IOM ULTRAF 683

Ultrasonic Hydrometer 3W Pressure Reducing & Sustaining Metal Pilot, w/ Pulse 1.5”-8” (16 bar)

RAPHAEL VALVES INDUSTRIES

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DESCRIPTION

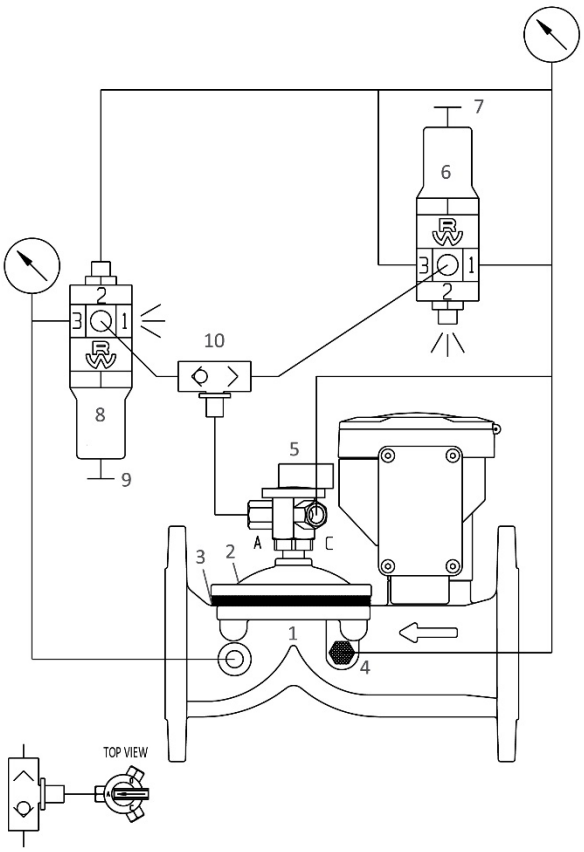
This water meter and pressure reducing / sustaining valve is an automatic control valve designed to perform two functions: To sustain an upstream pressure to a preset minimum. To reduce a higher upstream pressure into a preset lower downstream pressure, and to maintain those pressures constantly regardless of flow-rate demand or upstream pressure fluctuations.

INSTALLATION

- Before installing the Ultraf, flush the pipeline to remove scale, dirt and other particles that might affect the valve's performance.
- Install the Ultraf as indicated by the arrow on the valve's body, showing flow direction.
- It is recommended to install isolation valves 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 "sustaining" pilot model P683S
7. Pressure adjusting screw
8. 3-way "reducing pilot model P683
9. Pressure adjusting screw
1. Shuttle (selector)



OPERATING INSTRUCTIONS

1. Make sure that there is a downstream flow demand.
2. Turn adjusting screw 7 clockwise all the way.
3. Turn adjusting screw 9 counterclockwise all the way.
4. Turn the 3-way selector 5 to the "Auto" position.
5. Turn adjusting screw 7 counterclockwise, until water will be discharged from the vent port (2) of pilot 6.
   The Ultraf will start to open.
6. To decrease minimum upstream pressure that will allow the Ultraf to open, continue to turn adjusting screw 7 counterclockwise one turn at a time, allowing some time between turns for the valve to respond. Check upstream pressure until required pressure is achieved.
7. To increase set upstream pressure, turn adjusting screw 7 clockwise one turn at a time, allowing some time between turns for the valve to respond. Check upstream pressure until required pressure is achieved.
8. To increase downstream set pressure, turn adjusting screw 9 counterclockwise one turn at a time, allowing some time between turns for the valve to respond. Check downstream pressure until required pressure is achieved.
9. To decrease downstream pressure, turn adjusting screw 9 clockwise one turn at a time, allowing some time between turns, allowing the valve to respond. Check downstream pressure until required pressure is achieved.
10. It is advised to set 1 bar (14psi), or more, between sustained pressure and reduced pressure settings.

To open the Ultraf completely, turn 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 close the Ultraf, turn 3-way selector 5 to the "Close" position.

To maintain preset pressure, turn 3-way selector to the "Auto" 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.
- Check pressures. Adjust if required.
- 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 683

PROBLEM	CAUSE	CHECK	SOLUTION
The Ultraf does not open.	1. The 3-Way selector 5 is in the "close" position.	1. Check state of selector.	1. Turn selector to "auto".
	2. The 3-Way selector 5 is clogged or damaged.	2. Turn selector to 'Open' position; No water is vented.	2. Turn off water supply to the valve. Dismantle the 3-way selector, clean or replace if required. Reassemble and activate.
	3. Upstream pressure is lower than the preset sustained pressure.	3. Check upstream pressure.	3. Increase upstream pressure or set lower sustained pressure.
	4. One or both pilots are clogged or damaged.	4. Check manual opening using 3-way selector.	4. Turn off water supply to the valve. Clean drain ports and check membranes. If needed - Replace damaged pilot(s).
The Ultraf does not close.	1. The 3-Way selector is in the "open" position.	1. Check state of selector.	1. Turn selector to the "auto" or "close" position.
	2. Foreign object on sealing seat or damaged diaphragm 3.	2. Poor water flow downstream.	2. Turn off water supply to the valve. Dismantle cover 2 and diaphragm 3 and remove the foreign object. Check that diaphragm body and cover are not damaged. Replace if needed. Reassemble and activate.
	3. Blocked self-flushing filter.		3. Turn off water supply to the valve. Remove filter 4. Clean or replace if needed. Reassemble and activate.
	4. Blocked shuttle T 10.		4. Turn off water supply to the valve. Remove T 10. Clean or replace if needed. Reassemble and activate.
Unstable pressures.	1. Blocked or damaged pilots 6/8 or shuttle T (10).	1. Set pressures are not met when flow or inlet pressure changes.	1. Turn off water supply to the valve. Dismantle and clean drains in pilots and in shuttle T. Check membranes. In case of internal parts wear, change pilot(s). 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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