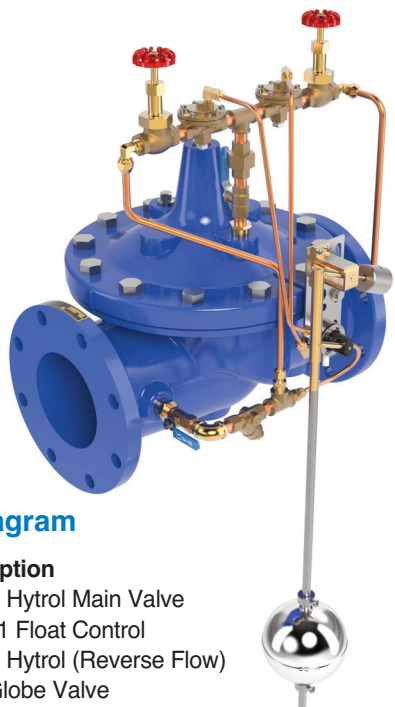




MODEL—624-02

Float Valve



Schematic Diagram

| Item | Description |
|------|------------------------------|
| 1 | 100-20 Hytrol Main Valve |
| 2 | CF1-C1 Float Control |
| 3 | 100-01 Hytrol (Reverse Flow) |
| 4 | CGB Globe Valve |

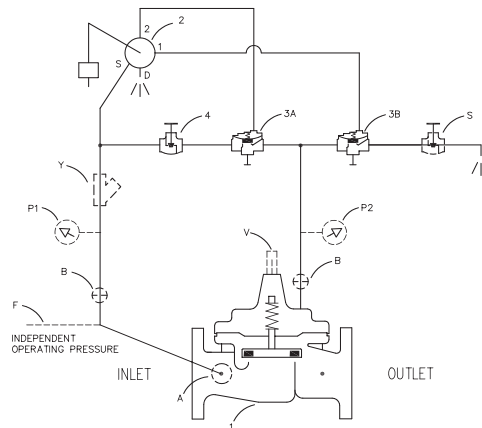
Optional Features

| Item | Description |
|------|--------------------------------|
| A | X46A Flow Clean Strainer |
| B | CK2 Isolation Valve |
| F | Independent Operating Pressure |
| P | X141 Pressure Gauge |
| S | CGB Globe Valve |
| V | X101 Valve Position Indicator |
| Y | X43 "Y" Strainer |

- **Accurate and Repeatable Level Control**
- **On-Off Non-Modulating Action**
- **Fully Adjustable High and Low Level Settings**
- **Simple Design, Proven Reliable**
- **Easy Installation and Maintenance**

The Cla-Val Model 624-02 Float Valve is a non-modulating valve that accurately controls the liquid level in tanks. This valve is designed to open fully when the liquid level reaches a preset low point, and close drip-tight when the level reaches a preset high point.

This is a hydraulically operated, diaphragm valve with the pilot control and float mechanism mounted on the cover of the main valve. The float positions the pilot control to close the valve when the float contacts the upper stop. The high and low liquid levels are adjusted by positioning the stop collars on the float rod. The difference between high and low levels can be adjusted to as little as an inch, or to as much as eighteen inches. Level settings can be as much as eleven and one-half feet below the valve. The float mechanism may be located remotely from the main valve. See the technical data sheet on Model CF1-C1 Float Control for additional information.



Typical Applications

The Model 624-02 Float Valve is commonly mounted above the high water level in a tank. Globe pattern valves are supplied standard with the float control mounted on the right side of the cover as illustrated, with a horizontal discharge. Angle valves are configured to discharge downward.

Note: We recommend protecting tubing and valve from freezing temperatures.

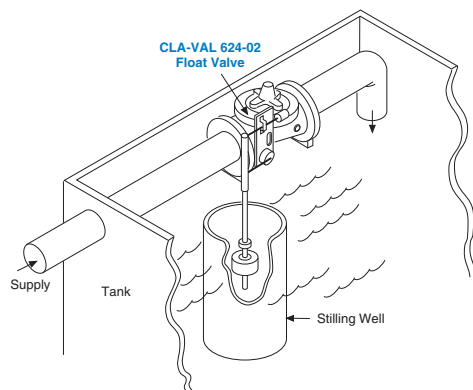
Installation

A stilling well (8" minimum diameter) must be provided around the float. When the valve is mounted on top of the tank roof, a 2" clearance hole should be provided for side movement of the float rod where the rod goes through the top of the tank.

