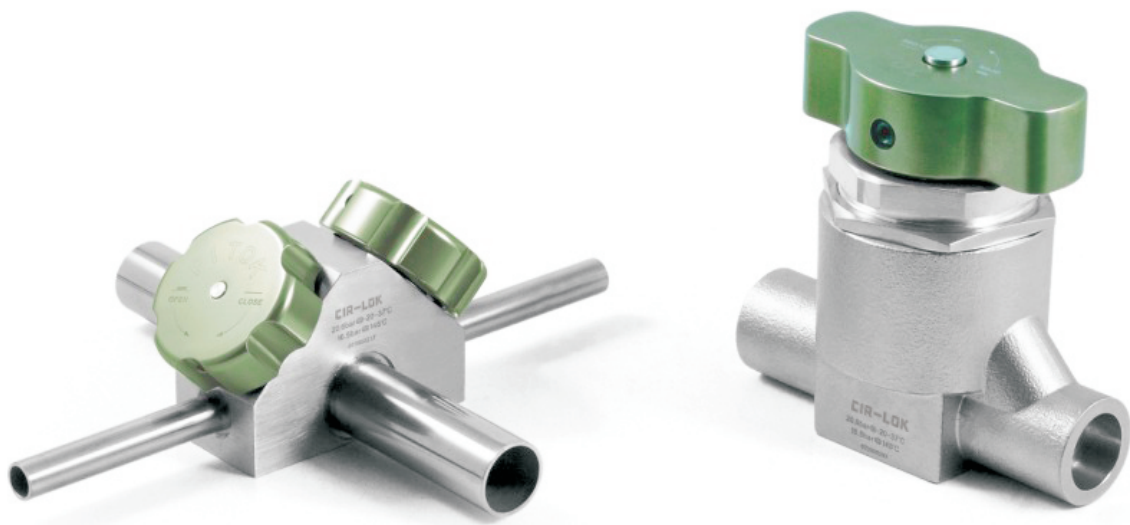


Diaphragm Valves

DV1, DV2 and DV3 Serie



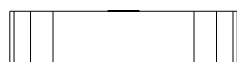
- ❖ Maximum working pressure: 300 psig (20.7 bar)
- ❖ Working temperature: -20°F to 300°F (-28°C to 148°C)
- ❖ Variety of end connections
- ❖ Body material: Cast, forged and bar stock stainless steel

Features

- ❖ Maximum working pressure: 300 psig (20.7 bar)
- ❖ Working temperature: -20°F to 300°F (-28°C to 148°C)
- ❖ Variety of end connections
- ❖ Body material: Cast, forged and bar stock stainless steel
- ❖ No spring or thread within wetted area for cleaner operation
- ❖ Wetted surface finish machined to an average of 0.51 μm Ra for cast body, electropolished to 0.25 μm Ra for forged and bar stock body
- ❖ PCTFE stem tip insert for leak-tight shutoff
- ❖ Unique bonnet design for safety
- ❖ Diaphragms welded to the stem for leak-tight performance
- ❖ Optimum combination of strength, flexibility and cycle life by three diaphragms
- ❖ The upper stem as a indicator of the valve position-open or closed



