



**MODEL** **124-01**  
(Sizes 1/2" - 6" Full Internal Port)  
**624-01**  
(Sizes 3" - 8" Reduced Internal Port)

# Float Valve



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

The Cla-Val Model 124-01/624-01 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 pre-set 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 one 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.

**Note:** For 8" and Larger Float Valve Sizes use Model 124-02/624-02

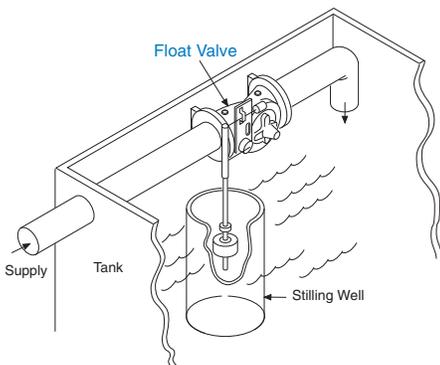
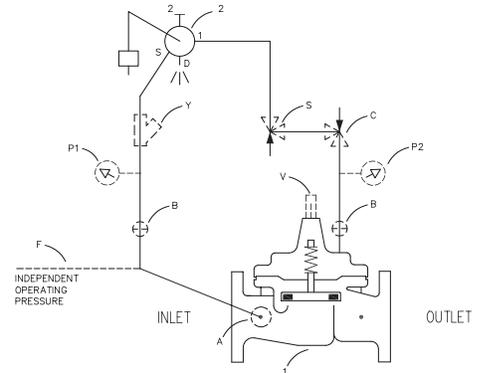
## Schematic Diagram

Item	Description
1	100-01 Hytrol Main Valve
2	CF1-C1 Float Control

## Optional Features

Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
C	CV Flow Control (Closing)
F	Independent Operating Pressure
P	X141 Pressure Gauge
S	CV Speed Control (Opening)
V	X101 Valve Position Indicator
Y	X43 "Y" Strainer

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**of Lead in Drinking**  
**Water Act"**



## Typical Applications

The Model 124-01/624-01 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 cover as illustrated, with a horizontal discharge. Angle valves are configured to discharge downward.

- Note:**
1. We recommend protecting tubing and valve from freezing temperatures.
  2. Must be inspected periodically

A clear 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 factory.

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 greater than the vertical distance in feet between the valve and the float control. See the technical data sheet on Model CF1-C1 for additional information.

## Product Dimensions Data:

For the 124-01 Main Valve (100-01) dimensions, see pages 17.  
For the 624-01 Main Valve (100-20) dimensions, see pages 29.

## 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.

# 129-01

(Full Internal Port)

MODEL

# 629-01

(Reduced Internal Port)

# Float Valve



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

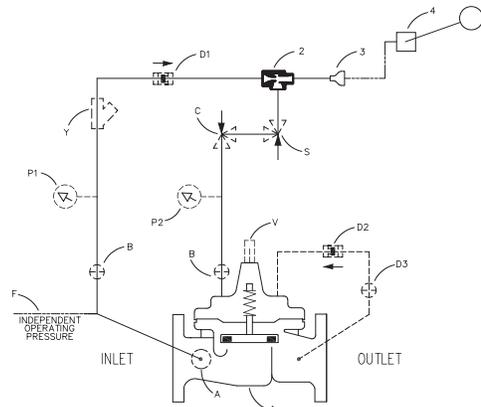
The Cla-Val Model 129-01/629-01 Float Valve maintains a relatively constant level in storage tanks and reservoirs by admitting flow into the tank in direct proportion to the flow out of the tank. It is a hydraulically operated, pilot controlled, diaphragm valve. The rotary disc type float operated pilot 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 "D" 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	100-01 Hytrol Main Valve
2	X47A Ejector
3	Bell Reducer
4	CFM2 Float Control



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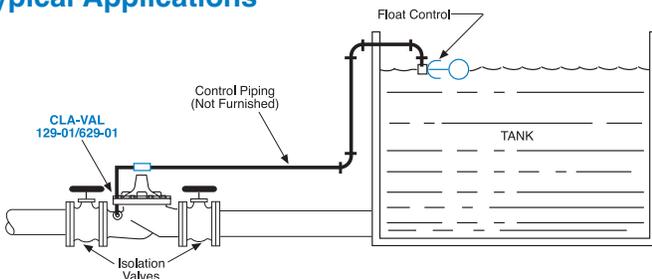
## Optional Features

Item	Description
A	X46A Flow Cleaner Strainer
B	CK2 Isolation Valve
C	CV Flow Control (Closing)
D	Check Valves With Isolation Valve
F	Independent Operating Pressure
P	X141 Pressure Gauge
S	CV Speed Control (Opening)
V	X101 Valve Position Indicator

## Product Dimensions Data:

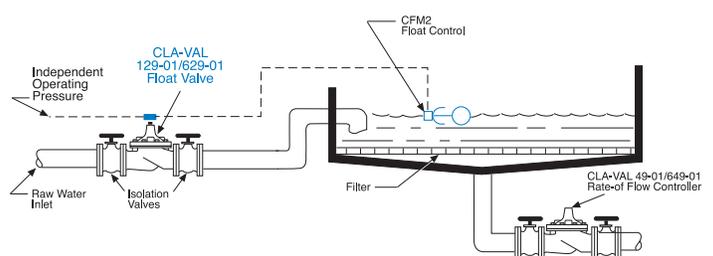
For the 129-01 Main Valve (100-01) dimensions, see pages 17.  
For the 629-01 Main Valve (100-20) dimensions, see pages 29.

