C2900 Series
0 to 3000 psig Cartridge Check Valve

How it Works
The proven sealing principle of Circle Seal Check Valves is employed in the C2900 Series cartridge-type valves—instant, bubble-tight sealing with an o-ring. Increasing pressure makes the seal tighter until metal-to-metal contact is made, which withstands full system pressures or pressure surges.

Features
- Compact & easily installed
- Curved poppet face
- Zero leakage—“bubble-tight” in check direction

Benefits
- Quick opening, positive closing
- Full flow—curved poppet face diverts flow smoothly with minimum pressure drop
- In addition to being used in new equipment, they are interchangeable with and can be used to replace many cartridge valves

Technical Data

<table>
<thead>
<tr>
<th>Features</th>
<th>Technical Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Construction Materials</td>
<td>Brass, carbon steel, 303 or 316 stainless steel</td>
</tr>
<tr>
<td>O-ring Materials</td>
<td>Buna N, ethylene propylene and Viton®</td>
</tr>
<tr>
<td>Operating Pressure</td>
<td>0 to 3000 psig (207 bar)</td>
</tr>
<tr>
<td>Cracking Pressure</td>
<td>0.15 to 15 psig (0.01 to 1 bar)</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>−65° F to +300° F (−54° C to +149° C)</td>
</tr>
</tbody>
</table>

Note: Proper filtration is recommended to prevent damage to sealing surfaces.

Open
In the flow position, the convex curved surface of the spring-loaded poppet permits full flow. The required cracking pressure is governed by the spring.

Closed
Closing to check position at the slightest back pressure, the dynamic o-ring seals instantly between the poppet and seat.

Circle Seal Controls
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C2900 Series

**Specifications, Dimensions, Weights & Typical Flow Curves**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Flow Passagel</th>
<th>Dia.</th>
<th>Length</th>
<th>O-ring*</th>
<th>Backup Ring*</th>
<th>Cv</th>
</tr>
</thead>
<tbody>
<tr>
<td>–4Q</td>
<td>0.501</td>
<td>0.200</td>
<td>0.494</td>
<td>0.830</td>
<td>–012</td>
<td>–012</td>
</tr>
<tr>
<td>–6Q</td>
<td>0.657</td>
<td>0.300</td>
<td>0.650</td>
<td>1.215</td>
<td>–014</td>
<td>–014</td>
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<tr>
<td>–8Q</td>
<td>0.813</td>
<td>0.385</td>
<td>0.806</td>
<td>1.490</td>
<td>–017</td>
<td>–017</td>
</tr>
<tr>
<td>–10Q</td>
<td>1.001</td>
<td>0.485</td>
<td>0.994</td>
<td>1.545</td>
<td>–020</td>
<td>–020</td>
</tr>
<tr>
<td>–12Q</td>
<td>1.219</td>
<td>0.850</td>
<td>1.212</td>
<td>1.930</td>
<td>–023</td>
<td>–023</td>
</tr>
</tbody>
</table>

* Valves are furnished complete with o-ring and backup ring.

**How to Order**

**O-RING MATERIAL & TEMPERATURE RANGES**

- **49** Buna N, –65°F to +250°F
- **52** Viton®, –20°F to +300°F
- **62** EPR, –65°F to +300°F

**BODY MATERIAL**

- **B** Brass
- **S** Steel†
- **T** 303 stainless steel
- **T1** 316 stainless steel

† Not available for PED applications.

Please consult Circle Seal Controls or your local distributor for information on special connections, o-rings, operating pressures, reseal pressures and temperature ranges.

**Leakage (internal):** Zero from 0 to 3000 psig

**Cracking Pressure**

Minimum cracking pressure available: 0.15 psig

Maximum cracking pressure available: 15 psig

*Note: Cracking pressure is defined as pressure at which flow is 5cc/min. When ordering a cracking pressure within the standard range and below, the dash number is a “maximum”. For cracking pressure equal to or greater than the upper limit, the tolerance will be ±20%.

**For Your Safety**

It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

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