



F10 Swing Check Valve



ITT

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F10 Swing Check Valve

The Fabri-Valve F10 is a swing check valve that can be installed in any orientation. Snubbers (dash pots) are available to control the rate of closing in unusual orientations. When ordered with counterweights, the counterweight hub will normally be furnished unkeyed. If orientation of the valve is specified on the order, the hub will be keyed at the factory. Fabricated construction allows a choice of standard and special materials.

Specifications

Size Range 3" – 48"

Pressure Rating 150 psi (10.3 bar) CWP to 24"
50 psi (3.5 bar) CWP 30" – 48"

Temperature Rating

500°F (260°C), Consult factory for applications to 1500°F (816°C)

NOTE: Service temperatures above 400°F (204°C) require high temperature fasteners. Specify service temperature on paperwork.

Flanges Drilling ANSI 125/150 through hole is standard. Contact factory for alternate flange drilling.

Flow Coefficients

The Cv values below represent U.S. gallons per minute 60°F water through a 100% open valve at a pressure drop of 1 psi. The metric equivalent, Kv, is the flow of water at +16°C through the valve in cubic meters per hour at a pressure drop of 1 kg/cm². To convert Cv to Kv, multiply the Cv by 0.8569.

| Figure F10 Check Valves | | | | |
|--|-----|----------------|---------------------|----------------------|
| Port Diameter, Area and C _v Ratings | | | | |
| | | Standard Port | | |
| Valve Size | | C _v | Port I.D. Inches | Port Area Sq. In. |
| In. | DN | | | |
| 3 | 80 | 340 | 2.50 | 4.9 |
| 4 | 100 | 660 | 3.50 | 9.6 |
| 6 | 150 | 1,950 | 5.94 | 27.7 |
| 8 | 200 | 2,750 | 7.94 | 49.5 |
| 10 | 250 | 4,800 | 9.94 | 77.6 |
| 12 | 300 | 6,400 | 12.19 | 116.7 |
| 14 | 350 | 9,200 | 12.19 | 116.7 |
| 16 | 400 | 12,800 | 14.31 | 160.8 |
| 18 | 450 | 17,000 | 16.31 | 208.9 |
| 20 | 500 | 20,600 | 18.06 | 256.2 |
| 24 | 600 | 31,400 | 22.06 | 382.2 |

Testing

Every Fabri-Valve Figure F10 valve is fully tested prior to shipment. Testing includes a body shell test, a seat test and a cycling test to insure proper functioning of moving parts. Additional testing is also available. Please let us know your requirements.

Standard Shell test:

- Hydro test at 1.5 times the rated CWP (cold working pressure) – Zero allowable leakage.

Standard Seat test:

- Metal Seat: Hydro test at 40 psi (2.8 bar) and at the rated CWP
- Resilient Seat : Hydro test at 15 psi (1 bar) and rated CWP

Shutoff Performance

Metal Seat

3" – 24" 30cc/hour/inch of valve size
Above 24" Consult factory

Resilient Seat

- Single "D" ring
Zero leakage. All sizes.

Available Options

- "D" Ring Seat
- Counterweight
- Snubbers
- Hard Face Disk Sealing Surface
- Live-Loaded Packing
- Epoxy Coating