## 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 float control on the connecting piping with the outlet port at the desired high water level. When a separate source of supply pressure (Option F) is used by the pilot control system, that pressure must at all times be constant and equal to or greater than the pressure at the valve inlet.



### Filter Liquid Level Control

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

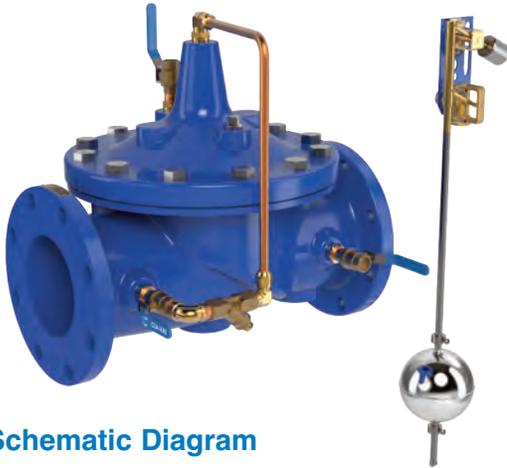
### DO NOT USE FOR ON-OFF SERVICE.

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



**MODEL** **428-01**  
(Full Internal Port)  
**628-01**  
(Reduced Internal Port)

# Modulating Float Valve



- Accurate Level Control
- Completely Automatic Operation
- Simple Operation
- Easy Installation and Maintenance

The Cla-Val Model 428-01/628-01 Float Valve modulates to maintain a constant liquid level in a storage tank by compensating for variations in supply or demand. It can be installed to control the flow into or out of the tank by either closing on a rising level or opening on a rising level. This valve is a hydraulically operated, pilot controlled diaphragm valve.

The pilot control system consists of an integral variable orifice in the main valve cover and a remotely mounted float control. A slight change in liquid level moves the float control. This action varies the pressure in the valve cover, causing the main valve to seek a new position. The integral variable orifice automatically regulates the flow into the cover chamber until the valve reaches a position that is in direct relation to the position of the float control.

## Schematic Diagram

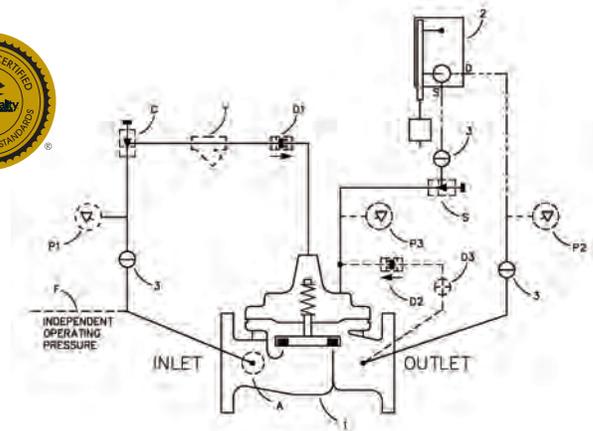
Item	Description
1	100-01 Hytrol Main Valve
2	CFM-9 Float Control
3	CK2 Isolation Valve

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## Optional Features

Item	Description
A	X46A Flow Clean Strainer
D	Check Valves with Isolation Valve
F	Independent Operating Pressure
P	X141 Pressure Gauge
Y	X43 "Y" Strainer



## Product Dimensions Data:

For the 428-01 Main Valve (100-32) dimensions, see pages 17.  
For the 628-01 Main Valve (100-33) dimensions, see pages 29.

## Installation Data

The valve may be installed in any position. The remote float control may be mounted at any convenient location above the liquid level. Float rods are available in lengths from 2' to 12' in one-foot increments.

A stilling well (8" min. diameter) should be provided around the float if the liquid surface is subject to turbulence, ripples or wind.

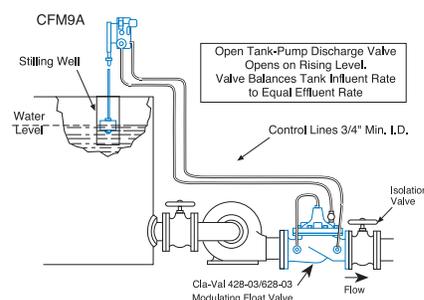
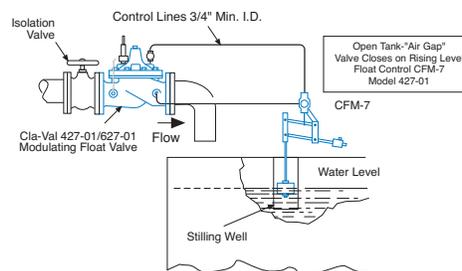
The float control may be installed at any elevation above the valve providing that the amount of flowing line pressure (in psi) is equal to or greater than the vertical distance in feet between the valve and the float control.

When a separate source of supply pressure (Option F) is used by the pilot control system, that pressure must at all times be constant and equal to or greater than the pressure at the valve inlet.

### DO NOT USE FOR ON-OFF SERVICE.

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

## Typical Applications



# 210-01

(Full Internal Port)

MODEL \_\_\_\_\_

# 610-01

(Reduced Internal Port)

# Altitude Valve For One-Way Flow



- Accurate and Repeatable Level Control
- Drip-Tight, Positive Shut-Off
- Reliable Hydraulic Operation
- Easily Adjustable Control
- Completely Automatic Operation

The Cla-Val Model 210-01/610-01 Altitude Valve controls the high water level in reservoirs without the need for floats or other devices. It is a non-throttling valve that remains fully open until the shut-off point is reached. This valve is designed for one-way flow only.

