



NATIONAL TYPE EVALUATION PROGRAM

# Certificate of Conformance

for Weighing and Measuring Devices

**For:**

Meter Indicating Volume  
Digital Ultrasonic Water Meter  
Model: Qalcosonic W1  
Minimum Indication: Gallons: 0.001  
Cubic Feet: 0.001

**Submitted By:**

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**Standard Features and Options**

**Standard Features:**

- Digital Display
- Flow Direction Arrow Molded into Meter Body
- Composite Casing
- Certified for both Cold and Hot Water Measuring
- Certified to be Mounted in all Positions
- Integrated Radio Transmitter (radio not tested)

**Measured Units:** U.S. Gallons (gal) or Cubic Feet (ft<sup>3</sup>)

**Maximum Operating Pressure:** 232 psi

**Operational Specifications:**

Meter Size (Inch)	Flow Rates (U.S. Gallons/Minute)
5/8" x 3/4"	0.15 to 25
3/4"	0.15 to 30
1"	0.3 to 50
1 1/2"	0.6 to 100

This device was evaluated under the National Type Evaluation Program and was found to comply with the applicable technical requirements of *Handbook 44: Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices*. Evaluation results and device characteristics necessary for inspection and use in commerce are on the following pages. \*Editorial changes, not affecting the type or metrological content, corrected this certificate.

Marc Paquette  
Chairman, NCWM, Inc.

Gene Robertson  
Chair, NTEP Committee  
Issued: October 21, 2024

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**Axioma Metering, UAB**

Meter Indicating Volume / Qalcosonic W1

**Application:** Certified for use as a domestic water meter in utility billing, commercial metering systems, and legal submetering applications. The meter can be installed in any position, for both hot and cold water applications.

**Identification:** All required identification information markings detailing the manufacturer's name or recognized trademark, model (type), serial number, meter size, and National Type Evaluation Program (NTEP) Certificate of Conformance (CC) number is located on the face of the water meter. Figure 1, 5 and 8, shows a meter with the required markings. The flow direction arrow is located on meter body and is shown in Figure 4.

**Sealing:** No sealing is required. There are no metrological features that can be changed or altered. The meter is of a single piece design, any attempt to open the housing will result in housing damage.

**Testing Notes:** To ensure proper testing, the test bench should be run for a minimum of 5 minutes or until all air bubbles have been eliminated from the system before testing meters. Additionally, a minimum back pressure of 30 psi should be maintained on the outflow of the water meter test bench during testing and installation. It is also recommended that one meter be tested at a time. If multiple meters are tested at one time an adequate distance between tested meters is required with at least 14 inches between each meter. As well, it is recommended that no more than 2 meters should be tested inline at the same time. If the air indicator icon, on the meter display, is present while testing, then likely there is air entrained in the line. In this case, the test should be rerun but not until the bench has been cleared of air bubbles and the air indicator is not present. It is also recommended that any bypass valves should be closed. Lastly, it is recommended that the high flow tests be run for 4 to 5 minutes to achieve the best accuracy.

**Operation:** Ultrasonic flow meters measure the difference of the transit time of an ultrasonic sound wave beam propagating in and against the flow direction of time. This time difference is a measure for the average velocity of the fluid along the path of the ultrasonic beam. By using the absolute transit times, both the average fluid velocity and the speed of sound can be calculated. This meter is to be tested as "other than multi-jet" per Handbook 44, Section 3.36. Water Meters, Table T.1. Accuracy Classes and Tolerances for Water Meters

The meter display has an "Air Flow" indicator  located in the lower left-hand corner of the display. When visible, this indicates that air is detected in the line. If not visible, this indicates that no air is detected.

**Test Conditions:** This certificate supersedes Certificate of Conformance number 24-084 and was amended to change the 1.5 to 1 ½ inch meter size in the Operational Specifications table on page 1 of this certificate. The change was to make the value consistent in format with the other meter dimensions. In addition, three photos showing the 1 inch meter and three photos showing the 1 ½ inch meter were added. No additional testing was deemed necessary. Previous test conditions are shown below for reference.

**Certificate of Conformance 24-084:** The emphasis of the evaluation was on the device design, marking requirements, accuracy, and repeatability of performance. Two 1" meters configured for cubic feet, two 1" meters configured for gallons, and two 3/4" meters were evaluated with cold water (33 °F to 90 °F) and hot water (91 °F to 150 °F). The meters were tested gravimetrically for accuracy when mounted horizontally with the register facing up, inverted horizontally, and vertically in the up-stream and down-stream positions. After passing the initial testing at the flow rates specified in Handbook 44, permanence tests were conducted after 204 000 gallons of water was run through the meter. All results were within the specified tolerance and repeatability requirements.

**Evaluated By:** D. Flocken (NCWM) 24-084, 24-084A1 (CN 11224)

**Type Evaluation Criteria Used:** *Handbook 44 Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices*, 2024 Edition. *NCWM Publication 14: Weighing Devices*, 2024 Edition.

**Conclusion:** The results of the evaluation and information provided by the manufacturer indicate the device complies with applicable requirements.

**Information Reviewed By:** D. Flocken (NCWM) 24-084, 24-084A1



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Example(s) of Device:



Figure 1 – 3/4” meter Face View



Figure 2 – 3/4 inch meter side view & flow direction arrow



Figure 3 – 3/4 inch meter Full View



Figure 4 – 3/4 inch meter flow direction arrow



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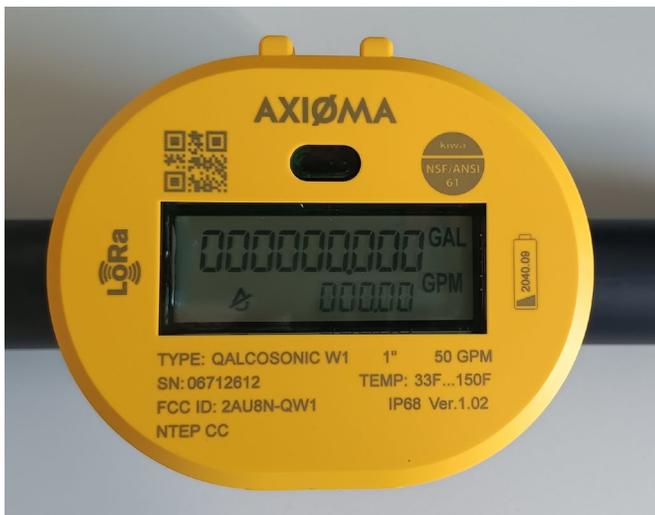


Figure 5 – 1 inch meter Face View



Figure 6 – 1 inch meter Side View



Figure 7 – 1 inch meter Full View



Figure 8 – 1 1/2 inch Meter Face View



Figure 9 – 1 1/2 inch Side View



Figure 10 – 1 1/2 inch Meter Full View