



IOM RAF 60-31

Electric Remote Control Valve N.C.
2-Way Pressure Reducing
2" – 4"

RAPHAEL VALVES INDUSTRIES

Sep-24

DESCRIPTION

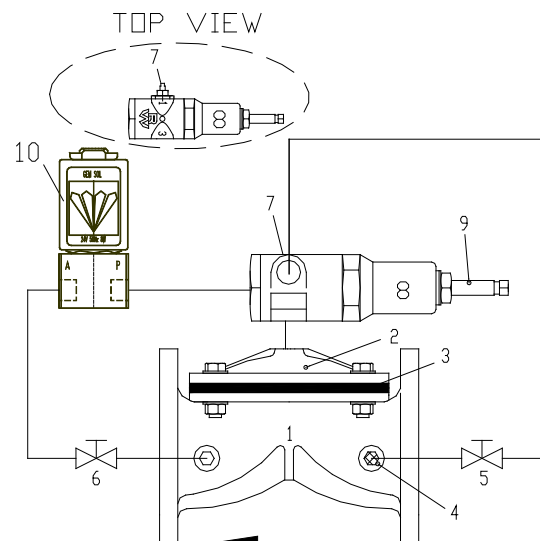
This pressure reducing valve is a NC (Normally Closed) electric remote controlled automatic valve designed to reduce a higher upstream pressure into a preset lower downstream pressure and to maintain this pressure constantly regardless of flowrate or upstream pressure fluctuations. "Normally" means the state of the valve when the solenoid is not energized.

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.
- Make sure that the solenoid has the right specifications and connect it to the energy source.
- 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. 2-Way Valve
6. 2-Way Valve
7. Needle Valve (on other side of pilot, not shown in drawing)
8. 2-Way Pilot Brass Pilot P-162
9. Pressure Adjusting Screw
10. 2-Way NC Solenoid



OPERATING INSTRUCTIONS

1. Make sure that there is a downstream flow demand.
2. Loosen security nut and close needle valve # 7 completely 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 # 9 counterclockwise until there is no pressure on the spring.
4. Open 2-way valve # 6 and energized solenoid # 10.
5. Turn adjusting screw # 9 clockwise, until valve will start to open.
6. **To increase** downstream pressure, turn adjusting screw # 9 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 locking nut on the adjusting screw # 9.
7. **To decrease** downstream pressure, 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. Tighten locking nut on the adjusting screw # 9.
8. After achieving the required downstream pressure, the valve is controlled electrically by solenoid # 10; When the solenoid is energized, the valve will open to maintain the preset pressure.
When the solenoid is de-energized, the valve will shut down.

To maintain preset pressure, open 2-way valves # 5 & # 6. Energize solenoid # 10.

To open the valve completely, energize solenoid # 10, close 2-way valves # 5 and open 2-way valve # 6. Turn adjusting screw #9 clockwise as far as it will go. The pressure downstream will be almost as high as the pressure upstream.

To close the valve, de-energize solenoid #10 or close 2-way valves # 6, and open 2-way valve # 5.

MAINTENANCE

- No maintenance is required.
- Check downstream 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 60-31

PROBLEM	CAUSE	CHECK	SOLUTION
The valve does not open.	<ol style="list-style-type: none"> 1. Valve (6) is turned off. 2. Solenoid (10) does not get electrical supply. 3. The solenoid's coil is damaged. 4. Blocked water connection or stuck Solenoid. 	<ol style="list-style-type: none"> 1. Check state of valve. 2. Check for loose contacts or inadequate electrical supply 3. Touch coil with a small screwdriver. It should be magnetized when solenoid is energized. 	<ol style="list-style-type: none"> 1. Open valve (6). 2. Wire properly and activate. 3. Replace magnetic coil. 4. Turn off water supply. Dismantle and clean the valve's water connections and Solenoid's drains. Reassemble and activate.
The valve does not close.	<ol style="list-style-type: none"> 1. Valve (5) is turned off. 2. Electrical supply to Solenoid is still on. 3. Blocked or stuck needle valve (7). 4. Stuck Solenoid (10). 5. Foreign object on the sealing seat. 6. Blocked self-flushing filter (4). 	<ol style="list-style-type: none"> 1. Check state of valve. 2. Check electrical supply 3. Check state of valve. 4. Turn off valve 6. The valve will close. 5. Constant water flow downstream. 	<ol style="list-style-type: none"> 1. Open valve (5). 2. Ensure that electrical supply is off. 3. Repeat adjustment accordingly to operating instruction (2). 4. Turn off water supply to valve. Dismantle and clean Solenoid's drains. Reassemble and activate. 5. Turn off water supply to the valve. Dismantle cover and diaphragm and remove foreign object. Check that diaphragm body and cover are not damaged. Reassemble and activate. 6. Turn off water supply to the valve. Remove filter. Clean or replace if needed. Reassemble and activate.