

# Series “W” Turbo Meters

Model W-3500 DRFS

## (Direct Reading Fire Service) Bronze Magnetic Drive Size 8” (DN 200mm)

### DESCRIPTION

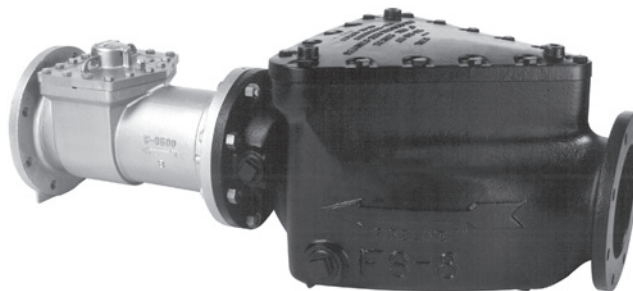
**Model:** W-3500 DRFS Turbo Meter with FS Strainer is based on the turbine principle of measurement; its operating range is from 35 to 3500 gallons per minute (8 to 795 m<sup>3</sup>/h) with registration accuracy of 100% ± 1.5% of actual thruput.

**Conformance To Standards:** Sensus Fire Service Turbo Meters comply with ANSI/AWWA Standard C703 (most recent revision). Each assembly is performance tested to insure compliance.

**Performance:** The meter is intended for use where measurement of fire service water usage is desired. The meter and strainer are listed by Underwriter’s Laboratories, Inc. for use on private fire service connections to public water supplies. Applications should be where moderate to heavy flow demands are anticipated in addition to providing fire protection service capability. The meter and strainer are pressure tested, calibrated and accuracy tested before shipment. No additional adjustments are required by field personnel.

**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, adjusting vane (for calibration) and sealed Direct Reading (DR) register.

**Magnetic Drive:** The Right Angle Magnetic Drive eliminates conventional worm or miter gears normally required for horizontally mounted rotors or turbine measuring elements. Registration is accomplished by combining the magnetic actions of a driver magnet (embedded in the rear face of the rotor), a three-legged flux carrier and a cylindrical follower magnet attached to the gear train shaft inside the register’s magnet well. Water flowing through the meter causes the rotor (with magnet) to turn, as one of the magnet poles passes one of the flux carrier legs, the magnetic force is transmitted through the flux carrier leg to the follower magnet, causing the register shaft to rotate. The only moving part in water is the rotor assembly.



W-3500 DRFS Turbo Meter with U.L. Strainer



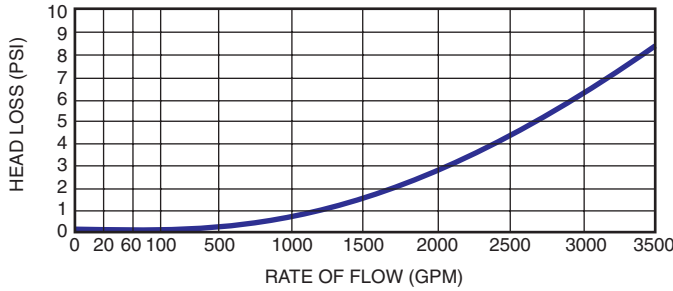
Intelligent Communications Encoder (ICE) Register

