IOM ULTRAF 6331

Ultrasonic Hydrometer Electric 24VAC 3-Way Pressure Reducing, Metal Pilot, w/ Pulse
1.5”- 4” (16 bar)

RAPHAEL VALVES INDUSTRIES

Sep-24

DESCRIPTION

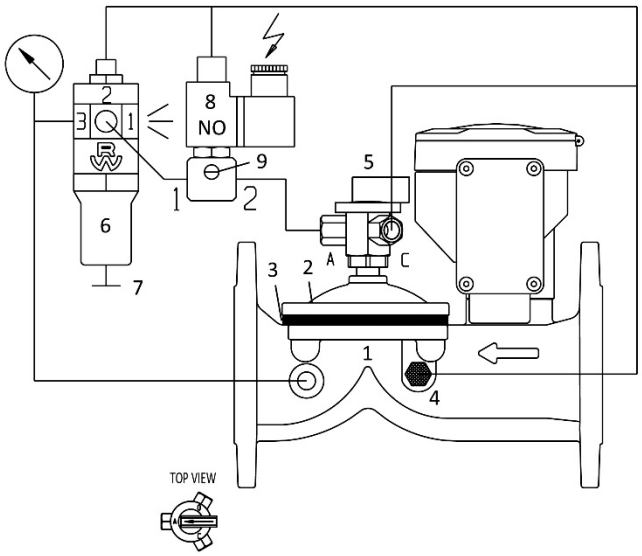
This water meter and pressure reducing valve is a NC (Normally Closed) electric controlled valve. When remotely energized, it is designed to reduce a higher upstream pressure into a preset lower downstream pressure and to maintain this pressure constantly regardless of flowrate or upstream pressure fluctuations. “Normally” means the state of the Ultraf when the solenoid is not energized.

INSTALLATION

- Before installing the Ultraf, 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 body, showing flow direction.
- Make sure that the solenoid has the right specifications and connect it to the controller power source.
- It is recommended to install isolation valves upstream and downstream the Ultraf.
- 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 P683
7. Pressure adjusting screw
8. 3-way solenoid 12-24VDC /24-110VAC
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 via the irrigation controller.
5. Turn adjusting screw 7 counterclockwise, until water will be discharged from the vent (1) of pilot 6 and the Ultraf will start to open.
6. To increase downstream pressure, continue to turn adjusting screw 7 counterclockwise one 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 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 Ultraf 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 Ultraf, turn the 3-way selector 5 to the “Close” position.

To operate the Ultraf by an electric command, turn 3-way selector 5 to the “Auto” position.

To irrigate – energize solenoid valve 8 or turn manual override 9 to vertical position (open position).

To stop irrigation – stop energizing the solenoid 8 and turn manual override 9 to horizontal position (close position).

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.
- 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 ULTRAF 6331

PROBLEM	CAUSE	CHECK	SOLUTION
The Ultraf does not open.	1. The 3-Way selector 5 is in the Close position.	1. Check state of the selector.	1. Turn selector to the Open or Auto position.
	2. The solenoid 8 does not get electrical command.	2. Check for loose wires or improper voltage.	2. Make sure voltage at solenoid is correct and continues.
	3. The solenoid 8 gets electrical command but the Ultraf does not open.	3. Check electric coil by gently clutching a thin steel screwdriver to the coil. It should be magnetized.	3. Replace damaged coil with a new one. Reassemble and activate.
	4. Blocked or stuck solenoid 8.	4. No water venting from pilot's drain (#1).	4. Turn off water supply to the valve. Dismantle and clean solenoid's drains. Reassemble and activate.
	5. Blocked pilot 6.	5. No water coming out of the pilot's drain (#1).	5. Turn off water supply to valve. Dismantle and clean drains in the pilot. Reassemble and activate.
	6. No irrigation program is "**on**".		6. Initiate an irrigation program.
The Ultraf 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. The solenoid 8 still under electrical command Or- manual override 9 is in the open position (vertical).	2. Check for voltage at solenoid socket and position of manual override 9.	2. Stop irrigation command. Turn manual override 9 to the automatic (horizontal) position.
	3. Blocked or stuck solenoid 8.	3. Check manual closing option using manual selector 5.	3. Turn off water supply to the valve. Dismantle and clean drain connections of the solenoid. Reassemble and activate.
	4. Foreign object on diaphragm seat 3.	4. Poor water flow downstream.	4. Turn off water supply to the valve. Remove cover 2 and remove foreign object. Check that diaphragm 3, body and cover are not damaged. Reassemble and activate.
	5. Blocked self-flushing filter 4.		5. Turn off water supply to the valve. Remove filter to clean or change it. Reassemble and activate
	6. Irrigation program is still **"on".**		6. Terminate/clear the current irrigation program.

Irregular pressure downstream .	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

RAPHAEL Valves Industries (1975) Ltd.

North Industrial Zone Or Akiva, 3063927 P.O.Box 555, Israel

Tel. +972 4 6263555 | info@raphael-valves.com | raphael-valves.com