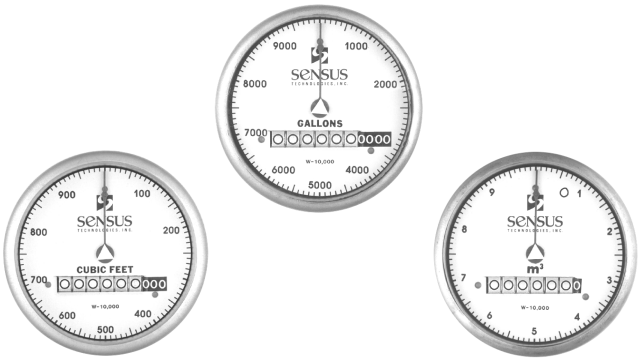
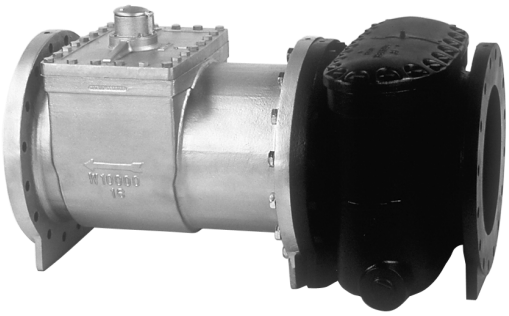
SERIES "W" TURBO METERS

Invensys
Metering Systems

MODEL W-10,000 DR
Radial Magnetic Drive Flanged Ends Size 16" (DN 400mm)



Direct Reading Registers



W-10,000 DR Turbo Meter with AWWA Strainer

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^3/h) with registration accuracy of 100% ±1.5% of actual thruput.

CONFORMANCE TO STANDARDS: Invensys 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 portects the internal working parts of the meter.

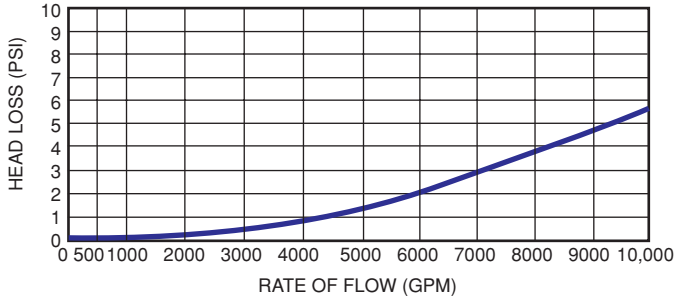
SPECIFICATIONS

SERVICE	Measurement of potable cold water with flow in one direction only.
OPERATING RANGE	Continuous Flows: 250 to 10,000 gpm (57 to 2270 m^3/h) Intermittent Flows: 12,500 gpm max. (2840 m^3/h)
ACCURACY	100% ± 1.5% of actual thruput
LOW FLOW	95% at 200 gpm (45 m^3/h)
PRESSURE LOSS	Meter and Strainer—5.3 psi at 10,000 gpm (.3 bar at 2270 m^3/h)
MAXIMUM OPERATING PRESSURE	150 psi (10.0 bar)
FLANGE	16" U.S. ANSI B 16.1 Class 125. Optional drillings, if specified, British Standard B.S. 10 or metric standard ISO R2084
REGISTER	Hermetically Sealed Direct Reading Register with Low Flow Indicator
METER REGISTRATION	10,000,000,000 gallons 10,000 gallons/sweep hand revolution 1,000,000,000 cubic feet 1,000 cubic feet/sweep hand revolution 10,000,000 m^3 10 m^3/sweep hand revolution
MATERIALS	Maincase—Cast Iron. Internally protected with corrosion resistant coating. Measuring chamber—Bronze Straightening Vanes—Stainless Steel Rotor—Thermoplastic Radial Bearing—Ceramic Trim—Stainless Steel Thrust Bearings—Tungsten Carbide Magnets—Ceramic
STRAINER MATERIALS	Body and Cover—Ductile Iron Screen—Bronze

