

Model 520M – Pit Set

DESCRIPTION

Application: The FlexNet SmartPoint M2 is a radio transceiver that provides water utilities inbound and outbound access to water measurement and ancillary device diagnostics via radio signal. The SmartPoint 520M is designed for submersible, pit-set environments. With its migratable, two-way communication ability, the M-Series SmartPoint functions as a walk-by/drive-by endpoint, fixed base endpoint, or combination of the two. This flexibility increases utility data collection capabilities and streamlines operations.

TouchCoupler Design: The SmartPoint M2 utilizes TouchCoupler, the patented Sensus inductive coupling communication system, to interface with the meter encoder as well as other devices. With TouchCoupler, the SmartPoint M2 can connect to the meter using existing two wire AMR installations instead of requiring utilities to access the home to install a new three-wire system. This results in a fast, efficient and reliable connection at minimal cost.

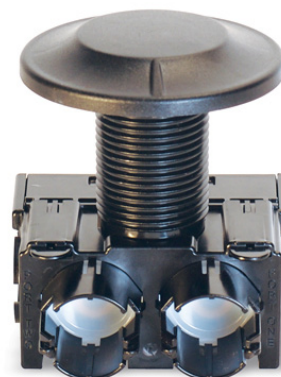
Operation: The FlexNet SmartPoint M2 receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed base collection device. The SmartPoint M2 easily migrates from walk-by/drive-by to fixed base by simply installing a Tower Gateway Basestation (TGB).

In walk-by/drive-by mode, the SmartPoint M2 collects data and awaits an activation signal from the Vehicle Gateway Basestation (VGB) or Hand-Held Device (HHD). Upon signal receipt, it transmits readings, the meter identification number and any alarms.

As a fixed-base endpoint, the SmartPoint M2 interacts with one or more strategically placed TGBs located in the utility service area. Top of the hour readings and other diagnostics are instantly forwarded to the Regional Network Interface (RNI) at time of transmission. The FlexNet system provides unmatched reliability by using expansive tower receiver coverage of metering end points, data/message redundancy, fail over back up provisions and operation on FCC primary-use (unshared) RF spectrum.

Powerful Transmission, Flexible Platform: The SmartPoint M2 offers several advantages that control both deployment and lifetime operation costs. It's powerful, industry leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And once the SmartPoint M2 is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

Additional SmartPoint M2 Features: The SmartPoint M2 obtains hourly readings and can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint M2 stores up to 840 consumption intervals (35 days of hourly consumption), providing the utility with the ability to extract detailed usage profiles for consumer information and dispute resolution. The SmartPoint M2 also incorporates a two-port design,



SPECIFICATIONS

SERVICE	Pit set installation interfacing the utility meter to the Sensus FlexNet system. Unit requires 1.75" diameter hole in pit lid; fits pit lid thicknesses up to 1.75"
PHYSICAL CHARACTERISTICS	Width: 4.43" x Height: 5.09" x Depth: 3"
WEIGHT	1.0 lbs/16.0 oz
COLOR	Black
FREQUENCY RANGE	900 – 950 MHz, 8000 channels X 6.25 kHz steps
MODULATION	Proprietary Narrow Band
MEMORY	Non-Volatile
POWER	Lithium Thionyl Chloride batteries
APPROVALS	US: FCC CFR 47: Part 90, Part 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119, RSS-210
OPERATING TEMPERATURE	- 22° F to +185° F - 30° C to + 85° C
OPTIONS	Dual or single port availability; TouchCoupler only, wired only.
INSTALLATION ENVIRONMENT	100% condensing, water submersible
COMPATIBILITY	TouchCoupler and Wired Version: Sensus ECRII, ICE and Badger ADE water registers Wired Version Only: Elster Encoder (Sensus protocol) and Neptune ARB VI (ProRead).
WARRANTY	20 years – Based on six transmissions per day. Refer to Sensus G-500 for warranty.

allowing the utility to connect multiple registers and ancillary devices (such as acoustic monitoring) to a single SmartPoint. This results in a compact installation that saves time, space and money - without reducing system performance.

