

# accuMAG Meter

## Specification

### 3", 4", 6", 8", 10", 12", 14", 16", 18", 20", and 24" Sizes

#### SCOPE

These specifications set forth the minimum acceptable design criteria and performance requirements for cold water meters (33° F – 149° F) including the following potential service applications and general considerations:

- Intended where a moderately wide flow range is anticipated
- Measurement of water usage for typical accountability and billing applications
- Measurement intended for typical commercial and industrial applications including potable and non-potable applications
- Measurement of constant medium to extended high flow usage

#### MEASURING ASSEMBLY

The meter consists of two basic assemblies; the measuring tube and the liner. The measuring tube consists of polyurethane coated steel housing and a non-magnetic alloy tube with an obstruction-less cross section and a homogenous magnetic field. The liner of the measuring tube is made of Rilsan® (3" – 12" meters) and hard rubber (14" – 24" meters) and is resistant to corrosion, aging and abrasion.

#### PERFORMANCE

The meter assembly shall have performance capability of continuous operation up to the rated maximum flows as listed below without affecting long-term accuracy or causing any undue component wear. The meter assembly shall also provide a 25% flow capacity in excess of the maximum flows listed for intermittent flow demands.

#### OPERATING CHARACTERISTICS

Meter Size	Low Flow (> 95%)	Operating Range (± 1.5%)	Intermittent Flows (± 1.5%)
3"	0.7 gpm	2.8 gpm to 720 gpm	25% over speed capability
4"	1.3 gpm	5 gpm to 1,250 gpm	25% over speed capability
6"	3.0 gpm	11 gpm to 2,850 gpm	25% over speed capability
8"	5.5 gpm	19.5 gpm to 5,100 gpm	25% over speed capability
10"	8.4 gpm	31 gpm to 8,000 gpm	25% over speed capability
12"	12 gpm	44.5 gpm to 11,500 gpm	25% over speed capability
14"	49 gpm	182 gpm to 15,700 gpm	25% over speed capability
16"	64.5 gpm	237 gpm to 20,500 gpm	25% over speed capability
18"	82 gpm	300 gpm to 26,000 gpm	25% over speed capability
20"	101 gpm	370 gpm to 32,100 gpm	25% over speed capability
24"	105 gpm	385 gpm to 33,400 gpm	25% over speed capability

#### STRAIGHT PIPE REQUIREMENT

3" – 12" accuMAG: 0D inlet, 0D outlet

14" – 24" accuMAG: 5D inlet, 2D outlet

#### MEASURING TECHNOLOGY

An electrically conductive fluid flows inside an electrically insulating pipe through a magnetic field. The magnetic field is generated by a current, flowing through a pair of field coils. Inside of the fluid, a voltage is generated. The signal voltage is picked off by electrodes and is proportional to the mean flow velocity and thus the flow rate. The signal voltage is very small. The register amplifies the signal voltage, filters it and converts it into signals for totalization, recording and output processing. A grounding electrode is provided on the 3" – 12" meters. An optional grounding ring is available on the 14" – 24" meters.

#### ELECTRONIC REGISTER

The meter's register is all-electronic and does not contain any mechanical gearing to display flow and accurate totalization. The electronic register includes the following partial list of features:

- AMR resolution units fully programmable
- Pulse output fully programmable
- Integral resettable accuracy testing feature
- Large, easy-to-read LCD display
- Replaceable battery

#### MAXIMUM OPERATING PRESSURE

The meter assembly shall operate properly without leakage, damage, or malfunction up to a maximum working pressure of 175 pounds per square inch (psi).

#### CONNECTIONS

The meter assemblies shall have flanges of the Class 150 round type, raised faced and shall conform to ANSI B16.1 for specified diameter, drilling and thickness.

#### GUARANTEE PROGRAM

Meters shall be guaranteed against defects in material and workmanship for a period of one (1) year from date of shipment.

#### 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 should not be compromised.

#### RECOMMENDATION

Sensus accuMAG Meter