

## 2200 Series

0 to 800 psig Check Valves



### Features

- Medium flow
- Single piece design
- Resilient o-ring

### Benefits

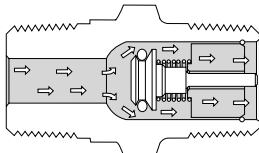
- Maintenance free
- Dependable
- Economical

### Technical Data

|                                    |   |
|------------------------------------|---|
| <b>Body Construction Materials</b> | Brass, 316 stainless steel  |
| <b>O-ring Materials</b>            | Buna N, ethylene propylene, neoprene, silicone, or Viton®   |
| <b>Operating Pressure</b>          | 0 to 800 psig (55 bar)  |
| <b>Proof Pressure</b>              | 1,200 psig (83 bar)   |
| <b>Cracking Pressure</b>           | 1 to 3 psig (0.07 to 0.21 bar)  |
| <b>Temperature Range</b>           | -70° F to +450° F (-57° C to +232° C)<br><i>Based on o-ring &amp; body material, see "How to Order"</i> |
| <b>Connection Sizes</b>            | 1/8" to 1"  |

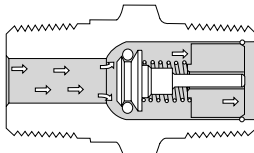
*Note: Proper filtration is recommended to prevent damage to sealing surfaces.*

### How it Works



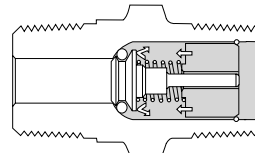
#### Open

Flow passes smoothly over poppet head with minimum turbulence and through the fluted guide without restriction.



#### Closing

O-ring automatically establishes line of contact with spherical seat to cushion closing and insure perfect sealing.



#### Closed

O-ring only seals. Full pressure is carried by metal-to-metal seat.

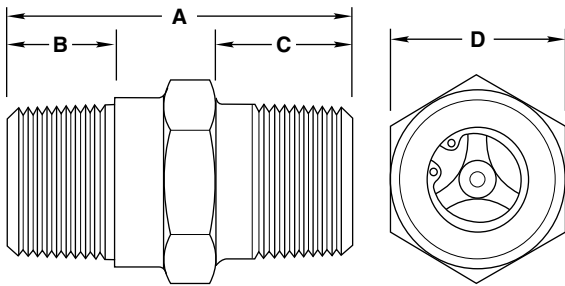
### Circle Seal Controls

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check valves

# 2200 Series

## Dimensions, Pressure Drop & Flow Rates



### 2200 Series Dimensions (inches), Male Pipe

| Model Number | Size | A    |      | B & C |      | D    |      |
|--------------|------|------|------|-------|------|------|------|
|              |      | -MM  | -SS  | -MM   | -SS  | -MM  | -SS  |
| -1MM / -1SS  | 1/8" | 1.30 | 1.32 | 0.39  | 0.40 | 0.50 | 0.50 |
| -2MM / -2SS  | 1/4" | 1.59 | 1.70 | 0.54  | 0.60 | 0.63 | 0.63 |
| -3MM / -3SS  | 3/8" | 1.59 | 1.73 | 0.54  | 0.61 | 0.75 | 0.75 |
| -4MM / -4SS  | 1/2" | 2.13 | 2.20 | 0.78  | 0.81 | 0.88 | 0.88 |
| -6MM / -6SS  | 3/4" | 2.15 | 2.33 | 0.78  | 0.86 | 1.13 | 1.13 |
| -8MM / -8SS  | 1"   | 2.57 | 2.68 | 0.97  | 1.02 | 1.38 | 1.38 |

### Maximum Allowable Pressure Drop

| Model Number | Size | 2249 & 2262 Series |         | 2224, 2232, 2233 & 2259 Series |         |
|--------------|------|--------------------|---------|--------------------------------|---------|
|              |      | Air                | Oil     | Air                            | Oil     |
| -1MM / -1SS  | 1/8" | 10 psid            | 15 psid | 5 psid                         | 10 psid |
| -2MM / -2SS  | 1/4" | 10 psid            | 15 psid | 5 psid                         | 10 psid |
| -3MM / -3SS  | 3/8" | 10 psid            | 15 psid | 5 psid                         | 10 psid |
| -4MM / -4SS  | 1/2" | 10 psid            | 15 psid | 5 psid                         | 10 psid |
| -6MM / -6SS  | 3/4" | 10 psid            | 15 psid | 5 psid                         | 10 psid |
| -8MM / -8SS  | 1"   | 10 psid            | 15 psid | 5 psid                         | 10 psid |

### Flow Rates

| Valve size   | -1MM | -2MM | -3MM | -4MM | -6MM | -8MM |
|--------------|------|------|------|------|------|------|
| Cv (nominal) | 0.26 | 0.74 | 1.1  | 2.1  | 4.7  | 6.6  |

## How to Order

**22 59 B - 2 MM - 1**

**O-RING MATERIAL, TEMPERATURE & STANDARD CRACKING RANGE**

- 49** Buna N, -65° F to +250° F, 4.0 psig
- 59** Buna N, -65° F to +275° F, 2.0 psig
- 62** EPDM, -65° F to +300° F, 4.0 psig
- 33** Neoprene, -40° F to +300° F, 4.0 psig
- 24** Silicone, -70° F to +450° F, 2.0 psig
- 32** Viton®, -20° F to +400° F, 2.0 psig
- 20** Teflon®, -100° F to +400° F, 4.0 psig

**BODY MATERIAL**

- B** Brass<sup>†</sup>
- T1** 316 stainless steel

**CRACKING PRESSURE**  
Call out dash number if not standard  
**1** 1 psig

**CONNECTIONS—INLET/OUTLET**  
**M** Male pipe, NPT  
**S** Male British taper pipe

**VALVE SIZE**

- 1** 1/8"
- 2** 1/4"
- 3** 3/8"
- 4** 1/2"
- 6** 3/4"
- 8** 1"

<sup>†</sup> For PED applications, brass bodies are limited to a maximum temperature of +100° F (+38° C).

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

### Leakage

|                                |  |
|--------------------------------|--|
| 2249, 2262 Series              | zero @ 3 psig to 800 psig  |
| 2259, 2232, 2233 & 2224 Series | zero @ 1 psig to 800 psig  |
| 2220 Series                    | 10cc/min maximum from zero to 75 psig; zero from 75 psig to 800 psig |

### Cracking Pressure

Minimum cracking pressure available: 0.1 psig

Maximum cracking pressure available: 7.0 psig

Note: Cracking pressure is defined as pressure at which flow is 5cc/min, except the 2220 Series, for which flow is approximately 0.02 cfm. For standard cracking pressures and less (example: 2259-2MM-3), the tolerance is +0%, -100%. For cracking pressure greater than standard (example: 2259B-2MM-5), the tolerance is ±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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