Cold Water Meter Testing Guidelines

for E-Series® Ultrasonic Meters and Recordall® Disc Series Meters

OVERVIEW

The following guidelines are being provided for the testing of Badger Meter E-Series® Ultrasonic and Recordall® Disc Series meters. These guidelines will ensure testing of cold water meters is completed in accordance with AWWA C700 and C715 Standards and AWWA-M6 testing parameters, and overall industry best practices.

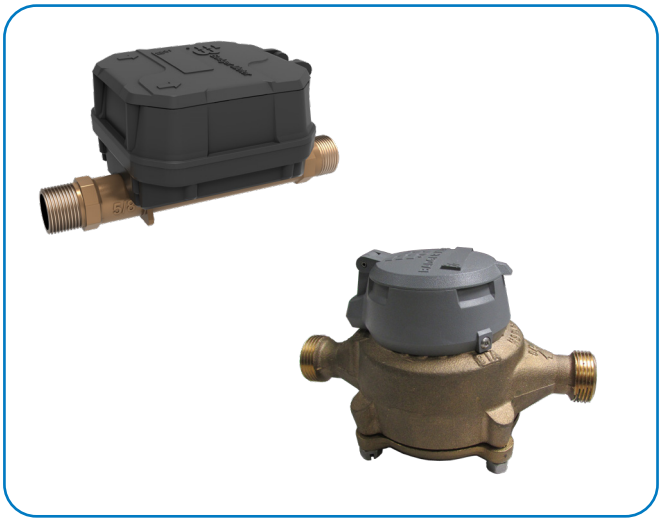
If testing meters that are pulled from the field, please follow the guidelines contained in the AWWA M6 manual.

Guidelines For Testing E-Series Ultrasonic Residential Meters 5/8…2 inch

The E-Series Ultrasonic meter is a highly accurate electronic meter that operates using transit time of flight technology, which is an entirely different measurement principle than a positive displacement meter. Since the meter testing outcome is based on accurate measurement of the velocity of water through the meter, water turbulence and pressure fluctuations that occur during the short testing intervals can affect the results. Test benches that introduce pipeline valves, fittings or impediments installed too close to meters being tested can cause flow disturbances, which may impact accuracy results.

- Reference meters should be installed downstream of the Ultrasonic meter.
- For 1-1/2 inch and 2 inch meters, provide 5 to 10 diameters of straight pipe upstream of the meter to obtain accurate testing results.
- Prior to testing, system should be purged of air and the meter completely filled with water. The purge rate should be at the recommended AWWA M6 maximum flow for a minimum of two (2) minutes. This will help ensure all air is purged through the meter.
- Start the meter test at the high flow first and then continue with the lower flows.
- For **5/8 …1 inch** meters, run at least 100 gallons at the high, mid and low flows.
- For **1-1/2 inch** and **2 inch** meters, it is recommended to follow AWWA M6 test volume of one or more full revolutions of the test circle and no less than 3 minutes.

The greater the volume of water measured or the longer the test is run, the more accurate the meter test measurement will be.



Guidelines For Testing Recordall Disc Series Residential Meters 5/8…2 inch

The Recordall meter incorporates nutating disc positive displacement measurement technology for utility applications.

- Prior to testing, system should be purged of air and the meter completely filled with water. The purge rate should be at the recommended AWWA M6 maximum flow for a minimum of two (2) minutes. This will help ensure all air is purged through the meter.
- Start the meter test at the high flow first and then continue with the lower flows.
- For **5/8 inch**…**1 inch** meters, run at least 100 gallons at the high and 10 gallons at the mid and low flows.
- For **1-1/2 inch** and **2 inch** meters, it is recommended to follow AWWA M6 test volume of one or more full revolutions of the test circle and no less than 3 minutes.

The greater the volume of water measured or the longer the test is run, the more accurate the meter test measurement will be.

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Application Brief

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