



IOM ULTRAF 6331L

Ultrasonic Hydrometer Electric 24VAC 3-Way
Pressure Reducing, Metal Pilot, w/ Pulse
6" - 8" (16 bar)



 **RAPHAEL**

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DESCRIPTION

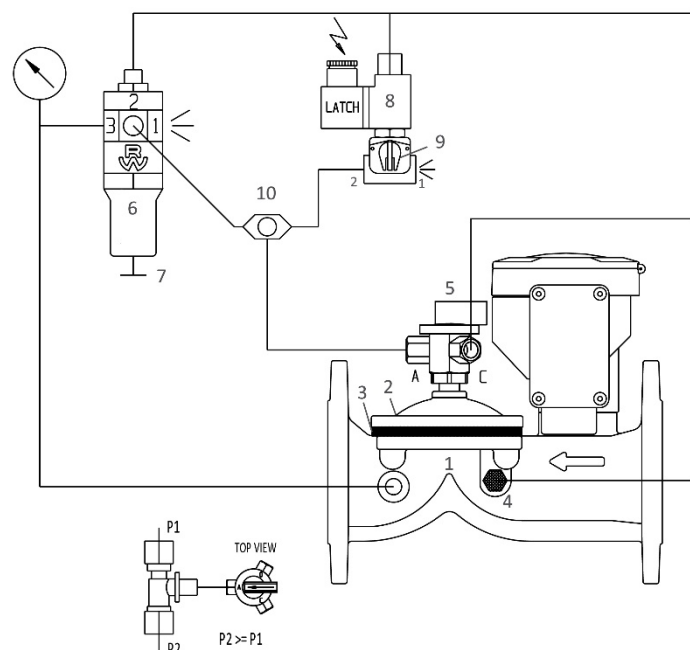
This programmable water meter and pressure reducing valve is a NC (Normally Closed) electric controlled valve designed to reduce a higher upstream pressure into a preset lower downstream pressure and to maintain this pressure constantly regardless of flowrate or upstream pressure fluctuations. “Normally” means the state of the Ultraf when the solenoid is under “close” command. Ultraf contains a volume-based irrigation controller that is programmed using the Raphael Application via mobile phone and Bluetooth® communication.

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 connected to the Ultraf solenoid activation output (consult Ultraf “Installation and Operation Guide”).
- 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 63
7. Pressure adjusting screw
8. 3-way Latching solenoid 12VDC
9. Solenoid’s manual override
10. Selector T



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 by initiating “manual volume” irrigation (consult Raphael “Irrigation Controller App User Guide”).
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. Turn override 9 counterclockwise then back to “Auto” (vertical) position.**
 - **To irrigate - initiate solenoid valve 8 to “Open” using the App. or turn override 9 clockwise (open position).**
 - **To stop irrigation - initiate solenoid valve 8 to “Close” using the App. or turn override 9 counterclockwise (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.

TROUBLESHOOTING ULTRAF 6331L

PROBLEM	CAUSE	CHECK	SOLUTION
The Ultraf does not open.	<ol style="list-style-type: none"> The 3-Way selector 5 is in the Close position. The solenoid 8 does not get electrical command. The solenoid 8 gets electrical command (valve icon on display shows "on") but the Ultraf does not open. Blocked or stuck solenoid 8. Manual override 9 is in the close position (counterclockwise). Blocked pilot 6. No watering program is "on". The Ultraf app shows "system off" mode. 	<ol style="list-style-type: none"> Check state of the selector. Check for loose batteries contacts or low voltage. Check electric coil by carefully listening to the shifting "click" sound. No water from pilot's drain. No water coming out of the pilot's drain. No water coming out of the pilot's drain. Valve icon on display shows "off". Check app's system mode. 	<ol style="list-style-type: none"> Turn selector to the "Open" or "Auto" position. Make sure contact surface is good/replace batteries if low. Replace damaged coil with a new one. Reassemble and activate. Turn off water supply to the valve. Dismantle and clean solenoid's drains. Reassemble and activate. Turn override 9 to "Auto" (vertical) position. Turn off water supply to valve. Dismantle and clean drains in the pilot. Reassemble and activate. Initiate a watering program. Use app to turn "system on".
The Ultraf does not close.	<ol style="list-style-type: none"> The 3-Way selector 5 is in the "Open" position. The solenoid 8 gets electrical command (valve icon on display shows "Off") but the Ultraf does not close. Or- manual override 9 is in the open position (clockwise). Blocked or stuck solenoid 8. Foreign object on seal seat 3. Blocked self-flushing filter 4. Watering program is still "on". 	<ol style="list-style-type: none"> Check state of selector. Check for loose batteries contacts or low voltage. And position of override 9. Check manual closing option using selector 5. Poor water flow downstream. Valve display icon shows "on". 	<ol style="list-style-type: none"> Turn selector to the "Auto" or "Close" position. Make sure contact surface is good/replace batteries if low. Or- turn manual override 9 to the automatic (vertical) position. Turn off water supply to the valve. Dismantle and clean drain connections of the solenoid. Reassemble and activate. 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. Turn off water supply to the valve. Remove filter to clean or change it. Reassemble and activate. Terminate/clear the watering program.

	7. The T selector 10 is stuck in position.	7. Try manual closing using selector 5.	7. Turn off water supply to the valve. Dismantle and clean connections in T selector. Reassemble and activate.
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.