iPERL Water Management System

Electromagnetic Flow Measurement System

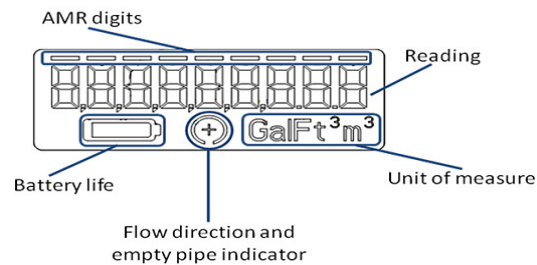
Description

5/8" (DN 15mm), 3/4" (DN 20mm) and 1" (DN 25mm) Sizes

With no moving parts, the Sensus iPERL water management system is based on innovative electromagnetic flow measurement technology. The iPERL system family has an operating range of 0.03 gpm (0.007 m³/hr) @ 95% minimum to 55 gpm (12.5 m³/hr) @ 100% ± 1.5% registration of actual throughput.



Electronic Register LCD Display



Features

CONFORMANCE TO STANDARDS

The iPERL system far exceeds the most recent revision of ANSI/AWWA Standard C-700 and C-710 for accuracy and pressure loss requirements. All iPERL systems are NSF/ANSI Standard 61 Annex F and G compliant and tested to AWWA standards.

PERFORMANCE

The patented measurement technology of the iPERL system allows enhanced accuracy ranges at both low and high flows and perpetual accuracy over the life of the product over the full measurement range when installed horizontal, vertical or diagonal.

CONSTRUCTION

The iPERL system is an integrated unit that incorporates an electronic register and measuring device encased in an external housing. The measuring device is comprised of a composite alloy flowtube with externally-threaded spud

ends. Embedded in the flowtube are magnetic flow sensors. The all electronic, programmable register is hermetically sealed with a tempered glass cover. The iPERL system has a 20 year life cycle, along with a 20 year battery life guarantee.

ELECTRONIC REGISTER

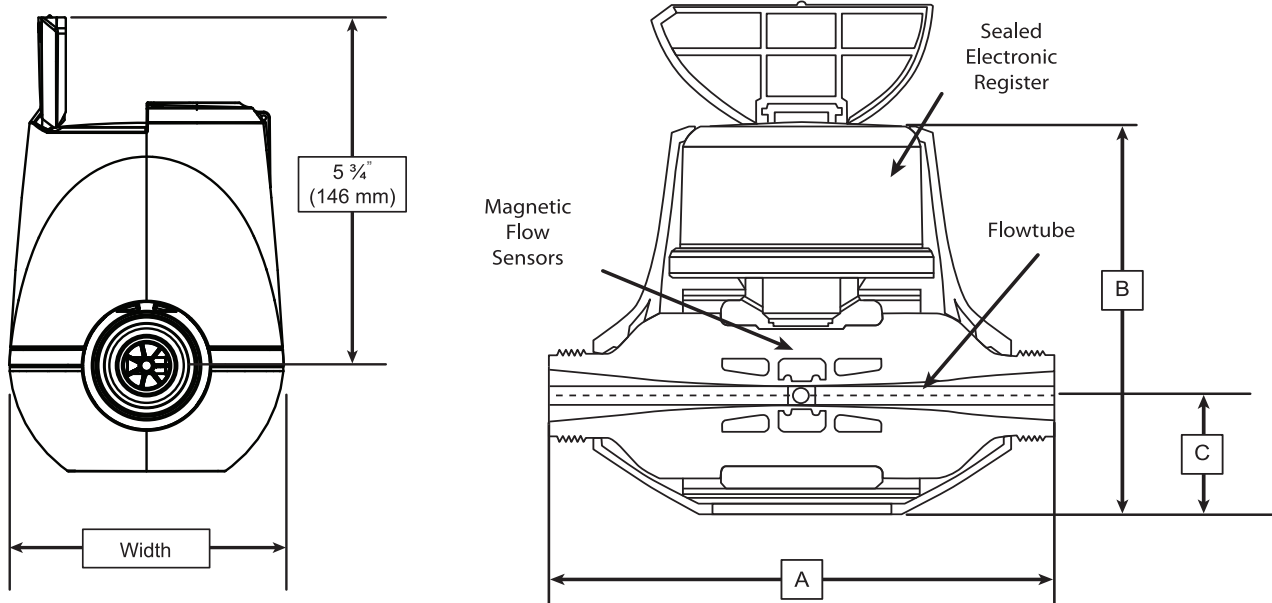
The high resolution 9-digit hermetically sealed electronic register with LCD display was designed to eliminate dirt, lens fogging issues and moisture contamination in pit settings with built in tamper protection. The tempered glass register cover displays readings with the AMR digits highlighted. Direction of flow and units of measure are also easily readable on the register display. The iPERL register features; AMR resolution and unit of measure that are fully programmable, integral customer data logging compatible with UniPro software tools. The large, easy to read display also includes battery life, empty pipe and forward/reverse flow indicators.

