



CVH Series

Check Valves



The CVH Series Check Valves are engineered for a competitive price with no compromise of quality and performance to meet the growing requirements of instrumentation valves. The function of this valve series is to maintain system integrity by preventing back flow of a wide variety of fluids over a broad range of pressures.

Features & Specifications

- Rapid response
- Resilient o-ring seat provides cushioned, noise-free closing and zero leakage
- Floating o-ring design: o-ring is continually cleaned so contaminants do not prevent sealing
- Various materials of construction can be used with any liquid or gas service
- Various end connections can be assembled in any system or application
- Spring-loaded poppet can be mounted in any orientation
- Full flow with minimal restriction for maximum Cv rates
- Virtually maintenance free for maximum dependability
- Pressures up to 6000 psig (414 bar)
- Cracking pressure range is 0.5 to 20 psig (0 to 1 bar) ±10%
- Flow up to 7.4 Cv maximum
- Greater than 100,000 life cycles
- Special High Tolerance NPT Thread

Technical Data

| | |
|---------------------------------|---|
| Body Material* | 316 stainless steel, MONEL® R-405, HASTELLOY® C-276 |
| Operating Pressure Range | 0 to 6000 psig (414 bar) |
| Temperature Range** | -65° F to +550° F (-54° C to +288° C) |
| Cv factors | 0.32 to 7.4 |
| Cracking Pressure Range | 0.5 to 20 psig (0.035 to 1.379 bar) ± 10% |
| Leakage | External: zero Internal: Soft seat = zero |
| Connection sizes | ½" to 1"; 6mm to 25mm |
| Life Cycles | In excess of 100,000 cycles |

* Consult factory for other materials

** Limited to +400° F (204° C) for ¾" / 12 mm sizes and higher

fluid control



CVH Series

Specifications

Operating Temperatures

| Seal Material | Temperature (°F) | Temperature (°C) |
|----------------|------------------|------------------|
| Viton® | -20° to +400° | -29° to +204° |
| Fluorosilicone | -80° to +350° | -62° to +177° |
| Kalrez®* | -40° to +550° | -40° to +288° |
| Buna N | -65° to +275° | -54° to 135° |

* Limited to +400° F (204° C) for 3/4" / 12 mm sizes and higher

Flow Rates

| Fitting Size | 1/8" | 1/4"/4mm | 3/8"/6mm | 1/2"/8mm | 10mm | 3/4"/12mm | 1"/16mm |
|---------------|------|----------|----------|----------|------|-----------|---------|
| fitting code* | -02 | -04 | -06 | -08 | -10 | -12 | -16 |
| Cv FACTORS | 0.32 | 0.79 | 1.71 | 3.08 | 3.87 | 7.38 | 7.38 |

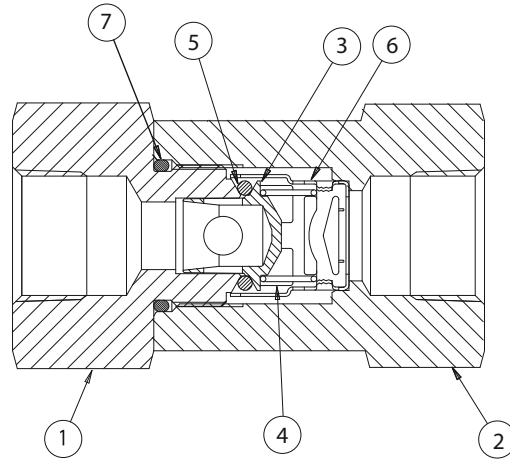
* See ordering matrix on page 9

Materials of Constructions

| Part | Standard Materials (Others on Request) |
|------------------|--|
| 1 Body* (inlet) | 316 stainless steel |
| 2 Body* (outlet) | 316 stainless steel |
| 3 Poppet* | 316 stainless steel |
| 4 Spring* | 302 stainless steel |
| 5 O-ring* | Viton® |
| 6 Spring guide | 316 stainless steel |
| 7 O-ring† | Viton® |

