

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 problems¹ in the field, sustains from tampering², maintains accuracy all along its flow range, and hence it is a very reliable flowmeter. Not only the quality, these meters are also designed to compete and substitute the mechanical water meters pricewise. 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"³ problem. And we have ruled out using the "Reflectors"⁴ 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 Slab⁵ 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 90⁰C 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. Lifetime Stability of Accuracy
22. Languages – Standard English; French or Arabic options available



Accurate Flowmeters & Instrumentation Pvt. Ltd.
(Formerly RR Flowmeters Pvt. Ltd.)

Head Office : G1, Sai Thirumala Heights, Plot No. 54, 55 & 91, Bhandari Layout, Nizampet, Hyderabad - 500090, INDIA.
Tel : +91 - 40 - 2980 3333, Telefax : +91 - 40 - 2980 2323, Mobile : +91- 9490 262626

Factory : Plot No. 71 & 82, Sy. No. 139, Aminpur Village, Patancheru Mandal, District Medak - 502032



- 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) ⁷ : | | |
| 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 $\pm 1\%$ of FS |
| Max. Process Temperature | : | 90°C |
| Max. Process Pressure | : | 16kg/cm ² |
| 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:

| Size (mm) | Flow Range (m ³ /h) |
|-----------|--------------------------------|
| 15 | 0.016 ~ 3.125 |
| 20 | 0.025 ~ 5.00 |
| 25 | 0.039 ~ 7.875 |
| 40 | 0.1 ~ 40.00 |

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.