Domestic Ultrasonic Water Meter

Accurate Flowmeters’ Domestic Ultrasonic Water Meters are not made in a day; they are the result of 20 years rich field experience. They are designed in such a way that it overcomes all the problems in the field, sustains from tampering, maintains accuracy all along its flow range, and hence it is a very reliable flowmeter. Not only the quality, these meters is also designed to compete and substitute the mechanical water meters price wise. And they are also the most featuristic water meters ever made. What more…..the sensors are mounted in such a way that there shall not be any “Air Entrapment” problem. And we have ruled out using the “Reflectors” which minimise the pressure drop and also the related problems.

Features & Functions:

1. The UWM can display both Flow Rate & Total Flow. Day Total, Month Total, Year Total can also be displayed. Date & Time Displayed.
2. Shall indicate Over flow and Reverse Flow.
3. Can indicate Water Leak
4. It can also indicate Non-Use (no flow for several days)
5. Battery Status indication and Low Battery Alert
6. Output optional.
7. Several Output options. Wired and wireless Output options.
8. Can monitor Flow. Pressure, Temperature and Water Quality monitoring options are also available.
9. Price and Slab feature is also optional. Billing cycle can be selected. Water consumed and the Total Amount for it can be displayed.
10. Tamper Proof and Tamper Alert
11. IP68 grade. Shall work upto 2 meters under water.
12. High Resolution, Quick response
13. Long Battery life (estimated for more than 10 years)
14. Accuracy within 1%, R=500 or more
15. -10 to 90°C resistant
16. Shall measure only water and not air
17. Shall sustain little amount of sand or grit.
18. Initially available in 15mm to 40mm sizes. Higher diameters shall be introduced later.
19. Wide flow range / wide velocity range (0.001 to 30MPS)
20. Datalogging facility
21. Lifetimw Stability of Accuracy
22. Languages – Standard English; French or Arabic options available
23. Flow units – Selectable
24. Single Key operation – Easy and User friendly
25. Prepaid or clubbed with Smart Valve options available
26. MOC options: Brass or Lead free Plastic

Technical Specifications:
Fluid: Clear Water
Measurement Principle: Ultrasonic Transit Time
Display (Cubic Meters):
- Flowrate: 2 digits plus 4 decimal digits
- Cumulative Total: 8 digits plus 4 decimal digits
- Billing cycle Total: 4 digits plus 4 decimal digits
Power source options:
- Inbuilt Battery, 3.6V, 19Ah or
- Rechargeable battery with external DC power or
- Rechargeable battery with Solar Panel or
- External uninterrupted Power

Accuracy: Better than ±1% of FS
Max. Process Temperature: 90°C
Max. Process Pressure: 16kg/cm²
Battery Life: Standard 3 to 10 years. Depends on several parameters
Ingress Protection: IP68
Process Connections: BSP Male Threaded
Operating Conditions:
- Temperature: -10 ~ 55°C
- Humidity: 5 ~ 95% (Non-condensing)

MOC:
- Wetted Parts: Brass / Lead free Plastic
- Housing: ABS Plastic
Data logging: 7 years data with Daily Total
Output: Pulse, UART, RF, LoRa, GSM (optional)
Dimensions:
- Customer may choose from different models
Size:
- Domestic: 15mm to 40mm
- Industrial: 50mm to 2000mm
Standard Flow Ranges:

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>Flow Range  (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>0.016 ~ 3.125</td>
</tr>
<tr>
<td>20</td>
<td>0.025 ~ 5.00</td>
</tr>
<tr>
<td>25</td>
<td>0.039 ~ 7.875</td>
</tr>
<tr>
<td>40</td>
<td>0.1 ~ 40.00</td>
</tr>
</tbody>
</table>

Marked Explanations:

1. While confirming the Mechanical Design of our Ultrasonic Water Meters, we considered all the field problems, which we know out of our 20 years rich field experience. For example many of the Ultrasonic Water Meters have the problem of Air Entrapment, because of the cavities of the transducers. The Air always tends to go up because of its lightweight and so gets entrapped in the transducers’ cavities, which are on the topside of the UWM base pipe. So we have mounted our sensors on the sides of the spool piece or the transducers shall be projected into the spool piece and there shall not be any scope for the air entrapment.

The reflectors cause lot of pressure drop and also prone for sedimentation. This shall cause maintenance. We have done away with reflectors so no pressure drop problem and no sedimentation problems.

2. We have not provided any On / Off switch to avoid tampering. The moment the battery is connected, the meter starts working. The consumer cannot switch it off and misappropriate the water consumption readings.

3. Air entrapment explained in Point No. 1

4. Reflectors explained in Point No. 1

5. The Utilities people or the client can program the Price of water into the meter. He can also program the slab rate; like Rs. 1 per 100 liters upto 500 liters and then Rs. 1.2 per liter after 500 liters.

Note:

1. Please advise us with more features and functions what you desire. We shall try to incorporate them.

2. We are always positive for customisation and upgradation. Kindly share your valuable feedback.