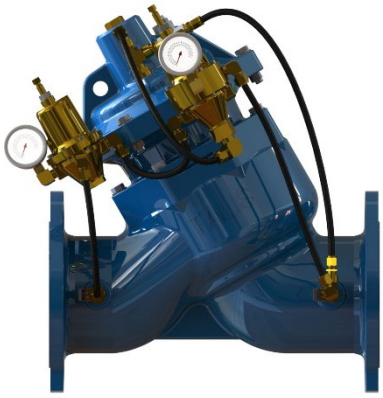


IOM RAVE 68

Pressure Sustaining/Reducing Valve
2-Way Metal Pilot
2”- 12”

RAPHAEL VALVES INDUSTRIES

Sep-24

DESCRIPTION

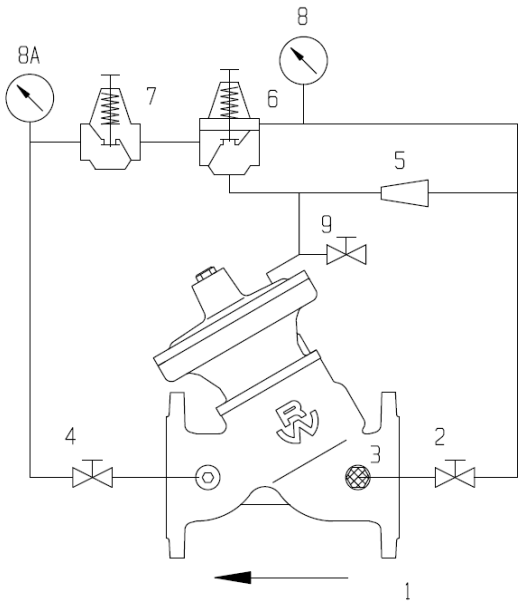
This pressure sustaining / reducing valve is an automatic control valve designed to perform two functions; 1. To sustain a preset minimum upstream pressure. 2. To reduce a higher upstream pressure into a preset lower downstream pressure, and to maintain this pressure constantly regardless of flowrate 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 B3) upstream and downstream the control valve.
- Close 2-way valves # 4 and # 9. Open 2-way valve # 2 and turn on the water supply to the valve.
- Check for leaks; tighten bolts & fittings if necessary.

PARTS LIST

1. Body
2. Cock valve
3. Filter
4. Cock valve
5. Needle valve
6. Pressure sustaining pilot P-181
7. Pressure reducing pilot P-161
8. / 8a. Pressure gauge
9. Cock valve



OPERATING INSTRUCTIONS

1. Make sure that there is a downstream flow demand.
2. Close needle valve # 5 all the way and then reopen it for 1-2 turns. The needle valve # 5 adjusts the hydraulic reaction speed. The more the needle valve # 5 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 # 6 clockwise all the way.
4. Loosen locking nut and turn adjusting screw # 7 counterclockwise all the way, so that there is no pressure on the pilot's spring.
5. Open 2-way valve # 4.
6. Turn adjusting screw # 6 counterclockwise & adjusting screw # 7 clockwise, until valve will start to open.
7. **To increase** minimum **upstream** pressure, turn adjusting screw # 6 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 # 6.
8. **To decrease** minimum **upstream** pressure, turn adjusting screw # 6 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 # 6.
9. **To increase downstream** pressure, continue to turn adjusting screw # 7 clockwise one (1) turn at a time, allowing some time between turns for the valve to respond. Check downstream pressure until required pressure is achieved. Tighten security nut on the adjusting screw # 7.
10. **To decrease downstream** pressure, turn adjusting screw # 7 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. Tighten security nut on the adjusting screw # 7.

To open the valve completely, close the 2-way valves # 2 and # 4 and open 2-way valve # 9. Please note that by so doing the pressure downstream will be as high as the pressure upstream.

To close the valve, close 2-way valves # 4 and # 9, and open 2-way valve # 2.

To maintain preset pressure, open 2-way valves # 2 and # 4 and close 2-way valve # 9.

MAINTENANCE

- No maintenance is required.
- Check downstream pressure. Adjust if required.
- It is recommended that the valve is 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 68

PROBLEM	CAUSE	CHECK	SOLUTION
The valve does not open.	1. Valve 4 is turned off. 2. Blocked water connections.	1. Check state of valve. 2. Open valve 9. WARNING: Maximum high pressure will pass through the valve. If the valve opens:	1. Open valve 4. 2. Turn off water supply to the valve. Dismantle and clean connections. Reassemble and activate.
The valve does not close.	1. Valve 2 is turned off. 2. Valve 9 is open. 3. Blocked or stuck needle valve (5). 4. Blocked self-flushing filter (4). 5. Foreign object on the sealing seat.	1. Check state of valve. 2. Check state of valve. 3. Check state of valve. 4. Constant small water flow downstream.	1. Open valve 2. 2. Turn off valve 9. 3. Repeat adjustment and operating instructions from 1 to 10. 4. Turn off water supply to the valve. Remove filter and clean or replace it if needed. Reassemble and activate. 5. Turn off water supply to valve. Remove cover and take away foreign object. Check that diaphragm body and cover are not damaged. Reassemble and activate.
Unstable pressure.	1. Needle valve is improperly adjusted. 2. Blocked or damaged pilots. 3. Blocked water connections.	1. Irregular downstream pressure. 2. Irregular downstream pressure. 3. Irregular downstream pressure.	1. Repeat adjustment and operation instructions from 1 to 10. 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.

RAPHAEL

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