Water Meters, Systems & Accessories H-14

Sensus Omni Meters

Floating Ball Technology (FBT)

Optimal measurement performance is achieved with the utilization of the new Floating Ball Technology (FBT). FBT employes an impeller with a ball design which makes the impeller weightless in the water line. The technology enables the impeller to begin moving with little water flow or force through the meter. The result is that OMNI has an extended flow range with better low flow sensitivity, as well as the ability to capture extended high flow rates — all with virtually no wear.

Key Differentiators of the OMNI Meter

- Superior measurement accuracy
- Expanded accuracy range
- Lower operating head-loss
- One moving part in water

Operating Characteristics

Meter Size	Low Flow 95% Min.	Operating Range 98.5 - 101.5%	Intermittent Flows 98.5 - 101.5%	Pressure Loss (Not To Exceed)
1½"	.75 gpm	1.25 to 160 gpm	200 gpm	6.9 psi @ 160 gpm
2"	1.0 gpm	1.5 to 200 gpm	250 gpm	7.0 psi @ 200 gpm
3"	1.5 gpm	2.5 to 500 gpm	650 gpm	5.1 psi @ 500 gpm
4"	2.0 gpm	3.0 to 1000 gpm	1250 gpm	8.7 psi @ 1000 gpm

All-Electronic Register

OMNI's superior measuring chamber is complemented by an all-electronic register that provides the water utility with two electronic outputs, enabling utilities to link the meter to both AMR/AMI and SCADA systems at the same time. The large LCD displays the various register operation modes and includes a forward and reverse flow indicator along with a low battery indicator. In addition flow data and testing are provided along with many features that haven't been available with direct read registers. The goal: Enable utilities to make informed decisions based on valuable measurement information.

Primary Register Features:

- Electronic pulse output
- Programmable display
- Meter testing and data logging functions (31 days)
- Guaranteed 10-year battery life
- AMR/AMI, Totalization & Resettable Test Modes

AMR/AMI Mode | Totalization Mode | Resettable Test Mode

OMNI T² 2" Product Comparison

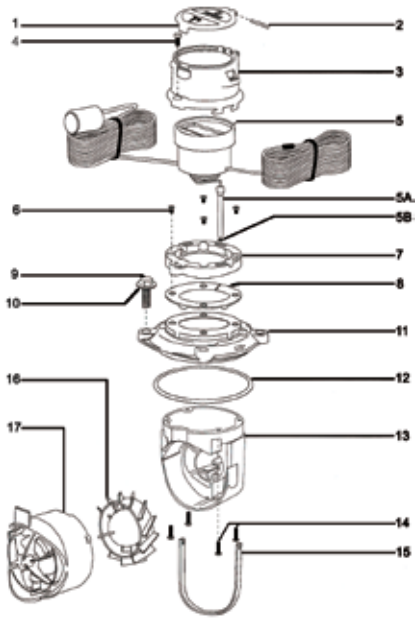
Based on AWWA C701 Class II with Strainer

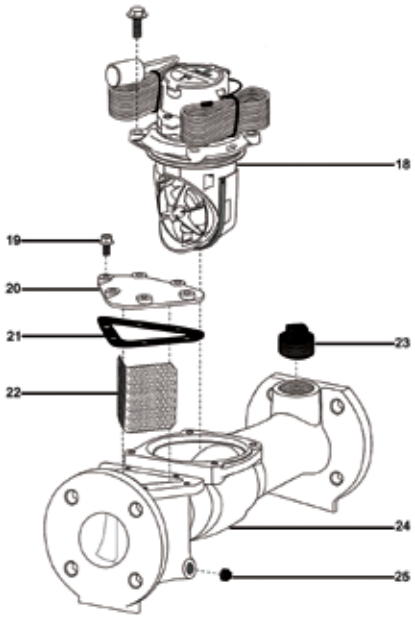
	OMNI	SENSUS TURBO	AMCO	BADGER	NEPTUNE
Operating Range	1.5-200 GPM	4-160 GPM	4-160 GPM	4-200 GPM	4-200 GPM
Low Flow (95%)	1.0 GPM	3.0 GPM	3.0 GPM	2.5 GPM	Undisclosed*
Maximum Intermittent Flow	250.0 GPM	200.0 GPM	200.0 GPM	310.0 GPM	250.0 GPM
Operating Pressure	200 PSI	150 PSI	150 PSI	150 PSI	175 PSI
Pressure Loss	7.0 PSI @ 200 GPM	6.5 PSI @ 160 GPM	Undisclosed*	8.3 PSI @ 200 GPM	7.0 PSI @ 200 GPM
Maincase	100% Lead Free Epoxy Coated Iron	Bronze	Bronze	Low Lead Bronze	Low Lead Bronze
*Exact figures were not available in production literature					

