

San Antonio Water System Material Standard Specifications

SPECIFICATIONS FOR FIRE HYDRANT

WATER METERS

REVISED DECEMBER 2011

1. **SCOPE**

This specification covers turbine-type fire hydrant meters three inches (3") in size intended for use where measurement of water, either from a fire hydrant or any non-permanent type of metering application.

2. **GENERAL DESCRIPTION**

Turbine-type fire hydrant meters are to be furnished shall be magnetic gear drive with a sealed register more specifically described in other parts of this specification.

3. **GENERAL REQUIREMENTS**

- a) Except as otherwise modified or supplemental herein, AWWA Standard C701, AWWA Standard for cold-water meters turbine-type for Customer Service or the latest revision thereof shall govern certain materials, design manufacture and tests of all meters furnished under this specification.
- b) The San Antonio Water System reserves the right to limit the purchase of fire hydrant meters from these manufacturers whose meters conform to the provisions contained herein.
- c) Affidavit of compliance shall be furnished by the manufacturer that the meter furnished complies with the requirements of this specification.
- d) A certificate of testing certifying the accuracy and the capacity of the meter shall be furnished. The meter shall have an operating pressure of 150 psi and the accuracy shall be 100% + 1.5%.
- e) The main case of the fire hydrant meter shall be constructed of hard anodized aluminum. The bronze measuring chamber cover shall be of a high quality copper alloy containing not less than seventy-five percent (75%) copper and suitable amounts of tin, lead and zinc.

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The meter shall be constructed of the following materials:

METER MATERIALS

Main Case - Aluminum

Top Case - Bronze

Thrust Bearing - tungsten carbide, sapphire, ceramic shafts, bolts, screens and trim - Series

316 stainless steel

Rotor - Thermoplastic

Register box and register cover - bronze

Fire hose fitting - bronze

- f) The inlet and outlet ends of the aluminum case of the fire hydrant meter shall have 3" pipe threads (American Standard taper pipe threads). This inlet end shall be equipped with a 2-1/2" NST female thread fire hydrant swivel connection (National Standard fire hose coupling threads). **Inlet port must have a built-in strainer.**

- g) The outlet end of the fire hydrant shall have either a 2" or 3" NPT pipe thread (American Standard tapered pipe threads). If fitting with a 3" thread, the meter shall have a pipe thread fitting reducing to 2" female.

4. METER REGISTERS

The meter shall be equipped with a magnetic drive sealed register straight reading in cubic feet with a center sweep test hand, with a minimum of six numbered wheels. All digits shall be black on white background except the right two digits. The right digits shall be white numerals on black background (dials or fixed digits). There shall be a test index circle which shall be divided into 100 equal parts, each tenth numbered. The index circle shall be located on the outer periphery of the face. The date the register was manufactured, the month and year and size or model must be stamped on the face of the register dial. Registers for given manufacturer, size and like model shall be interchangeable. As used in these specifications, the term, "Sealed Register" shall mean a register that is tamper proof, factory sealed, non-shop repairable, hermetically sealed against fogging, moisture, corrosion and mechanically disconnected from the measuring components. The lens (register glass) shall be of a high strength heat tested glass to minimize breakage. Register on meter should be sidewalk mount.

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5. GUARANTEES

The manufacturer shall unconditionally guarantee the fire hydrant meter as follows:

- a) That the "Sealed Register" unit will operate accurately for a period of one (1) year from date of installation. If the sealed register becomes defective, the register will be returned to the manufacturer for replacement. All registers repaired or replaced will be hermetically sealed by the manufacturer.
- b) That the new water meters will perform to new meters accuracy standards of 98.5% at low flow for a period of at least one (1) year from date of installation.
- c) That after one (1) year in service, the new meter will meet repaired meter accuracy standards, AWWA Manual M6, latest revisions, for an additional four (4) years.
- d) If the meter becomes defective within the time specified above, the manufacturer shall reimburse the San Antonio Water System \$75.00 per meter labor cost to remove the meter or inoperative part(s) from the field. The manufacturer will repair or replace the defective meters or inoperative part(s) with a meter or part(s) that meets the San Antonio Water System specifications. The defective meter or inoperative part(s) removed from the field will be returned to the manufacturer, freight collect and the manufacturer shall replace the meter or inoperative part(s), freight prepaid.

6. TESTS

The San Antonio Water System reserves the option to test all meters in accordance with AWWA Manual M6. The water temperatures for test purposes will be approximately 77° and the pressure will be approximately 75 psi. All meters tested on the low flow shall test at least 98.5% accurate. If the meter tested does not meet these specifications, the manufacturer shall reimburse the San Antonio Water System \$25.00 for failing this test and the meter will be returned to the manufacturer, freight collect, and the manufacturer will replace the defective meter(s) with new meter(s), freight prepaid.

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SPECIFIED MODELS:

APPROVED METER

<u>MANUFACTURER</u>	<u>MODEL</u>	<u>SIZE</u>
Sensus Technology	(Rockwell) 125-W	3"
Neptune Technology Group, Inc	(Neptune/Trident)	3"
Hersey Meters	(Hersey) HM	3"
Badger Meters	RCDL Series	3"
Water Specialties	FH-01	3"
Elster AMCO Water. Inc	H3200	3"

Previous Specification

MAY 1992

JULY 1999

OCTOBER 2006

APRIL 2007

DECEMBER 2011