IOM ULTRAF 60

Ultrasonic Hydrometer - Pressure Reducing
2”-8” (16 bar)

RAPHAEL VALVES INDUSTRIES

Sep-24

DESCRIPTION

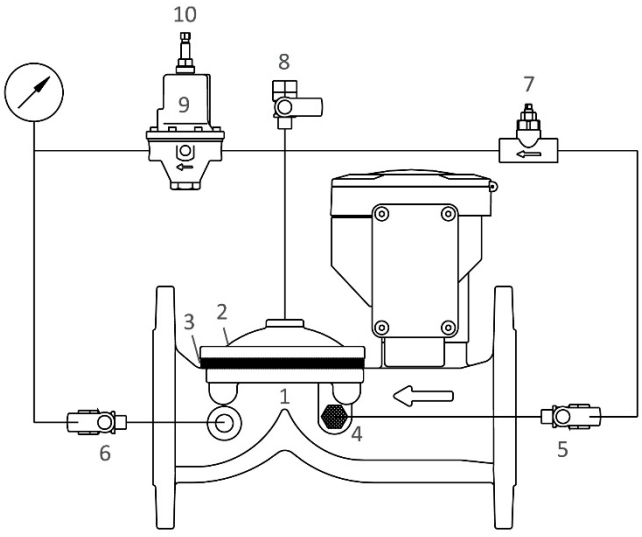
This water meter and pressure-reducing valve is an automatic control valve designed to reduce a higher upstream pressure into a preset lower downstream pressure, and to maintain this pressure constantly regardless of flowrate or upstream pressure fluctuations.

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.
- Close 2-way valves 6 and 8. Open 2-way valve 5 and turn on the water supply to the Ultraf.
- Check for leaks; tighten bolts & fittings if necessary.

PARTS LIST

1. Body
2. Cover
3. Diaphragm
4. Self-flushing "finger" filter
5. 2-way cock valve
6. 2-way cock valve
7. Needle valve
8. 2-way cock valve
9. 2-way pressure reducing pilot P-161
10. Pressure adjusting screw



OPERATING INSTRUCTIONS

1. Make sure that there is a downstream flow demand.
2. Close needle valve 7 all the way and then reopen it for 1-2 turns. The needle valve adjusts the hydraulic reaction speed.
3. Loosen security nut and turn adjusting screw 10 counterclockwise, so that there is almost no pressure on the pilot's spring.
4. Open 2-way valve 6.
5. Turn adjusting screw 10 clockwise, until the Ultraf will start to open.
6. To increase downstream pressure, continue to turn adjusting screw 10 clockwise one turn at a time, allowing some time between turns for the Ultraf to respond. Check downstream pressure until required pressure is achieved. Tighten security nut on the adjusting screw 10.
7. To decrease downstream pressure, turn adjusting screw 10 counterclockwise one turn at a time, allowing some time between turns for the valve to respond. Check downstream pressure until required pressure is achieved. Tighten security nut on the adjusting screw 10.

   To open the Ultraf completely, close the 2-way valves 5 & 6 and open 2-way valve 8. Please note that by so doing the pressure downstream will be as high as the pressure upstream.

   To close the Ultraf, close 2-way valves 6 & 8, and open 2-way valve 5.

   To maintain preset pressure, open 2-way valves 5 & 6 and close 2-way valve 8.

MAINTENANCE

- No maintenance is required.
- Check downstream pressure. Adjust if required.
- It is recommended that the Ultraf be easily accessible as well as clearly marked to prevent damage.
- In freezing climates, the Ultraf should be dismantled and water drained during the winter months.

TROUBLSHOOTING ULTRAF-60

PROBLEM	CAUSE	CHECK	SOLUTION
The Ultraf does not open.	1. The is turned OFF. 2. Blocked water connections	1. Check state of valve. 2. Open valve 8. **WARNING: Maximum high pressure will pass through the ULTRAF.**	1. Open valve 6. 2. Turn off water supply to the valve. Dismantle and clean connections in the valve. Reassemble and activate
The Ultraf does not close.	1. Valve 5 is turned off. 2. Valve 8 is open. 3. Clogged or stuck needle valve 7. 4. Blocked self-flushing finger filter 4. 5. Foreign object on seal.	1. Check state of valve. 2. Check state of valve. 3. Check state of valve. 5. Poor water flow downstream.	1. Open valve 5. 2. Turn off valve 8. 3. Repeat adjustment and operating instructions 1-2. 4. Turn off water supply to the valve. Remove filter and clean or replace it if needed. Reassemble and activate. 5. Turn off water supply to valve. Remove cover 2 and take away foreign object. Check that diaphragm 3, body and cover are not damaged. Reassemble and activate.
Unstable pressure	1. Needle valve 7 is improperly adjusted. 2. Blocked or damaged pilot 9. 3. Blocked water connections.	1. Irregular downstream pressure. 2. Irregular downstream pressure. 3. Irregular downstream pressure.	1. Repeat adjustment and operation instructions 1-2. 2. Turn off water supply to the valve. Dismantle and clean drain connections in pilot. Check that membrane and lower seal are not damaged. Reassemble and activate. 3. Turn off water supply to the valve. Dismantle and clean connection ports. Reassemble and activate