

Float Valve

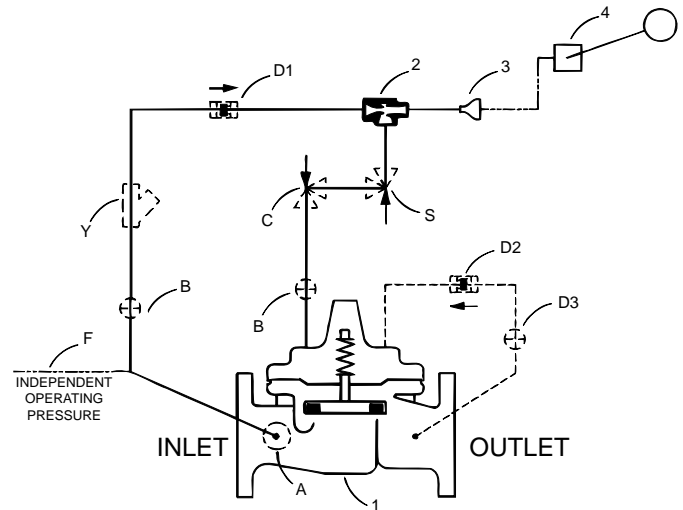


- **Accurate and Repeatable Level Control**
- **Proportional Flow**
- **Reliable Hydraulic Operation**
- **Drip Tight Positive Shut-off**
- **Completely Automatic Operation**

The Cla-Val Model 129-01/629-01 Float Valve maintains a relatively constant level in storage tanks and reservoirs by admitting flow into the tank in direct proportion to the flow out of the tank. It is a hydraulically operated, pilot controlled, diaphragm valve. The rotary disc type float operated pilot control is installed at the high liquid level in the reservoir and is connected via tubing or pipe to the main valve. As the liquid level changes, the float control proportionally opens or closes the main valve, keeping the liquid level nearly constant. If the check feature option is added and a pressure reversal occurs, the downstream pressure is admitted into the main valve cover chamber and the valve closes to prevent return flow.

Schematic Diagram

Item	Description
1	Hytrol (Main Valve)
2	X47A Ejector
3	Bell Reducer
4	CFM2 Float Control

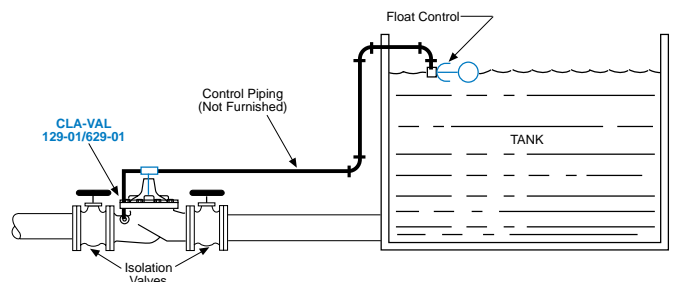
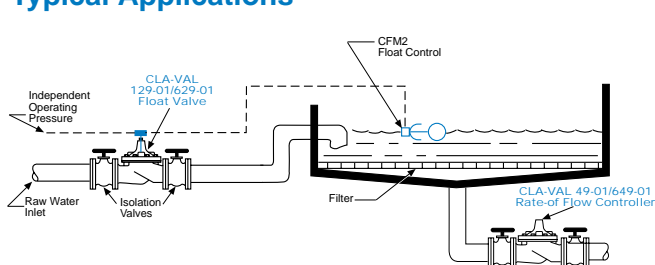


Optional Features

Item	Description
A	X46A Flow Cleaner Strainer
B	CK2 Cock (Isolation Valve)
C	CV Flow Control (Closing)
D	Check Valves With Cock
F	Independent Operating Pressure
S	CV Flow Control (Opening)
Y	X43 "Y" Strainer

The "D" feature on a vertically installed 6" and larger valve must be horizontally installed.

Typical Applications



Piping and Tank Sizing

Install valve and control as shown in the diagram above. The float control should be located in a still liquid surface. If it is necessary to obtain this condition, a stilling well should be constructed. Mount the control on the connecting piping with the outlet port at the desired high water level.

Filter Liquid Level Control

Maintains constant level in rapid sand filter. Usually requires the use of an independent operating pressure as shown.

