

# Series “W” Turbo Meters

Model W-10,000 DR

## Radial Magnetic Drive Flanged Ends Size 16” (DN 400mm)

### DESCRIPTION

**Model:** W-10,000 DR Turbo Meter is based on the turbine principle of measurement; its operating range is from 250 to 10,000 gallons per minute (57 to 2270 m<sup>3</sup>/h) with registration accuracy of 100% ±1.5% of actual thruput.

**Conformance to Standards:** Sensus Turbo Meters comply with ANSI/AWWA Standard C701 (most recent revision). Each meter is performance tested to insure compliance.

**Performance:** The meter’s unique principle of measurement assures extended accuracy life. The W-10,000 DR has no restrictions as to sustained flow rates within its operating range. The design permits continuous operation up to its rated maximum flow capacity, without affecting long term accuracy or causing undue wear.

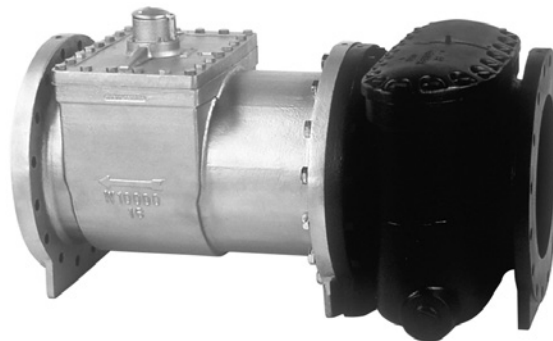
**Construction:** The meter consists of two basic assemblies— the maincase and the measuring chamber. Straightening vanes in the maincase minimize the swirl upstream of the meter so as to direct the flow evenly to the rotor. The measuring chamber assembly includes the rotor, change gears (for calibration) and sealed Direct Reading (DR) register.

**Magnetic Drive:** The Rotor is magnetically coupled, thus eliminating open gear trains and stuffing boxes. A sleeve type, ceramic magnet in the rotor drives the follower magnet which is located inside the rotor shaft (separator). Brass bevel gears are sealed in an oil-filled gear housing. The gears are attached to shafts connecting the follower magnet to the register. The gear housing is factory lubricated for the life of the meter.

**Rotor:** The thermoplastic rotor with ceramic bearing rotates on a ceramic coated stainless steel shaft. The rotor assembly is weightless in water, thus adding to bearing life.

**Maintenance:** The measuring chamber and straightening vanes can be removed, repaired and/or replaced without disturbing the maincase in the line. A spare chamber can be utilized in the event maintenance is required. Cover plates are also available to keep the line in service while the measuring chamber is repaired and recalibrated. Factory testing, repair and measuring chamber exchange programs are available.

**Strainer:** The meter comes equipped with an AWWA type strainer and must be installed immediately upstream of the meter. The strainer both conditions the flow of water to enhance measurement accuracy, and protects the internal working parts of the meter.