Materials of Construction

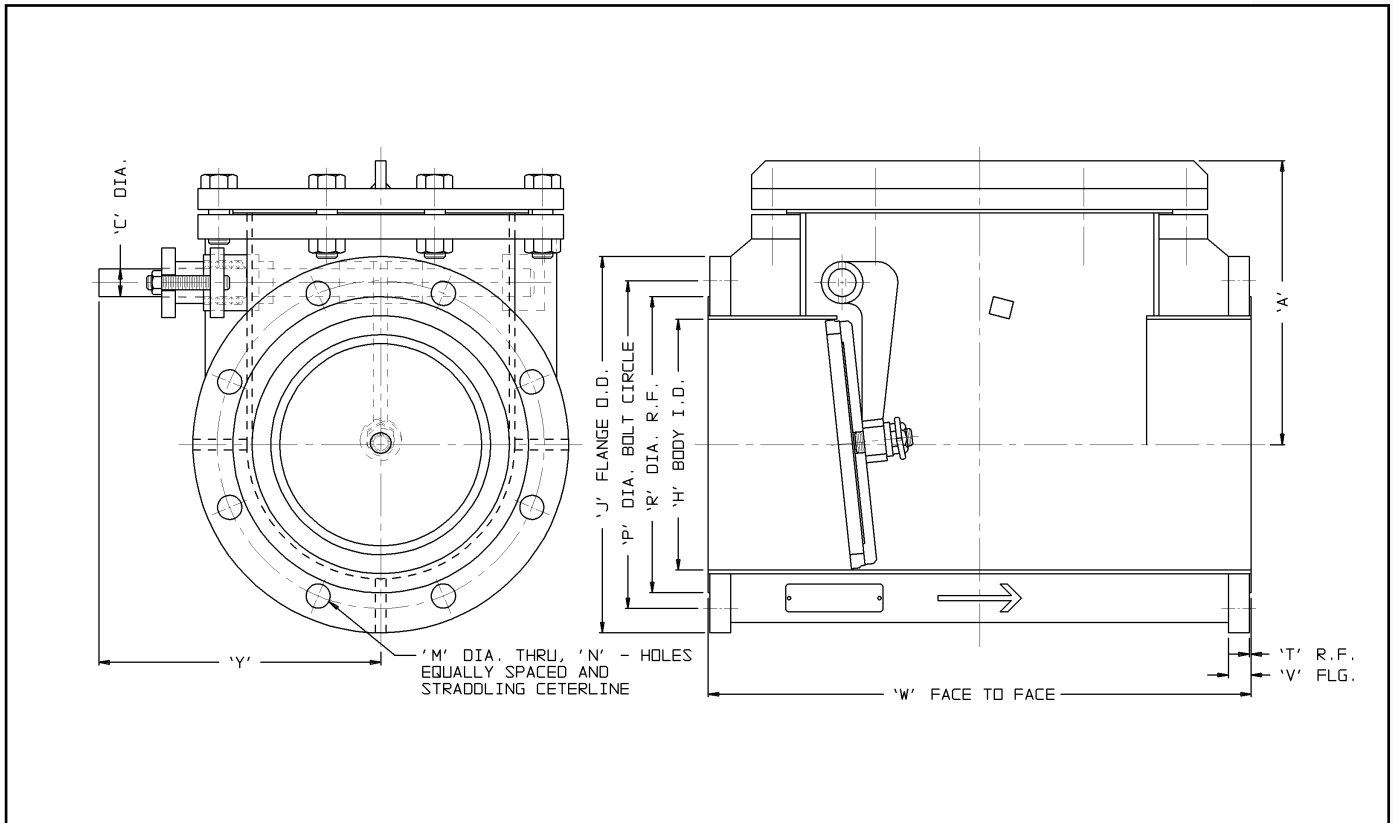
| Part | Materials | |
|---------------------------------|--|---------------------------------------|
| | F10R | F10S |
| Wetted Body Components | Stainless steel type 304, 316 or 317L with carbon steel exterior | Stainless steel type 304, 316 or 317L |
| External Flanges and Stiffeners | Carbon steel | Same as wetted components |
| Seat | Same as wetted components | Same as wetted components |
| Disc | Same as wetted components | Same as wetted components |
| Packing | PTFE/Graphite | PTFE/Graphite |
| Packing Follower | Carbon steel / ductile iron | Stainless steel |
| Follower Bolting | Plated steel | Stainless steel |
| Cover Bolting | Plated steel | Stainless steel |

