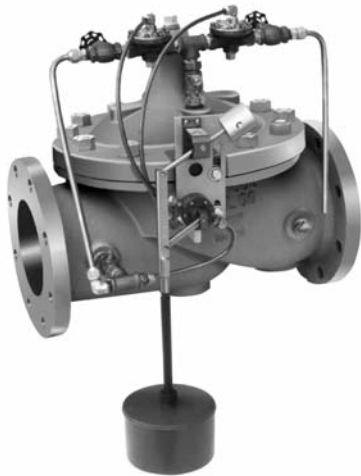




(Sizes 8"-36") **124-02**  
 (Full Internal Port)  
 — MODEL —  
 (Sizes 3"-48") **624-02**  
 (Reduced Internal Port)

# Float Valve (Sizes 8"-48")



- 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 124-02/624-02 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.

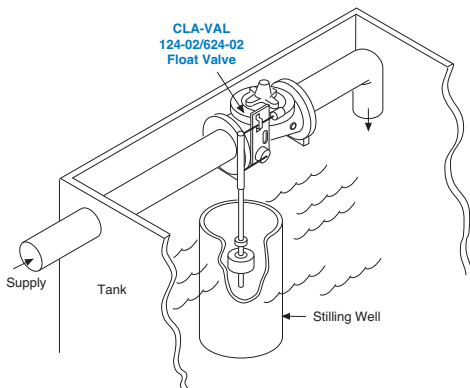
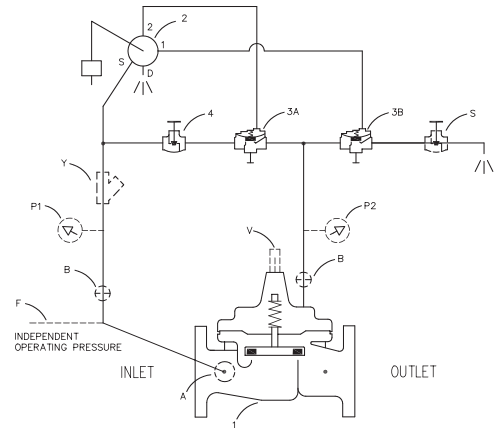
This is a hydraulically operated, diaphragm valve with the pilot control and float mechanism mounted on the cover of the main valve. The float positions the pilot control to close the valve when the float contacts the upper stop. The high and low liquid levels are adjusted by positioning the stop collars 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.

## Schematic Diagram

Item	Description
1	100-01 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



## Typical Applications

The Model 124-02/624-02 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.



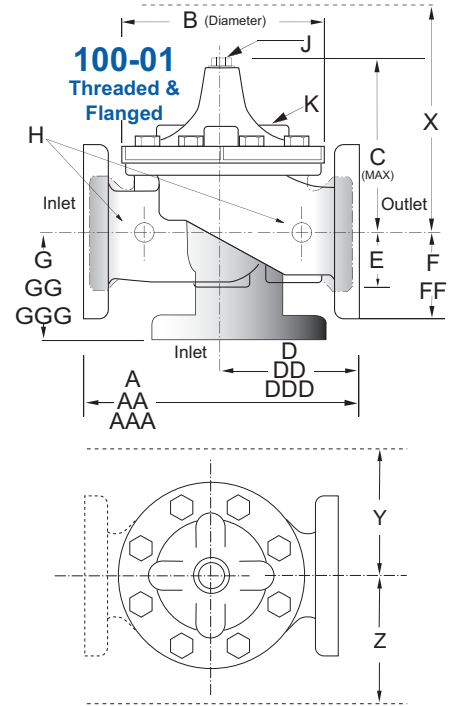
**Model 124-02** (Uses Basic Valve Model 100-01)

**Dimensions**  
(In inches)

**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
ASTM B62	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	8" - 36"	8" - 16"	8" - 16"
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.

