

Materials Specification – 18 for MAGNETIC DRIVE TURBINE TYPE WATER METERS 1-1/2 INCH THROUGH 16-INCH

1. GENERAL:

Magnetic drive turbine type water meters, 1-1/2 inch through 16-inch, furnished under this Standard, shall be manufactured in strict accordance with AWWA C701 and C707 with the following additional requirements. Meters shall be designed for the easy removal of internal parts, the strainer and the meter. Strainers shall be furnished with each meter. For 1-1/2 inch and 2-inch meters, the strainer shall be an integral part of the meter main case. The internal parts of the strainer shall be stainless steel. The casing of the strainer shall be provided with a removable top plate with stainless steel fasteners. Stainless steel mounting bolts and flange gaskets shall be furnished with each meter.

2. MAIN CASES/FLANGES:

Main cases that are 1-1/2 inch through 10-inch shall comply with ANSI/NSF 61 requirements. Twelve-inch and larger meters may be cast iron with a corrosion-resistant coating approved by Denver Water. For 1-1/2 inch and 2-inch meters, flanges shall be two hole, oval type. For meters that are 3-inch and larger, flanges shall be round in accordance with AWWA C701.

The flanges shall be an integral part of the main case and shall be composed of the same material as the case; flanges shall NOT be removable from the main case and shall NOT have slotted holes.

3. REGISTERS/REGISTER BOXES:

Registers 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 caps. This meter number shall be heat stamped in a contrasting color on the plastic register caps. The Denver Water meter number shall also be attached to the meter in 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. MEASURING CAGES OR CHAMBERS:

Measuring cages or chambers shall be made of a copper alloy in accordance with AWWA C701.

6. MEASURING TURBINES:

Measuring turbines shall be made of materials in accordance with AWWA C701.

7. TURBINE SPINDLES:

Turbine spindles shall be made of stainless steel or monel.

8. EXTERNAL FASTENERS:

External fasteners shall be stainless steel as described in AWWA C701.

9. TESTS:

Meters shall comply with the AWWA test requirements for new coldwater turbine 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 form 39 representation of the Denver Water meter number.

10. DOCUMENTATION:

The meter shall have a firmly attached tag documenting 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 this information in tabular form for upload into Denver Water's meter inventory system.

11. ACCEPTABLE MANUFACTURERS AND MODELS:

Badger Meters, Inc.: Recordall Turbo Series Meter
Neptune Technology Group: HP High Performance Turbine Meter
Sensus Metering Systems: Series W Turbo Meter

Material Specification – 18

Magnetic Drive Turbine Type Water Meters 1-1/2-Inch through 16-Inch