Other materials are available — Consult factory

Dimensions

| Valve Size | | DIMENSION Inches (mm) | | | | | | | | | | | | | |
|------------|-----|-----------------------|---------------|-----------------|-----------------|---------------|----|-----------------|-----------------|-------------|---------------|-----------------|------------------|------|-----|
| Inches | DN | A | C | H | J | M | N | P | R | T | V | W | Y | lb | kg |
| 3 | 80 | 6-1/4 (159) | N/A | 3-1/2 (89) | 7-1/2 (191) | 3/4 (19) | 4 | 6 (152) | 5 (127) | 1/16 (2) | 9/16 (14) | 9-1/2 (214) | N/A | 35 | 16 |
| 4 | 100 | 7 (178) | 3/4 (19) | 4-1/2 (114) | 9 (229) | 3/4 (19) | 8 | 7-1/2 (191) | 6-3/16 (157) | 1/16 (2) | 9/16 (14) | 11-1/2 (292) | 7-3/8 (187) | 57 | 26 |
| 6 | 150 | 8-7/8 (225) | 1 (25) | 7 (178) | 11 (279) | 7/8 (22) | 8 | 9-1/2 (241) | 8-1/2 (216) | 1/16 (2) | 11/16 (17) | 14 (356) | 9-1/8 (232) | 95 | 43 |
| 8 | 200 | 10-1/8 (257) | 1 (25) | 9 (229) | 13-1/2 (343) | 1 (25) | 8 | 11-3/4 (298) | 10-5/8 (270) | 1/16 (2) | 13/16 (21) | 19-1/2 (495) | 10-1/8 (257) | 168 | 76 |
| 10 | 250 | 12-1/2 (318) | 1-1/4 (32) | 11 (279) | 16 (406) | 1 (25) | 12 | 14-1/4 (362) | 12-3/4 (324) | 1/16 (2) | 13/16 (21) | 24-1/2 (622) | 12-3/8 (314) | 240 | 109 |
| 12 | 300 | 14-1/2 (368) | 1-1/4 (32) | 13-1/2 (343) | 19 (483) | 1 (25) | 12 | 17 (432) | 15 (381) | 1/16 (2) | 13/16 (21) | 27-1/2 (699) | 14-3/16 (360) | 405 | 184 |
| 14 | 350 | 14-1/2 (368) | 1-1/4 (32) | 13-1/2 (343) | 21 (533) | 1-1/8 (29) | 12 | 18-3/4 (476) | 16-1/4 (413) | 1/16 (2) | 13/16 (21) | 31 (787) | 14-3/16 (360) | 460 | 208 |
| 16 | 400 | 16-3/8 (416) | 1-1/2 (38) | 15-5/8 (397) | 23-1/2 (597) | 1-1/8 (29) | 16 | 21-1/4 (540) | 18-1/2 (470) | 1/8 (3) | 1 (25) | 34 (864) | 15-1/8 (384) | 675 | 306 |
| 18 | 450 | 17-5/8 (448) | 1-1/2 (38) | 17-5/8 (448) | 25 (635) | 1-1/4 (32) | 16 | 22-3/4 (578) | 21 (533) | 1/8 (3) | 1 (25) | 38-1/2 (978) | 16-3/4 (425) | 820 | 372 |
| 20 | 500 | 20-1/4 (514) | 1-1/2 (38) | 19-1/2 (495) | 27-1/2 (699) | 1-1/4 (32) | 20 | 25 (635) | 23 (584) | 1/8 (3) | 1 (25) | 38-1/2 (978) | 18 (457) | 1010 | 458 |
| 24 | 600 | 24-7/8 (632) | 1-3/4 (44) | 23-1/2 (597) | 32 (813) | 1-3/8 (35) | 20 | 29-1/2 (749) | 27-1/4 (692) | 1/8 (3) | 1 (25) | 51 (1295) | 21-1/2 (546) | 1300 | 590 |

Reference Dimensions in (parentheses)



Pressure/Temperature Ratings

The table to the right is the Maximum Pressure/ Temperature Ratings for the metallic components only. When checking pressure/temperature ratings, check the temperature rating and chemical compatibility of the packing material and, if applicable, the resilient seat material. In a majority of designs, the temperature limit or the chemical compatibility of the seat and/or packing material determines the practical pressure/temperature limitations.

| Figure F10 | | | | | | | | |
|-----------------------------------|------|-----|------|-----|------|------|------|----------|
| Pressure/Temperature Rating - psi | | | | | | | | |
| Temp | | 304 | 304L | 316 | 316L | 317L | A 36 | A516Gr70 |
| °F | °C | | | | | | | |
| 150 | 66 | 150 | 133 | 150 | 133 | 150 | 150 | 150 |
| 200 | 93 | 133 | 114 | 141 | 113 | 135 | 137 | 150 |
| 250 | 121 | 126 | 108 | 133 | 107 | 128 | 135 | 150 |
| 300 | 149 | 120 | 102 | 124 | 101 | 121 | 133 | 150 |
| 350 | 177 | 115 | 98 | 119 | 97 | 116 | 131 | 150 |
| 400 | 204 | 110 | 93 | 114 | 93 | 112 | 128 | 150 |
| 450 | 232 | 107 | 90 | 110 | 90 | 108 | 125 | 150 |
| 500 | 260 | 103 | 87 | 106 | 87 | 105 | 121 | 150 |
| 600 | 316 | 97 | 82 | 101 | 83 | 100 | 111 | 150 |
| 700 | 371 | 94 | 80 | 97 | 80 | 96 | 108 | 142 |
| 800* | 427* | 89 | 77 | 93 | 77 | 92 | | 103 |
| 900* | 482* | 87 | | 92 | | | | 57 |
| 1000* | 538* | 83 | | 90 | | | | 21 |
| 1100* | 593* | 78 | | 88 | | | | |
| 1200* | 649* | 49 | | 59 | | | | |
| 1300* | 704* | 30 | | 33 | | | | |
| 1400* | 760* | 18 | | 18 | | | | |
| 1500* | 816* | 11 | | 10 | | | | |

*"R" Series valves have alloy steel wetted parts and a carbon steel exterior. Standard "R" Series valves are limited to 700°F (371°C); however alternate "R" Series constructions are available to 1000°F (538°C)

NOTE: Each valve is identified by Size-Figure-Series-etc. The "How To Order" section explains the Valve Model Codes.



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