NOTE: For more information please contact your sales representative or call your local Team EJP Sales office.

Sensus Omni T² Meters

Omni T² Parts List — 1½", 2", 3" and 4"

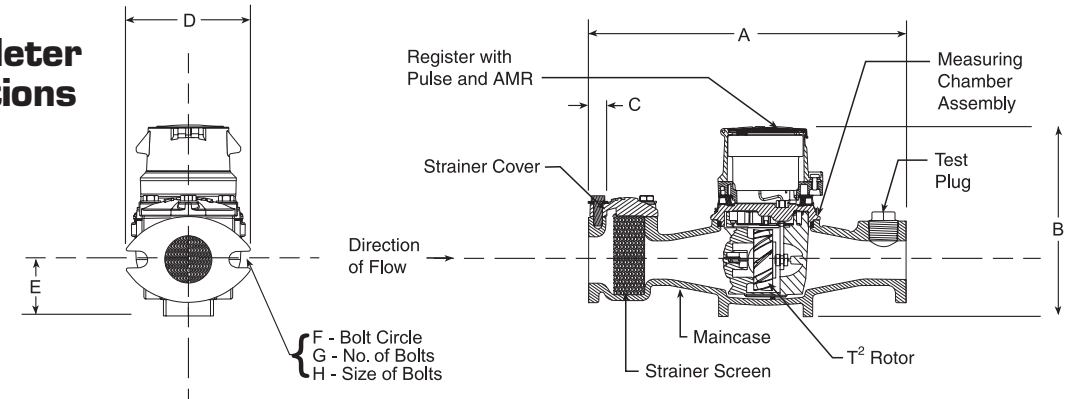




ILL. NO.	PART DESCRIPTION	ILL. NO.	PART DESCRIPTION
1	Bonnet Lid	6	Locking Ring Screw
2	Hinge Pin	7	Locking Ring
3	Bonnet	8	Fixing Ring
4	Bonnet Seal Screw	9	Chamber Cover Bolt
5	Register w/ AMR and Pulse Wire	10	Chamber Cover Bolt Washer
5A	Pick-Up Probe	11	Chamber Cover
5B	O-Ring	12	Chamber Cover O-Ring

ILL. NO.	PART DESCRIPTION	ILL. NO.	PART DESCRIPTION
13	Measuring Insert	20	Strainer Cover
14	Measuring Insert Screw	21	Strainer Cover Gasket
15	Chamber Seal Gasket	22	Strainer Screen
16	T² Rotor	23	Test Plug
17	T² Balance Plate	24	T² Maincase
18	Register Assembly	25	Drain Plug
19	Strainer Cover Cap Screw		

Omni T² Meter Specifications



METER & PIPE SIZE	NORMAL OPERATING RANGE GPM		DIMENSIONS									NET WEIGHT (lbs.)	SHIPPING WEIGHT (lbs.)
	MINIMUM	MAXIMUM	CONNECTIONS	A	B	C	D	E	F	G	H		
1½"	.75	200	Flanged	13"	7⅞"	15⁄16"	5⅛"	2 5⁄16"	4"	2"	⅝"	18.8	22.5
2"	1.0	250	Flanged	17"	7⅞"	1"	5¾"	2 5⁄16"	4½"	2	⅝"	27.4	34.5
3"	1.5	650	Flanged	19"	8¾"	¾"	7⅞"	4⅛"	6"	4	⅝"	48.5	57.4
4"	2	1250	Flanged	23"	11 3⁄16"	15⁄16"	9⅛"	4¾"	7½"	8	⅝"	67.9	75.8

