot pressure directly proportional to the load pressure is sensed at port 3 (pilot), so that a pilot piston displaces the check from its seat.

Design Concepts and Features

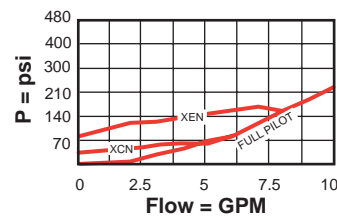
- 3:1 pilot ratio is suitable for most applications.
- Low leakage when closed, less than 1 drop/min.
- Optional, emergency manual release screw, in case pilot pressure is not available.
- Pilot piston leakage is present on **CK*B** models between port 3 and port 2 in order to purge trapped air in the pilot line. Optional models (**CK*D**) feature a sealed pilot piston for applications where cross-port leakage is undesirable.

Note: Pressure at port 2 is directly additive to the pilot pressure required at port 3 (pilot). For applications where this occurs, a 4 port vented pilot operated check cartridge (**CV*V-*****) should be considered.

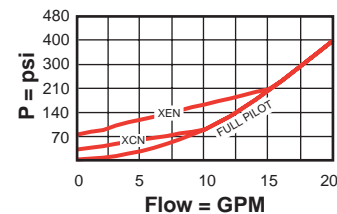
Performance Curves

Typical Pressure Drop

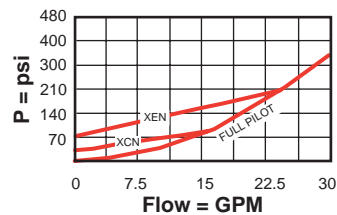
CKBB-X*N



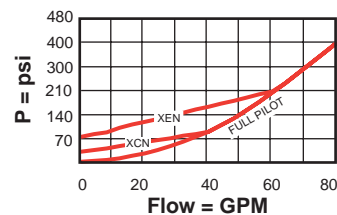
CKCB-X*N



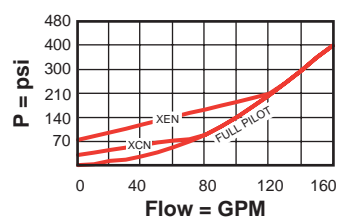
CKEB-X*N



CKGB-X*N



CKIB-X*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 cracking flow.