An independent source of air or water may be used to operate the valve (option F). The pressure from this independent source must at all times be equal to or greater than pressure at the valve inlet.

If minimum flowing line pressure is less than 10 psi, consult Cla-Val for full details.

If the float control is remotely mounted from the main valve, the control may be installed at any elevation above the valve, provided the flowing line pressure in psi is equal to or greater than the vertical distance in feet between the valve and the float control. See the data sheet on Model CF1-C1 for additional information.



Model 624-02 (Uses 100-20 Hytrol Main Valve)

Pressure Ratings (Recommended Maximum Pressure - psi)

| Valve Body & Cover | | Pressure Class | | | | |
|--------------------|--------------|-----------------|-----------|-----------|-----------|--------------|
| | | Flanged | | | Grooved | Threaded |
| Grade | Material | ANSI Standards* | 150 Class | 300 Class | 300 Class | End† Details |
| ASTM A536 | Ductile Iron | B16.42 | 250 | 400 | 400 | 400 |
| ASTM A216-WCB | Cast Steel | B16.5 | 285 | 400 | 400 | 400 |
| UNS 87850 | Bronze | B16.24 | 225 | 400 | 400 | 400 |

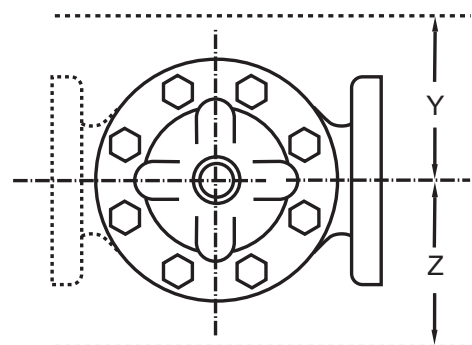
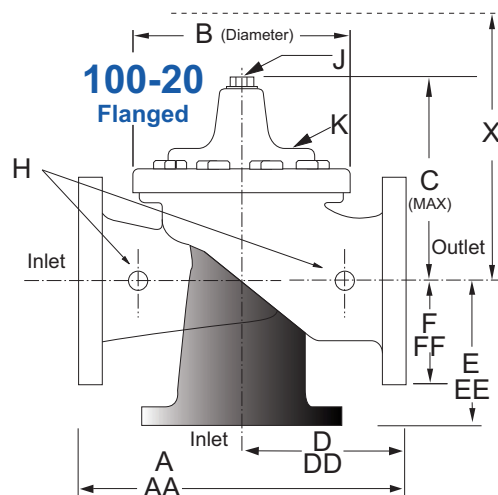
Note: * ANSI standards are for flange dimensions only.
 Flanged valves are available faced but not drilled.
 † End Details machined to ANSI B2.1 specifications.
Valves for higher pressure are available; consult factory for details

Materials

| Component | Standard Material Combinations | | |
|--|---|--------------------------|--------------------------|
| Body & Cover | Ductile Iron | Cast Steel | Bronze |
| Available Sizes | 10" - 48" 250 - 1200mm | 10" - 16" 250 - 400mm | 10" - 16" 250 - 400mm |
| Disc Retainer & Diaphragm Washer | Cast Iron | Cast Steel | Bronze |
| Trim: Disc Guide, Seat & Cover Bearing | Bronze is Standard Stainless Steel is Optional | | |
| Disc | Buna-N® Rubber | | |
| Diaphragm | Nylon Reinforced Buna-N® Rubber | | |
| Stem, Nut & Spring | Stainless Steel | | |

For material options not listed, consult factory.
 Cla-Val manufactures valves in more than 50 different alloys.

Dimensions (in inches)