Open-upper stem visible above handle

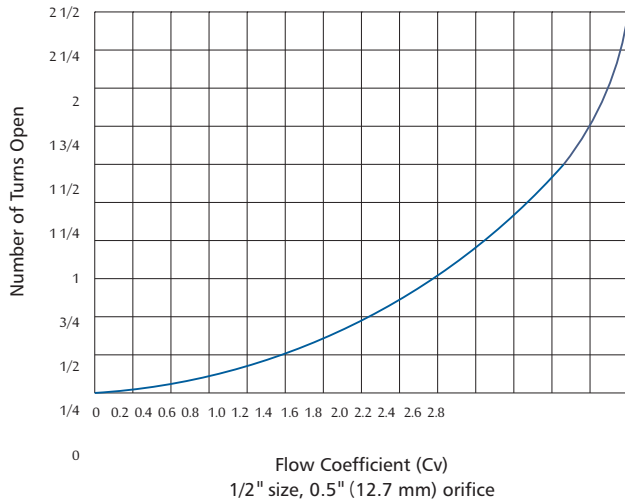


Close-upper stem flush with top of handle

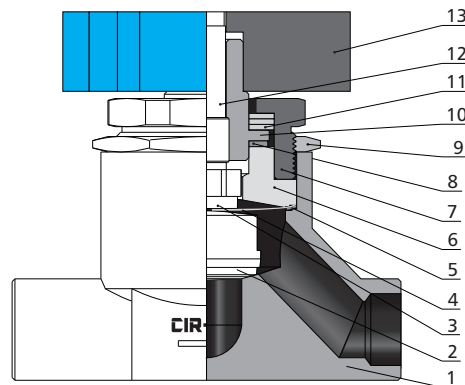
Pressure-Temperature Ratings

| Body Material | Cast | Forged and Bar Stock |
|-----------------------|------------------------------|----------------------|
| Temperature, °F (°C) | Working Pressure, psig (bar) | |
| -20 (-28) to 100 (37) | 1000 (68.9) | 1000 (68.9) |
| 200 (93) | 830 (57.1) | 710 (48.9) |
| 300 (148) | 660 (45.4) | 430 (29.6) |

Flow Coefficient vs. Turns Open



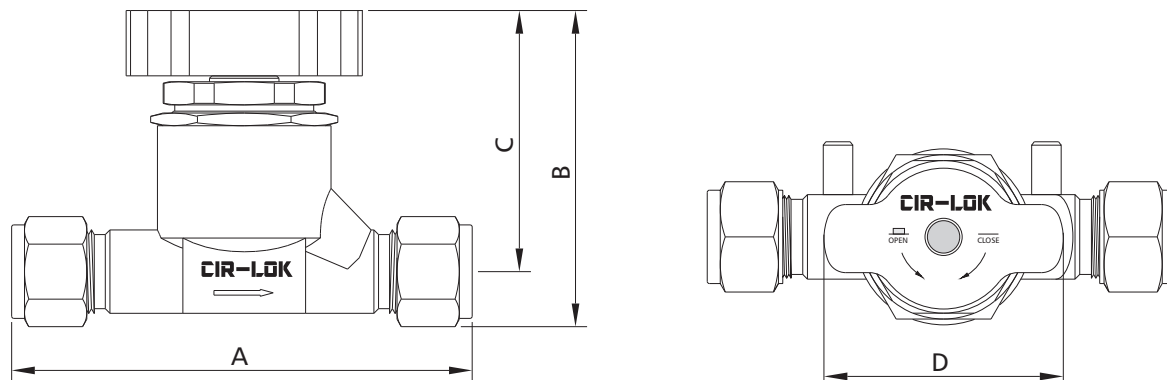
Standard Materials of Construction



| Component | Valve Body Material Grade/ASTM Specification | | |
|------------------------|--|----------------|----------------|
| | DV1 Series | DV2 Series | DV3 Series |
| 1 Body | CF3M/A351 | 316L S.S./A182 | 316L S.S./A479 |
| 2 Tip Subassembly | PTFE/AMS 3650 insert 316L S.S./A479 | | |
| 3 Gasket | PTFE-coated 316L S.S./A240 | | |
| 4 Diaphragm | 316L S.S./A240 | | |
| 5 Clamp Ring | Brass/B16 | | |
| 6 Bonnet | 316 S.S./A479 | | |
| 7 Upper Stem | 316 S.S./A479 | | |
| 8 Spring Washer | Alloy steel | | |
| 9 Actuator | 416 S.S./A582 | | |
| 10 Bearing Subassembly | High-carbon chrome steel | | |
| 11 Lock Nut | 17-4 PH powered metal | | |
| 12 Bonnet Nut | Silver-plated 316 S.S./A479 | | |
| 13 Handle | Polyester with 316 S.S. insert | | |

