IOM RAF 60-31

Electric Remote Control Valve N.C.

3-Way Pressure Reducing (G75 solenoid)

2” – 4”

RAPHAEL VALVES INDUSTRIES

Sep-24

DESCRIPTION

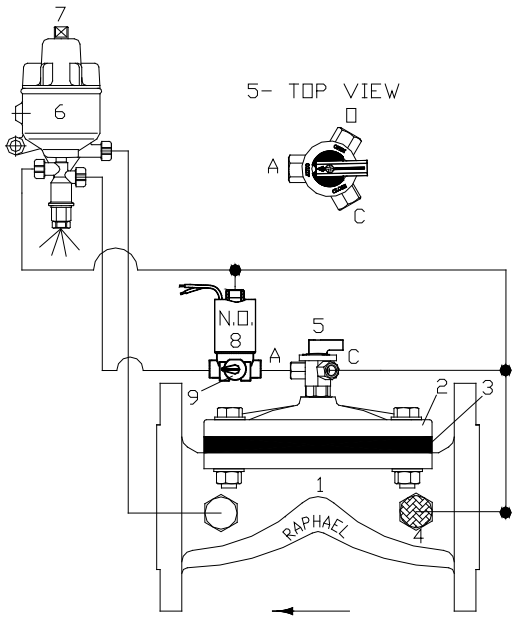
This pressure reducing valve is a NC (Normally Closed) electric remote controlled automatic valve designed to reduce a higher upstream pressure into a preset lower downstream pressure and to maintain this pressure constantly regardless of flowrate or upstream pressure fluctuations. “Normally” means the 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.
- 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 Pilot Model PC
7. Pressure Adjusting Screw
8. 3-way NO solenoid
9. Solenoid’s manual override



OPERATING INSTRUCTIONS

1. Make sure that there is a downstream flow demand.
2. Turn adjusting screw # 7 clockwise all the way.
3. Turn the 3-way selector # 5 to the "Auto" position.
4. Energize solenoid # 8.
5. Turn adjusting screw # 7 counterclockwise, until water will be discharged from the bottom of pilot # 6 and the valve will start to open.
6. To increase downstream pressure, continue to 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.
7. To decrease downstream pressure, 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.

To manually 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 manually close the valve, turn the 3-way selector # 5 to the "Close" position.
To operate the valve by an electric remote control, turn the 3-way selector to the "Auto" position.
To maintain preset pressure - energize solenoid # 8 or turn override # 9 to the open position.
To close the valve - de-energize solenoid # 8.

MAINTENANCE

- Check downstream pressure. Adjust if required.
- No maintenance is required. However, from time to time it is recommended to rotate the 3-way selector 360° to prevent sticking by sediments. During the off-season, energize the solenoid from time to time for the same reason.
- 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.

TROUBLSHOOTING RAF 60-31 G75

PROBLEM	CAUSE	CHECK	SOLUTION
The valve does not open.	1. The 3-Way selector (5) is in the Close position. 2. The solenoid (6) does not get electrical supply. 3. The solenoid (8) gets electrical supply, but the hydraulic valve does not open. Magnetic coil is damaged. 4. Blocked or stuck solenoid (8). 5. Blocked pilot #6.	1. Check state of the selector. 2. Check for loose contacts or faulty power supply. 3. Check magnetic coil by touching it with a small screwdriver. It should be magnetized when solenoid is energized. 4. No water from solenoid's drain. 5. No water coming out of the pilot's drain.	1. Turn selector to the Open or Auto position. 2. Reassemble and activate. 3. Replace damaged coil with a new one. Reassemble and activate. 4. Turn off water supply to the valve. Dismantle and clean solenoid's drain. Reassemble and activate. 5. Turn off water supply to valve. Dismantle and clean drainers in the pilot. Reassemble and activate.
The valve does not close.	1. The 3-Way selector (5) is in the Open position. 2. Power supply is not turned off or manual override # 9 is in the open position. 3. Blocked or stuck solenoid (8). 4. Foreign object on seal seat (3). 5. Blocked self-flushing filter (4).	1. Check state of selector. 2. Check electrical supply to the solenoid and position of override # 9. 3. Check manual closing option. 4. Poor water flow in the valve downstream.	1. Turn selector to the Auto or Close position. 2. Disconnect electrical supply or turn manual override # 9 to the automatic position. 3. Turn off water supply to the valve. Dismantle and clean drain connections of the solenoid. Reassemble and activate. 4. Turn off water supply to the valve. Remove cover and remove foreign object. Check that diaphragm, body and cover are not damaged. Reassemble and activate. 5. Turn off water supply to the valve. Remove filter to clean or change it. Reassemble and activate
Irregular flow.	1. Blocked or damaged pilot #6.	1. Irregular downstream pressure.	1. Turn off water supply to the valve. Dismantle and clean pilot's drains. Check state of the membrane. In case of internal parts wear, change pilot. 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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