ARB® UTILITY MANAGEMENT SYSTEMS™

NEPTUNE TECHNOLOGY GROUP

COLD WATER METERS / 1-1/2" - 10" CLASS II TURBINE TYPE

GENERAL

All meters furnished shall be manufactured by a registered ISO 9001 quality standard facility. All specifications meet or exceed the latest revision of AWWA C701.

TYPE

Meters shall be of the in-line horizontal-axis type per AWWA Class II.

CAPACITY

The capacity of the meters 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)	Maximum Loss of Head at Max Cont Flow (psi)	Maximum Intermittent Flow (gpm)
1 1/2"	4 - 160	160	4	200
2"	4 - 200	200	4.5	250
3"	5 - 450	450	5	560
4"	10 - 1200	1200	5.5	1500
6"	20 - 2500	2500	5	3100
8"	35 - 4000	4000	5	5000
10"	50 - 6500	6500	3.5	8000

SIZE

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

Meter Size	Laying Length	Meter/Strainer Combined Length
1 1/2"	10" (13" w/test spool)	—
2"	10"	17"
3"	12"	18"
4"	14"	21 1/2"
6"	18"	27"
8"	20"	30"
10"	26"	41"

CASE AND COVER

The maincase and cover shall be cast from a ANSI/NSF 61 certified no-lead 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 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 or shall be covered by a protective cap that is attached in a tamper-resistant device.

EXTERNAL BOLTS

Casing bolts shall be made of AISI Type 316 stainless steel.

CONNECTIONS

Maincases shall be flanged. 1-1/2" and 2" sizes shall be oval flanged and 3" through 10" sizes shall be round flanged per Table 3, AWWA C701.

REGISTERS

Registers shall be permanently rolled-sealed, straight reading, indicating in cubic feet, gallons, or cubic metres. Registers shall include a center-sweep test hand, a low flow indicator and a glass lens. Registers shall be serviceable without interruption of the meter's operation.

REGISTER BOX

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 tamper-proof 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 CHAMBER

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

UNITIZED MEASURING ELEMENT

A UME is a complete assembly, factory calibrated to AWWA standards, that includes the cover, registers, and both a turbine measuring element assembly. 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 directly-coupled 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

- Type A — All meters shall be equipped with encoder remote registers per AWWA C707, and meet all AWWA C701 performance standards.
- Type B — All meters shall be equipped with generator remotes per AWWA C706, shall meet all AWWA C701 performance standards, and shall include all hardware. Two-wire cable shall not be included in quoted meter prices.

Acceptable meters shall be Neptune HP Turbine or approved equal.

Neptune Technology Group Inc.
1600 Alabama Highway 229
Tallassee, AL 36078
USA
Tel: (800) 645-1892
Fax: (334) 283-7299

Neptune Technology Group (Canada) Ltd.
7275 West Credit Avenue
Mississauga, Ontario
L5N 5M9
Canada
Tel: (905) 858-4211
Fax: (905) 858-0428

Neptune Technology Group Inc.
Ejército Nacional No. 418
Piso 12, Desp. 1201-1202
Col. Chapultepec Morales
Delegación Miguel Hidalgo
11570 México, Distrito Federal
Tel: (525) 55203 5294 / (525) 55203 5708
Fax: (525) 55203 6503

NEPTUNE TECHNOLOGY GROUP
neptunetg.com