This valve is hydraulically operated and pilot controlled. The pilot control operates on the differential in forces between a spring load and the water level in the reservoir. The desired high water level is set by adjusting the spring force. The pilot control measures the reservoir head through a customer supplied sensing line\* connected directly to the reservoir.

This valve can also be furnished with auxiliary controls to meet the need for multiple functions, such as: pressure sustaining, pressure reduction, rate of flow control, solenoid override, etc.

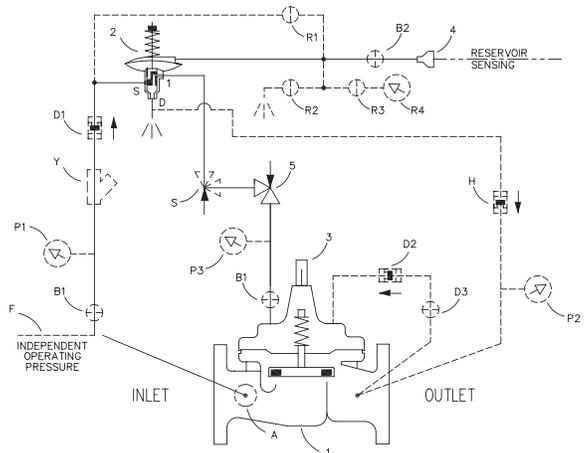
If the check feature option is added and a pressure reversal occurs, the downstream pressure is admitted into the main valve cover chamber and the valve closes to prevent return flow.

## Schematic Diagram

Item	Description
1	100-01 Hytrol Main Valve
2	CDS6A Altitude Control
3	X101 Valve Position Indicator
4	Bell Reducer
5	CV Flow Control (Closing)



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Note: When "D" check feature is ordered, the "H" feature is required.

## Optional Features

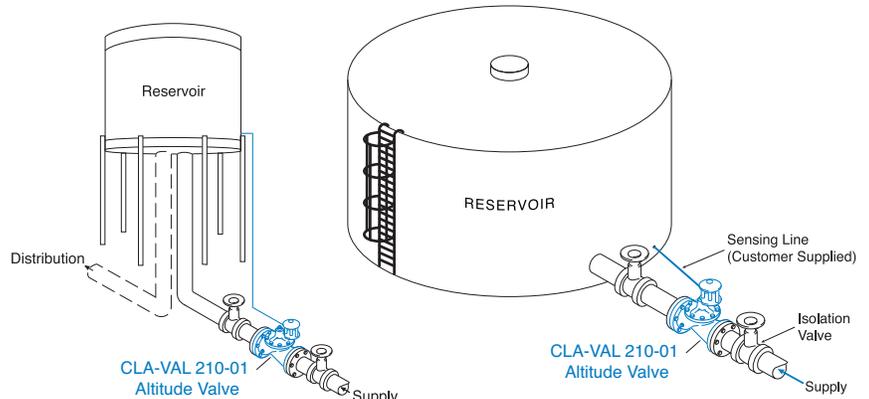
Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
D	Check Valve with Isolation Valve
F	Independent Operating Pressure
H	Dry Drain
P	X141 Pressure Gauge
R	Reservoir Gauge with Tester
S	CV Flow Control (Opening)
Y	X43 "Y" Strainer

## Typical Applications

Used on reservoirs where the water is withdrawn through a separate line or through a bypass equipped with a check valve. The valve opens to refill the reservoir when the water lowers below the shut-off level. For more information see data sheet E-CDS6A.

\*Note: The reservoir pressure sensing line should be 3/4" minimum I.D. installed with a 2° slope from the valve to the reservoir to avoid air pockets.

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



## Product Dimensions Data:

For the 210-01 Main Valve (100-01) dimensions, see pages 17.  
For the 610-01 Main Valve (100-20) dimensions, see pages 29.

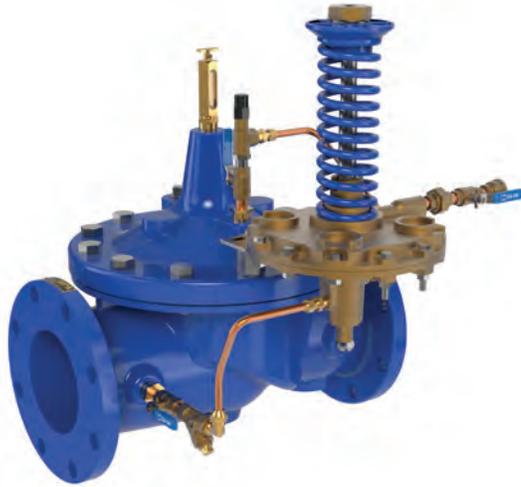


**210-09**  
(Full Internal Port)

MODEL

**610-09**  
(Reduced Internal Port)

# Combination Altitude and Back Pressure Valve



- Accurate and Repeatable Level Control
- Prevents Low Supply Pressure When Filling
- Drip Tight Positive Shut-Off
- Reliable Hydraulic Operation
- Easily Adjustable Controls

The Cla-Val Model 210-09/610-09 Combination Altitude and Back Pressure Valve controls the high water level in reservoirs without the need for floats or other devices. The valve modulates to maintain upstream pressure within close limits to prevent over drawing system supply while filling reservoir. When the shut-off point of the hydraulic pilot control is reached, the valve closes smoothly without surges. This valve is designed for one-way flow only.

