



Master Meter's Positive Displacement meter is nothing short of an engineering trifecta. Completely redesigned using Computational Fluid Dynamic (CFD) design science, our engineers crushed existing performance benchmarks largely left untouched by other manufacturers for more than a century.

#### Technical Specifications:

- **AWWA Standard** - Meets or exceeds all sections of Standard ANSI / AWWA C700, most recent revision for cold water displacement meters with AWWA bronze main cases.
- **NSF / ANSI Standard 61** - Optional Standard 61 certified no-lead main cases available.
- **Design/Operation** - Incoming water is continuously divided into crescent-shaped volumes by the action of the inlet ports, chamber interior and piston walls as controlled by the division plate and controller assembly. This hydraulic action causes the center of the oscillating piston measuring element to make continuous circular movements. A drive spindle formed integrally with the piston web moves the drive magnet. A magnetically-coupled follower magnet in the register assembly is directly connected to a gear system in the register that totalizes those movements into the desired billing units. The register assembly is removable under line pressure permitting seamless, simplified upgrades in AMR reading technology.

#### Features & Benefits:

- Oscillating piston technology delivers maximum flow with minimal pressure drop.
- Measuring chamber housing and piston measuring element built with advanced, non-hydrolyzing engineered polymer materials.
- **Establishes New Accuracy Benchmarks** - New meter accuracy after 4,000,000 USG.
- **Whisper-Quiet Measurement** — We shifted oscillating piston harmonics to outside the normal flow range.
- **Low Pressure Loss (VLPL) Design** — 7-19% improved drop in pressure vs. nearest competitors.
- **35 + Years Verified Sustained Accuracy** (4,000,000 million USG) in independent tests on the 5/8" size meter by the Utah Water Research Laboratory.
- Improved capability to pass entrained solids.
- **Twenty-year (5/15) accuracy warranty** assures longer lasting revenue.



**Technical Specs (Cont'd):**

- **Main Case** - Choice of waterworks bronze case of 81% copper composition, or, 86% copper, no lead bronze. All main cases incorporate externally threaded ends to aid installation.
- **Register Sealing** - Direct read and DIALOG® registers are IP-68+ rated, permanently sealed with a scratch resistant glass lens, stainless steel base and wrap-around gasket to prevent intrusion of dirt or moisture. Available in USG, CF or M<sup>3</sup>. Equipped with center mounted low flow leak indicator with high sensitivity resulting from direct one to one linkage to measuring element and large center sweep hand with one hundred (100) clearly marked gradations on the periphery of the dial face.

**Strainer** - A rigid, advanced polymer strainer is provided with more than 4 times the open area of the pipe. The unique strainer design smoothes the flow of water entering into the meter creating a flow profile that is gentle on the meter's internal components. Tough materials operating in a smooth, balanced environment enable the meters to perform more accurately over time

- **Magnetic Drive** - A reliable, direct magnetic drive provides linkage between measurement element and register. No intermediate gearing is required; no gearing is exposed to water.
- **Tamper Detection** - The Master Meter Positive Displacement design inhibits unauthorized register tampering and removal of the register. This design also provides a visual indication of tampering attempts.

METER OPERATING CHARACTERISTIC/DIMENSION	5/8" x 1/2"	5/8 x 3/4"	3/4" (.75")	3/4" (9")	1"
Flow Rating (gpm)	20	20	30	30	50
Continuous Flow (gpm)	10	10	15	15	25
Normal Flow Range (gpm)	1-20	1-20	2-30	2-30	3-50
Low Flow (gpm @ > 97%)	1/4	1/4	1/2	1/2	3/4
Extended Low Flow (gpm @ > 95%)	1/8	1/8	1/4	1/4	1/2
Maximum Working Pressure (psi)	150	150	150	150	150
Maximum Working Temperature (°F)	105	105	105	105	105
Specific Displacement (revs/gallon)	56.4/1	56.4/1	32/1	32/1	15.3/96
Headloss at Maximum Flow Rate (psi)	6.5	6.5	8.4	8.4	7.9
Length (A below)	7.5"	7.5"	7.5"	9"	10.75"
Width (B below)	3-13/16"	3-13/16"	3.47"	3.47"	6-13/16"
Height, standard register with lid (C below)	5-3/8"	5-3/8"	5.07"	5.07"	5.75"
Height, bottom to center line (D below)	1-5/8"	1-5/8"	1.51"	1.51"	2.5/8"
Weight (lbs)	4.25	4.25	7.9	8.4	12.2
Packed To Carton	6	6	6	6	4
Carton Weight (lbs)	30	30	50	53	53.8

**Accuracy and Head Loss Chart**

