

Material Specification – 16

MAGNETIC DRIVE DISPLACEMENT TYPE WATER METERS

1. GENERAL

Magnetic drive displacement type water meters, 5/8-inch through 2-inch, shall be manufactured in accordance with AWWA C700 with the following additional requirements or exceptions.

2. SIZES

This Specification covers magnetic drive displacement type water meters in 5/8-inch through 2-inch nominal diameters.

3. METER DESCRIPTION

The meter may be a nutating disc or oscillating piston type. Meters, 1 1/2-inch and 2-inch, shall be designed for the easy removal of internal parts so as not to disturb the connections to the pipeline, and for removal of the meter. Stainless steel mounting bolts and flange gaskets shall be furnished with meters, 1 1/2-inch and 2-inch.

4. METER MAIN CASES/FLANGES

Meter main cases shall be made of copper alloy in accordance with AWWA C700.

Flanges for meters, 1 1/2-inch and 2-inch, shall be 2-hole, oval type and shall not contain slotted holes. Flanges shall be an integral part of the main case and composed of the same material; flanges shall not be removable from the main case. A test port shall be supplied on the outlet side of the meter.

5. REGISTERS/REGISTER BOXES

Registers and register boxes shall be in accordance with the requirements of [MS-15](#).

6. METER NUMBERS

The Denver Water meter number shall be plainly stamped or engraved on the meter main case; it shall be heat stamped in a contrasting color on the plastic register cap and attached to the meter in form 39 bar code using a separate tag. Paper or plastic number labels affixed to the register are not acceptable.

7. BOTTOM PLATES

For meters, 5/8-inch through one-inch, bottom plates shall be of a breakable design made of CI. The CI bottom plates shall be coated with baked enamel to an extent adequate to protect the CI from corrosion. Plates shall be provided with a plastic line that does not prevent the bottom plate from breaking as designed.

8. PISTON/DISC SPINDLES, THRUST ROLLERS, AND THRUST ROLLER BEARING PLATES

Piston/disc spindles, thrust rollers, and thrust roller bearing plates shall be of monel or stainless steel in accordance with AWWA C700 or a suitable engineering plastic.

9. MEASURING CHAMBER DIAPHRAGMS

Measuring chamber diaphragms shall be of monel, stainless steel, or a suitable engineering plastic.

10. DRIVE SPINDLE

The upshaft, or drive spindle, shall be stainless steel or a suitable engineering plastic. The driving pawl and magnet shall be securely fastened to the drive spindle in a manner that prevents the loss of the pawl during normal operation of the water meter.

11. EXTERNAL FASTENERS

External fasteners shall be stainless steel in accordance with AWWA C700.

12. QUALITY CONTROL

The Manufacturer shall submit a written statement that the inspection and all specified tests have been completed and that results comply with the requirements of these Standards. Components in contact with potable water shall be certified to comply with NSF/ANSI 61 and NSF/ANSI 372, and a copy of the certification shall be provided to Denver Water, if requested.

13. DOCUMENTATION

The meter shall have a firmly attached tag that documents the Manufacturer’s serial number, the Denver Water meter number, a form 39 bar code representation of the Denver Water meter number, the Manufacturer’s certified test results, and other identifying characteristics such as nominal size, Manufacturer, meter model number, and register type and model.

14. APPROVED MANUFACTURERS AND MODELS

Manufacturers	Models
Badger Meter, Inc.	Recordall Disc Series
Mueller Systems – Hersey	400 IIS Model 500 IIS Model
Neptune Technology Group	T-10 Meter

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