The 210-09/610-09 Valve is hydraulically-operated and pilot-controlled for optimum automatic level and pressure control. The level pilot control operates on a differential in forces between spring load and reservoir head level. When force of spring is overcome by force of reservoir head, the pilot shifts and closes main valve. Desired high water level is set by adjusting spring force. The level pilot control measures the reservoir head through a customer supplied separate sensing line\* connected directly to reservoir. The pressure sustaining pilot control senses upstream system pressure and modulates the main valve more open on a rise in pressure to maintain a minimum inlet pressure when filling reservoir.

The valve can also be furnished with auxiliary controls to meet the need for additional functions, such as: rate of flow control, pressure reduction, solenoid override, etc. If the check feature option is added and a pressure reversal occurs, reservoir pressure is admitted into main valve cover chamber and valve closes to prevent return flow.

## Schematic Diagram

Item	Description
1	100-01 Hytrol Main Valve
2	CDS6A Altitude Control
3	X101 Valve Position Indicator
4	Bell Reducer
5	CRL-60 Pressure Relief Valve
6.	100-01 Hytrol (Reverse Flow)
7	X42N-3 Strainer



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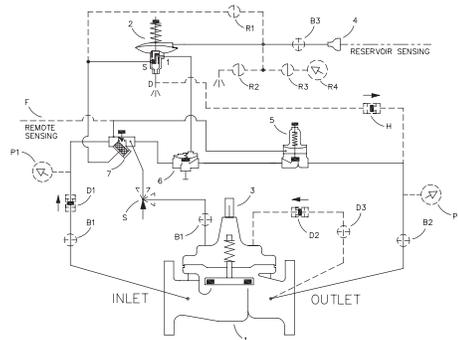


## Optional Features

Item	Description
B	CK2 Isolation Valve
D	Check Valve with Isolation Valve
F	Remote Pilot Sensing
R	Reservoir Gauge with Tester
S	CV Flow Control (Opening)

## Product Dimensions Data:

For the 210-09 Main Valve (100-01) dimensions, see pages 17.  
For the 610-09 Main Valve (100-20) dimensions, see pages 29.

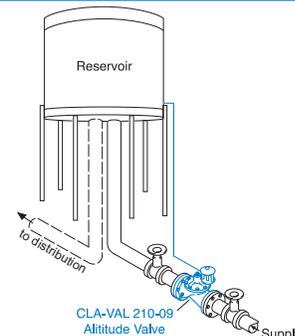


## Typical Applications

Used on reservoirs where water is withdrawn through a separate line or through a bypass equipped with a check valve. Valve closes at the desired high water level and reopens for filling when reservoir head lowers below the shut off level. Valve controls minimum supply pressure to keep from overdrawing supply while filling reservoir. Water in excess of system pressure flows to reservoir at controlled rate. For more information see data sheet E-CDS6A.

\*Note: The reservoir pressure sensing line should be 3/4" minimum I.D. installed with a 2° slope from the valve to the reservoir to avoid air pockets.

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



210-16

R(Full Internal Port)

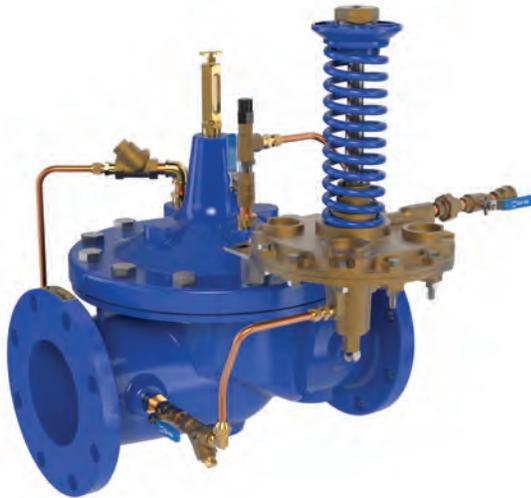
MODEL \_\_\_\_\_

610-16

(Reduced Internal Port)



# Altitude Valve For Two-Way Flow



- Accurate and Repeatable Level Control
- Drip-Tight Positive Shut-Off
- Reliable Hydraulic Operation
- Easily Adjustable Control
- Completely Automatic Operation

The Cla-Val Model 210-16/610-16 Altitude Valve controls the high water level in reservoirs without the need for floats or other devices. It is a non-throttling valve that remains fully open until the shut off point is reached. This valve closes at a high water level, and opens for return flow when the pressure at the valve inlet is less than the reservoir pressure.

This valve is hydraulically operated and pilot controlled. The pilot control operates on the differential in forces between a spring load and the water level in the reservoir. When the force of the spring is overcome by the force of the reservoir head, the pilot closes the main valve. The desired high water level is set by adjusting the spring force. The pilot control measures the reservoir head through a customer supplied sensing line\* connected directly to the reservoir.