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

Model 129-01 (Uses Basic Valve Model 100-01)

Pressure Ratings (Recommended Maximum Pressure - psi)

Valve Body & Cover		Pressure Class			
		Flanged			Screwed
Grade	Material	ANSI Standards*	150 lb.	300 lb.	End** Details
ASTM A-536	Ductile Iron	B16.42	250	400	400
ASTM A216-WCB	Cast Steel	B16.5	285	400	400
ASTM B62	Bronze	B16.24	225	400	400
Type 304	Stainless Steel	B16.5	285	400	400
356-T6	Aluminum	B16.1	275	—	—

Note: *ANSI standards are for flange dimensions only.
 Flanged valves are available faced but not drilled.
 ** End Details machined to ANSI B2.1 specifications.



2" Globe, Screwed



4" Globe, Flanged

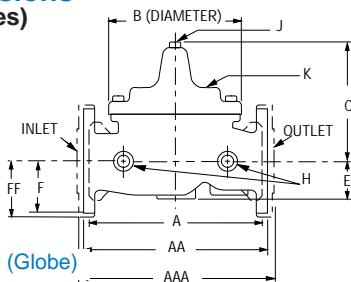


4" Angle, Flanged

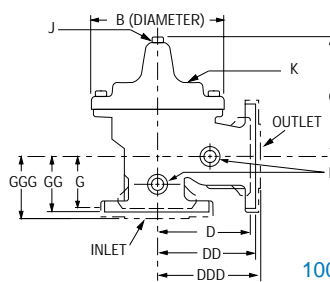
Materials

Component	Material Options				
Body & Cover	Ductile Iron	Cast Steel	Bronze	Stainless Steel	Aluminum
Available Sizes	1¼" - 16"	1¼" - 16"	1¼" - 16"	1¼" - 16"	1¼" - 16"
Disc Retainer & Diaphragm Washer	Cast Iron	Cast Steel	Bronze	Stainless Steel	Aluminum
Trim: Disc Guide, Seat & Cover Bearing	Bronze is standard. Stainless Steel is optional.			Stainless Steel is standard.	
Disc	Buna -N® Rubber				
Diaphragm	Nylon Reinforced Buna -N® Rubber				
Stem, Nut & Spring	Stainless Steel				

Dimensions (In inches)



100-01 (Globe)



100-01 (Angle)

*1½" Size Only

VALVE SIZE (Inches)	1¼ - 1½	2	2½	3	4	6	8	10	12	14	16
A Screwed	7.25	9.38	11.00	12.50	—	—	—	—	—	—	—
AA 150 ANSI	8.50*	9.38	11.00	12.00	15.00	20.00	25.38	29.75	34.00	39.00	41.38
AAA 300 ANSI	9.00*	10.00	11.62	13.25	15.62	21.00	26.38	31.12	35.50	40.50	43.50
B DIA.	5.62	6.62	8.00	9.12	11.50	15.75	20.00	23.62	28.00	32.75	35.50
C MAX..	5.50	6.50	7.56	8.19	10.62	13.38	16.00	17.12	20.88	24.19	25.00
D Screwed	3.25	4.75	5.50	6.25	—	—	—	—	—	—	—
DD 150 ANSI	4.00*	4.75	5.50	6.00	7.50	10.00	12.75	14.88	17.00	19.50	20.81
DDD 300 ANSI	4.25*	5.00	5.88	6.38	7.88	10.50	13.25	15.56	17.75	20.25	21.62
E	1.12	1.50	1.69	2.06	3.19	4.31	5.31	9.25	10.75	12.62	15.50
F 150 ANSI	2.50	3.00	3.50	3.75	4.50	5.50	6.75	8.00	9.50	10.50	11.75
FF 300 ANSI	3.06	3.25	3.75	4.13	5.00	6.25	7.50	8.75	10.25	11.50	12.75
G Screwed	1.88	3.25	4.00	4.50	—	—	—	—	—	—	—
GG 150 ANSI	4.00*	3.25	4.00	4.00	5.00	6.00	8.00	8.62	13.75	14.88	15.69
GGG 300 ANSI	4.25*	3.50	4.31	4.38	5.31	6.50	8.50	9.31	14.50	15.62	16.50
H NPT Body Tapping	⅜	⅜	½	½	¾	¾	1	1	1	1	1
J NPT Cover Center Plug	¼	½	½	½	¾	¾	1	1	1¼	1½	2
K NPT Cover Tapping	⅜	⅜	½	½	¾	¾	1	1	1	1	1
Valve Stem Internal											
Thread UNF	10-32	10-32	10-32	¼-28	¼-28	⅜-24	⅜-24	⅜-24	⅜-24	⅜-24	½-20
Stem Travel	0.4	0.6	0.7	0.8	1.1	1.7	2.3	2.8	3.4	4.0	4.5
Approx.Ship Wt. Lbs.	15	35	50	70	140	285	500	780	1165	1600	2265

