



The Sonata Residential Ultrasonic water meter is Master Meter's next step in unifying our ultrasonic solid-state measurement profile. Utilizing advanced ultrasonic flow measurement, the Sonata greatly improves low flow measurement compared to residential mechanical meters, making it an ideal solution for addressing Non-Revenue Water (NRW). The Sonata is fully Internet of Things (IoT) ready and capable of meeting the challenges of tomorrow's smart water networks.

Technical Specifications:

AWWA Standard: Meets ANSI/AWWA Standard C715-18 and ISO 4064 rev. 2014

NSF / ANSI Standard: Compliant with NSF/ANSI 372, NSF/ANSI 61, and SDWA.

Working Pressure: 175 PSI

Liquid Temperature: 33° F – 122° F

Ambient Temperature: -13° F – 131° F for the display

Power Source: Sonata with Integrated Allegro operates on one D Cell Lithium Thionyl Chloride battery. All other Sonata configurations operate with two C Cell Lithium Thionyl Chloride batteries.

Environmental Protection: Factory potted design provides NEMA 6P (IP68) for meter pit submersion.

Features & Benefits:

- Flow sensitivity starting as low as 0.001 GPM. Powerful solution to reduce non-revenue water.
- Compliant with Safe Drinking Water Act (SDWA).
- No moving parts for lifetime accuracy.
- Prorated 20 year battery life.
- Patented obstruction free flow tube minimizes head loss and risk of damage to sonic reflectors.
- Detailed LCD features totalized flow, rate of flow, battery alarm, leak alarm, burst pipe alarm, and tamper alarm.
- Fully submersible; IP68 design.
- Optional Internal RF module for Master Meter Allegro AMI or Master Meter 3G AMR Systems.
- Optional encoder output with a wired pigtail, Nicor Compatible connector, or Itron (ILC) compatible connector, allowing connectivity to third-party AMI or AMR systems.
- Install in a wide variety of positions; horizontal, vertical, or inclined.
- IoT ready for connectivity to Smart City Networks.



Technical Specs (Cont'd):

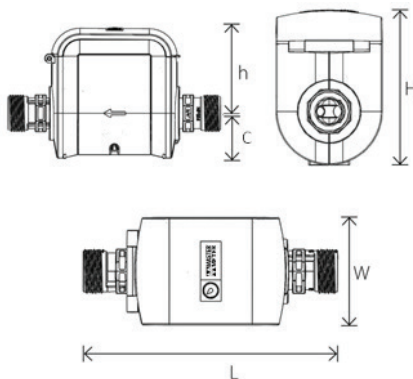
- **Display Units:** Multi line 9 digit LCD (Programmable flow measurement in USG, Cubic Feet, or Cubic Meters. Rate of Flow available in GPM, Lt/s, M³/h)
- **Output Configuration:** Integrated Allegro RF module, Integrated 3G RF module, or encoder output cable with wired pigtail, Nicor compatible connector, or Itron (ILC) compatible connector.
- **Data Logging:** Internal data logger with consumption reports and alarms.
- **Construction Material:** Lead-free construction available in HP Glass Reinforced Polymer or Bronze alloy with Polymer Liner.
- **Flow Tube:** Patented flow tube design utilizes a "Z" shape sonic beam flight pattern. Sound waves are directed along the wider axis of the flow tube and aligned with the majority of the fluid flow. This oblong design of the flow tube minimizes flow disruptions near the transducers, such as cavitation, swirls, and eddies to ensure a wider range of meter accuracy. Moving the transducers to the side walls of the flow tube, rather than on the top of the flow tube, places wide beam ultrasonic soundwaves out of the general path of entrained air bubbles, which typically move to the top of an internal surface.

Operating Characteristics and Dimensions:

Sonata Operating Characteristics and Dimensions	5/8" x 1/2" (15 x 13 mm)	5/8" x 3/4" (15 x 20 mm)	3/4" Short (20 mm)	1" (25 mm)
Safe Maximum Operating Capacity	25 GPM (5.7 m ³ /h)	35 GPM (7.9 m ³ /h)	35 GPM (7.9 m ³ /h)	55 GPM (12.5 m ³ /h)
Normal Operating Range (98.5% - 101.5% Accuracy) *	0.10 – 25 GPM (0.023 – 5.7 m ³ /h)	0.10 – 35 GPM (0.023 – 7.9 m ³ /h)	0.10 – 35 GPM (0.023 – 7.9 m ³ /h)	0.38 – 55 GPM (0.09 – 12.5 m ³ /h)
Extended Low Flow (97% - 103% Accuracy)	0.03 GPM (0.007 m ³ /h)	0.05 GPM (0.01 m ³ /h)	0.05 GPM (0.01 m ³ /h)	0.11 GPM (0.025 m ³ /h)
Length	7-1/2" (190 mm)	7-1/2" (190 mm)	7-1/2" (190 mm)	10-3/4" (273 mm)
Width	3" (80 mm)	3" (80 mm)	3" (80 mm)	3" (82 mm)
Height	4-1/2" (117 mm)	4-1/2" (117 mm)	4-1/2" (117 mm)	4-3/4" (121 mm)
Height from Center Pipe	3" (80 mm)	3" (80 mm)	3" (80 mm)	3-1/4" (82 mm)
Depth from Center Pipe	1-1/2" (37 mm)	1-1/2" (37 mm)	1-1/2" (37 mm)	1-1/2" (37 mm)
Weight	2 lbs (0.9 kg)	2 lbs (0.9 kg)	2 lbs (0.9 kg)	2.25 lbs (1 kg)

* In the water temperature of 45° to 85° F (7° to 30° C), meter consumption is accurately measured at:

- +/- 1.5% in the Normal Operating Range
- +/- 3% in the Extended Low Flow




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