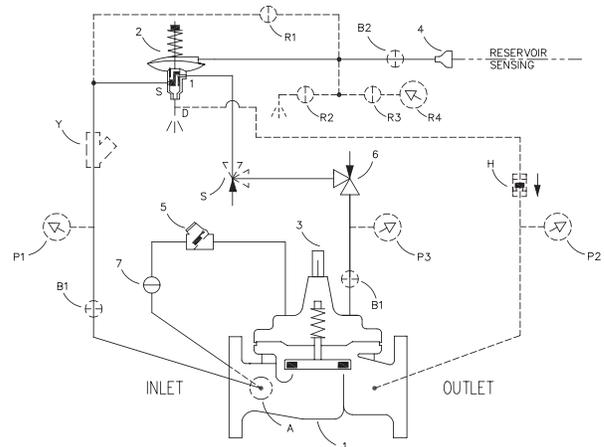
This valve can also be furnished with auxiliary controls to meet the need for multiple functions, such as: pressure sustaining, pressure reduction, rate of flow control, solenoid override, etc.

## Schematic Diagram

Item	Description
1	100-01 Hytrol Main Valve
2	CDS6A Altitude Control
3	X101 Valve Position Indicator
4	Bell Reducer
5	Check Valve
6	CV Flow Control (Closing)
7	CK2 Isolation Valve



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## Optional Features

Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
H	Dry Drain
P	X141 Pressure Gauge
R	Reservoir Gauge with Tester
S	CV Flow Control (Opening)
Y	X43 "Y" Strainer

## Typical Applications

Used on reservoirs where water is withdrawn through the Altitude Valve. The valve closes at the high water level and opens for return flow when the pressure at the valve inlet lowers below the reservoir pressure.

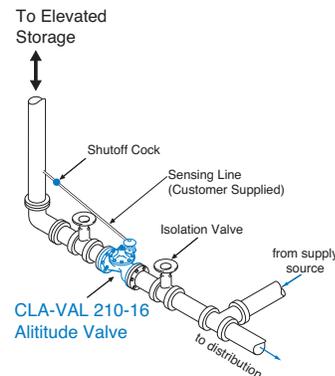
For more information see data sheet E-CDS6A

\*Note: The reservoir pressure sensing line should be 3/4" minimum I.D. installed with a 2° slope from valve to reservoir to avoid air pockets.

We recommend protecting tubing and valve from freezing temperatures.

### Product Dimensions Data:

For the 210-16 Main Valve (100-01) dimensions, see pages 17.  
For the 610-16 Main Valve (100-20) dimensions, see pages 29.





**210-17**  
(Full Internal Port)  
- MODEL -  
**610-17**  
(Reduced Internal Port)

# Altitude & Solenoid Shut-Off Valve



- Accurate and Repeatable Level Control
- Easy Interface With Remote Control Systems
- Drip Tight Positive Shut Off
- Reliable Hydraulic Operation
- Easily Adjustable Control

The Cla-Val Model 210-17/610-17 Altitude Valve controls the high water level in reservoirs with out the need for floats or other devices. It is a non-throttling valve that remains fully open until the solenoid is activated or the shut-off point of the hydraulic pilot control is reached. The valve closes at high water level and opens for return flow when the pressure at the valve inlet is less than reservoir pressure.

This valve is hydraulically-operated and pilot-controlled. The level pilot control operates on the differential in forces between a spring load and reservoir head level. When force of the spring is overcome by the force of reservoir head, the pilot shifts and closes main valve. Desired high water level is set by adjusting the spring force. The pilot control measures the reservoir head through a customer supplied separate sensing line\* connected directly to the reservoir. A three-way solenoid control and a high-capacity three-way pilot control valve provide override shut-off of valve from a remote location, such as a SCADA control system. It is furnished either normally open (de-energize solenoid to open) or normally closed (energize solenoid to open).

The valve can also be furnished with auxiliary controls to meet the need for additional functions, such as: pressure sustaining, rate of flow control, pressure reduction, etc.

## Schematic Diagram

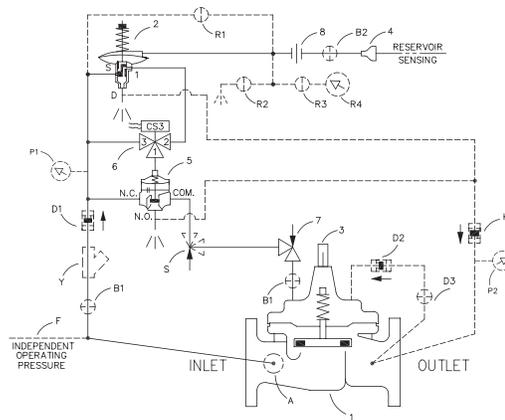
Item	Description
1	100-01 Hytrol Main Valve
2	CDS6A Altitude Control
3	X101 Valve Position Indicator
4	Bell Reducer
5	102C-3H Three-way Valve
6	CS3 Solenoid Control
7	CV Flow Control (Closing)
8	Union



## Optional Features

Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
D	Check Valve with Isolation Valve
F	Independent Operation Pressure
H	Dry Drain
R	Reservoir Gauge with Tester
P	X141 Pressure Gauge
S	CV Flow Control (Opening)
Y	X43 "Y" Strainer

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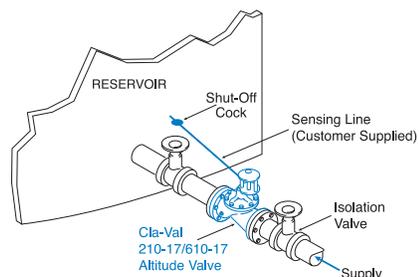
## Product Dimensions Data:

For the 210-17 Main Valve (100-01) dimensions, see pages 17.  
For the 610-17 Main Valve (100-20) dimensions, see pages 29.

