

Material Specifications – 16 for MAGNETIC DRIVE DISPLACEMENT TYPE WATER METERS 5/8-INCH THROUGH 2-INCH

1. GENERAL:

Magnetic drive displacement type water meters, 5/8-inch through 2-inch, furnished under this Standard, shall be manufactured in strict accordance with AWWA C700, C707 and C702 with the following additional requirements. The meter may be a nutating disc or oscillating piston type. 1-1/2 inch and 2-inch meters shall be designed for the easy removal of internal parts, so as not to disturb the connections to the pipeline, and for the removal of the meter. Stainless steel mounting bolts and flange gaskets shall be furnished with 1-1/2 inch and 2-inch meters.

2. MAIN CASES/FLANGES:

The main cases shall comply with ANSI/NSF 61 requirements. Flanges for 1-½ inch and 2-inch meters shall be a two hole, oval type and shall NOT contain slotted holes. The flanges shall be an integral part of the main case and shall be composed of the same material; flanges shall NOT be removable from the main case. A test port that is equipped with a ½" MIP x MGHT corporation stop, Mueller #581646, shall be supplied at the outlet of the meter.

3. REGISTERS/REGISTER BOXES:

The register and register boxes shall comply with the requirements of [MS-15](#).

4. METER NUMBERS:

The Denver Water meter number shall be plainly chisel stamped on the meter main case and on the brass register cap. This meter number shall be heat stamped in a contrasting color on the plastic register cap. The Denver Water meter number shall be attached to the meter in a bar code form 39 using a separate tag. Dimple type stamping methods and paper or plastic number labels affixed to the register are NOT acceptable.

5. BOTTOM PLATES:

For 5/8-inch through 1-inch meters, bottom plates shall be of a breakable design made of cast iron. The cast iron bottom plates shall be coated with baked enamel to an extent adequate to protect the cast iron from corrosion. The plates shall be provided with a plastic line that will not prevent the bottom plate from breaking as designed.

6. 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.

7. CHAMBERS:

Chambers shall be made of copper alloy that contains no less than 85% copper or suitable engineering plastic.

8. MEASURING CHAMBER DIAPHRAGMS:

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

9. DRIVE SPINDLE:

The up shaft, 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 the normal operation of the water meter.

10. EXTERNAL FASTENERS:

External fasteners shall be stainless steel as described in AWWA C700.

11. TESTS CERTIFICATIONS:

Meters shall comply with the American Water Works Association test requirements for new coldwater displacement type water meters. Each meter shall be furnished with a tag attached to it that displays the results of the certified accuracy tests performed by the manufacturer. This tag shall identify the meter by the manufacturer's meter number, the Denver Water meter number and a bar code representation in form 39 of the Denver Water meter number.

12. ELECTRONIC DOCUMENTATION:

The meter shall have a firmly attached tag that documents the manufacturer's serial number, the Denver Water meter number, a 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, register type and model, etc. Each shipment of meters shall be accompanied by a CD-ROM or USB drive that contains a file with the information in tabular form for upload into Denver Water's meter inventory system.

13. ACCEPTABLE MANUFACTURERS AND MODELS:

Badger Meters, Inc.: Recordall Disc Series Meter
Neptune Technology Group: T-10 Meter

When approved by the Denver Water Sales Administration and the Customer Service Field Section, a 5/8-inch Neptune Double Check T-10 Meter with ProRead or AutoDetect absolute encoder register may be used in lieu of a standard meter and an RPZ backflow preventer.

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