* wetted component

† Applies to 3/4" / 12mm sizes and higher



Dimensions

GYROLOK® Tube Fitting, Fractional

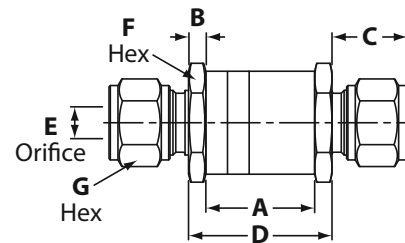
| Fitting Code* | Fitting Size | A | B | C | D | E | F | G |
|---------------|--------------|------|------|------|------|------|------|------|
| -02 | 1/8" | 0.93 | 0.20 | 0.67 | 1.33 | 0.19 | 1.06 | 0.44 |
| -04 | 1/4"/4mm | 0.93 | 0.20 | 0.77 | 1.33 | 0.19 | 1.06 | 0.56 |
| -06 | 3/8"/6mm | 1.33 | 0.20 | 0.83 | 1.73 | 0.39 | 1.44 | 0.69 |
| -08 | 1/2"/8mm | 1.33 | 0.20 | 0.92 | 1.73 | 0.42 | 1.44 | 0.88 |
| -12 | 3/4"/12mm | 2.05 | 0.50 | 0.97 | 3.05 | 0.66 | 2.25 | 1.25 |
| -16 | 1"/16mm | 2.05 | 0.50 | 1.08 | 3.05 | 0.66 | 2.25 | 1.5 |

* See ordering matrix on page 9

GYROLOK® Tube Fitting, Metric

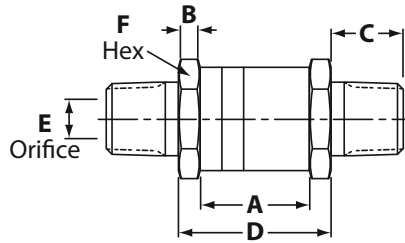
| Fitting Code* | Fitting Size | A | B | C | D | E | F | G |
|---------------|--------------|-------|-------|------|-------|-------|-------|-------|
| -04 | 1/4"/4mm | 23.62 | 5.08 | 17.9 | 33.78 | 2.44 | 26.99 | 12.70 |
| -06 | 3/8"/6mm | 23.62 | 5.08 | 19.5 | 33.78 | 3.96 | 26.99 | 14.22 |
| -08 | 1/2"/8mm | 23.62 | 5.08 | 19.1 | 33.78 | 5.94 | 26.99 | 15.88 |
| -10 | 10mm | 33.78 | 5.08 | 19.8 | 43.94 | 8.03 | 36.51 | 19.05 |
| -12 | 3/4"/12mm | 33.78 | 5.08 | 23.4 | 43.94 | 10.01 | 36.51 | 22.23 |
| -14 | 14mm | 33.78 | 5.08 | 21.0 | 43.94 | 12.01 | 36.52 | 25.40 |
| -16 | 1"/16mm | 52.07 | 12.70 | 23.4 | 77.47 | 12.70 | 57.15 | 25.40 |
| -18 | 18mm | 52.07 | 12.70 | 24.6 | 77.47 | 15.88 | 57.15 | 28.58 |
| -22 | 22mm | 52.07 | 12.70 | 24.6 | 77.47 | 16.66 | 57.15 | 31.75 |
| -25 | 25mm | 52.07 | 12.70 | 27.4 | 77.47 | 16.66 | 57.15 | 38.10 |

* See ordering matrix on page 9



CVH Series

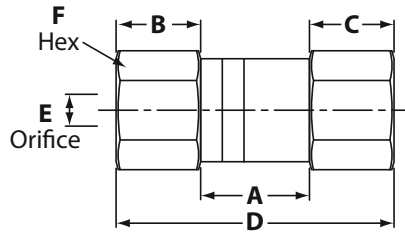
Dimensions



Male NPT, (Fractional)

| Fitting Code* | Fitting Size | A | B | C | D | E | F |
|---------------|--------------|------|------|------|------|------|------|
| -02 | 1/8" | 0.93 | 0.20 | 0.38 | 1.33 | 0.19 | 1.06 |
| -04 | 1/4"/4mm | 0.93 | 0.20 | 0.56 | 1.33 | 0.19 | 1.06 |
| -06 | 3/8"/6mm | 1.33 | 0.20 | 0.56 | 1.73 | 0.39 | 1.44 |
| -08 | 1/2"/8mm | 1.33 | 0.20 | 0.75 | 1.73 | 0.42 | 1.44 |
| -12 | 3/4"/12mm | 2.05 | 0.50 | 0.75 | 3.05 | 0.66 | 2.25 |
| -16 | 1"/16mm | 2.05 | 0.50 | 0.94 | 3.05 | 0.66 | 2.25 |