Sensus Omni T² Meters

OMNI T² Meter Specifications

1-1/2", 2", 3" and 4" Sizes

Scope

These specifications set forth the minimum acceptable design criteria and performance requirements for Turbine-type cold water meters including the following potential service applications and general considerations:

- Intended where a moderately wide flow range is anticipated
- Measurement of water usage for typical billing applications
- Measurement intended for typical commercial and industrial applications
- Measurement of low flow usage above OMNI T ^{2} Meter threshold levels
- Measurement of constant medium to extended high flow usage

Conformance to Standards

The meter package shall meet or exceed all requirements of ANSI/AWWA Standard C701 for Class II turbine meter assemblies. Each meter assembly shall be performance tested to ensure compliance.

Maincases

The meter maincase shall be of epoxy coated ductile iron composition. The epoxy coating shall be provided as standard fusion-bonded and adhere to NSF for non-lead regulation compliance.

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. Maximum headloss through the meter / strainer assembly shall not exceed those listed in the following table per meter size.

Operating Characteristics

Meter Size	Low Flow (95% Min.)	Operating Range (98.5 - 101.5%)	Intermittent Flows (98.5 - 101.5%)	Pressure Loss (Not to Exceed)
1-1/2"	.75 gpm	1.25 to 160 gpm	200 gpm	6.9 psi @ 160 gpm
2"	1.0 gpm	1.5 to 200 gpm	250 gpm	7.0 psi @ 200 gpm
3"	1.5 gpm	2.5 to 500 gpm	650 gpm	5.1 psi @ 500 gpm
4"	2.0 gpm	3.0 to 1000 gpm	1250 gpm	8.7 psi @ 1000 gpm

Measuring Chamber

The measuring chamber shall consist of a measuring element, removable housing, and all-electronic register. The measuring element shall be mounted on a horizontal, stationary stainless steel shaft with sleeve bearings and be essentially weightless in water. The measuring element comes integrated with the advanced Floating Ball Technology design. The measuring chamber shall be capable of operating within the above listed accuracy limits without calibration when transferred from one maincase to another of the same size. The measuring shall be so configured to capture all flows as specified above.

Direct Magnetic Drive System

The direct magnetic drive shall occur between the motion of the measuring element blade position and the electronic register. The OMNI direct drive system with Floating Ball Technology is designed to extend service life, enhance low flow sensitivity and provide extended flow capacity and overall accuracy of the meter assembly. Any and all additional intermediate, magnetic or mechanical, drive couplings are not acceptable.

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 patial list of features:

- AMR resolution units fully programmable
- Pulse output frequency fully programmable
- Integral data logging capability
- Integral resettable accuracy testing feature
- Large, easy-to-read LCD display
- 10-year battery life guarantee

Maximum Operating Pressure

The meter assembly shall operate properly without leakage, damage, or malfunction up to a maximum working pressure of 200 pounds per square inch (psig).

Strainers

The meter strainer shall be integral and cast as part of the meter's maincase. The strainer's screen shall have a minimum net open area of at least two (2) times the pipe opening and be a V-shaped configuration for the purpose of maintaining a full unobstructed flow pattern. The strainer body shall be a coated ductile iron fusion-bonded epoxy identical to that of the meter's maincase. All fasteners shall be stainless steel capable of maintaining the following static pressure ratings and physical dimensions:

Meter Size	Maximum Operating Pressure	Centerline to Strainer Base	Overall Length (Not to Exceed)
1-1/2"	200 psig	2-5/16 inches	13 inches
2"	200 psig	2-5/16 inches	17 inches
3"	200 psig	4-1/8 inches	19 inches
4"	200 psig	4-3/4 inches	23 inches