

# C-LOK

Instrument Valve Co., Ltd.



## CHECK VALVE



C-LOK the high quality  
instrumentation valves  
& fittings specialized  
production manufacture

### Check Valves

C

#### Features

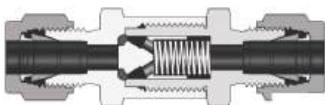
Reliable prevent back flow function and high Cv flow rate:

#### C1, C2, and C3 Series

Fixed cracking pressures Can be install in any directions

##### C1 Series

- resilient O-ring seat design provides cushioned and noise-free closing, and resists flow-out
- Maximum working pressure: 3000 psig (207 bar)
- Working temperatures: -10°F to 375°F (-23°C to 190°C)
- Cracking pressures: 1/3 to 25 psig (0.02 to 1.7 bar)
- Various end connections and many materials of construction



##### C2 Series

- The floating O-ring is cleaned continually to protect sealing from system contaminants
- Maximum working pressure: 6000 psig (414 bar)
- Working temperatures: -10°F to 400°F (-23°C to 204°C)
- Cracking pressures: 1/3 to 25 psig (0.02 to 1.7 bar)
- Various end connections and many materials of construction



##### C3 Series

- Compact, one piece body
- Maximum working pressure: 3000 psig (207 bar)
- Working temperature: -10°F to 375°F (-23°C to 190°C)
- Cracking pressures: 1/3 to 25 psig (0.02 to 1.7 bar)
- Various end connections and many materials of construction



### Check Valves

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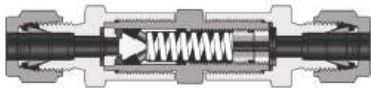
### Features

#### C4 and C5 series

Adjustable Cracking pressures various optional springs install in any directions

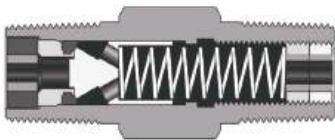
#### C4 Series

- Maximum working pressure: 3000 psig(207 bar)
- Working temperatures:-10°F to 375°F (-23°C to 190°C)
- Cracking pressures:3 to 600 psig(0.2 to 41.3 bar)
- Various end connections and many materials of construction



#### C5 Series

- Compact, one piece body
- Maximum working pressure: 3000 psig(207 bar)
- Working temperatures:-10°F to 400°F (-23°C to 204°C)
- Cracking pressures:3 to 600 psig (0.2 to 41.3 bar)
- Various end connections and many materials of construction



#### C6 series

Union bonnet design All-stainless steel structure Horizontal installation

- Maximum working pressure:6000 psig (414 bar)
- Working temperatures:-65°F to 900°F (-53°C to 482°C)
- Many options for various end connections
- Provide 316 SS valve body and brass valve body



### Check Valves

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### Cracking Pressure and Resealed Pressure

| Series    | Nominal Cracking Pressures<br>psig (bar)                    | Cracking pressures range<br>psig (bar)                                                       | Reseal pressure range<br>psig (bar)                                   |
|-----------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| C1 Series | 1/3 (0.02)<br>1 (0.06)<br>10 (0.68)<br>25 (1.7)             | 1/3-3 (0.02-0.2)<br>1-4 (0.06-0.27)<br>7-15 (0.48-1.0)<br>20-30 (1.3-2.0)                    | Max 6 (0.41)<br>Max 6 (0.41)<br>300.2) or higher<br>17(1.1) or higher |
| C2 Series | 1/3 (0.02)<br>1 (0.06)<br>5 (0.34)<br>10 (0.68)<br>25 (1.7) | 1/3-3 (0.02-0.2)<br>1-4 (0.06-0.27)<br>3-9 (0.20-0.62)<br>7-15 (0.48-1.0)<br>20-30 (1.3-2.0) | Max 6 (0.41)<br>Max 2 (0.13)<br>300.2) or higher<br>17(1.1) or higher |
| C3 Series | 1/3 (0.02)<br>1 (0.06)<br>10 (0.68)<br>25 (1.7)             | 1/3-3 (0.02-0.2)<br>1-4 (0.06-0.27)<br>7-15 (0.48-1.0)<br>20-30 (1.3-2.0)                    | Max 6 (0.41)<br>Max 6 (0.41)<br>300.2) or higher<br>17(1.1) or higher |
| C4 Series | 3-50 (0.2-3.4)<br>50-150 (3.4-10.3)                         | —                                                                                            | shown in figure below                                                 |
| C5 Series | 150-350 (10.3-24.1)<br>350-600 (24.1-41.3)                  |                                                                                              |                                                                       |
| C6 Series | 1/3 (0.02)<br>1 (0.06)                                      | 1/3-1/2 (0.02-0.03)<br>1-4 (0.06-0.27)                                                       | Max 6 (0.41)<br>Max 5 (0.34)                                          |