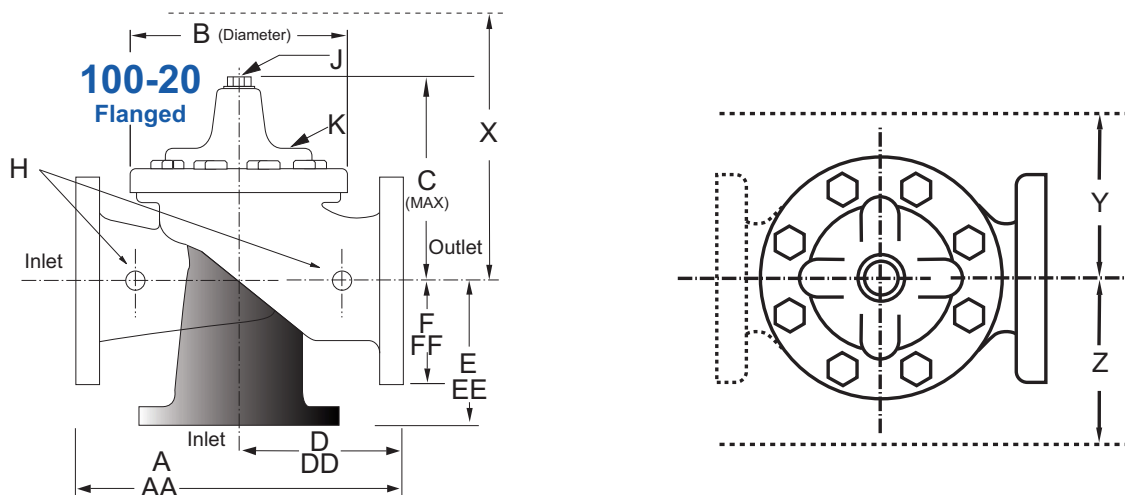


Model 624-02 Dimensions (in inches)

| Valve Size (Inches) | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 | 36 | 48 |
|---------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| A 150 ANSI | 26.00 | 30.00 | 34.25 | 35.00 | 42.12 | 48.00 | 48.00 | 63.25 | 65.00 | 88.0 |
| AA 300 ANSI | 27.38 | 31.50 | 35.75 | 36.62 | 43.63 | 49.62 | 49.75 | 63.75 | 67.00 | 90.62 |
| B Diameter | 20.00 | 23.62 | 27.47 | 28.00 | 35.44 | 35.44 | 35.44 | 53.19 | 56.00 | 66.00 |
| C Maximum | 17.88 | 21.00 | 20.88 | 25.75 | 25.00 | 31.50 | 31.50 | 43.94 | 54.75 | 59.00 |
| D 150 ANSI | 12.75 | 14.94 | — | — | 20.93 | 21.06 | — | — | — | — |
| DD 300 ANSI | — | — | — | — | — | — | — | — | — | — |
| E 150 ANSI | 8.06 | 8.68 | — | — | 15.81 | 15.94 | — | — | — | — |
| EE 300 ANSI | — | — | — | — | — | — | — | — | — | — |
| F 150 ANSI | 8.00 | 9.50 | 11.00 | 11.75 | 15.88 | 14.56 | 17.00 | 19.88 | 25.50 | 34.00 |
| FF 300 ANSI | 8.75 | 10.25 | 11.50 | 12.75 | 15.88 | 16.06 | 19.00 | 22.00 | 27.50 | 38.50 |
| H NPT Body Tapping | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| J NPT Cover Center Plug | 1.00 | 1.00 | 1.25 | 1.25 | 2.00 | 2.00 | 2.00 | 1.00 | 2.00 | 2.00 |
| K NPT Cover Tapping | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| Stem Travel | 2.30 | 2.80 | 3.40 | 4.50 | 4.50 | 4.50 | 6.50 | 7.50 | 7.50 | 8.50 |
| Approx. Ship Weight (lbs) | 625 | 900 | 1250 | 1380 | 2365 | 2551 | 2733 | 6500 | 8545 | 13100 |

Model 624-02 (Uses 100-20 Hytrol Main Valve)

Dimensions (in mm)



Model 624-02 Dimensions (in mm)

| Valve Size (mm) | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 750 | 900 | 1200 |
|---------------------------|------|------|------|------|------|------|------|------|------|------|
| A 150 ANSI | 660 | 762 | 870 | 889 | 1070 | 1219 | 1219 | 1607 | 1651 | 2235 |
| AA 300 ANSI | 695 | 800 | 908 | 930 | 1108 | 1260 | 1263 | 1619 | 1702 | 2302 |
| B Diameter | 508 | 600 | 698 | 711 | 900 | 900 | 900 | 1351 | 1422 | 1676 |
| C Maximum | 454 | 533 | 530 | 654 | 635 | 800 | 800 | 1116 | 1391 | 1499 |
| D 150 ANSI | 324 | 380 | — | — | 532 | 535 | — | — | — | — |
| DD 300 ANSI | — | — | — | — | — | — | — | — | — | — |
| E 150 ANSI | 205 | 349 | — | — | 402 | 405 | — | — | — | — |
| EE 300 ANSI | — | — | — | — | — | — | — | — | — | — |
| F 150 ANSI | 203 | 241 | 279 | 289 | 403 | 370 | 432 | 505 | 648 | 864 |
| FF 300 ANSI | 222 | 260 | 292 | 324 | 403 | 408 | 483 | 559 | 699 | 978 |
| H NPT Body Tapping | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| J NPT Cover Center Plug | 1.00 | 1.00 | 1.25 | 1.25 | 2.00 | 2.00 | 2.00 | 1.00 | 2.00 | 2.00 |
| K NPT Cover Tapping | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 |
| Stem Travel | 58 | 71 | 86 | 86 | 114 | 114 | 114 | 165 | 191 | 216 |
| Approx. Ship Weight (kgs) | 284 | 409 | 568 | 627 | 681 | 1157 | 1249 | 2951 | 3876 | 5942 |



