



COLD WATER METERS/FIRE SERVICE  
TURBINE TYPE



**SPECIFICATIONS**

**GENERAL**

All meters furnished shall be manufactured by a registered ISO 9001 quality standard facility. Acceptable meters shall have a minimum of ten years of successful field use. All specifications meet or exceed the latest revision of AWWA C703.

**TYPE**

Meters shall be of the in-line horizontal-axis type per AWWA Class II. Meter and strainer assemblies shall be both Underwriters Laboratory (UL) listed and Factory Mutual (FM) approved. Meters shall be certified to NSF/ANSI 61, Annex G requirements.

**CAPACITY**

The capacity of the meters and strainers in terms of normal operating range, maximum continuous flow, maximum loss of head and maximum intermittent flow shall be as shown below:

Size	Normal Operating Range (gpm)	Maximum Continuous Flow (gpm)	Max Loss of Head @ Max. Cont. Flow (psi)	Maximum Intermittent Flow (gpm)
3"	5 - 450	450	8.2	560
4"	10 - 1200	1200	15	1500
6"	20 - 2500	2500	10	3100
8"	35 - 4000	4000	9	5000
10"	50 - 6500	6500	8	8000

**SIZE**

The size of meters shall be determined by the nominal size (in inches) of the opening in the inlet and outlet flanges. Overall lengths of the meters and fire service strainers combined shall be as follows:

Meter Size	Laying Length
3"	26 1/8 "
4"	35"
6"	44 7/8"
8"	51 5/16"
10"	56"

**CASE AND COVER**

The maincase and cover shall be of an NSF/ANSI 61, Annex G, no-lead high copper alloy containing a minimum of 85% copper. The size, model, and arrows indicating direction of flow shall be cast in raised characters on the maincase or cover. The maincase and cover shall have a rated working pressure of 175 psi. The cover shall contain a calibration vane for the purpose of calibrating the turbine measuring element while the meter is in-line and under pressure. The calibration vane shall be mounted under the register that is attached in a tamper-resistant manner.

## **STRAINER**

Meters shall be supplied with a strainer designed and approved for fire service use by UL and FM, and shall have a rated working pressure of 175 psig.

The strainer shall be constructed of steel and coated with fusion-bonded epoxy. The strainer basket shall be constructed of AISI Type 18-8 stainless steel. The strainer shall contain a flushing port located near its bottom to facilitate easy cleaning.

## **EXTERNAL BOLTS**

Meter cover bolts shall be made of AISI Type 316 stainless steel. All other bolts shall be zinc-plated steel or stainless steel.

## **CONNECTIONS**

Maincases shall be flanged. 3" through 10" sizes shall be round flanged per Table 3, AWWA C701.

## **REGISTERS**

Registers shall be permanently roll-sealed, straight reading, indicating in cubic feet, gallons, or cubic metres. Registers shall include a center-sweep test hand and a low flow indicator. Registers shall allow for in-line serviceability.

## **REGISTER BOXES**

Register boxes and covers shall be of bronze composition. The name of the manufacturer and the meter serial number shall be clearly identifiable and located on the register box cover.

## **REGISTER BOX SEALING**

The register box shall be affixed to the top cover by means of a plastic tamperproof seal pin that must be destroyed in order to remove the register.

## **METER SERIAL NUMBER**

The meter serial number shall be imprinted on the meter maincase or cover as well as the register box cover.

## **MEASURING ELEMENT**

The turbine measuring chamber shall be a self-contained unit attached to the cover for easy removal. The turbine spindles shall be stainless steel.

## **UNITIZED MEASURING ELEMENT**

A UME is a complete assembly, factory calibrated to AWWA standards, that includes the cover, registers, and a turbine measuring element. It shall be easily field removable from the meter body without the requirement of unbolting flanges.

## **INTERMEDIATE GEAR TRAIN**

The intermediate gear train shall be coupled directly to the turbine rotor and magnetically coupled to the register through the meter cover. All moving parts of the gear train shall be made of a self-lubricating polymer or stainless steel for operation in water.

## **REGISTRATION ACCURACY**

Registration accuracy over the normal operating range shall be 98.5% to 101.5%.

## **REMOTE CAPABILITY OPTIONS**

All meters shall be equipped with encoder remote registers per AWWA C707 and meet all AWWA C701 performance standards.

**Acceptable meters shall be Neptune HP Fire Service Turbine or approved equal.**

Neptune engages in ongoing research and development to improve and enhance its products. Therefore, Neptune reserves the right to change product or system specifications without notice.

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