

# Check Valves

## CV3 Series



- ❖ Maximum working pressure up to 6000 psig (413 bar)
- ❖ Working temperature from -65°F to 900°F (-53°C to 482°C)
- ❖ Metal to metal seal structure design
- ❖ Liquid or gas service

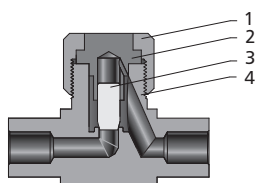
## Features

- ❖ Maximum working pressure up to 6000 psig (413 bar)
- ❖ Working temperature from -65°F to 900°F (-53°C to 482°C)
- ❖ Metal to metal seal structure design
- ❖ Reverse flow coefficient less than 0.1% of forward flow coefficient
- ❖ No springs or elastomers
- ❖ Liquid or gas service
- ❖ Variety of end connections and materials

## Pressure vs. Temperature

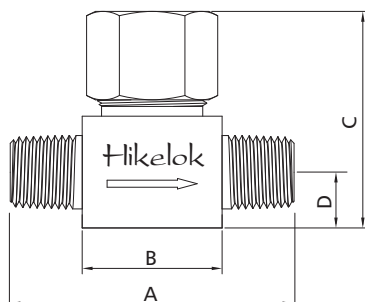
| Material              | 316 S.S.                    |
|-----------------------|-----------------------------|
| Temperature, °F (°C)  | Working Pressure, psig(bar) |
| -10 (-23) to 100 (37) | 6000 (413)                  |
| 200 (93)              | 5160 (355)                  |
| 250 (121)             | 4910 (338)                  |
| 300 (148)             | 4660 (321)                  |
| 350 (176)             | 4470 (307)                  |
| 400 (204)             | 4280 (294)                  |
| 450 (232)             | 4130 (284)                  |
| 500 (260)             | 3980 (274)                  |
| 600 (315)             | 3760 (259)                  |
| 650 (343)             | 3700 (254)                  |
| 700 (371)             | 3600 (248)                  |
| 750 (398)             | 3520 (242)                  |
| 800 (426)             | 3460 (238)                  |
| 850 (454)             | 3380 (232)                  |
| 900 (482)             | 3280 (225)                  |

## Standard Materials of Construction



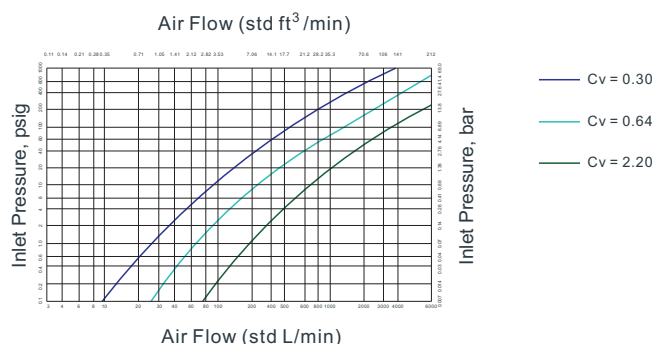
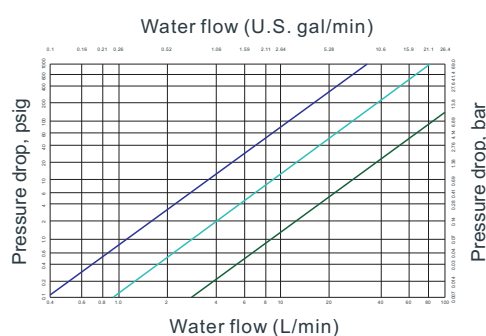
| Component    | Valve Material Grade/ASTM Specification |
|--------------|-----------------------------------------|
| 1 Bonnet Nut | 316 S.S./A479                           |
| 2 Bonnet     | 316 S.S./A479                           |
| 3 Poppet     | S17400/A564                             |
| 4 Body       | 316 S.S./A479                           |

