IOM ULTRAF-IC

Ultrasonic Hydrometer Irrigation Controller
2”- 8” (16 bar)

RAPHAEL VALVES INDUSTRIES

Sep-24

DESCRIPTION

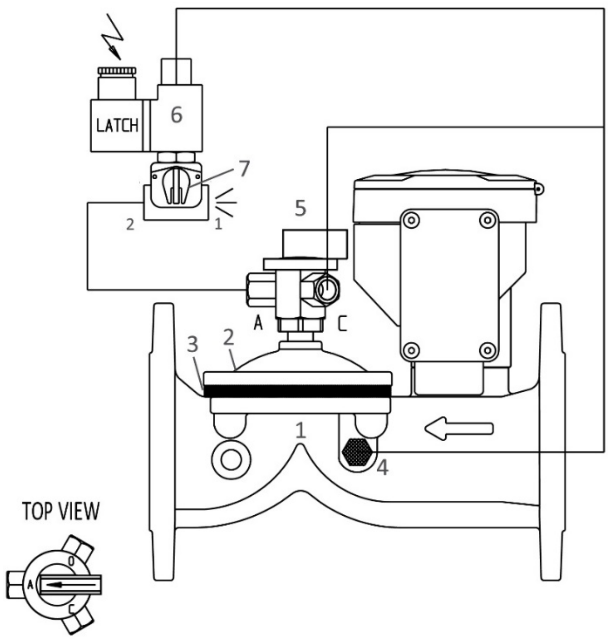
This programmable water meter and electric valve is a NC (Normally Closed) electric controlled valve designed to open autonomously and perform irrigation schedule as programmed in advance. “Normally” means the state of the Ultraf when the solenoid is under **“close”** command. Ultraf contains a volume based irrigation controller that may be 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 Latching solenoid 12VDC
7. Solenoid’s manual override



OPERATING INSTRUCTIONS

1. Make sure that there is a downstream flow demand.
2. Turn the 3-way selector 5 to the “Auto” position.
3. Energize solenoid 6 by initiating “manual volume” irrigation (consult Raphael “Irrigation Controller App User Guide”). Ultraf will open to deliver the set water amount then automatically close shut.

To manually open the Ultraf completely, turn the 3-way selector 5 to the “Open” position.

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 7 counterclockwise then back to “Auto” (vertical) position. .

To irrigate - initiate solenoid valve 6 to “Open” using the App. programming schedule or turn override 9 clockwise (open position).

To stop irrigation - initiate solenoid valve 8 to “Close” using the App. programming schedule or turn override 9 counterclockwise (close position)

MAINTENANCE

- 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-IC

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 6 does not get electrical command.	2. Check for loose batteries contacts or low voltage.	2. Make sure contact surface is good/replace batteries if low.
	3. The solenoid 8 gets electrical command (valve icon on display shows "on") but the Ultraf does not open.	3. Check electric coil by carefully listening to the shifting "click" sound.	3. Replace damaged coil with a new one. Reassemble and activate.
	4. Blocked or stuck solenoid 6.	4. No water from solenoid's drain (1).	4. Turn off water supply to the valve. Dismantle and clean solenoid's drain. Reassemble and activate.
	5. Manual override 7 is in the close position (counterclockwise).	5. No water from solenoid's drain (1).	5. Turn override 7 to "Auto" (vertical) position.
	6. No watering program is "**on**".	6. Valve icon on display shows "**off**".	6. Initiate a watering program.
	7. The Ultraf app shows **"system off"** mode.	7. Check app's system mode.	7. Use app to turn **"system on"**.
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 6 gets electrical command (valve icon on display shows "Off") but the Ultraf does not close. Or- manual override 7 is in the open position (clockwise).	2. Check for loose batteries contacts or low voltage. And position of override 7.	2. Make sure contact surface is good/replace batteries if low. Or- turn manual override 7 to the automatic (vertical) position
	3. Blocked or stuck solenoid 6.	3. Check manual closing option using 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 seal seat 3.	4. Poor water flow downstream.	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. Blocked self-flushing filter 4.		5. Turn off water supply to the valve. Remove filter to clean or change it. Reassemble and activate
	6. Watering program is still **"on".**	6. Valve display icon shows "**on".**	6. Terminate/clear the watering program.

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