TAMPERPROOF FEATURES

The integrated construction of the iPERL system prevents removal of the register to obtain free water. The magnetic tamper and low field alarms will both indicate any attempt to tamper with the magnetic field of the iPERL system.

AMR / AMI SYSTEMS

iPERL systems are compatible with current Sensus AMR/AMI systems.



DIMENSIONS AND NET WEIGHTS

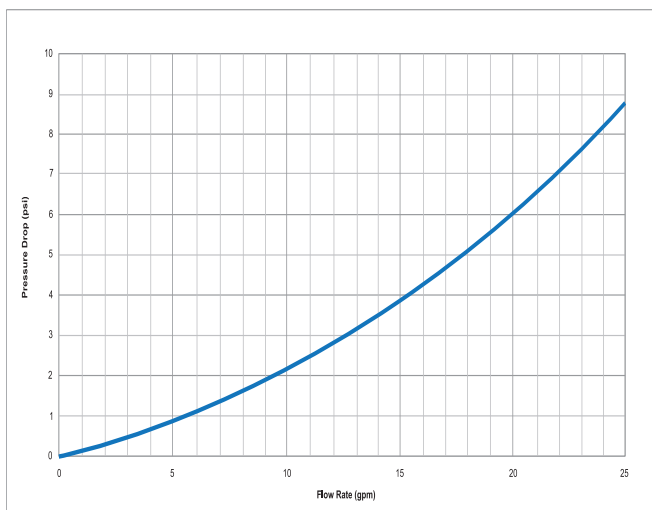
Size	A (lay length)	B	C	Spud Ends	NPSM Thread Size	Width	Net Weight
5/8" (DN 15 mm)	7-1/2" (190 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	5/8" (15 mm)	3/4" (19 mm)	4-1/2" (114 mm)	3.1 lb. (1.4 kg)
3/4"S (5/8" x 3/4") (DN 20 mm)	7-1/2" (190 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	3/4" (20 mm)	1" (25 mm)	4-1/2" (114 mm)	3.1 lb. (1.4 kg)
3/4" (DN 20 mm)	9" (229 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	3/4" (20 mm)	1" (25 mm)	4-1/2" (114 mm)	3.2 lb. (1.5 kg)
1" (DN 25 mm)	10-3/4" (273 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	1" (25 mm)	1-1/4" (32 mm)	4-1/2" (114 mm)	3.3 lb. (1.6 kg)