W-10,000 DR Turbo Meter with AWWA Strainer

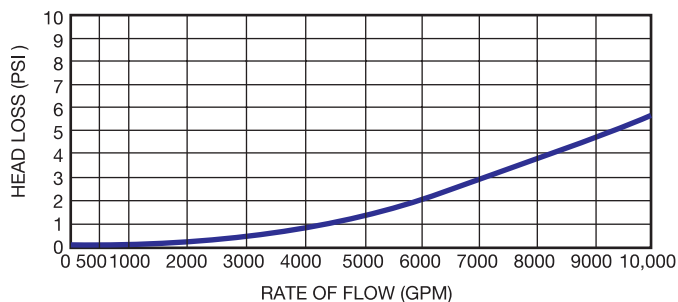


Intelligent Communications Encoder (ICE) Register

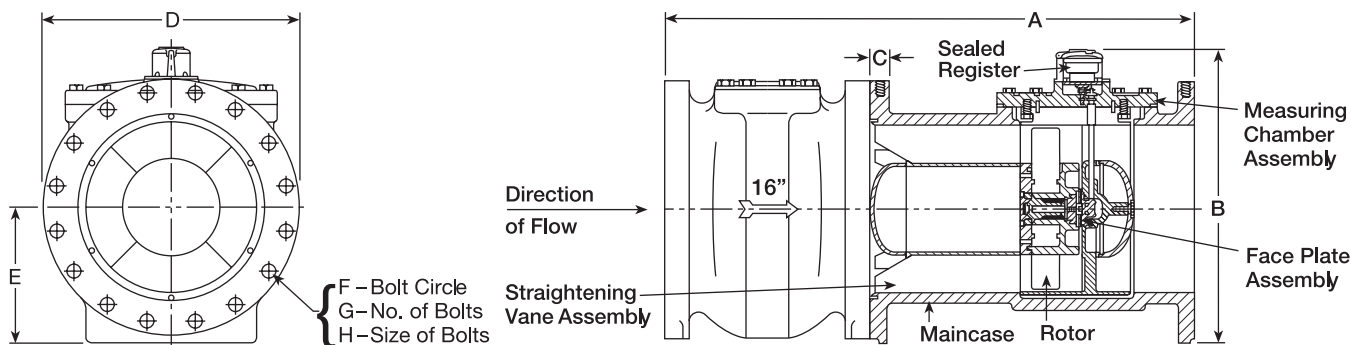
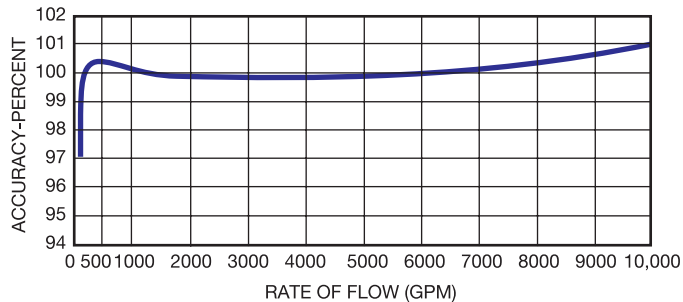
**AMR / AMI Systems:** Meters and encoders are compatible with current Sensus AMR/AMI systems.

**Guarantee:** Sensus Turbo Meters are backed by “The Sensus Guarantee.” Ask your Sensus representative for details or see Bulletin G-500.

### Head Loss Curve



### Accuracy Curve



### DIMENSIONS AND NET WEIGHTS

| Meter and Pipe Size | Normal Operating Range   | Connections | A                          | B            | C              | D                | E                | F                | G  | H            | Net Weight          | Shipping Weight     |
|---------------------|--|-------------|----------------------------|--------------|----------------|------------------|------------------|------------------|----|--------------|---------------------|---------------------|
| 16" DN 400mm        | 250 gpm 10,000 gpm <sup>1</sup><br>57 m <sup>3</sup> /hr 2270 m <sup>3</sup> /hr | Flanged     | 48" <sup>2</sup><br>1219mm | 25"<br>635mm | 1-1/2"<br>38mm | 23-1/2"<br>737mm | 12-1/4"<br>311mm | 21-1/4"<br>540mm | 16 | 1"<br>25.4mm | 1750 lbs.<br>795 kg | 1850 lbs.<br>839 kg |

<sup>1</sup> For continuous flows; 12,500 GPM (2840m<sup>3</sup>/h) maximum for intermittent flows.  
<sup>2</sup> "A" dimension includes a strainer at 18", a meter at 29-7/8" and a gasket 1/8"

### SPECIFICATIONS

|                                     |  |
|-------------------------------------|--|
| <b>SERVICE</b>                      | Measurement of potable cold water with flow in one direction only.   |
| <b>OPERATING RANGE</b>              | Continuous Flows: 250 to 10,000 gpm (57 to 2270 m <sup>3</sup> /h)<br>Intermittent Flows: 12,500 gpm max. (2840 m <sup>3</sup> /h) |
| <b>ACCURACY</b>                     | 100% ±1.5% of actual thruput   |
| <b>LOW FLOW</b>                     | 95% at 200 gpm (45 m <sup>3</sup> /h)  |
| <b>PRESSURE LOSS</b>                | Meter and Strainer—5.3 psi at 10,000 gpm (.3 bar at 2270 m <sup>3</sup> /h)  |
| <b>MAXIMUM CONTINUOUS OPERATION</b> | 150 psi (10.0 bar)   |
| <b>FLANGE</b>                       | 16" U.S. ANSI B 16.1 Class 125. Optional drillings, if specified, British Standard B.S. 10 or metric standard ISO R2084            |
| <b>REGISTER</b>                     | Hermetically Sealed Direct Reading Register with Low Flow Indicator. Remote reading unit optional.                                 |

|                           |  |
|---------------------------|--|
| <b>METER REGISTRATION</b> | 10,000,000,000 gallons<br>10,000 gallons/sweep hand revolution<br>1,000,000,000 cubic feet<br>1,000 cubic feet/sweep hand revolution<br>10,000,000 m <sup>3</sup><br>10 m <sup>3</sup> /sweep hand revolution  |
| <b>MATERIALS</b>          | Maincase—Cast Iron.<br>Internally protected with corrosion resistant coating.<br>Measuring chamber—Bronze<br>Straightening Vanes—Stainless Steel<br>Rotor—Thermoplastic<br>Radial Bearing—Ceramic<br>Trim—Stainless Steel<br>Thrust Bearings—Tungsten Carbide<br>Magnets—Ceramic |
| <b>STRAINER MATERIALS</b> | Body and Cover—Ductile Iron<br>Screen—Bronze   |