### Check Valves

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#### Pressure VS. Temperature

#### C1, C3, C4, C5 Series

FKM seat in 316 SS body and buna N in brass body

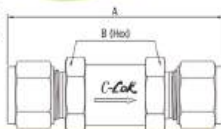
| Temperature |        | Valve body material          |           |
|-------------|--------|------------------------------|-----------|
|             |        | 316 SS                       | Brass     |
| °F          | °C     | Working pressure, psig (bar) |           |
| -10~100     | -23~37 | 3000(207)                    | 3000(207) |
| 200f        | 93     | 2575(177)                    | 2600(179) |
| 250         | 121    | 2450(168)                    | 2405(165) |
| 300         | 148    | 2325(160)                    | —         |
| 375         | 190    | 2185(150)                    | —         |

#### C2 Series

FKM seat in 316 SS body

| Temperature |        | Valve body material          |
|-------------|--------|------------------------------|
|             |        | 316 SS                       |
| °F          | °C     | Working pressure, psig (bar) |
| -10~100     | -23~37 | 6000(414)                    |
| 200         | 93     | 5160(355)                    |
| 250         | 121    | 4910(338)                    |
| 300         | 148    | 4660(321)                    |
| 375         | 190    | 4280(294)                    |

Note: Consult the factory for the curves of other materials.



### Check Valves

C<sup>2</sup> series

### Pressure VS. Temperature

| Basic Ordering Number | Connection Size |                 | Pressure Rating at 100(37°C) psig(bar) | CV   |
|-----------------------|-----------------|-----------------|----------------------------------------|------|
|                       | Inlet Size      | Outlet Size     |                                        |      |
| -C2-S2-               | 1/8" C-LOK      | 1/8" C-LOK      | 6000(414)                              | 0.67 |
| -C2-S4-               | 1/4" C-LOK      | 1/4" C-LOK      | 6000(414)                              | 0.67 |
| -C2-S6-               | 3/8" C-LOK      | 3/8" C-LOK      | 6000(414)                              | 1.8  |
| -C2-S8-               | 1/2" C-LOK      | 1/2" C-LOK      | 6000(414)                              | 1.8  |
| -C2-S12-              | 3/4" C-LOK      | 3/4" C-LOK      | 5000(344)                              | 4.7  |
| -C2-S16-              | 1" C-LOK        | 1" C-LOK        | 4700(323)                              | 4.7  |
| -C2-SM6-              | 6mm C-LOK       | 6mm C-LOK       | 6000(414)                              | 0.67 |
| -C2-SM8-              | 8mm C-LOK       | 8mm C-LOK       | 6000(414)                              | 1.8  |
| -C2-SM10-             | 10mm C-LOK      | 10mm C-LOK      | 6000(414)                              | 1.8  |
| -C2-SM12-             | 12mm C-LOK      | 12mm C-LOK      | 6000(414)                              | 1.8  |
| -C2-SM22-             | 22mm C-LOK      | 22mm C-LOK      | 5000(344)                              | 4.7  |
| -C2-SM25-             | 25mm C-LOK      | 25mm C-LOK      | 5000(344)                              | 4.7  |
| -C2-F4-               | 1/4 Female NPT  | 1/4 Female NPT  | 6000(414)                              | 0.67 |
| -C2-F6-               | 3/8 Female NPT  | 3/8 Female NPT  | 5000(344)                              | 1.8  |
| -C2-F8-               | 1/2 Female NPT  | 1/2 Female NPT  | 4600(316)                              | 1.8  |
| -C2-F12-              | 3/4 Female NPT  | 3/4 Female NPT  | 4300(296)                              | 4.7  |
| -C2-F16-              | 1 Female NPT    | 1 Female NPT    | 4100(282)                              | 4.7  |
| -C2-M2-               | 1/8 Male NPT    | 1/8 Male NPT    | 6000(414)                              | 0.67 |
| -C2-M4-               | 1/4 Male NPT    | 1/4 Male NPT    | 6000(414)                              | 0.67 |
| -C2-M6-               | 3/8 Male NPT    | 3/8 Male NPT    | 6000(414)                              | 1.8  |
| -C2-M8-               | 1/2 Male NPT    | 1/2 Male NPT    | 6000(414)                              | 1.8  |
| -C2-M12-              | 3/4 Male NPT    | 3/4 Male NPT    | 5000(344)                              | 4.7  |
| -C2-M16-              | 1 Male NPT      | 1 Male NPT      | 5000(344)                              | 4.7  |
| -C2-FR4-              | 1/4 Female BSPT | 1/4 Female BSPT | 6000(414)                              | 0.67 |
| -C2-FR8-              | 1/2 Female BSPT | 1/2 Female BSPT | 4600(316)                              | 1.8  |
| -C2-FR12-             | 3/4 Female BSPT | 3/4 Female BSPT | 4300(296)                              | 4.7  |
| -C2-FR16-             | 1 Female BSPT   | 1 Female BSPT   | 4100(282)                              | 4.7  |
| -C2-MR4-              | 1/4 Male BSPT   | 1/4 Male BSPT   | 6000(414)                              | 0.67 |
| -C2-MR8-              | 1/2 Male BSPT   | 1/2 Male BSPT   | 6000(414)                              | 1.8  |
| -C2-MR12-             | 3/4 Male BSPT   | 3/4 Male BSPT   | 5000(344)                              | 4.7  |
| -C2-MR16-             | 1" Male BSPT    | 1" Male BSPT    | 5000(344)                              | 4.7  |

