IOM RAF 82

2-Way Pressure Sustaining Control Valve 2” – 4”

RAPHAEL VALVES INDUSTRIES

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DESCRIPTION

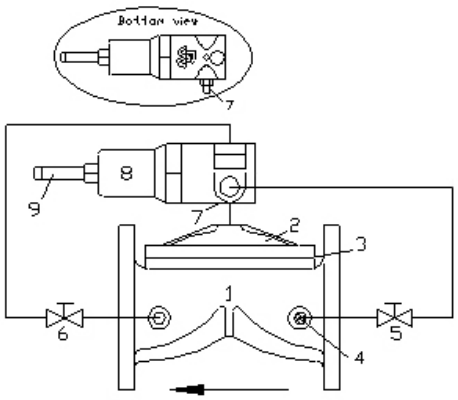
This pressure-sustaining valve is an automatic control valve designed to sustain a minimum upstream pressure as determined by the operator and relieve excess pressure to the downstream system (or to the atmosphere if required).

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 valve # 6. 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 Pressure Sustaining Brass Pilot P-182
9. Pressure Adjusting Screw



OPERATING INSTRUCTIONS

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 – 1 turn. 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 the more it is opened, the head loss across the valve will increase.
3. Loosen locking nut and turn adjusting screw # 9 clockwise all the way.
4. Open 2-way valve # 6.
5. Turn adjusting screw # 9 counterclockwise, until valve will start to open.
6. **To increase** minimum upstream pressure, turn adjusting screw # 9 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 # 9.
7. **To decrease** minimum upstream pressure, turn adjusting screw # 9 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 # 9.

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

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

To maintain preset pressure, open 2-way valves # 5 & # 6.

MAINTENANCE

- 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.

TROUBLSHOOTING RAF 82

PROBLEM	CAUSE	CHECK	SOLUTION
The valve does not open.	1. Valve 6 is turned off. 2. Blocked water connections.	1. Check state of valve. 2. Both 2-way valves (#5 & #6) are opened	1. Open valve 6. 2. Turn off water supply to the valve. Dismantle and clean all connections including valve's cover inlet. Reassemble and activate.
The valve does not close.	1. Valve 5 is turned off. 2. Blocked or stuck needle valve (7). 3. Foreign object on the sealing seat. 4. Blocked self-flushing filter (4).	1. Check state of valve. 2. Check state of valve. 3. Constant small water flow downstream.	1. Open valve 5. 2. Repeat adjustment and operating instructions from 1- 5. 3. 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. 4. Turn off water supply to the valve. Remove filter. Clean and replace if needed. Clean water connections, reassemble and activate.
Unstable pressure.	1. Needle valve (4) is improperly adjusted. 2. Blocked or damaged pilot. 3. Blocked water connections.	1. Irregular upstream pressure. 2. Irregular upstream pressure. 3. Irregular upstream pressure.	1. Repeat adjustment and operation instructions from 1 to 5. 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. 3. Turn off water supply to the valve. Dismantle and clean connections. Reassemble and activate.

RAPHAEL, founded in 1949, is the first Israeli manufacturer of water control valves. RAPHAEL´s research department constantly strives to introduce new and innovative products and solutions for water control systems including water works, fire-protection and irrigation systems.

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