Dimensions

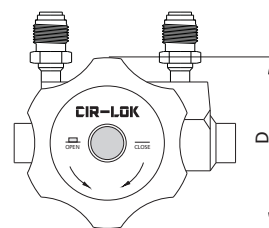
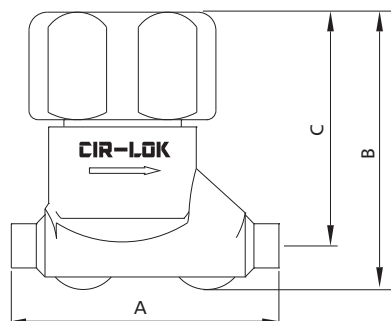
DV1 Series Cast-body



| Basic Ordering Number | Connection Type and Size | Orifice in. (mm) | Cv | Dimension, in. (mm) | | | |
|-----------------------|--------------------------------|------------------|------|---------------------|--------------|--------------|-------------|
| | | | | A | B | C | D |
| DV1-F8-13- | 1/2" CIR-LOK | 0.5 (12.7) | 2.8 | 5.30 (135) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-F12-25- | 3/4" CIR-LOK | 1.0 (25.4) | 12.0 | 8.28 (210) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |
| DV1-F16-25- | 1" CIR-LOK | 1.0 (25.4) | 12.0 | 8.46 (215) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |
| DV1-M12-13- | 12 mm CIR-LOK | 0.5 (12.7) | 2.8 | 5.30 (135) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-M25-25- | 25 mm CIR-LOK | 1.0 (25.4) | 12.0 | 8.63 (219) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |
| DV1-FNPT8-13- | 1/2 Female NPT | 0.5 (12.7) | 2.8 | 5.61 (142) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-FNPT16-25- | 1 Female NPT | 1.0 (25.4) | 12.0 | 8.46 (215) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |
| DV1-MBW12-13- | 12 mm MBW | 0.5 (12.7) | 2.8 | 5.30 (135) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-MBW25-25- | 25 mm MBW | 1.0 (25.4) | 12.0 | 8.63 (219) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |
| DV1-FBT8-13- | 1/2 Female BSPT | 0.5 (12.7) | 2.8 | 5.61 (142) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-FBT16-25- | 1 Female BSPT | 1.0 (25.4) | 12.0 | 8.46 (215) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |
| DV1-GFS8-13- | 1/2" Male GFS | 0.5 (12.7) | 2.8 | 4.58 (116) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-FT8-13- | 1/2" x 0.049 " Fractional Tube | 0.5 (12.7) | 2.8 | 8.82 (224) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-FT12-13- | 3/4" x 0.065" Fractional Tube | 0.5 (12.7) | 2.8 | 8.79 (223) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-FT16-25- | 1" x 0.065" Fractional Tube | 1.0 (25.4) | 12.0 | 10.87 (276) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |
| DV1-MT12-13- | 12 x 1 mm Metric Tube | 0.5 (12.7) | 2.8 | 8.82 (224) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-MT18-13- | 18 x 1.5 mm Metric Tube | 0.5 (12.7) | 2.8 | 8.79 (223) | 2.95 (74.9) | 2.41 (61.2) | 2.25 (57.2) |
| DV1-MT22-25- | 22 x 1.5 mm Metric Tube | 1.0 (25.4) | 12.0 | 10.87 (276) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |
| DV1-MT25-25- | 25 x 1.5 mm Metric Tube | 1.0 (25.4) | 12.0 | 10.87 (276) | 5.12 (130.0) | 4.35 (110.0) | 4.0 (102.0) |