Model 629-01 (Uses Basic Valve Model 100-20)

Pressure Ratings (Recommended Maximum Pressure - psi)

Valve Body & Cover		Pressure Class		
		Flanged		
Grade	Material	ANSI Standards*	150 lb.	300 lb.
ASTM A-536	Ductile Iron	B16.42	250	400
ASTM A216-WCB	Cast Steel	B16.5	285	400
ASTM B62	Bronze	B16.24	225	400
Type 304	Stainless Steel	B16.5	285	400
356-T6	Aluminum	B16.1	275	—

Note: *ANSI standards are for flange dimensions only.
Flanged valves are available faced but not drilled.



3" Globe, Flanged

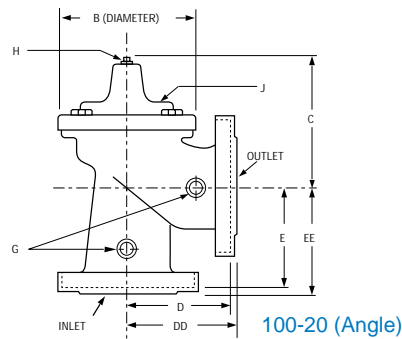
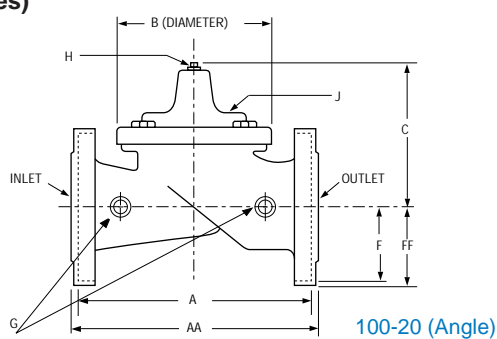
Materials

Component	Material Options				
Body & Cover	Ductile Iron	Cast Steel	Bronze	Stainless Steel	Aluminum
Available Sizes	3"-24"	3"-24"	3"-24"	3"-24"	3"-24"
Disc Retainer & Diaphragm Washer	Cast Iron	Cast Steel	Bronze	Stainless Steel	Aluminum
Trim: Disc Guide, Seat & Cover Bearing	Bronze is standard. Stainless Steel is optional.			Stainless Steel is standard.	
Disc	Buna-N® Rubber				
Diaphragm	Nylon Reinforced Buna-N® Rubber				
Stem, Nut & Spring	Stainless Steel				



6" Globe, Flanged






































Dimensions (In inches)



6" Angle, Flanged

VALVE SIZE (Inches)	3	4	6	8	10	12	16	20	24
A 150 ANSI	10.25	13.88	17.75	21.38	26.00	30.00	35.00	48.00	48.00
AA 300 ANSI	11.00	14.50	18.62	22.38	27.38	31.50	36.62	49.62	49.75
B DIA.	6.62	9.12	11.50	15.75	20.00	23.62	28.00	35.44	35.44
C Max.	7.00	8.62	11.62	15.00	17.88	21.00	25.75	31.00	31.00
D 150 ANSI	—	6.94	8.88	10.69	—	—	—	—	—
DD 300 ANSI	—	7.25	9.38	11.19	—	—	—	—	—
E 150 ANSI	—	5.50	6.75	7.25	—	—	—	—	—
EE 300 ANSI	—	5.81	7.25	7.75	—	—	—	—	—
F 150 ANSI	3.75	4.50	5.50	6.75	8.00	9.50	11.75	14.56	17.00
FF 300 ANSI	4.12	5.00	6.25	7.50	8.75	10.25	12.75	16.06	19.00
G NPT Body Tapping	3/8	1/2	3/4	3/4	1	1	1	1	1
H NPT Cover Center Plug	1/2	1/2	3/4	3/4	1	1	1 1/4	2	2
J NPT Cover Tapping	3/8	1/2	3/4	3/4	1	1	1	1	1
Valve Stem Internal Thread UNF	10-32	1/4-28	1/4-28	3/8-24	3/8-24	3/8-24	3/8-24	1/2-20	1/2-20
Stem Travel	0.6	0.8	1.1	1.7	2.3	2.8	3.4	4.5	4.5
Approximate Shipping Weight Lbs.	45	85	195	330	625	900	1380	2551	2733