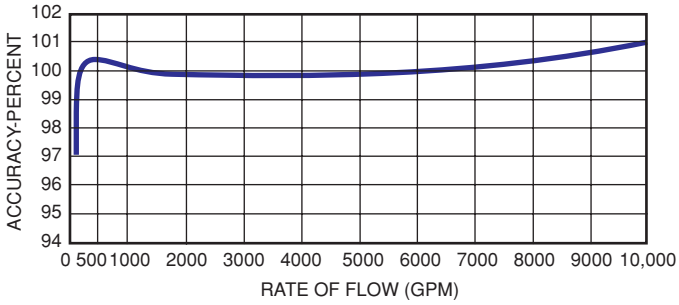
SERIES "W" TURBO METERS

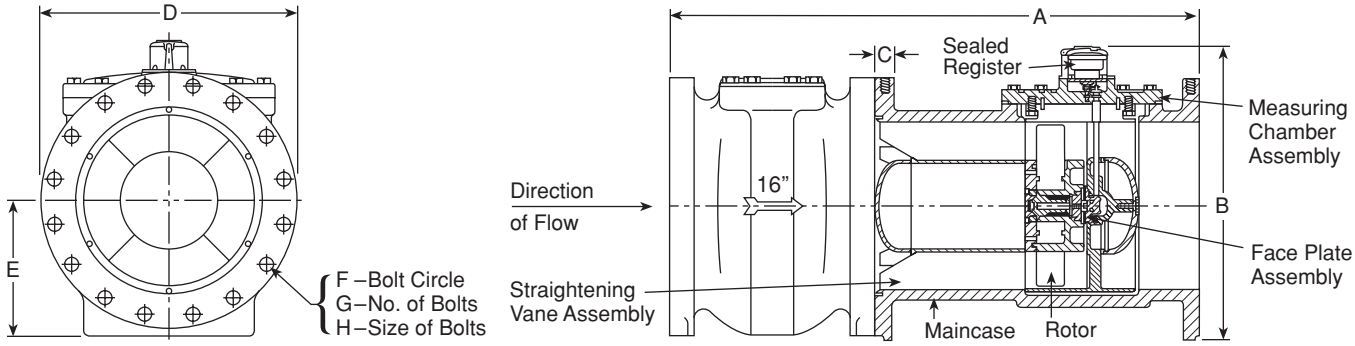
MODEL W-10,000 DR
Radial Magnetic Drive Flanged Ends Size 16" (DN 400mm)

Head Loss Curve



Accuracy Curve





Meter and Pipe Size	Normal Operating Range GPM Minimum	Maximum	Connections	Dimensions A	B	C	D	E	F	G	H	Net Weight	Shipping Weight
16" DN 400mm	250 $57m^3/h$	10,000① $2270m^3/h$	Flanged	48"②	25"	1-1/2"	23-1/2"	12-1/4"	21-1/4"	16	1"	1750 lbs.	1850 lbs.
				1219mm	635mm	38mm	737mm	311mm	540mm	16	25.4mm	795 kg	839 kg

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

Remote Systems—For use with all sizes of Invensys Water Meters

All Invensys AMR systems work with the same absolute encoder Electronic Communications Registers (ECR), enabling the utility to mix and match or easily move from one system to another without changing registers for each.

The TouchRead® Automated Meter Reading and Billing System—is a multi-purpose encoder remote system suitable for indoor and/or outdoor use. The ECR Register uses a wired connection between the meter and an outside remote for inside set meters—or a pitlid mounted module, enabling underground meters to be read automatically without opening the meter box or vault. All wired connections and terminals of the TouchRead PitLid (TR/PL) modules and registers are fully sealed at the factory using a special process to ensure protection from water infiltration. The connection terminals of ECR/WP registers are also factory sealed.

Meters equipped for TouchRead System reading can be read with a visual reading device, stand alone AutoGun, and/or reading gun with an AutoRead HandHeld Device. For more information on TouchRead System equipment refer to bulletins AMR-TR, AMR-401, AMR-403, AMR-312 and EXSUMHH.

PhonRead® AMR—is a reliable telephone based call-in system that does not require batteries for operation. It also does note require equipment to be installed at telephone company facilities. PhonRead Meter Interface Units (MIU) automatically call "in" to the utility office for transferring meter reading data from the meter site to a PC. PhonRead is a transparent AMR system that does not interfere with customers' telephone service. For more information refer to bulletins AMR-PR and AMR-302.

RadioRead® AMR—uses superior Direct Sequence Spread Spectrum modulation to provide reliable, safe and virtually interference free radio-based transmission of reading data from underground or inside-set meters that are equipped with Meter Transceiver Units (MXU). A choice of meter reading options is available. A radio frequency hand-held device (RF-HHD) can be used by a meter reader on foot. The RF-HHD can also be used to collect readings from TouchRead equipped meters, or for manual meter reading entries. A more powerful Vehicle Transceiver Unit (VXU) can be used in any car or truck to read meters while on the move. (A dedicated meter reading vehicle is not required.) For more information refer to bulletins AMR-RR, AMR-301 and AMR-303, and AMR-401.

MultiRead® Port Expanders—can provide the capability to connect multiple ECR equipped meters to a single PhonRead MIU or RadioRead MXU to save the utility time and money for installations such as apartment complexes and shopping centers. Refer to bulletin AMR-305, AMR-306 and AMR-308.

invensys
Metering Systems

Invensys Metering Systems
P.O. Box 487
450 N. Gallatin Avenue
Uniontown, PA 15401

1-800-METER-IT
1-800-638-3748

FAX (Direct to Factory)
Local: (724) 439-7729
Toll Free: 1-800-888-2403

Web site: www.invensys.com
select *North American Water*
Email: h2oinfo@invensys.com

AUTHORIZED INVENSYS DISTRIBUTOR