Dimensions

DV2 Series
Forged-body



Optional
Purge Ports

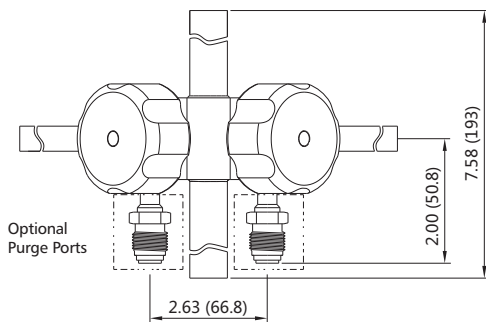
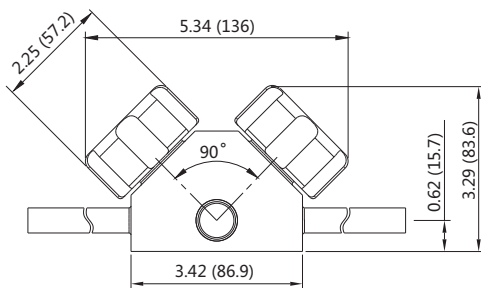
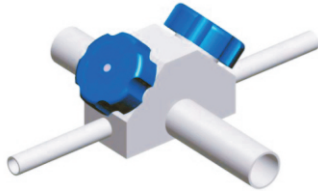
| Basic Ordering Number | Connection Type and Size | Orifice in. (mm) | Cv | Dimension, in. (mm) | | | |
|-----------------------|---------------------------------|------------------|-----|---------------------|-------------|-------------|-------------|
| | | | | A | B | C | D |
| DV2-F8-13- | 1/2" CIR-LOK | 0.5 (12.7) | 2.8 | 5.30 (135) | 3.03 (77.0) | 2.54 (64.5) | 2.25 (57.2) |
| DV2-M12-13- | 12 mm CIR-LOK | | | 5.30 (135) | | | |
| DV2-FBW6-13- | 3/8" FBW | | | 2.88 (73.2) | | | |
| DV2-FBW8-13- | 1/2" FBW | | | 2.88 (73.2) | | | |
| DV2-FGFS8-13- | 1/2" Female GFS Fitting | | | 4.09 (104) | | | |
| DV2-RGFS8-13- | 1/2" Rotatable Male GFS Fitting | | | 5.43 (138) | | | |
| DV2-FT6-13- | 3/8" x 0.049" Fractional Tube | | | 8.86 (225) | | | |
| DV2-FT8-13- | 1/2" x 0.049" Fractional Tube | | | 8.86 (225) | | | |

Dimensions

DV3D Series Bar Stock-body



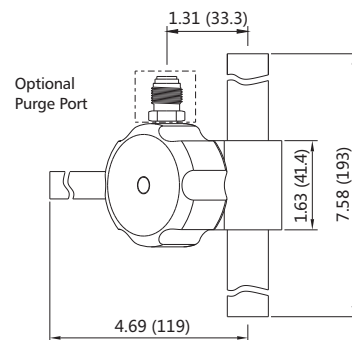
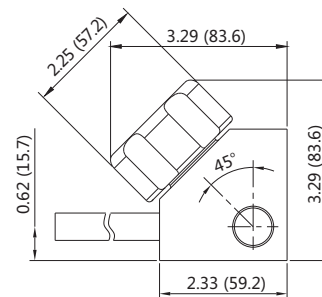
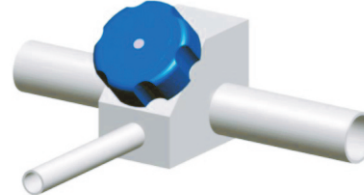
Double Horizontal Cross