Model CF1-C1 Stainless Steel Float

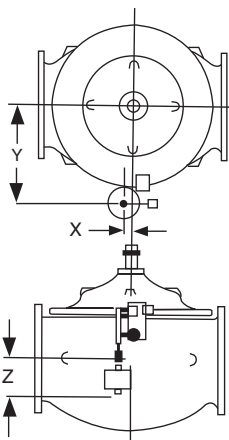
Float Control Overview

The Cla-Val Model CF1-C1 Float Control is a float-actuated, multi-port pilot control which provides non-modulating, two-position, on-off operation. It is used primarily to operate remotely located Cla-Val valves requiring three-way or four-way pilot valve operation. Designed for used in open tanks, this control operates on a minimum level change of approximately one inch.

| 624-02 Valve Selection | 100-20 Pattern: Globe (G), Angle (A), End Connections: Flanged (F) Indicate Available Sizes | | | | | | | | | | | |
|---|---|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|
| | Inches | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 | 36 | 42 | 48 |
| | mm | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 750 | 900 | 1000 | 1200 |
| Main Valve 100-20 | Pattern | G | G | G | G | G | G | G | G | G | G | G |
| | End Detail | F | F | F | F | F | F | F | F | F | F | F |
| Suggested Flow (gpm) | Maximum | 4100 | 6400 | 9230 | 9230 | 16500 | 16500 | 16500 | 28000 | 33500 | 33500 | 33500 |
| Suggested Flow (Liters/Sec) | Maximum | 258 | 403 | 851 | 581 | 1040 | 1040 | 1040 | 1764 | 2115 | 2115 | 2115 |
| 100-20 Series is the reduced internal port size version of the 100-01 Series. | | | | | | | | | | | | |

See the 124-01 Technical Data sheet for smaller sizes

Pilot System Dimensions (in inches)



624-02 Float Valve (Globe)

| Size | 10" | 12" | 16" | 18" | 20" | 24" | 30" | 36" | 42" | 48" |
|----------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|
| X | 1.25 | 1.25 | 1.00 | 1.00 | .25 | .25 | .25 | — | — | — |
| Y | 12.75 | 14.75 | 17.00 | 17.00 | 21.00 | 21.00 | 30.00 | — | — | — |
| Z (Max)* | 45.00 | 43.00 | 40.25 | 40.25 | 36.75 | 36.75 | 32.00 | — | — | — |

*Z(Max) is with standard float rod

GLOBE: 624-02 10" and Larger

Pilot System Specifications

Pressure Rating

300 psi Max.

Temperature Rating

Water: to 180°F. Max.

Materials

In contact with operating fluid: Brass, Stainless Steel, Monel, with Buna-N® seals
Float linkage and float rod: Brass and PVC
Base plate: 316 Stainless Steel
Float: 304 Stainless Steel

Float

5 3/8" diameter. If maximum temperature exceeds 160°F specify stainless steel float rod.

Float Rod

Standard: Two 12" sections of PVC rod, with 12" extension increments at extra cost.
Optional: 24" stainless steel rod, with 24" extension increments at extra cost.
larger counterweight is required if float rod length exceeds 2'.

Adjustment Range

Level Differential:
1" min. to 18" max. with PVC rod.
1" min to 40" max. with stainless steel rod.

Operating Fluids

Clean liquids or gases compatible with specified materials.

When Ordering, Please Specify

1. Catalog No. 624-02
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Threaded or Flanged
6. Float Rod Material and Length
7. Float Ball Material
8. Desired Options
9. When Vertically Installed