



IOM RAF 63-83

3-Way Pressure Sustaining/Reducing
Valve
2" – 4"



Jan-24

DESCRIPTION

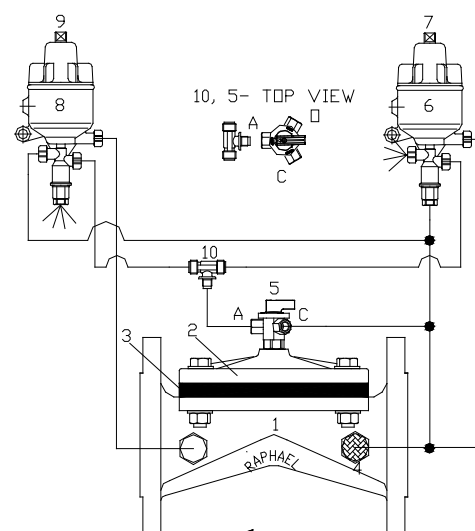
This pressure reducing / sustaining valve is an automatic control valve designed to perform two functions; 1. To sustain an upstream pressure to a preset minimum. 2. To reduce a higher upstream pressure into a preset lower downstream pressure, and to maintain this pressure constantly regardless of flowrate or upstream pressure fluctuations.

INSTALLATION

- Before installing the valve, flush the pipeline to remove scale, dirt and other particles that might affect the valve's performance.
- Install the valve as indicated by the arrow on the valve's cover, showing flow direction.
- It is recommended to install isolation valves (butterfly valves type B8) upstream and downstream the control valve.
- Turn the 3-way selector #5 to the "Close" position and turn on the water supply to the valve.
- Check for leaks; tighten bolts & fittings if necessary.

PARTS LIST

1. Body
2. Cover
3. Diaphragm
4. Self-Flushing "Finger" Filter
5. 3-Way Selector
6. 3-Way "Positioning" PS Pilot Model PC
7. Pressure Adjusting" Screw
8. 3-Way "Positioning" PR Pilot Model PC
9. Pressure adjusting screw
10. Shuttle Tee



OPERATING INSTRUCTIONS

1. Make sure that there is a downstream flow demand.
2. Turn adjusting screw #7 counterclockwise all the way.
3. Turn adjusting screw #9 clockwise all the way.
4. Turn the 3-way selector #5 to the "Auto" position.
5. Turn adjusting screw #7 clockwise, until water will be discharged from the discharge port of pilot #6 and turn adjusting screw #9 counterclockwise, until water will be discharged from the bottom of pilot #8.
6. the valve will start to open.
7. To decrease minimum upstream pressure that will allow the valve to open, continue to turn adjusting screw #7 clockwise one (1) turn at a time, allowing some time between turns for the valve to respond. Check upstream pressure until required pressure is achieved.
8. To increase minimum upstream pressure, turn adjusting screw #7 counterclockwise one (1) turn at a time, allowing some time between turns for the valve to respond. Check upstream pressure until required pressure is achieved.
9. To increase downstream pressure, continue to turn adjusting screw #9 counterclockwise one (1) turn at a time, allowing some time between turns for the valve to respond. Check downstream pressure until required pressure is achieved.
10. To decrease downstream pressure, turn adjusting screw #9 clockwise one (1) turn at a time, allowing some time between turns, allowing the valve to respond. Check downstream pressure until required pressure is achieved.

To open the valve completely, turn the 3-way selector #5 to the "Open" position. Please note that by so doing the pressure downstream will be as high as the pressure upstream.

To close the valve, turn the 3-way selector #5 to the "Close" position.

To maintain preset pressure, turn the 3-way selector to the "Auto" position.

MAINTENANCE

- No maintenance is required. However, from time to time it is recommended to rotate the 3-way selector 360° to prevent sticking by sediments.
- Check pressures. Adjust if required.
- It is recommended that the valve will be easily accessible as well as clearly marked to prevent damage.
- In freezing climates, the valve should be dismantled, and water drained during the winter months.

TROUBLESHOOTING RAF 63-83

PROBLEM	CAUSE	CHECK	SOLUTION
The valve does not open.	<ol style="list-style-type: none"> The 3-Way selector (5) is in the "Close" position. The 3-Way selector is clogged or damaged. Upstream pressure is lower than the preset sustained pressure. One or both pilots are clogged or damaged. 	<ol style="list-style-type: none"> Check state of selector. Turn selector to 'Open' position; No water is vented. 	<ol style="list-style-type: none"> Turn selector to "Auto" position. Turn off water supply to the valve. Dismantle the 3-Way selector, clean or replace if required. Reassemble and activate. Increase upstream pressure. <p>Turn off water supply to the valve. Clean water -passageways. If needed - Replace damaged pilot(s).</p>
The valve does not close.	<ol style="list-style-type: none"> The 3-Way selector is in the "Open" position. Foreign object on sealing seat or damaged diaphragm. Blocked self flushing filter (4). 	<ol style="list-style-type: none"> Check state of selector. Some water is still flowing downstream or there is a constant flow of water through the 3-Way selector when it is turned to the 'Open' position. <p>Very little flow from port # 4 when the tube is disconnected.</p>	<ol style="list-style-type: none"> Turn selector to the "Auto" or "Close" position. Turn off water supply to the valve. Dismantle the cover and the diaphragm and remove the foreign object. <p>Check that diaphragm body and cover are not damaged.</p> <p>Replace if needed. Reassemble and activate.</p> <p>Turn off water supply to the valve. Remove filter (4). Clean or replace if needed. Reassemble and activate.</p>
Unstable pressure.	<ol style="list-style-type: none"> Blocked or damaged pilot(s)(6,8) or shuttle tee (10). 	<ol style="list-style-type: none"> Unstable pressure downstream of the valve. 	<ol style="list-style-type: none"> Turn off water supply to the valve. Dismantle and clean drains in pilots and in shuttle tee. <p>Check membranes.</p> <p>In case of internal parts wear, change pilot(s).</p> <p>Reassemble and activate.</p>