Valve Selection

		These Symbols  and  Indicate Available Sizes														
		Size	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
		End Details	Screwed	Screwed or Flanged				Flanged								
Model 129-01	Basic Valve 100-01	Globe														
		Angle														
	Suggested Flow GPM	Normal Continuous	93	125	208	300	460	800	1800	3100	4900	7000	8500	11000		
Model 629-01	Basic Valve 100-20	Globe														
		Angle														
	Suggested Flow-GPM	Normal Continuous					260	580	1025	2300	4100	6400		9230	16500	16500

*629-01 is the reduced internal port size version of the 129-01.
 Refer to the 100-01 or the 100-20 Technical Data Sheet for basic valve options.
 Max. Continuous Flow based on 20 fps (100-01), 25fps (100-20)
 **Flanged End Detail Only

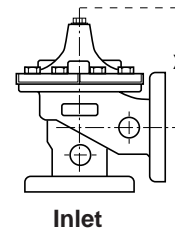
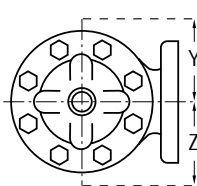
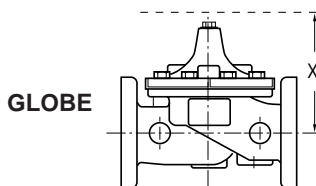
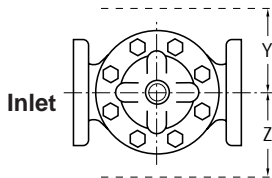
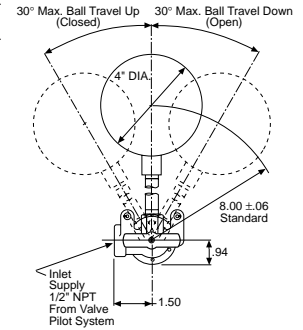
Important Notice: Do Not Oversize

Pilot System Dimensions (In Inches)

We recommend providing adequate space around valve for maintenance work

VALVE SIZE	1 1/4" & 1 1/2"	2"	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	20"	24"
X	Max. 5.50	5.75	7.25	8.00	9.50	12.25	14.50	17.00	26.00	29.00	39.00	42.00	42.00
Y	Max. 4.00	4.00	4.50	5.00	6.00	8.00	10.25	12.00	14.25	16.75	18.00	18.00	18.00
Z	Max. 4.00	4.00	4.50	5.00	6.00	8.00	10.25	12.00	14.25	16.75	18.00	18.00	18.00

CFM2 FLOAT CONTROL



Pilot System Specifications

Pressure Ratings

Maximum: 300 psi

Temperature Range

Water: to 180°F

Materials

Pilot Control System:
 Cast Bronze ASTM B-62 with
 303 Stainless Steel Trim, Bronze
 fittings and copper tubing.

Optional Materials

Aluminum, Bronze and Stainless Steel
 available at extra cost.

Control Piping (customer supplied)

Use either copper tubing or brass pipe
 between CFM2 Float Control and the main
 valve pilot system.

1/2" dia. for distances less than 25 feet;

3/4" dia. for greater distances.

