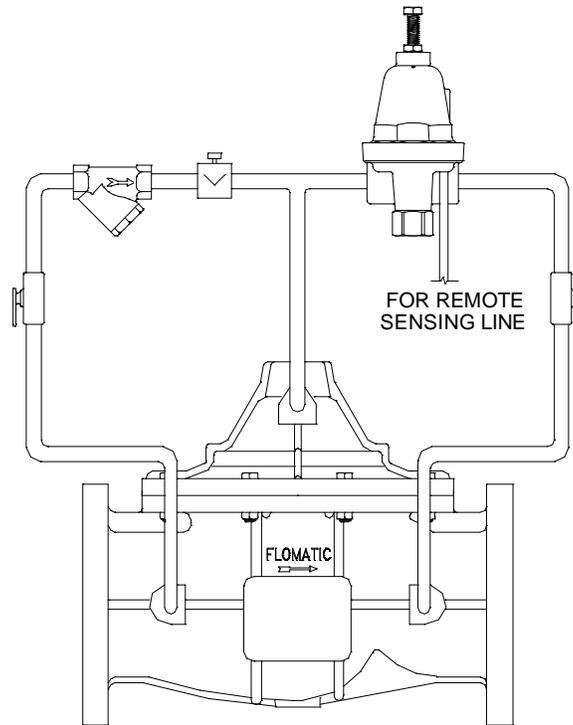


Operation & Maintenance Manual

Place this manual with valve or person responsible for maintenance of the valve



Model 201-Single Acting (One-Way) Altitude Valve (modulating type)

YOUR PRODUCT INFORMATION:

Model Number: _____

Date: _____

Serial Number: _____

Valve Size: _____

Factory Pilot Preset: _____ *psi*

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SINGLE ACTING (ONE WAY) ALTITUDE VALVE (MODULATING TYPE)

The Model C201 Pilot operated Single Acting Altitude Valve closes at a preset maximum water level to prevent overflow of a ground storage tank or reservoir and opens to refill when the water level in the tank or reservoir lowers.

This type of Altitude Valve should be used when the supply pressure is appreciably higher (15 psi+) than the head developed by a full ground storage tank or reservoir.

Flow from the tank or reservoir is usually to a zone of lower pressure or through a booster pump back to the supply.

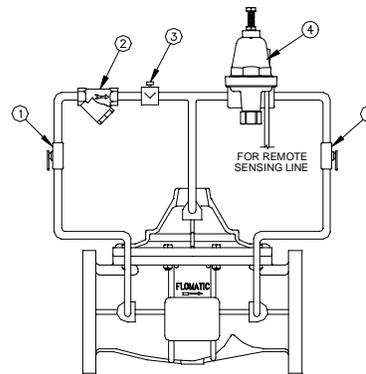
The modulating effect is evident only over the last few inches of filling so that a very gradual closure is achieved. Because of this modulating effect, the filling rate will be relatively slow as the tank or reservoir water level approaches shut off elevation.

CAUTION:

A separate static pressure sensing line is recommended to be installed between the altitude pilot valve and the tank or reservoir to insure that the altitude pilot valve accurately senses the true tank head. If the altitude valve is not installed immediately adjacent to the tank, reservoir, or basin; or if a high filling rate is anticipated; or if the tank has an overhead fill, a separate static pressure sensing line should be installed between the altitude pilot valve and the tank or reservoir to insure that the altitude pilot valve accurately senses the true tank head.

Part List

1. Shut-Off Valve
2. Y-Strainer
3. Orifice
4. Pilot Valve



SHIPMENT:

When shipped, controls are usually mounted on the main valve. If control subassemblies are shipped separately, all connections are tagged to insure correct assembly.

INSTALLATION:

1. Flush the pipeline before inserting the valve.
2. Install the valve with the "arrow" on body pointing in the direction of flow (usually towards the tank or reservoir).
3. Attach subassemblies to main valve if necessary.
4. Allow enough clearance above valve for removal of diaphragm assembly.
5. Connect sensing line to the reservoir. The sensing line should be connected directly to the reservoir.
6. Connect the pilot exhaust to drain. We suggest that it be connected so that the flow is visible, this will help when adjusting the pilot.

START-UP:

1. Install pressure gauges to inlet and outlet (optional).
2. Open both shut-off valves on the control assembly.
3. Open 1/4" testcock at the top of the valve.
4. Open main line shut-off valve (usually a gate or butterfly valve) on the outlet side of the main valve about 1/4 open.
5. Bleed air off the top cap, re-close the testcock.
6. Slowly open main line shut-off valve on the inlet side, this will allow the valve to fill the reservoir.
7. Watch the altitude gauge and noted the level where the valve closes.
6. If the level requires adjustment, turn the adjusting screw of the altitude valve counter clockwise to decrease the level, clockwise to increase the level. CAUTION: any adjustment should be done slowly.

OPERATION:

The Model 201 Single Acting (One Way) Altitude Valve maintains a preset fill level in a tank or reservoir by sensing the water column pressure through the altitude pilot and correspondingly opening or closing the main valve body.

TROUBLE SHOOTING GUIDE

A. PROBLEM : Valve fails to close on high water level	
CAUSE	CORRECTION
<ol style="list-style-type: none"> 1. Pilot set too high. 2. Pilot shut-off valve is closed. 3. Closing speed control closed tight. 4. Pilot sensing not connected. 	<ol style="list-style-type: none"> 1. Lower setting 2. Open valve 3. Open ½ turn or required 4. Check the connection and make sure that sensing line valve is open.
B. PROBLEM: Valve fails to open	
CAUSE	CORRECTION
<ol style="list-style-type: none"> 1. Pilot is set too low 	<ol style="list-style-type: none"> 1. Adjust pilot, clockwise to increase level.
C. PROBLEM: Valve hunts or chatters (evidenced by rapidly changing outlet pressure).	
<ol style="list-style-type: none"> 1. Valve is oversized. 2. Flow control valve (or needle-valve at the outlet side of controls) is out of adjustment. 3. Pilot valve seat packing is damaged. 	<ol style="list-style-type: none"> 1. Install a smaller pressure reducing valve in a bypass around the oversized valve to handle low flows and provide better control. 2. Slowly turn adjusting cap counter clockwise until the outlet pressure becomes steady. 3. Replace seat packing.
Test To Isolate Source Of Problem (After visual inspection of external leaks)	
<ol style="list-style-type: none"> 1. With the main line gate valves open and the reducing valve pressurized, close the control shut-off (isolation) valve at the outlet side of the pressure reducing pilot control. THE MAIN VALVE SHOULD CLOSE. If the valve remains fully open the source of the problem could be: <i>(A) fouled orifice or needle; (B) fouled strainer; (C) control shut off valve at inlet is closed; (D) ruptured main valve diaphragm.</i> If the valve is partially closed the source of the problem could be: <i>(A) damaged: main valve seat packing or seat ring; (B) debris under seat; (C) main valve is air-bound; (D) damaged stem O-ring.</i> If the valve closes fully, the source of the problem could be: <i>(A) pilot valve out of adjustment; (B) damaged pilot valve stem or set ring; (C) partially fouled strainer or needle valve.</i> 2. With the main line gate valves open and the reducing valve pressurized, close both shut-off (isolation) valves and open the air bleeder pet cock to release water out of the power chamber above the diaphragm of the reducing valve. Water will flow from the pet cock as the valve moves to the full open position. If water continues to flow, the source of the problem could be: <i>(A) damaged: main valve diaphragm or stem seal O-ring; (B) loose locknut.</i> 	