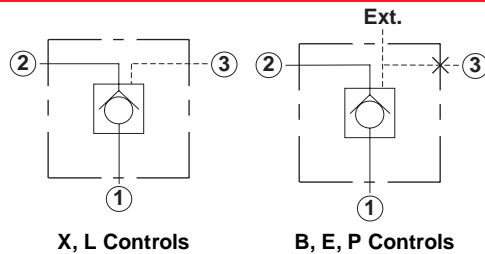
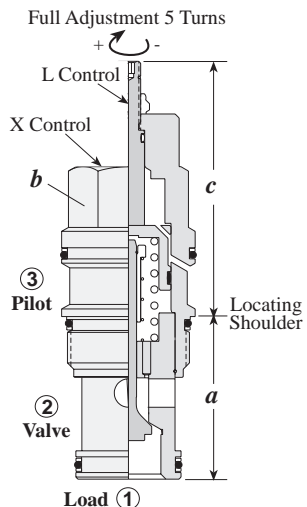


## Pilot-to-Open Check Valves

### PILOT OPERATED



Capacity	Typical Cartridge Model Code	Cavity	Cartridge Dimensions				Installation Torque (Nm)
			a	b	c		
					X, B, E, P	L	
30 L/min.	CKBB - XCN	T - 163A	31	19,1	32	43	35/40
60 L/min.	CKCB - XCN	T - 11A	34,9	22,2	31	62	40/50
120 L/min.	CKEB - XCN	T - 2A	34,9	28,6	35	72	60/70
240 L/min.	CKGB - XCN	T - 17A	46	31,8	46	84	200/215
480 L/min.	CKIB - XCN	T - 19A	63,5	41,3	59	100	465/500

### OPTION ORDERING INFORMATION

Nominal Capacity	Version	Control**	Cracking Pressure	Seal
<b>B</b> *30 L/min.	<b>B</b> Bleed through Pilot	<b>X</b> Standard Pilot	<b>A</b> 0,3 bar	<b>N</b> Buna-N
<b>C</b> 60 L/min.	<b>D</b> Sealed Pilot Piston	<b>L</b> Manual Load Release	<b>B</b> 1,0 bar	<b>V</b> Viton
<b>E</b> 120 L/min.		<b>B</b> 1/4" BSPP External Pilot Port 3 blocked	<b>C</b> 2,0 bar	
<b>G</b> 240 L/min.		<b>E</b> SAE-4 External Pilot Port 3 blocked	<b>D</b> 3,5 bar	
<b>I</b> 480 L/min.		<b>P</b> 1/4" NPTF External Pilot Port 3 blocked	<b>E</b> 5,0 bar	
			<b>F</b> 7,0 bar	

\*\* 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

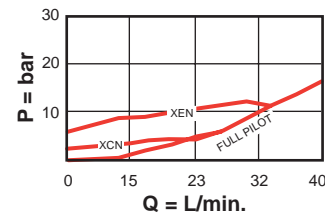
- 3:1 pilot ratio is suitable for most applications.
- Low leakage when closed, less than 1 drop/min.
- Optional, emergency manual release screw, in case pilot pressure is not available.
- Pilot piston leakage is present on **CK\*B** models between port 3 and port 2 in order to purge trapped air in the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

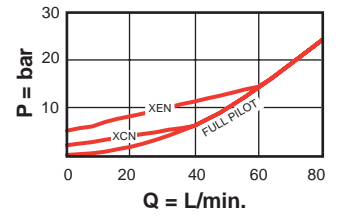
#### Performance Curves

##### Typical Pressure Drop

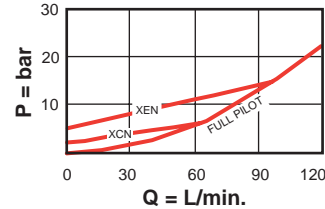
#### CKBB-X\*N



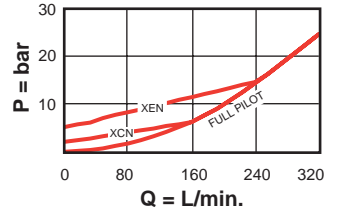
#### CKCB-X\*N



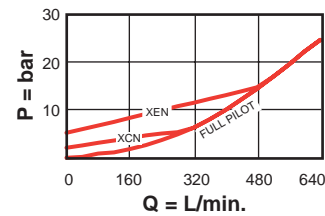
#### CKEB-X\*N



#### CKGB-X\*N



#### CKIB-X\*N



### General Application Requirements

- Operating Temperature Range: Buna-N seals -45° C to 90° C, Viton seals -15° C to 120° C.
- Viscosity Range: 10-600 centistokes.
- 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.