When Ordering, Please Specify

1. Catalog No. 129-01 or No. 629-01
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Screwed or Flanged
6. Materials Desired
7. Desired Options
8. When Vertically Installed



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 Fax: 905-563-4040

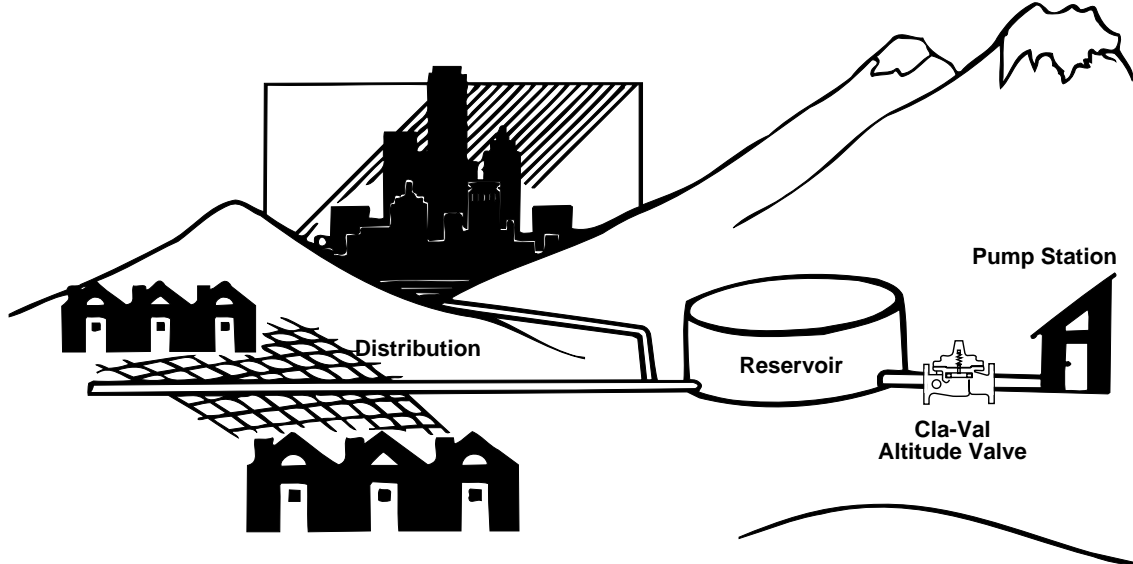
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Represented By:



CLA-VAL LEVEL CONTROL VALVES

The water level of tanks and reservoirs can be controlled in many ways using automatic control valves. Fundamentally, all level control valves have in common the fact that they close on a high level in a tank or reservoir. To understand the various types of level control valves available, they can be grouped by the type of valve action. They form into two kinds of valve action: on-off or modulating. The on-off group of control valves provide a simple on-off high level shutoff function. The modulating group of control valves provide a variable amount of valve position and flow in relation to the changing water level in the tank. Within these two fundamental groups are combination level control valves, where a virtually unlimited number of other valve functions can be added to any valve, such as: back pressure, two-way flow, delayed opening, rate of flow control, check feature, solenoid override, ect.

ON-OFF GROUP

A simple, reliable way for smaller tank level control would be using a three-way float actuated pilot valve. The float pilot valve is mounted on the main hytrol valve for filling from the reservoir top, or the float pilot valve can be remotely mounted for reservoir filling from the bottom. (Cla-Val Series 124)

Larger reservoirs due to their size or height often require a "float-less" or altitude valve for level control. The pressure head of the reservoir is sensed through a separate line by the valve mounted pilot control which shifts to close the main hytrol valve when the reservoir is full. (Cla-Val Series 210)

When electricity is available at the reservoir site it can be used for operating a small solenoid pilot valve mounted on the main valve filling the reservoir. When the high level is reached a float switch or level probe signals the main hytrol valve to close by switching power to the solenoid pilot valve. (Cla-Val Series 136)

MODULATING GROUP

Tanks or reservoirs where the level must be held within closely controlled limits regardless of filling or lowering flow rates normally use a modulating type pilot control system arrangement. Modulating float valves are not normally recommended for straight on-off service. The pilot control senses the water level shift which in turn modulates the main hytrol valve to a new position between fully open and tight closed. (Cla-Val Series 427 and 428)

Reservoirs where the rising level is to match the closing of the valve also use a modulating type float pilot control system arrangement. As the reservoir fills the main hytrol valve is open then as the level approaches the shut off point the float pilot slowly modulates the valve closed. (Cla-Val Series 129)

Please call your Cla-Val regional office or sales agent for complete design assistance. Our goal is to provide the best automatic control valve solution for each application.