**Model 124-02 Dimensions** (In Inches)

Valve Size (Inches)	8	10	12	14	16	18	20	24	30	36
A Threaded	—	—	—	—	—	—	—	—	—	—
AA 150 ANSI	25.38	29.75	34.00	39.00	41.38	46.00	52.00	61.50	63.00	76.00
AAA 300 ANSI	26.38	31.12	35.50	40.50	43.50	47.64	53.62	63.24	64.50	78.00
B Dia.	20.00	23.62	28.00	32.75	35.50	41.50	45.00	53.16	56.00	66.00
C Max.	16.00	17.12	20.88	24.19	25.00	39.06	41.90	43.93	54.60	61.50
D Threaded	—	—	—	—	—	—	—	—	—	—
DD 150 ANSI	12.75	14.88	17.00	19.50	20.81	—	—	30.75	—	—
DDD 300 ANSI	13.25	15.56	17.75	20.25	21.62	—	—	31.62	—	—
E	5.31	9.25	10.75	12.62	15.50	12.95	15.00	17.75	21.31	24.56
F 150 ANSI	6.75	8.00	9.50	10.50	11.75	15.00	16.50	19.25	22.50	25.60
FF 300 ANSI	7.50	8.75	10.25	11.50	12.75	15.00	16.50	19.25	24.00	25.60
G Threaded	—	—	—	—	—	—	—	—	—	—
GG 150 ANSI	8.00	8.62	13.75	14.88	15.69	—	—	22.06	—	—
GGG 300 ANSI	8.50	9.31	14.50	15.62	16.50	—	—	22.90	—	—
H NPT Body Tapping	1	1	1	1	1	1	1	1	2	2
J NPT Cover Center Plug	1	1	1.25	1.5	2	1.5	1.5	1.5	2	2
K NPT Cover Tapping	1	1	1	1	1	1	1	1	2	2
Stem Travel	2.3	2.8	3.4	4.0	4.5	5.1	5.63	6.75	7.5	8.5
Approx. Ship Wt. Lbs.	500	780	1165	1600	2265	2982	3900	6200	7703	11720

Note: The top two flange holes on valve size 36 are threaded to 1 1/2"-6 UNC.

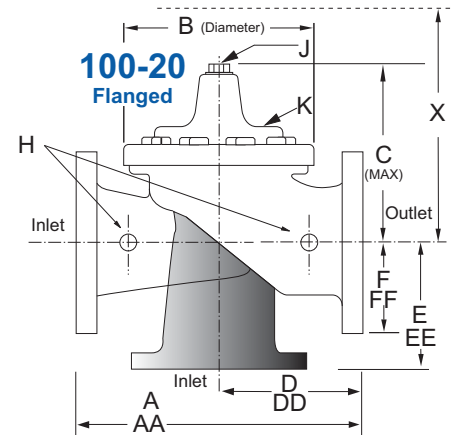
**Model 624-02** (Uses Basic Valve Model 100-20)

**Dimensions**  
(In inches)

**Pressure Ratings** (Recommended Maximum Pressure - psi)

Valve Body & Cover		Pressure Class		
		Flanged		
Grade	Material	ANSI Standards*	150 Class	300 Class
ASTM A536	Ductile Iron	B16.42	250	400
ASTM A216-WCB	Cast Steel	B16.5	285	400
ASTM B62	Bronze	B16.24	225	400

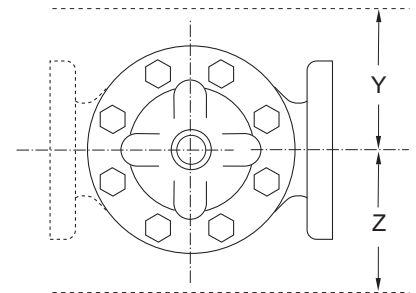
Note: \* ANSI standards are for flange dimensions only.  
Flanged valves are available faced but not drilled.  
**Valves for higher pressure are available; consult factory for details**



**Materials**

Component	Standard Material Combinations		
Body & Cover	Ductile Iron	Cast Steel	Bronze
Available Sizes	10" - 48"	10" - 16"	10" - 16"
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.