## Typical Applications

Used on reservoirs where water is supplied and withdrawn through the Altitude Valve. Valve closes at the desired high water level controlled remotely via SCADA system signal to solenoid or automatically with preset level control (usually set higher). Also, valve automatically opens for return flow when the pressure at the valve inlet lowers below the reservoir head pressure. For more information see data sheet E-CDS6A.

\*Note: The reservoir pressure sensing line should be 3/4" minimum I.D. installed with a 2° slope from valve to reservoir to avoid air pockets.



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

# CDS6A — MODEL —



## Altitude Pilot Control

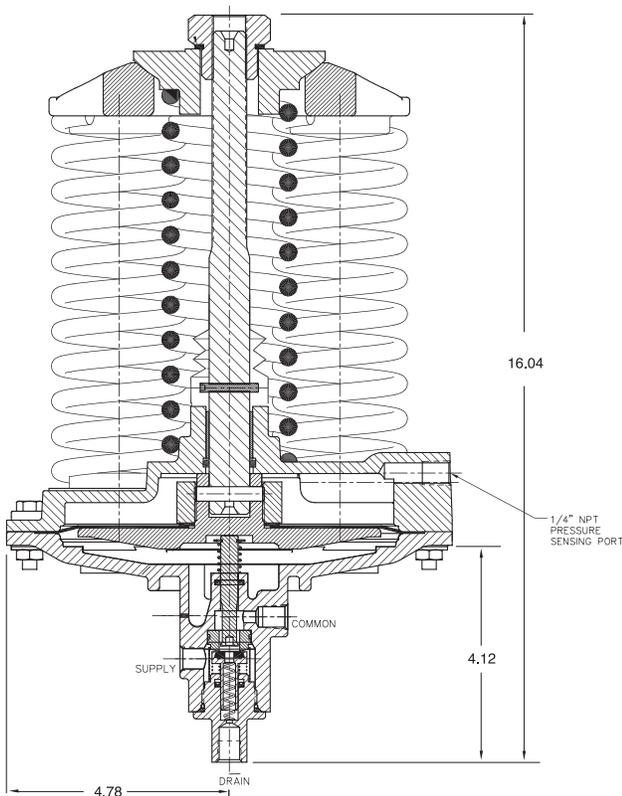


- Very Accurate and Reliable
- Low Maintenance
- Bronze and Stainless Steel Wetted Parts

The Cla-Val Model CDS6A Altitude Pilot Control is a spring-loaded, three-way, diaphragm-actuated control that provides high-level shutoff for Cla-Val 210 Series Altitude Control Valves. The CDS6A controls the high water level in a reservoir or tank without the need for floats or other devices. It is a non-throttling pilot that remains fully open until the reservoir reaches the high level shutoff point. High accuracy is assured by remotely sensing the pressure head of the reservoir or tank. The single adjusting nut can be easily set in the field to close the main valve when liquid level reaches the desired high level set-point within five adjustment ranges.

The CDS6A operating principle uses a differential in forces between the spring load and the hydraulic head of the fluid level in the reservoir or tank to activate the pilot valve of the control. When the force of the spring setting (or the desired high level shutoff point) is overcome by the force of the reservoir head, the pilot valve shifts positions automatically and closes the main valve. When the reservoir head is eight to ten inches less than the spring setting, the pilot valve shifts to open the main valve.

### Dimensions



### Specifications

Temperature Range:	Water to 180°F Max	Adjustment Ranges:
Materials:		
Body & Cover:	ASTM B-62	5 - 40ft.
Trim:	Brass & Stainless Steel	30 - 80ft.
Seals & Diaphragm:	Nitrile	70 - 120ft.
Optional Materials:	Consult Factory	110 - 160ft.
Pressure Rating:	200 PSI MAX*	150 - 200ft.

### Remote Sensing Connection

The CDS6A Altitude Pilot Control is normally supplied mounted on a Cla-Val 210 Series valve and should be installed in a horizontal run of pipe with the main valve cover UP. If the CDS6A is remotely mounted from the main valve, it is recommended to be installed with adjustment springs UP for ease of adjustment and servicing. Consult factory for recommendations.

After the Cla-Val 210 Series valve is installed in the line, it is necessary to install a sensing line from the CDS6A control to the reservoir. The sensing line should be 3/4" or larger copper tubing or Schedule 40 PVC pipe. Galvanized pipe is not recommended. The line should slope upward from the CDS6A toward the reservoir to self purge air out of the line. The slope of the sensing line should not have high points that would entrap air. The line connection point on the reservoir should be a minimum 12" to 18" above the center line of the control.

NOTE: The sensing line should not be installed into the flowing line between the valve and reservoir, or to a turbulent area, which may not reflect the true reservoir head.

\* Consult Factory

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



# Altitude Valve For One-Way Flow



- **Accurate and Repeatable Level Control**
- **Drip-Tight Positive Shut-Off**
- **Reliable Hydraulic Operation**
- **Easily Adjustable Control**
- **Completely Automatic Operation**

The Cla-Val Model 211-01 Altitude Valve controls the high water level in reservoirs without the need for floats or other devices. It is a non-throttling valve that remains fully open until the shut off point is reached. This valve is designed for one-way flow only.