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### Cracking Pressure and Resealed Pressure

**C6 Series**

**316 SS body**

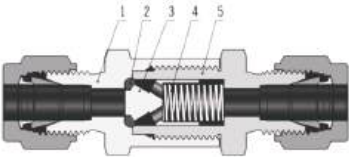
| Temperature |        | Valve body material             |
|-------------|--------|---------------------------------|
|             |        | 316 SS                          |
| °F          | °C     | Working pressure,<br>psig (bar) |
| -65~100     | -53~37 | 6000(414)                       |
| 200         | 93     | 5160(356)                       |
| 250         | 121    | 4910(338)                       |
| 300         | 148    | 4660(321)                       |
| 350         | 176    | 4470(307)                       |
| 400         | 204    | 4280(295)                       |
| 450         | 232    | 4130(285)                       |
| 500         | 260    | 3980(274)                       |
| 600f        | 315    | 3760(259)                       |
| 650         | 343    | 3690(254)                       |
| 700         | 371    | 3600(248)                       |
| 750         | 399    | 3510(242)                       |
| 800         | 426    | 3460(238)                       |
| 850         | 454    | 3380(232)                       |
| 900         | 482    | 3280(225)                       |

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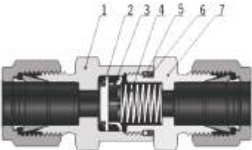
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### Material of Construction

#### C1 Series



| Component |             | Valve Material Grade/ASTM Specification |               |
|-----------|-------------|-----------------------------------------|---------------|
|           |             | 316 SS                                  | Brass         |
| 1         | Inlet body  | 316 SS/A479                             | Brass 360/B16 |
| 2         | O-ring      | Fluorocarbon FKM                        | Buna N        |
| 3         | Poppet      | 316 SS/A479                             | Brass 360/B16 |
| 4         | Spring      | 302 SS/A313                             | 302 SS/A313   |
| 5         | Outlet body | 316 SS/A479                             | Brass 360/B16 |



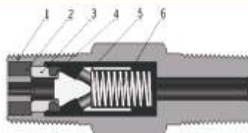
#### C2 Series

| Component | Valve Material Grade/ASTM Specification |                                      |
|-----------|-----------------------------------------|--------------------------------------|
| 1         | Inlet body                              | 316 SS/A479                          |
| 2         | Poppet                                  | Fluorocarbon FKM -bonded 316 SS/A479 |
| 3         | Poppet stop                             | 316 SS/A240                          |
| 4         | Spring                                  | 302 SS/A313                          |
| 5         | O-ring                                  | Fluorocarbon FKM                     |
| 6         | Backup ring                             | PTFE/D1710                           |
| 7         | Outlet body                             | 316 SS/A479                          |

