



## Newport Utilities Positive Displacement Meter Specifications 5/8" - 2" Sizes

### Type

Magnetic Drive, Sealed Register, Positive Displacement Type Oscillating Piston or Nutating Disc.

### Size

Must conform to American Water Works Standard C-700 as most recently revised.

### Cases

All meters shall have a non-corrosive Water Works bronze (minimum 75% copper content) outer case with a separate measuring chamber which can easily be removed from the case. All meters shall have cast on them, in raised characters, the size and direction of water flow through the meter. Frost bottoms, or bronze bottoms shall be provided on 5/8", 3/4", and 1" size meters. 1-1/2" and 2" meters shall be the split case type with bronze lower and upper shell assemblies. The manufacturer's serial number must be permanently affixed to the maincase to aid in identification and must be visible so that it can be read from directly above the water meter.

### External Bolts and Washers

All external bolts and washers shall be of corrosion resistant material and be easily removed from the maincase. All threaded maincase bolt holes must be covered, to aid in removal of the bolts for repair.

### Register

The register must be of the straight reading type with a large test or sweep hand and shall include a low flow indicator on the dial face. The numeral wheel assembly shall be located at the bottom of the dial face with reading obtained from left to right. Registration shall be in gallons. All reduction gearing shall be contained in a permanently hermetically sealed, tamperproof enclosure. Additionally, the register shall be of the encoded type and electronically read to the nearest 100 gallons resolution.

### Transponder

The transponder unit shall be Badger ADE 5 dial, Orion Data Profiling pit transmitter in USG.

### Measuring Chamber

The measuring chamber shall be of Water Works bronze (minimum 85% copper content) or a suitable synthetic polymer and shall not be cast as part of the maincase. All piston assemblies shall be interchangeable in all measuring chamber assemblies of the same size. The measuring chamber shall be held in place without the use of fasteners.

### Magnetic Coupling

The motion of the piston will be transmitted to the sealed register through the use of a direct magnetic drive without any intermediate coupling.

### Strainers

All meters must be provided with a corrosion resistant strainer which is easily removable from the meter without the meter itself being disconnected from the pipeline.

### Change Gears

Change gears will not be allowed to calibrate the meter. All registers of a particular registration and meter size shall be identical and completely interchangeable. Should meters arrive with registers containing more than one gear combination, the entire shipment will be returned to the manufacturer freight collect and the next responsible bidder will receive the award.

### Accuracy and Headloss Tests

Meters shall conform to current AWWA C-700, current revision, test flows, head loss and accuracy standards.

### Pressure Capability

Meters shall operate up to a working pressure of 150 pounds per square inch (psi), without leakage or damage to any parts. The accuracy shall not be affected when operating at this pressure due to possible distortion. Accuracy shall not be affected by variation in pressure up to 150 psi.

### Connections

Flanges for the 1-1/2" and 2" size meter assemblies shall be of the 2-bolt oval flange configuration.

## **Certifications and Markings**

All sizes of meter packages shall display the size, model, manufacturer name, and direction of flow.

## **Guarantee and Maintenance Program**

Meters shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of shipment. In addition, the meter supplier shall submit nationally published literature clearly outlining its factory maintenance program and current price schedule covering complete measuring chamber exchange.

## **Performance Warranties**

In evaluating bid submittals, warranty coverage will be considered. All bidders are required to submit their most current nationally published warranty statements for water meter maincases, registers, and measuring chambers.

## **Intent**

Subject meter specifications are designed to establish minimum guidelines for selecting an extremely critical metering device. Areas of concern to be evaluated in the selection process include, but are not limited to, ease of installation, operational features and benefits, readability, and future system maintenance expense. A design which reflects longevity of proper operation in all elements and high degree of sustained accuracy within the entire range of the meter assembly is to be considered mandatory. Enhanced accuracy levels and performance are desired and will not be compromised.

## **Shipment Verifications**

A statistically controlled sample of each meter shipment will be tested by the utility to insure each shipment meets the utility performance and materials specifications.