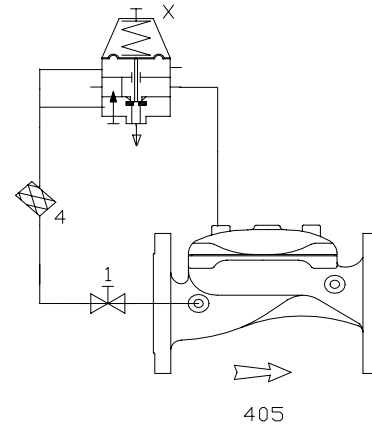


BERMAD Model 430-3W- 6"-up Pressure Relief/Sustaining Valve w/X Pilot

PART LIST

1	Ball Valve
4	Control Filter
X	Pressure Sustaining/Relief Pilot- 3W
405	Main Valve



DESCRIPTION

The Model 430-3W control valve will maintain a minimum upstream pressure.

Should upstream pressure fall below the setting of pilot X, the main valve will throttle toward a closed position to maintain the upstream pressure. If upstream pressure rises above pilot X setting, the main valve opens.

INSTALLATION

1. Allow enough room around the valve assembly for making adjustments and for future maintenance and 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 isolation gate valves be installed upstream and downstream 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 lower the valve. Install the valve horizontally with the cover up for best performance. Make certain the valve is positioned so the actuator assembly can be easily removed for future maintenance requirements.
5. After installation carefully inspect/correct any damaged accessories, piping, tubing, or fittings.

IN LINE STATIC TEST PROCEDURES

Open Valve Static Test

1. Close cock valve 1 to isolate the pilot control system. This prevents dirt exposure in the control loop.
2. Remove the small cover plug on the main valve cover. Caution: This will allow the valve to fully open. Make sure this condition will not cause system damage!
3. Check for leaks at the flange connection, fittings, etc.

Closed Valve Static Test

1. Create demand. open cock valve 1; the valve will close drip-tight.
2. Vent trapped air in the main valve cover by loosening a tube fitting at the highest point on the cover. This will trap the main valve in a closed position while the pipeline is pressurized.
3. Check the valve cover and diaphragm area for leaks. Tighten cover bolts/fittings if necessary.

START-UP OPERATION

NOTE: There must be flow and available set pressure through the valve and system to check and adjust the valve. Insure that a downstream demand is created by opening a hydrant, relief valve, bypass, etc...

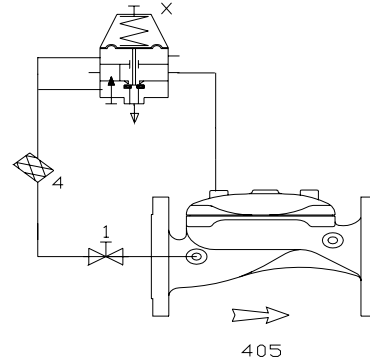
1. Open fully gate valves if applicable.
2. Fully turn adjusting screw on sustaining pilot X clockwise. Open cock valves 1. Main valve will remain closed.
3. Watching an upstream pressure gauge, slowly turn sustaining pilot X adjusting screw counter-clockwise until main valve begins to open.
4. Increase/decrease upstream pressure to desired setpoint by turning pilot adjusting screw. Turn CW to increase and CCW to decrease upstream pressure setting.
5. Tighten adjusting screw locknut. Verify adjustment by increasing upstream pressure above pilot setting, the valve should open and vice-versa.

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6in - up

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TROUBLESHOOTING

SYMPTOM	CAUSE	REMEDY
Valve Fails to Open	<ul style="list-style-type: none"> * Insufficient upstream pressure/flow. * Pipeline isolation valve closed. * Excessive sustaining pilot X spring compression. 	<ul style="list-style-type: none"> * Check/create inlet pressure/flow demand. * Open isolation valve. * Turn adjusting screw on sustaining pilot X counter clockwise CCW.
	<ul style="list-style-type: none"> * Filter 4 plugged. 	<ul style="list-style-type: none"> * Remove filter cap and screen to clean.
Valve Fails to Close	<ul style="list-style-type: none"> * Cock valve 1 closed. * Insufficient sustaining pilot X spring compression. * Debris trapped in main valve. 	<ul style="list-style-type: none"> * Open cock valve 1. * Turn adjusting screw sustaining pilot X clockwise CW. * Remove main valve cover. Inspect diaphragm/Inspect seat/Remove debris.
	<ul style="list-style-type: none"> ** Diaphragm in main valve leaking. 	<ul style="list-style-type: none"> ** Check by closing cock valves 1 and remove small cover plug. Continuous flow indicates diaphragm leakage. Test when there is at least 10 psi of downstream pressure.
Valve Fails to Regulate	<ul style="list-style-type: none"> * Air trapped in main valve cover. 	<ul style="list-style-type: none"> * Loosen cover tube fitting at highest point to bleed air. Retighten.

**CAUTION: Valve will be fully open. Close downstream gate valve or omit this test if this condition may cause system damage.



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