SPECIFICATIONS

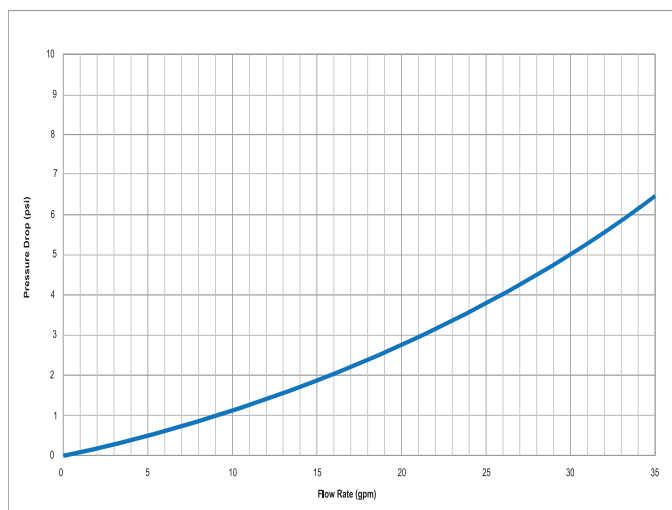
SERVICE	Measurement of potable and reclaim water. Operating temperature range of 33 °F (0.56 °C) - 150 °F (65.6 °C)
NORMAL OPERATING FLOW RANGE (100%±1.5%)	5/8" (DN 15mm) size: 0.11 to 25 gpm (0.02 to 5.7 m³/hr) 3/4" (DN 20mm) size: 0.11 to 35 gpm (0.02 to 8.0 m³/hr) 1" (DN 25mm) size: 0.4 to 55 gpm (0.09 to 12.5 m³/hr)
LOW FLOW REGISTRATION (95% - 101.5%)	5/8" (DN 15mm) size: 0.03 gpm (0.007 m³/h) 3/4" (DN 20mm) size: 0.03 gpm (0.007 m³/h) 1" (DN 25mm) size: 0.11 gpm (0.025 m³/h)
MAXIMUM PRESSURE LOSS	5/8" (DN 15mm) size: 4 psi at 15 gpm (0.3 bar at 3.4 m³/h) 3/4" (DN 20mm) size: 2 psi at 15 gpm (0.1 bar at 3.4 m³/h) 1" (DN 25mm) size: 2 psi at 25 gpm (0.1 bar at 5.7 m³/h)
MAXIMUM OPERATING PRESSURE	200 psi (13.8 bar)
MEASUREMENT TECHNOLOGY	Solid state electromagnetic flow

REGISTER	Hermetically sealed, 9-digit programmable electronic register AMR/AMI compatible iPERL system register programmable using the UniPro programming package
MATERIALS	External housing – Thermal plastic Flowtube – Polyphenylene sulfide alloy Electrode – Silver/silver chloride Register cover – Tempered glass
ALARM DEFAULTS	Alarm Duration – 90 days Leak Duration – 24 hours Datalog Interval – 1 hour Alarm Mask – All alarms reported History Mask – All event types reported