## Dimensions



| Basic Ordering Number | Connection Type and Size | Cv   | Dimension, in. (mm) |             |             |             |
|-----------------------|--------------------------|------|---------------------|-------------|-------------|-------------|
|                       |                          |      | A                   | B           | C           | D           |
| CV3-F4-               | 1/4" Hikelok             | 0.30 | 2.40 (61.0)         | 1.01 (25.7) | 1.47 (37.3) | 0.39 (9.9)  |
| CV3-F6-               | 3/8" Hikelok             | 0.64 | 2.83 (71.9)         | 1.31 (33.3) | 1.85 (47.0) | 0.50 (12.7) |
| CV3-F8-               | 1/2" Hikelok             | 2.20 | 3.92 (99.6)         | 2.19 (55.6) | 2.44 (62.0) | 0.62 (15.7) |
| CV3-F12-              | 3/4" Hikelok             |      |                     |             |             |             |
| CV3-M6-               | 6 mm Hikelok             | 0.30 | 2.40 (61.0)         | 1.01 (25.7) | 1.47 (37.3) | 0.39 (9.9)  |
| CV3-FNPT2-            | 1/8 Female NPT           |      |                     |             |             |             |
| CV3-FNPT4-            | 1/4 Female NPT           | 0.64 | 2.25 (57.2)         | 1.25 (31.8) | 1.85 (47.0) | 0.50 (12.7) |
| CV3-FNPT6-            | 3/8 Female NPT           | 2.20 | 3.12 (79.2)         | 1.86 (47.2) | 2.44 (62.0) | 0.62 (15.7) |
| CV3-FNPT8-            | 1/2 Female NPT           |      |                     |             |             |             |
| CV3-FSW4-             | 1/4" FSW                 | 0.30 | 1.81 (46.0)         | 0.9 (22.9)  | 1.47 (37.3) | 0.39 (9.9)  |
| CV3-FSW6-             | 3/8" FSW                 | 0.64 | 2.25 (57.2)         | 1.25 (31.8) | 1.85 (47.0) | 0.50 (12.7) |
| CV3-FSW8-             | 1/2" FSW                 | 2.20 | 3.13 (79.5)         | 1.88 (47.8) | 2.44 (62.0) | 0.62 (15.7) |
| CV3-FBW4-             | 1/4" FBW                 | 0.30 | 1.81 (46.0)         | 0.9 (22.9)  | 1.47 (37.3) | 0.39 (9.9)  |
| CV3-FBW6-             | 3/8" FBW                 | 0.64 | 2.25 (57.2)         | 1.25 (31.8) | 1.85 (47.0) | 0.50 (12.7) |
| CV3-FBW8-             | 1/2" FBW                 | 2.20 | 3.13 (79.5)         | 1.88 (47.8) | 2.44 (62.0) | 0.62 (15.7) |

## Flow Data at 70°F (20°C)



## How to Order

| CV3—   | F8                                        | —                     | M10                                                               | —           | 316             |
|--------|-------------------------------------------|-----------------------|-------------------------------------------------------------------|-------------|-----------------|
| Series | Inlet Type                                | Inlet Size            | Outlet Type                                                       | Outlet Size | Body Material   |
| CV3    | FNPT Female NPT                           | 2 1/8 in.             | Same as inlet type and inlet size                                 |             | 316 316 S.S.    |
|        | NPT Male NPT                              | 4 1/4 in.             |                                                                   |             | 316L 316L S.S.  |
|        | FBT Female BSPT                           | 6 3/8 in. or 6 mm     | If outlet and inlet are the same, eliminate the outlet designator |             | 304 304 S.S.    |
|        | MBT Male BSPT                             | 8 1/2 in. or 8 mm     |                                                                   |             | 304L 304L S.S.  |
|        | FMS Female ISO 261                        | 10 10 mm              |                                                                   |             | A400 Alloy 400  |
|        | MS Male ISO 261                           | 12 3/4 in. or 12 mm   |                                                                   |             | A20 Alloy 20    |
|        | FBP Female BSPP                           | 14 14 mm              |                                                                   |             | A600 Alloy 600  |
|        | MBP Male BSPP                             | 16 1 in. or 16 mm     |                                                                   |             | A825 Alloy 825  |
|        | MSW Metric Tube Socket Weld               | 18 18 mm              |                                                                   |             | A276 Alloy C276 |
|        | FBW Fractional Tube Butt Weld             | 20 1 1/4 in. or 20 mm |                                                                   |             | DU7 Duplex 2507 |
|        | MBW Metric Tube Butt Weld                 | 22 22 mm              |                                                                   |             | CS Steel        |
|        | PSW Pipe Socket Weld                      | 25 25 mm              |                                                                   |             |                 |
|        | PBW Pipe Butt Weld                        |                       |                                                                   |             |                 |
|        | F Fractional Tube Fitting                 |                       |                                                                   |             |                 |
|        | M Metric Tube Fitting                     |                       |                                                                   |             |                 |
|        | UGF Nut + Gasket+ Fractional Bulge Nipple |                       |                                                                   |             |                 |
|        | UGM Nut + Gasket+ Metric Bulge Nipple     |                       |                                                                   |             |                 |