DV3S Series Bar Stock-body



Single Horizontal Cross



| Basic Ordering Number | Tube Size | | Orifice in.(mm) | Cv |
|-----------------------|---------------|---------------------------------|-----------------|-----|
| | Main | Branch | | |
| DV3D-8-8- | 1/2" x 0.049" | 1/2" x 0.049" | 0.5 (12.7) | 2.8 |
| DV3D-8-RGFS8- | 1/2" x 0.049" | 1/2" rotatable male GFS fitting | | |
| DV3D-12-8- | 3/4" x 0.065" | 1/2" x 0.049" | | |
| DV3D-12-RGFS8- | 3/4" x 0.065" | 1/2" rotatable male GFS fitting | | |
| DV3D-16-8- | 1" x 0.065" | 1/2" x 0.049" | | |
| DV3D-16-RGFS8- | 1" x 0.065" | 1/2" rotatable male GFS fitting | | |

| Basic Ordering Number | Tube Size | | Orifice in.(mm) | Cv |
|-----------------------|---------------|---------------------------------|-----------------|-----|
| | Main | Branch | | |
| DV3S-8-4- | 1/2" x 0.049" | 1/4" x 0.035" | 0.5 (12.7) | 2.8 |
| DV3S-8-8- | 1/2" x 0.049" | 1/2" x 0.049" | | |
| DV3S-8-RGFS4- | 1/2" x 0.049" | 1/4" rotatable male GFS fitting | | |
| DV3S-8-RGFS8- | 1/2" x 0.049" | 1/2" rotatable male GFS fitting | | |
| DV3S-12-8- | 3/4" x 0.065" | 1/2" x 0.049" | | |
| DV3S-12-RGFS8- | 3/4" x 0.065" | 1/2" rotatable male GFS fitting | | |
| DV3S-16-8- | 1" x 0.065" | 1/2" x 0.049" | | |
| DV3S-16-RGFS8- | 1" x 0.065" | 1/2" rotatable male GFS fitting | | |

How to Order

DV1 — **FGFS8** — **FGFS4** — **13** — **D** — **E** — **316L**

| Series | Inlet Type | Inlet Size | Outlet Type | Outlet Size | Orifice Size | Purge Port | Handle Color | Body Material |
|--------|---|--|-----------------------------------|----------------|-----------------------------|---|--------------|---------------------------|
| DV1 | FNPT Female NPT | 2 1/8 (in.) | Same as inlet type and inlet size | | 13 0.5 in. (12.7 mm) | None | Blue | 316 316 S.S. |
| DV2 | NPT Male NPT | 4 1/4 (in.) | | | | If outlet and inlet are the same, eliminate the outlet designator | | 25 1 in. (25.4 mm) |
| | FBT Female BSPT | 6 3/8 (in.) or 6 mm | D Downstream | G Gold | | | | |
| | FBP Female BSPP | 8 1/2 (in.) or $\varnothing 1/2 \times 0.049"$ or 8 mm | UD Upstream and Downstream | E Green | | | | |
| | MBP Male BSPP | 10 10 mm | B Black | | | | | |
| | FSW Fractional Tube Socket Weld | 12 3/4 (in.) or $\varnothing 3/4 \times 0.065"$ 12 mm or 12 x 1 | P Purple | | | | | |
| | MSW Metric Tube Socket Weld | 14 14 mm | O Orange | | | | | |
| | FBW Fractional Tube Butt Weld | 16 1 (in.) or 16 mm | I Pink | | | | | |
| | MBW Metric Tube Butt Weld | 18 18 mm or $\varnothing 18 \times 1.5$ | R Brown | | | | | |
| | F Fractional Tube Fitting | 20 1 1/4 (in.) or 20 mm or M20 x 1.5 | S Silver | | | | | |
| | M Metric Tube Fitting | 22 22 mm | W White | | | | | |
| | FGFS Female FR Fitting | 25 25 mm | Y Yellow | | | | | |
| | GFS Male FR Fitting | | | | | | | |
| | RGFS Rotatable Male FR Fitting | | | | | | | |
| | FTE 3" Fractional Tube Extension | | | | | | | |
| | MTE 3" Metric Tube Extension | | | | | | | |