



# **IOM RAF 80**

Pressure Sustaining Valve  
2-Way Metal Pilot  
2" - 12"



Jan-24

## DESCRIPTION

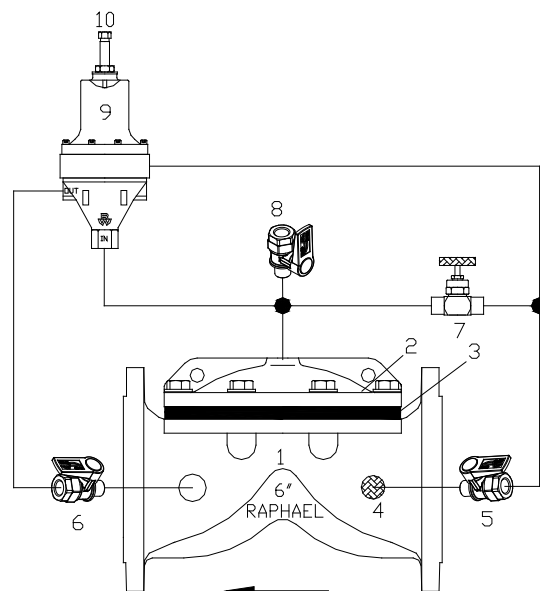
This pressure-sustaining valve is an automatic control valve designed to sustain a minimum upstream pressure as determined by the operator and relieve excess pressure to the downstream system (or to the atmosphere if required).

## INSTALLATION

- Before installing, 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.
- Close 2-way valves # 6 and # 8. Open 2-way valve # 5 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. Two-Way Valve
6. Two-Way Valve
7. Needle Valve
8. Two-Way Valve
9. Two-Way Pressure Sustaining Bronze Pilot P-181
10. Pressure Adjusting Screw



## OPERATING INSTRUCTIONS

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1. Make sure that there is a downstream flow demand.
2. Close needle valve # 7 all the way and then reopen it for 1-2 turns. The needle valve # 7 adjusts the hydraulic reaction speed. The more the needle valve # 7 is opened the quicker the reaction is. While adjusting the needle valve, please keep in mind that too quick of a reaction may cause a water hammer.
3. Loosen locking nut and turn adjusting screw # 10 clockwise all the way.
4. Open 2-way valve # 6.
5. Turn adjusting screw # 10 counterclockwise, until valve will start to open.
6. **To increase** minimum upstream pressure, turn adjusting screw # 10 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. Tighten locking nut on the adjusting screw # 10.
7. **To decrease** minimum upstream pressure, turn adjusting screw # 10 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. Tighten locking nut on the adjusting screw # 10.

**To manually open the valve completely, close the 2-way valves # 5 and # 6 and open 2-way valve # 8. Please note that by so doing, the pilot will be eliminated, and the pressure downstream will be as high as the pressure upstream.**

**To manually close the valve, close 2-way valves # 6 and # 8, and open 2-way valve # 5.**

## MAINTENANCE

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- No maintenance is required.
- Check upstream pressure. Adjust if required.
- It is recommended that the valve 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 80

PROBLEM	CAUSE	CHECK	SOLUTION
The valve does not open.	<ol style="list-style-type: none"> <li>1. Valve 6 is turned off.</li> <li>2. Blocked water connections.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check state of valve.</li> <li>2. Open valve 8.</li> </ol> <p><b>WARNING:</b>  <b>Maximum high pressure will pass through the valve.</b></p> <p>If the valve opens:</p>	<ol style="list-style-type: none"> <li>1. Open valve 6.</li> <li>2. Turn off water supply to the valve. Dismantle and clean connections. Reassemble and activate.</li> </ol>
The valve does not close.	<ol style="list-style-type: none"> <li>1. Valve 5 is turned off.</li> <li>2. Valve 8 is open.</li> <li>3. Blocked or stuck needle valve (7).</li> <li>4. Foreign object on the sealing seat.</li> <li>5. Blocked self-flushing filter (4).</li> </ol>	<ol style="list-style-type: none"> <li>1. Check state of valve.</li> <li>2. Check state of valve.</li> <li>3. Check state of valve.</li> <li>4. Constant small water flow downstream.</li> </ol>	<ol style="list-style-type: none"> <li>1. Open valve 5.</li> <li>2. Turn off valve 8.</li> <li>3. Repeat adjustment and operating instructions from 1 to 5.</li> <li>4. Turn off water supply to the valve. Remove cover and take away foreign object. Check that diaphragm body and cover are not damaged. Reassemble and activate.</li> <li>5. Turn off water supply to the valve. Remove filter. Clean and replace if needed. Reassemble and activate.</li> </ol>
Unstable pressure.	<ol style="list-style-type: none"> <li>1. Needle valve (4) is improperly adjusted.</li> <li>2. Blocked or damaged pilot.</li> <li>3. Blocked water connections.</li> </ol>	<ol style="list-style-type: none"> <li>1. Irregular downstream pressure.</li> <li>2. Irregular downstream pressure.</li> <li>3. Irregular downstream pressure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repeat adjustment and operation instructions from 1 to 5.</li> <li>2. Turn off water supply to the valve. Dismantle and clean drain connections in pilot. Check that membranes, lower seals and O rings are not damaged. Reassemble and activate.</li> <li>3. Turn off water supply to the valve. Dismantle and clean connections. Reassemble and activate.</li> </ol>