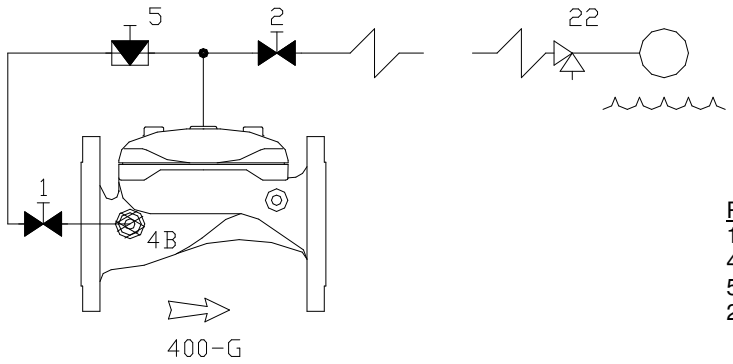
MODEL **450-60**

RESERVOIR VALVE (FLOAT VALVE)

■ MAINTENANCE ■ OPERATION ■ INSTALLATION



PARTS LIST

1, 2	Cock Valve.
4B	Stagnation In Line Self Washing Filter.
5	Needle Valve.
22	2-Way Float Pilot Valve.

DESCRIPTION

Model 450 -60 Reservoir Valve is an automatic control valve designed to fill reservoir or tanks and to shut off when the water reaches a pre-determined level.
The valve opening will modulate, adjusting the fill rate to a discharge flow while maintaining a constant upper level in the reservoir.
An upper control chamber, operating on a two way control principle, has varying pressure produced by pilot modulation and opens in conjunction with an upstream restriction needle valve.
If the water rises to a pre-determined level, float action will tend to close the pilot valve, and the main valve modulates to close

INSTALLATION

1. Allow enough room around the valve assembly for making adjustments and for future maintenance / disassembly work.
2. Thoroughly flush the pipeline to remove dirt, scale, and debris. Failure to perform this operation may render the valve inoperable.
3. It is recommended that an isolation valve be installed upstream of the Bermad control valve to allow for future maintenance operations.
4. Install the valve in the pipeline with the valve flow arrow on the body casting in the proper direction. Use the lifting eye provided on the main valve cover for raising and lowering the valve. Install the valve horizontally with the cover up for best performance.
5. After installation carefully inspect /correct any damaged accessories, piping, tubing, or fittings.
6. Install the 2 way float pilot valve #22 inside the water tank connecting it to the wall 30 cm. above the desire upper water level.
7. Connect the horizontal port of the float to cock valve #2 on the valve, using 1/2" pipe.

ON LINE STATIC TEST PROCEDURES

OPEN VALVE: STATIC TEST

1. Close cock valve #1 and #2 to isolate the pilot control system. This prevents dirt exposure in the control loop.
2. Remove plug from the cover of the valve.

Caution: This will allow the valve to fully open. Make sure that this condition does not cause system damage!

3. Check for leaks at the flange connection fittings etc.

CLOSE VALVE: STATIC TEST

1. Open cock valve #1 and close cock valve #2.
2. Close the plug on the cover. Pressure will be built in the main valve cover. Release tube connector slightly to release air traps and then close it. The main valve should close.
3. Check the valve cover and diaphragm for leaks, tighten bolts if necessary.

START-UP OPERATION

Note: Ensure upstream pressure exist.

1. Close cock valves 1 and 2 to isolate the control system. This prevents dirt exposure in the control loop.
2. Remove the cover plug on the main valve cover, allowing the valve to fully open.
3. Open isolation valves.
4. Replace the cover plug and close cock valve #2, the main valve will close.
5. The needle valve #5 is factory set at one to one-and-a-half turns. Turn the needle valve clockwise - to reduce the closing rate speed of the main valve - or vice versa.
6. Check valve operation by slowly opening / closing cock valve #2.

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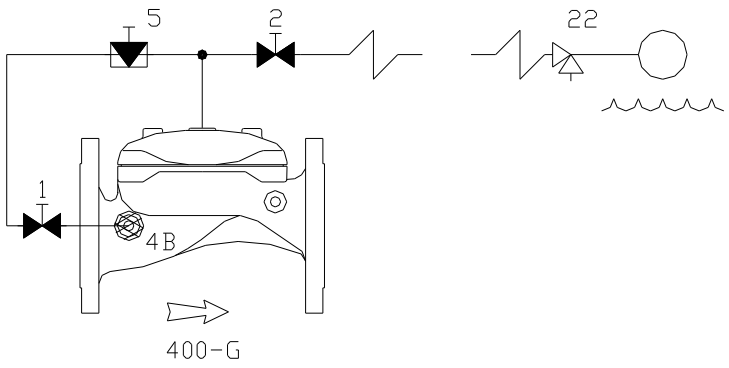
TROUBLESHOOTING

SYMPTOM	CAUSE	REMEDY
Valve fails to open.	1. Insufficient inlet pressure.	1. Check/create inlet pressure.
	2. Cock valve #2 closed.	2. Open cock valve #2.
	3. Float valve trapped in upper position.	3. Check float valve. (Flow should discharge when the valve is open).
	4. Needle valve #5 is open too much.	4. Close and readjust needle valve #5 on to one-and-a-half turns on.
Valve fails to close.	1. Needle valve #5 blocked or closed.	1. Open and readjust needle valve #5 on to one-and-a-half turns on.
	2. Cock valve #1 closed.	2. Open cock valve #1.
	3. Float pilot valve #22 trapped in lower position.	3. Check if float valve #22 is operating in upper position. Discharge flow should stop: if not, replace float valve.
	4. Diaphragm in main valve leaking.	4. Test for leakage. Close cock valves #1, #2 and remove the plug in the main valve cover. If a continuous flow exists, the diaphragm is damaged or loose.
	5. Debris trapped in main valve.	5. Remove and inspect diaphragm assembly. Check seat area.



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