Pilot-to-Open Check Valves

PILOT OPERATED

Full Adjustment 5 Turns

Load X Control

Locating Shoulder

PILOT OPERATED

X, L Controls

B, E, P Controls

Cartridge Dimensions

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

Nominal Capacity

B *30 L/min.
C 60 L/min.
E 120 L/min.
G 240 L/min.
I 480 L/min.

Version

B Bleed through Pilot
D Sealed Pilot Piston

Control**

X Standard Pilot
L Manual Load Release
B 1/4” BSPP External Pilot Port 3 blocked
E SAE-4 External Pilot Port 3 blocked
P 1/4” NPTF External Pilot Port 3 blocked

Cracking Pressure

A 0.3 bar
B 1.0 bar
C 2.0 bar
D 3.5 bar
E 5.0 bar
F 7.0 bar

Seal

N Buna-N
V Viton

** See page 244 for information on Control Options

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

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 β10≥75 to achieve ISO 18/15 or better in most systems.
- Factory Pressure Setting for cartridge is established at cracking flow.