

Sample Specification

Water Meters: 3/4" X 3/4" SHORT, 3/4" X 3/4" STANDARD and 3/4" X 1" Low Lead Positive Displacement Meters

Scope:

This Specification covers low lead body cold-water positive displacement meters compatible with open architecture radio read equipment, in 3/4" sizes and the materials employed in their fabrication. These meters shall offer a low lead alternative that encourages conservation, recycling, water purity and green lifestyles.

AWWA Standards:

- All Meters shall meet or exceed the latest version of the American Water Works Association Standard C700 for Cold Water Meters - Displacement Type, Bronze Main Case.
- All Meters equipped with solid state encoder registers shall meet or exceed the American Water Works Association Standard C707 for Encoder-Type Remote-Registration systems for Cold Water Meters equipped with an open architecture radio MIU or similar device.

NSF-61 Standards:

- All Meters shall comply with the latest NSF-61 and EPA national requirements

State No Lead and Low Lead Initiatives Standards:

- All Meters shall comply with the latest state low lead initiatives due to their unique design, which incorporates low lead bronze for all wetted surfaces in the meter.

Main Case:

- Main cases shall be composed of low lead bronze that meets the latest NSF requirements.
- All materials used in the construction of the main cases shall have sufficient dimensional stability to retain operating clearances at working temperature up to 105

degrees F.

- The main case must incorporate the measuring element inside the standard 7-1/2” or 9” laying lengths specified by the AWWA C-700 standard and customer choice.
- The manufacturer shall warranty the main case for a period of 25 years from the date of shipment.
- The meter serial number shall be stamped on the main case of the meter.

Bottom Plate:

- Bottom plates shall be made of cast iron or a suitable engineered plastic or bronze as required by the utility.
- The bottom plate shall utilize a gasket seal.
- Cast iron and bronze bottom plates shall utilize a plastic liner to separate the plates from the wetted portion of the meter.
- The bottom plate shall utilize stainless steel bolts as a means of securing the bottom plate to the main case.

Measuring Chamber:

- Measuring chambers shall be made of a suitable engineered polymer as described in AWWA C-700.
- Chamber shall be of the Nutating Disc style.
- The measuring chamber shall incorporate a locating device that aligns to the main case of the meter to ensure proper chamber orientation and alignment.
- The measuring chamber shall be locked into place with a single unit strainer/chamber retainer.
- The chamber shall be designed for long life, to reduce wear and must not exceed the following nutations per gallon.

Size	3/4 "
Nutations Per Gallon	33.3

Headloss:

- Meters shall not exceed seven PSI pressure loss at AWWA safe maximum operating capacity.

Accuracy:

- Meters shall be 100% factory tested for accuracy and have the factory test results provided with each meter.
- Meters shall be pressure tested to ensure against leakage.
- Meters shall comply with the latest AWWA C700 accuracy requirements as specified in the standard for a period of five years from the date of installation.
- Additionally, the manufacturer shall warranty the meter to meet or exceed AWWA repaired meter accuracy standards per the following:

Size of Meter	Years of Warranty or	Millions of Gallons Registered
3/4"	15	2.0

Strainers:

- All meters shall be provided with strainer screens installed in the meter.
- Strainers shall be rigid, fit snugly, be easy to remove, and have an effective straining area at least twice that of the inlet opening.

Solid State Register Assembly:

- Registers shall be of a solid state design that utilizes no moving parts in the capture of data.
- Registers shall provide up to 10 digits on the visual display and up to 9 digits electronically to any number of AMR/AMI devices.
- Registers shall be permanently sealed by the manufacturer.
- Registers shall provide for visual registration at the meter.

- The numerals on the number wheels of the register shall not be less than 1/4" in height and should be legible at a 45-degree angle.
- Registers shall incorporate a a low flow/leak indicator.
- The register shall be secured to the meter main case by a tamper resistant bayonet-style locking mechanism protecting against unauthorized removal of the register.
- No special tools shall be required to remove the register.

- The register shall be a true absolute encoder register that provides direct electronic transfer of meter reading information to any number of AMR/AMI device options. Minimally, a Radio MIU device shall read the encoder register.
- The solid state register shall send data in ASCII format (American Standard code for Information Interchange) to the interrogation device.
- A 10 digit register identification number that has been factory set and never duplicated shall be sent to the reading device.
- For all installations, the solid state register shall be permanently factory sealed with an epoxy coating of all terminal connections. Registers requiring field sealing of the wire connection or oil-filled will not be allowed.
- All wiring for radio MIU's shall be installed and potted by the manufacturer.
- In line waterproof connections are permitted during installation for all solid state registers with Radio MIU's to facilitate installation.