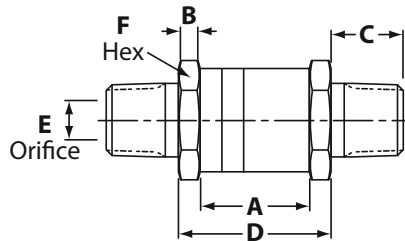
* See ordering matrix on page 9



Female NPT, (Fractional)

| Fitting Code* | Fitting Size | A | B Inlet | C Outlet | D | E | F |
|---------------|--------------|------|---------|----------|------|------|------|
| -02 | 1/8" | 0.93 | 0.62 | 0.65 | 2.20 | 0.19 | 1.06 |
| -04 | 1/4"/4mm | 0.93 | 0.62 | 0.88 | 2.43 | 0.19 | 1.06 |
| -06 | 3/8"/6mm | 1.33 | 0.78 | 0.78 | 2.89 | 0.39 | 1.44 |
| -08 | 1/2"/8mm | 1.33 | 0.93 | 0.98 | 3.24 | 0.42 | 1.44 |
| -12 | 3/4"/12mm | 2.05 | 1.08 | 0.95 | 4.08 | 0.66 | 2.25 |
| -16 | 1"/16mm | 2.05 | 1.37 | 1.16 | 4.58 | 0.66 | 2.25 |

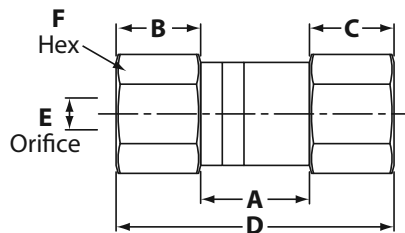
* See ordering matrix on page 9



Male British Tapered Pipe, (Fractional)

| Fitting code* | Fitting Size | A | B Inlet | C Outlet | D | E | F |
|---------------|--------------|------|---------|----------|------|------|------|
| -02 | 1/8" | 0.93 | 0.20 | 0.38 | 1.33 | 0.19 | 1.06 |
| -04 | 1/4"/4mm | 0.93 | 0.20 | 0.56 | 1.33 | 0.19 | 1.06 |
| -06 | 3/8"/6mm | 1.33 | 0.20 | 0.56 | 1.73 | 0.39 | 1.44 |
| -08 | 1/2"/8mm | 1.33 | 0.20 | 0.75 | 1.73 | 0.42 | 1.44 |
| -12 | 3/4"/12mm | 2.05 | 0.50 | 0.75 | 3.05 | 0.66 | 2.25 |
| -16 | 1"/16mm | 2.05 | 0.50 | 0.94 | 3.05 | 0.66 | 2.25 |

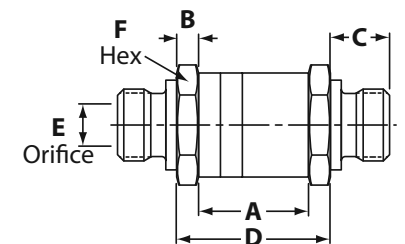
* See ordering matrix on page 9



Female British Tapered Pipe, (Fractional)

| Fitting Code* | Fitting Size | A | B Inlet | C Outlet | D | E | F |
|---------------|--------------|------|---------|----------|------|------|------|
| -02 | 1/8" | 0.93 | 0.63 | 0.64 | 2.20 | 0.19 | 1.06 |
| -04 | 1/4"/4mm | 0.93 | 0.88 | 0.89 | 2.70 | 0.19 | 1.06 |
| -06 | 3/8"/6mm | 1.33 | 0.98 | 0.97 | 3.28 | 0.39 | 1.44 |
| -08 | 1/2"/8mm | 1.33 | 1.25 | 1.24 | 3.82 | 0.42 | 1.44 |
| -12 | 3/4"/12mm | 2.05 | 1.58 | 1.22 | 4.85 | 0.66 | 2.25 |
| -16 | 1"/16mm | 2.05 | 1.80 | 1.46 | 5.31 | 0.66 | 2.25 |