This valve is hydraulically operated and pilot controlled. The pilot control operates on the differential in forces between a spring load and the water level in the reservoir. When the force of the spring is overcome by the force of the reservoir head, the pilot closes the main valve. The desired high water level is set by adjusting the spring force. The pilot control measures the reservoir head through a customer supplied sensing line\* connected directly to the reservoir.

This valve can also be furnished with auxiliary controls to meet the need for multiple functions, such as: pressure sustaining, pressure reduction, rate of flow control, solenoid override, etc. For applications requiring delayed opening, please refer to Cla-Val Model 211-03 Altitude Valve with Delayed Opening e-sheet.

## Schematic Diagram

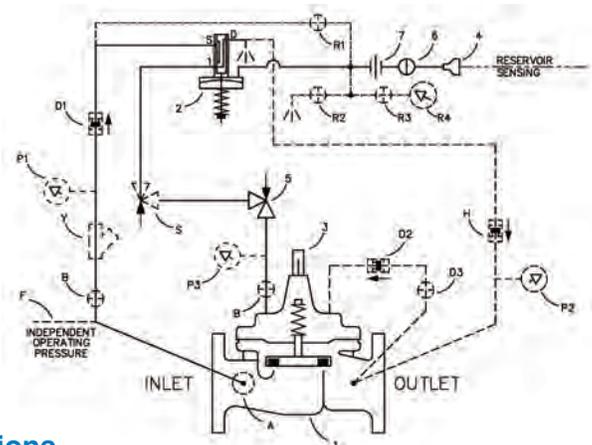
Item	Description
1	100-01 Hytrol Main Valve
2	CDS7 Altitude Control
3	X101 Valve Position Indicator
4	Bell Reducer
5	CV Flow Control (Closing)

## Optional Features

Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
H	Dry Drain
P	X141 Pressure Gauge
R	Reservoir Gauge with Tester
S	CV Flow Control (Opening)
Y	X43 "Y" Strainer



**NSF/ANSI 372:**  
National Lead Free  
Mandate "Reduction of  
Lead in Drinking  
Water Act"



## Typical Applications

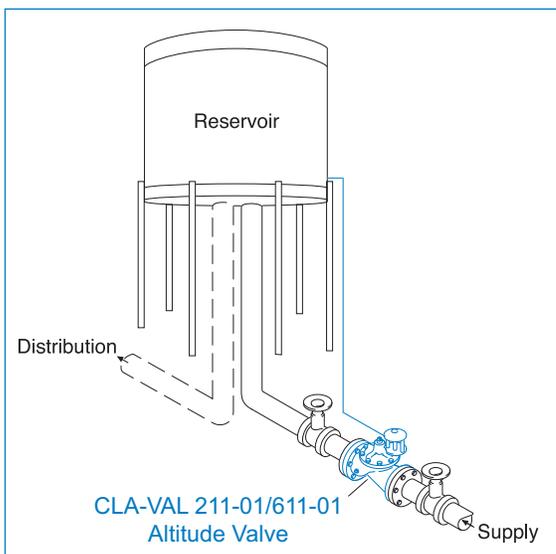
Used on reservoirs where water is withdrawn through the Altitude Valve. The valve closes at the high water level and opens for return flow when the pressure at the valve inlet lowers below the reservoir pressure. For more information see data sheet E-CDS7

### \*Notes:

- The reservoir pressure sensing line should be 3/4" minimum I.D. installed with a 2° slope from valve to reservoir to avoid air pockets.
- The sensing line should not be installed in the flowing line between the valve and the reservoir or into a turbulent flow area. These locations do not reflect the true static head of the reservoir.
- We recommend protecting tubing and valve from freezing temperatures.

### Product Dimensions Data:

For the 211-01 Main Valve (100-01) dimensions, see pages 17.  
For the 611-01 Main Valve (100-20) dimensions, see pages 29.





# MODEL 211-02

## Altitude Valve For Two-Way Flow with Delayed Opening

- Accurate and Repeatable Level Control
- Drip-Tight Positive Shut-Off
- Reliable Hydraulic Operation
- Easily Adjustable Control
- Completely Automatic Operation



The Cla-Val Model 211-02 Altitude Valve controls the high water level in reservoirs without the need for floats or other devices. It is a non-throttling valve that remains fully open until the shut-off point is reached. This valve closes at the high water level, and for return flow, delays its opening until the pressure at the valve inlet lowers to a preset adjustable pressure of one to seven pounds.

This valve is hydraulically operated and pilot controlled. The pilot control operates on the differential in forces between a spring load and the water level in the reservoir. When the force of the spring is overcome by the force of the reservoir head, the pilot closes the main valve. The desired high water level is set by adjusting the spring force. The pilot control measures the reservoir head through a customer supplied sensing line\* connected directly to the reservoir.

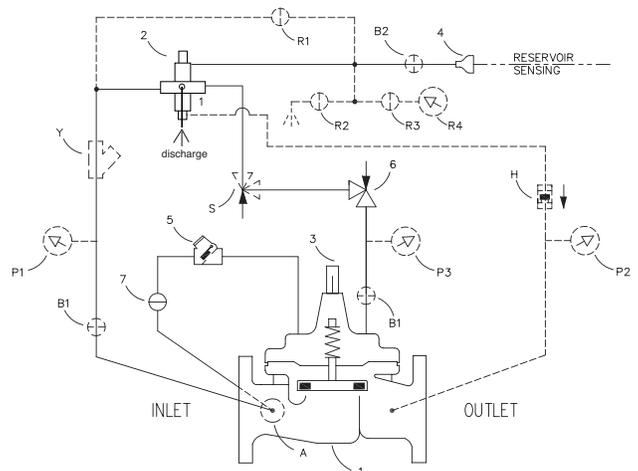
This valve can also be furnished with auxiliary controls to meet the need for multiple functions, such as: pressure sustaining, pressure reduction, rate of flow control, solenoid override, etc.