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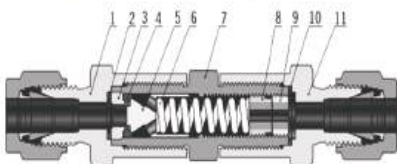
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### Cracking Pressure and Resealed Pressure



#### C3 Series

| Component |               | Valve Material Grade/ASTM Specification |               |
|-----------|---------------|-----------------------------------------|---------------|
|           |               | 316 SS                                  | Brass         |
| 1         | Body          | 316 SS/A276 or A479                     | Brass 360/B16 |
| 2         | Locking screw | 316 SS/A276                             | Brass 360/B16 |
| 3         | Insert        | 316 SS/A276                             | Brass 360/B16 |
| 4         | O-ring        | Fluorocarbon FKM                        | Buna N        |
| 5         | Poppet        | 316 SS/A479                             | Brass 360/B16 |
| 6         | Spring        | 302 SS/A313                             | 302 SS/A313   |



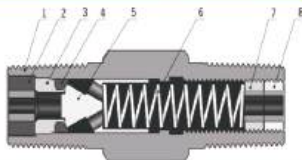
#### C4 Series

| Component |                 | Valve Material Grade/ASTM Specification |                         |
|-----------|-----------------|-----------------------------------------|-------------------------|
|           |                 | 316 SS                                  | Brass                   |
| 1         | Inlet body      | 316 SS/A479                             | Brass 360/B16           |
| 2         | Inlet gasket    | PTFE-coated 316 SS/A276                 | PTFE-coated 316 SS/A276 |
| 3         | Insert          | 316 SS/A479                             | Naval brass 360/B21     |
| 4         | O-ring          | Fluorocarbon FKM                        | Fluorocarbon FKM        |
| 5         | Poppet          | 316 SS/A479                             | Brass 360/B16           |
| 6         | Spring          | 302 SS/A313                             | 302 SS/A313             |
| 7         | Center body     | 316 SS/A479                             | Brass 360/B16           |
| 8         | Adjusting screw | 316 SS/A276                             | 316 SS/A276             |
| 9         | Locking nut     | 316 SS/A276                             | 316 SS/A276             |
| 10        | Outlet gasket   | PTFE-coated 316 SS/A276                 | PTFE-coated 316 SS/A276 |
| 11        | Outlet body     | 316 SS/A479                             | Brass 360/B16           |

### Check Valves

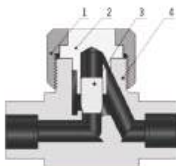
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### Material of Constraction



#### C5 Series

| Component |                 | Valve Material Grade/ASTM Specification |                  |
|-----------|-----------------|-----------------------------------------|------------------|
|           |                 | 316 SS                                  | Brass            |
| 1         | Body            | 316 SS/A276                             | Brass 360/B16    |
| 2         | Locking Nut     | 316 SS/A479                             | Brass 360/B16    |
| 3         | Insert          | 316 SS/A479                             | Brass 360/B16    |
| 4         | O-ring          | Fluorocarbon FKM                        | Fluorocarbon FKM |
| 5         | Poppet          | 316 SS/A479                             | Brass 360/B16    |
| 6         | Spring          | 302 SS/A313                             | 302 SS/A313      |
| 7         | Adjusting screw | 316 SS/A276                             | 316 SS/A276      |
| 8         | Locking screw   | 316 SS/A276                             | 316 SS/A276      |



#### C6 Series

| Component | Valve Material Grade/<br>ASTM Specification |             |
|-----------|---------------------------------------------|-------------|
| 1         | Bonnet nut                                  | 316 SS/A479 |
| 2         | Bonnet                                      | 316 SS/A479 |
| 3         | Poppet                                      | S17400/A564 |
| 4         | Body                                        | 316 SS/A479 |

\*All valves use same lubricants, they are silicone-based and molybdenum disulfide-based.  
\*Consult the factory for bill of material for other body materials.