

Sample Specification

Water Meters: 1-1/2"-2" Positive Displacement Meters

Scope:

This Specification covers bronze body cold-water positive displacement meters compatible with open architecture radio read equipment, in sizes 1-1/2" through 2", and the materials employed in their fabrication.

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 Body.
- All Meters shall meet or exceed the American Water Works Association Standard C707-R92 for Encoder-Type Remote-Registration systems for Cold Water Meters when equipped with an open architecture radio MIU.

Main Case:

- Main cases shall be composed of bronze containing not less than eighty percent (80%) copper.
- 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 manufacturer shall warranty the main case for a period of 25 years from the date of shipment.
- The meter serial shall be stamped on the maincase of the meter.

Top Plate:

- Top plates shall be made of bronze.

Measuring Chamber:

- Measuring chambers shall be made of a suitable engineered plastic as described in AWWA C-700.

- Chamber shall be of the Nutating Disc style.
- The chamber magnet shall be driven by a stainless steel drive shaft.
- The chamber magnet shall incorporate a protective plastic shroud around the magnet.
- 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 chamber retainer.
- The chamber shall be a large capacity chamber to reduce wear and must not exceed the following Nutations per gallon.

Size	1-1/2 "	2"
Nutations Per Gallon	6.47	3.92

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 AWWA C700-90 accuracy requirements as specified in section 3.8 of 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
1-1/2"	15	5,500,000
2"	15	8,500,000

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.

Register Assembly:

- Registers shall be magnetic driven, straight reading, and permanently sealed by the manufacturer.
- The register 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 center sweep test hand and a low flow 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.