### Schematic Diagram

Item	Description
1	100-01 Hytrol Main Valve
2	CDS7-DO Altitude Control
3	X101 Valve Position Indicator
4	Bell Reducer
5	Check Valve
6	CV Flow Control (Closing)
7	CK2 Isolation Valve



**NSF/ANSI 372:**  
National Lead Free  
Mandate "Reduction  
of Lead in Drinking  
Water Act"



### Optional Features

Item	Description
A	X46A Flow Clean Strainer
B	CK2 Isolation Valve
H	Dry Drain
P	X141 Pressure Gauge
R	Reservoir Gauge with Tester
S	CV Flow Control (Opening)
Y	X43 "Y" Strainer

### Typical Applications

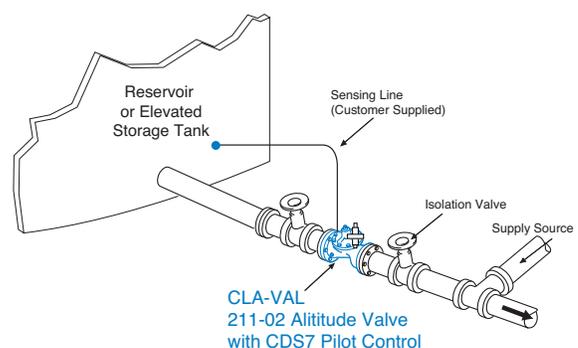
Used on reservoirs where water is withdrawn through the Altitude Valve. The valve closes at the high water level and opens for return flow when the pressure at the valve inlet lowers below the reservoir pressure. For more information see data sheet E-CDS7-DO

#### \*Notes:

- The reservoir pressure sensing line should be 3/4" minimum I.D. installed with a 2° slope from valve to reservoir to avoid air pockets.
- The sensing line should not be installed in the flowing line between the valve and the reservoir or into a turbulent flow area. These locations do not reflect the true static head of the reservoir.
- We recommend protecting tubing and valve from freezing temperatures.

### Product Dimensions Data:

For the 211-02 Main Valve (100-01) dimensions, see pages 17.  
For the 611-02 Main Valve (100-20) dimensions, see pages 29.



To Distribution



— MODEL — **CDS7**

# Altitude Pilot Control

- **Very Accurate and Reliable**
- **Low Maintenance**
- **Stainless Steel Wetted Parts**



The Cla-Val Model CDS7 Altitude Pilot Control is a spring-loaded, three-way, diaphragm-actuated control that provides high-level shutoff for Cla-Val 211 Series Altitude Control Valves. The CDS7 controls the high water level in a reservoir or tank without the need for floats or other devices. It is a non-throttling pilot that remains fully open until the reservoir reaches the high level shutoff point. High accuracy is assured by remotely sensing the pressure head of the reservoir or tank. The single adjusting nut can be easily set in the field to close the main valve when liquid level reaches the desired high level set-point within standard adjustment range.

The CDS7 operating principle uses a differential in forces between the spring load and the hydraulic head of the fluid level in the reservoir or tank to activate the pilot valve of the control. When the force of the spring setting (or the desired high level shutoff point) is overcome by the force of the reservoir head, the pilot valve shifts positions automatically and closes the main valve. When the reservoir head is eight to ten inches less than the spring setting, the pilot valve shifts to open the main valve.

— MODEL —

# CDS7-DO

# Altitude Pilot Control With Delayed Opening

- **Very Accurate and Reliable**
- **Low Maintenance**
- **Stainless Steel Wetted Parts**
- **DO- Delayed Opening**



The Cla-Val Model CDS7-DO Altitude Pilot Control is a spring-loaded, three-way, diaphragm-actuated control that provides high-level shutoff for Cla-Val 211 Series Altitude Control Valves. The CDS7-DO controls the high water level in a reservoir or tank without the need for floats or other devices. It is a non-throttling pilot that remains fully open until the reservoir reaches the high level shutoff point. High accuracy is assured by remotely sensing the pressure head of the reservoir or tank. The single adjusting nut can be easily set in the field to close the main valve when liquid level reaches the desired high level set-point within standard adjustment range.

The CDS7-DO operating principle uses a differential in forces between the spring load and the hydraulic head of the fluid level in the reservoir or tank to activate the pilot valve of the control. When the force of the spring setting (or the desired high level shutoff point) is overcome by the force of the reservoir head, the pilot valve shifts position automatically and closes the main valve. When the reservoir head is eight to ten inches less than the spring setting, the pilot valve shifts to open the main valve.

The DO feature provides an integral Delayed Opening function for independently adjusting the distance between the high and low water level. Example: To increase the delay to re-open main valve, turn the adjusting screw clockwise. To decrease the delay, turn the adjusting screw counterclockwise. Adjustment range on the delayed opening function is 1' to 16' feet of water. When delayed opening water level is achieved, the pilot control opens the main valve.

See individual e-sheets  
for more details