* See ordering matrix on page 9



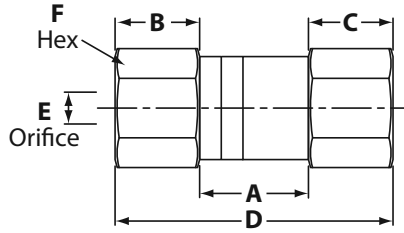
Male British Parallel Pipe, (Fractional)

| Fitting Code* | Fitting Size | A | B | C | D | E | F |
|---------------|--------------|------|------|------|------|------|------|
| -02 | 1/8" | 0.93 | 0.20 | 0.38 | 1.33 | 0.19 | 1.06 |
| -04 | 1/4"/4mm | 0.93 | 0.20 | 0.56 | 1.33 | 0.19 | 1.06 |
| -06 | 3/8"/6mm | 1.33 | 0.20 | 0.56 | 1.73 | 0.39 | 1.44 |
| -08 | 1/2"/8mm | 1.33 | 0.20 | 0.75 | 1.73 | 0.42 | 1.44 |
| -12 | 3/4"/12mm | 2.05 | 0.50 | 0.75 | 3.05 | 0.66 | 2.25 |
| -16 | 1"/16mm | 2.05 | 0.50 | 0.94 | 3.05 | 0.66 | 2.25 |

* See ordering matrix on page 9

CVH Series

Dimensions



Female British Parallel Pipe, (Fractional)

| Fitting Code* | Fitting Size | A | B Inlet | C Outlet | D | E | F |
|---------------|--------------|------|---------|----------|------|------|------|
| -02 | 1/8" | 0.93 | 0.66 | 1.05 | 2.64 | 0.19 | 1.06 |
| -04 | 1/4"/4mm | 0.93 | 0.89 | 1.06 | 2.88 | 0.19 | 1.06 |
| -06 | 3/8"/6mm | 1.33 | 1.04 | 0.96 | 3.33 | 0.39 | 1.44 |
| -08 | 1/2"/8mm | 1.33 | 1.17 | 1.20 | 3.70 | 0.42 | 1.44 |
| -12 | 3/4"/12mm | 2.05 | 1.51 | 1.17 | 4.73 | 0.66 | 2.25 |
| -16 | 1"/16mm | 2.05 | 1.61 | 1.37 | 5.03 | 0.66 | 2.25 |

* See ordering matrix below

How to Order

Standard items in bold

CVH G 4 Y 3 1 S - IS

FITTING TYPE

- F Female NPT
- G** GYROLOK® tube fitting, fractional
- J Male British parallel pipe
- K Female British parallel pipe
- M Male NPT
- Q Male British tapered pipe
- T Female British tapered pipe
- Z GYROLOK® tube fitting, metric

FITTING SIZE

| | Fractional | Metric |
|----|------------|--------|
| 2 | 1/8" | N/A |
| 4 | 1/4" | 4mm |
| 6 | 3/8" | 6mm |
| 8 | 1/2" | 8mm |
| 10 | N/A | 10mm |
| 12 | 3/4" | 12mm |
| 14 | N/A | 14mm |
| 16 | 1" | 16mm |
| 18 | N/A | 18mm |
| 22 | N/A | 22mm |
| 25 | N/A | 25mm |

BODY MATERIAL

- Y** **316 stainless steel (standard)**
- H HASTELLOY® C-276
- M MONEL® R-405
- TI Titanium
- D50 2507 Super Duplex SST
- 6MO 254 SMO SST
- DX3 2205 Duplex SST
- 625 Inconel 625
- 825 Inconel 825

ADDITIONAL OPTIONS

- IS** **Inconel spring**
("Y" Body Only, "IS" is std on all others)
- NK Norsok Complaint
- SLF Sulfinert Coating
- 22 Buna-N Oring (90 Duro)
- 93 HNBR Oring (90 Duro)
- 82 Kalrez® 6375 Oring

CLEANING OPTIONS

- S** **Standard**
- 0 Oxygen cleaning

SEAL MATERIALS

- 1 Viton®
- 2 Buna-N (not for oxygen service)
- 3 Fluorosilicone
- 4 Kalrez® 4079
- 6 EPDM

CRACK PRESSURE

- 1 0.5 psig (0.034 bar)
- 2 1.0 psig (0.07 bar)
- 3 3.0 psig (0.21 bar)
- 4 10 psig (0.70 bar)
- 5 20 psig (1.38 bar)
- 6 0.33 psig (0.023 bar)
- 7 5.0 psig (0.345 bar)
- 8 2.0 psig (0.14 bar)

Please consult HOKE® or your local distributor for information on special connections, o-rings, operating pressures and temperature ranges.

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