



# IOM RAF 1031

Manual Control Valve, Electric float Control Valve  
3-Way Metal Solenoid 1"-16"

**RAPHAEL VALVES INDUSTRIES**

## DESCRIPTION

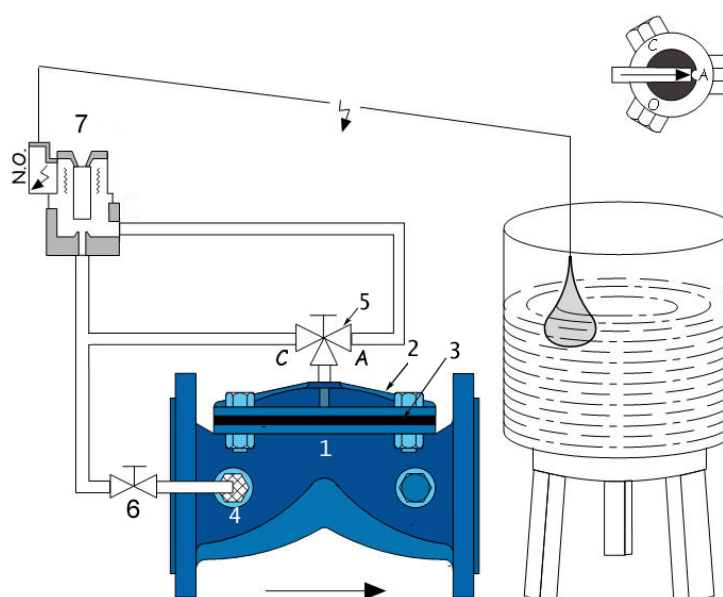
This dual level, electric, float control valve is an automatic control valve designed to open in full as water level drops and close shut at the levels determined by the float slack between the tank wall mounting point and the float.

## 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 B7G) upstream and downstream the control valve.
- Allow free venting of control chamber water from the solenoid valve venting port to a near by drain.
- Set the 3-way selector to "C" close position.
- Check for leaks; tighten bolts & fittings if necessary.

## PARTS LIST

1. Body
2. Cover
3. Diaphragm
4. Self-Flushing "Finger" Filter
5. Three-way selector valve
6. Two-way valve
7. 3-way Normally Open Solenoid



## OPERATING INSTRUCTIONS

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1. Set floats electrical cable slack to the desired water level under the float when the float is fully afloat at horizontal position. Now, let the float and cable drop down by its weight and set the minimum water level allowed. Make sure the float cable is well secured to the tank at the desired point.
  
2. **Connecting electricity:** Please make sure you are using the proper voltage to the solenoid as ordered.  
 Use the 3 wires provided in the float cable to determine the flowing signals:  
 On top level - no current to solenoid valve.  
 On minimum level - energize the solenoid valve. Connect (0) directly from power supply to solenoid. Connect (≈) to Black in float. Connect Blue from float to solenoid 2ed pole (make sure solenoid is grounded properly and the Brown is properly insulated).
  
3. Set the 3- way selector 5 to "A" (automatic) position. Now fill up the tank to the level that will float the electric float. At this point the electric signal to the solenoid must stop and the RAF should close. Now, allow the water level to drop and reach the minimum water level. At this point the solenoid valve should regain electricity and open the RAF.  
 Adjust float cable slack as necessary.
  - **To manually open the valve completely, turn the 3-way selector 5 to the "Open" position.**
  - **To manually close the valve, turn the 3-way selector # 5 to the "Close" position.**
  - **To operate the valve by the electric float, turn the 3-way selector to the "Auto" position.**

## MAINTENANCE

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- No maintenance is required.
- Check the water level. 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 or heat protected properly.

## TROUBLESHOOTING RAF 1031

| PROBLEM                 | CAUSE  | CHECK  | SOLUTION  |
|-------------------------|--|--|---|
| The Raf does not open.  | 1. The 3-Way selector (5) is in the "Close" position or is clogged or damaged.         | 1. Check state of selector.  | 1. Turn selector to the "Open" or "Auto" position. If no water is drained through these ports, turn off water supply to the valve, dismantle and clean vents. Replace selector if needed. Re-assemble and activate. |
|                         | 2. The float is not "dropped" enough.  | 2. Water level in the tank.  | 2. Adjust cable slack and attachment point as necessary.  |
|                         | 3. The solenoid 7 is not connected to power supply.                                    | 3. Check for loose wires or improper power supply.   | 3. Wire properly and activate.  |
|                         | 4. The solenoid 7 is energized, but the main valve does not open.                      | 4. Check coil by touching it with a small screwdriver. It should be magnetized when solenoid is energized. | 4/ Replace coil if needed or turn off water supply to the valve. Dismantle and clean solenoid's vents. Reassemble and activate.   |
| The Raf does not close. | 1. The 3-Way selector (5) is in the "Open" position.                                   | 1. Check state of selector.  | 1. Turn selector to the "Auto" or "Close" position.   |
|                         | 2. Power supply is still on.   | 2. Check electrical supply to the solenoid.  | 2. Float may be not fully afloat or/ damaged float contacts. Replace as necessary.  |
|                         | 3. Power supply is off, but valve does not close due to blocked or stuck solenoid (7). | 3. Check by manually closing the valve.  | 3. Turn off water supply to the valve. Dismantle and clean the solenoid's vents. Reassemble and activate.   |
|                         | 4. Foreign objects on sealing seat.  | 4. Water flow downstream.  | 4. Turn off water supply to the valve. Dismantle cover (2) and diaphragm (3). Remove foreign object. Check that diaphragm, body and cover are not damaged. Replace if required.                                     |
|                         | 5. Damaged diaphragm (3).  | 5. Water is constantly vented from solenoid.   | 5. Turn off water supply to valve. Disassemble filter, clean, or replace it. Re-assemble and activate.  |
|                         | 6. Blocked self-flushing finger filter (4)   | 6. No response to manually closing the valve.  |   |