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

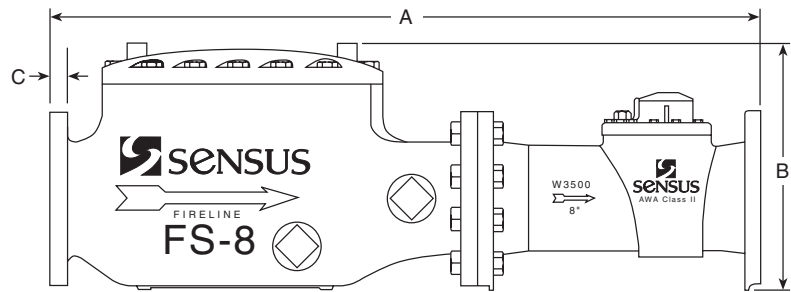
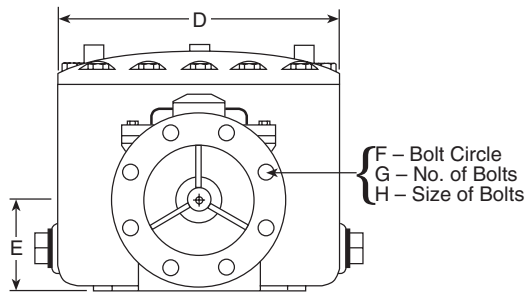
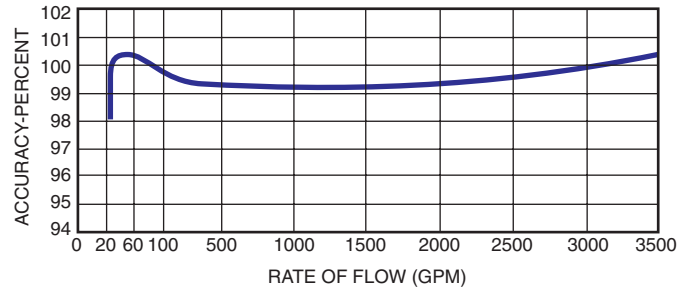
**Maintenance:** The measuring chamber and straightening vanes can be removed, repaired and/or replaced without disturbing the maincase in the line. A spare chamber can be utilized in the event maintenance is required. Cover plates are also available to keep the line in service while the measuring chamber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

**Strainer:** The meter is furnished with a U.L. listed Sensus FS Strainer and must be installed immediately upstream of the meter. Two drain plugs are provided to flush the screen under pressure.

Head Loss Curve (With U.L. Strainer)



Accuracy Curve (With U.L. Strainer)



**DIMENSIONS AND NET WEIGHTS**

Meter and Pipe Size	Normal Operating Range GPM		Connections	Dimensions								Net Weight	Shipping Weight
	Minimum	Maximum		A	B	C	D	E	F	G	H		
8" / DN 200mm	35 / 8m <sup>3</sup> /hr	3500 <sup>1</sup> / 795m <sup>3</sup> /hr	Flanged	51-7/16" / 1306mm	17-1/2" / 445mm	11/16" / 17mm	22-3/4" / 578mm	6-3/4" / 172mm	11-3/4" / 300mm	8 / 8	3/4" / 19mm	610 lbs. / 277 kg	655 lbs. / 297 kg

<sup>1</sup> For continuous flows; 4400 GPM (998m<sup>3</sup>/h) maximum for intermittent flows.

**SPECIFICATIONS**

<b>SERVICE</b>	Measurement of cold water up to 80°F (27°C) with flow in one direction only.
<b>OPERATING RANGE</b>	Continuous Flows: 35 to 3500 gpm (8 to 795 m <sup>3</sup> /h) Intermittent Flows: 4400 gpm max. (998 m <sup>3</sup> /h)
<b>TURBO METER</b>	100% ± 1.5% of actual thruput
<b>LOW FLOW</b>	95% minimum at 30 gpm (6.8 m <sup>3</sup> /h)
<b>PRESSURE LOSS</b>	Meter and Strainer—8.5 psi at 3500 gpm (.6 bar at 795 m <sup>3</sup> /h)
<b>MAXIMUM OPERATING PRESSURE</b>	175 psi (12 bar)
<b>FLANGE</b>	8" 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>	1,000,000,000 gallons 1,000 gallons/sweep hand revolution 100,000,000 cubic feet 100 cubic feet/sweep hand revolution 10,000,000 m <sup>3</sup> 1 m <sup>3</sup> /sweep hand revolution
<b>MATERIALS</b>	Maincase—Bronze Measuring Chamber—Bronze Straightening Vanes—Stainless Steel Rotor—Thermoplastic Radial Bearing—Ceramic Trim—Stainless Steel Thrust Bearings—Tungsten Carbide Magnets—Ceramic
<b>STRAINER MATERIALS</b>	Body and Cover—Cast Iron Screen—Stainless Steel

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