**Model 624-02 Dimensions** (In Inches)

Valve Size (Inches)	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
<b>A</b> 150 ANSI	10.25	13.88	17.75	21.38	26.00	30.00	34.25	35.00	42.12	48.00	48.00	63.25	65.00	76.00	94.50
<b>AA</b> 300 ANSI	11.00	14.50	18.62	22.38	27.38	31.50	35.75	36.62	43.63	49.62	49.75	63.75	67.00	76.00	94.50
<b>B</b> Dia.	6.62	9.12	11.50	15.75	20.00	23.62	27.47	28.00	35.44	35.44	35.44	53.19	56.00	66.00	66.00
<b>C</b> Max.	7.00	8.62	11.62	15.00	17.88	21.00	20.88	25.75	25.00	31.00	31.00	43.94	54.60	61.50	61.50
<b>D</b> 150 ANSI	—	6.94	8.88	10.69	CF*	CF*	CF*	CF*	CF*	CF*	CF*	—	—	—	—
<b>DD</b> 300 ANSI	—	7.25	9.38	11.19	CF*	CF*	CF*	CF*	CF*	CF*	CF*	—	—	—	—
<b>E</b> 150 ANSI	—	5.50	6.75	7.25	CF*	CF*	CF*	CF*	CF*	CF*	CF*	—	—	—	—
<b>EE</b> 300 ANSI	—	5.81	7.25	7.75	CF*	CF*	CF*	CF*	CF*	CF*	CF*	—	—	—	—
<b>F</b> 150 ANSI	3.75	4.50	5.50	6.75	8.00	9.50	11.00	11.75	15.88	14.56	17.00	19.88	25.50	28.00	31.50
<b>FF</b> 300 ANSI	4.12	5.00	6.25	7.50	8.75	10.25	11.50	12.75	15.88	16.06	19.00	22.00	27.50	28.00	31.50
<b>H</b> NPT Body Tapping	.375	.50	.75	.75	1	1	1	1	1	1	1	1	2	2	2
<b>J</b> NPT Cover Center Plug	.50	.50	.75	.75	1	1	1.25	1.25	2	2	2	2	2	2	2
<b>K</b> NPT Cover Tapping	.375	.50	.75	.75	1	1	1	1	1	1	1	1	2	2	2
Stem Travel	0.6	0.8	1.1	1.7	2.3	2.8	3.4	3.4	4.5	4.5	4.5	6.5	7.5	8.5	8.5
Approx. Ship Wt. Lbs.	45	85	195	330	625	900	1250	1380	1500	2551	2733	6500	8545	12450	13100

\*Consult Factory

Note: The top two flange holes on valve sizes 36 thru 48 are threaded to 1 1/2"-6 UNC.

124-02 Valve Selection	100-01 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (GR), Flanged (F) Indicate Available Sizes										
	Inches	8	10	12	14	16	18	20	24	30	36
	mm	200	250	300	350	400	450	500	600	750	900
Basic Valve 100-01	Pattern	G, A	G, A	G, A	G, A	G, A	G	G	G, A	G	G
	End Detail	F	F	F	F	F	F	F	F	F	F
Suggested Flow (gpm)	Maximum	3100	4900	7000	8400	11000	14000	17000	25000	42000	50000
	Maximum Intermittent	3900	6000	8600	10540	13700	17500	21700	31300	48000	62500
Suggested Flow (Liters/Sec)	Maximum	195	309	442	530	694	883	1073	1577	2650	3150
	Maximum Intermittent	245.7	378	541	664	863	1104	1369	1972	3028	3940

100-01 Series is the full internal port Hytrol.

\*Globe Grooved Only

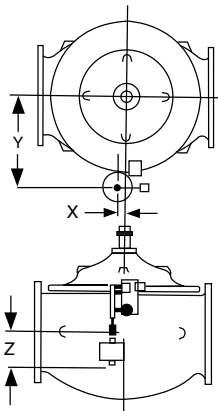
624-02 Valve Selection	100-20 Pattern: Globe (G), Angle (A), End Connections: Flanged (F) Indicate Available Sizes											
	Inches	10	12	14	16	18	20	24	30	36	42	48
	mm	250	300	350	400	450	500	600	750	900	1000	1200
Basic Valve 100-20	Pattern	G	G	G	G	G	G	G	G	G	G	G
	End Detail	F	F	F	F	F	F	F	F	F	F	F
Suggested 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)



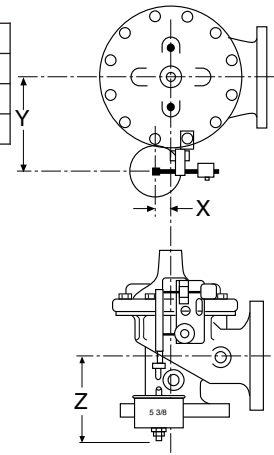
**GLOBE** 124-02 8" and Larger  
624-02 10" and Larger

124-02 Float Valve (Globe)										
Size	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
X	1.25	1.25	1.00	.50	.25	1.25	1.25	1.25	—	—
Y	12.75	14.75	17.00	19.50	21.00	30.00	30.00	30.00	—	—
Z (Max)*	48.25	47.00	45.25	44.50	43.25	32.00	32.00	32.00	—	—

124-02 Float Valve (Angle)					
Size	8"	10"	12"	14"	16"
X	1.25	1.25	1.00	.50	.25
Y	12.75	14.75	17.00	19.50	21.00
Z (Max)*	48.25	47.00	45.25	44.50	43.25

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



**ANGLE** 124-02 8" to 16"

## 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. 124-02 or 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