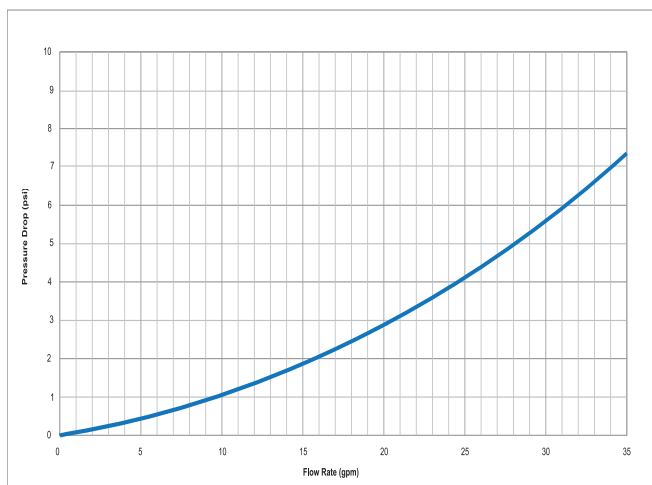
HEADLOSS CURVES



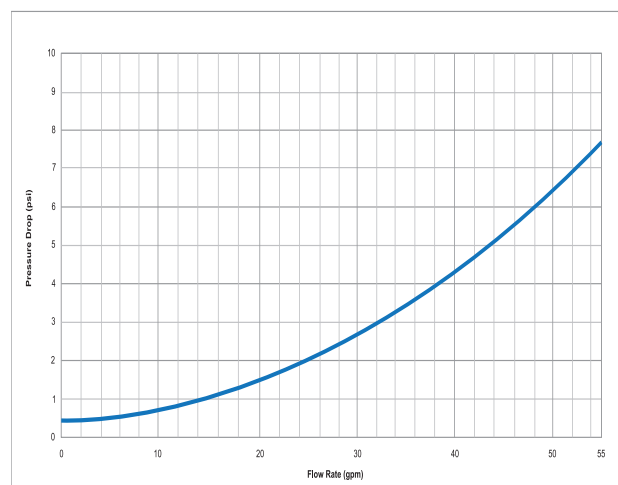
5/8" Headloss Curve



3/4" Short Headloss Curve



3/4" Headloss Curve



1" Headloss Curve

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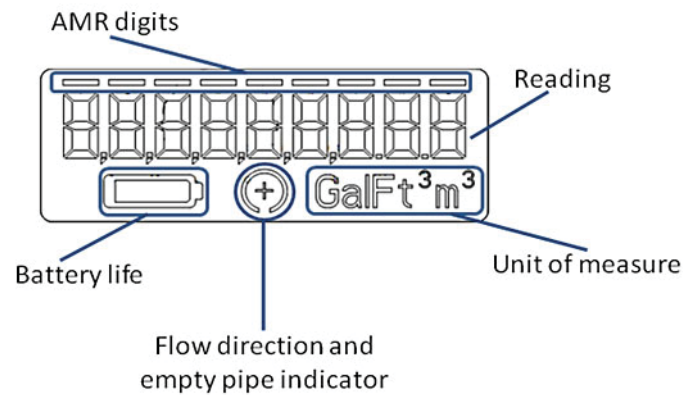
THE SENSUS iPERL SYSTEM

The iPERL water management system offers unparalleled low flow accuracy with high flow durability. Innovative magnetic technology allows for the capture of previously unmeasured low flow, and drives additional revenue for the utility. The iPERL system maintains its accuracy over a 20-year lifetime through its 100% lead-free design with no moving parts. Issues experienced in the field are quickly identified through the use of AMR/AMI connectivity. The iPERL also provides the ability to report diagnostics and alarms.

ELECTRONIC REGISTER

The high resolution 9-digit hermetically sealed electronic register with LCD display was designed to eliminate problems resulting from dirt, lens fogging and moisture contamination in pit set environments. The iPERL also provides built-in tamper protection. The tempered glass register cover displays readings with the AMR/AMI digits highlighted. Direction of flow and units of measure are also easily readable on the register display. The iPERL register features an AMR/AMI resolution and unit of measure that are fully programmable, and integral customer data logging compatible with UniPro software tools. The large, easy to read display also includes battery life, empty pipe and forward/reverse flow indicators.

REGISTER DISPLAY



AMR Digit Bar (4 to 8 Digits): The AMR digit bar shows which digits will be reported when the meter is read through the communications interface.

Battery Icon: The Battery Icon will turn on when the battery is low or the meter is near the end of life.

Flow Icon:

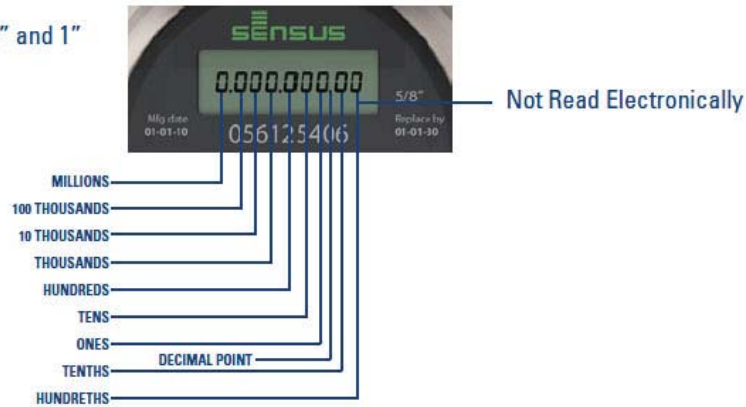
Flow Condition	Display
Positive Flow	Circle with +
Negative Flow	Circle with -
Low Flow Cut off	No icon displayed
Empty Pipe	Empty Circle

Unit of Measure: Gallon (GAL), Cubic Feet (FT³), Cubic Meter (M³)

READING THE IPERL REGISTER

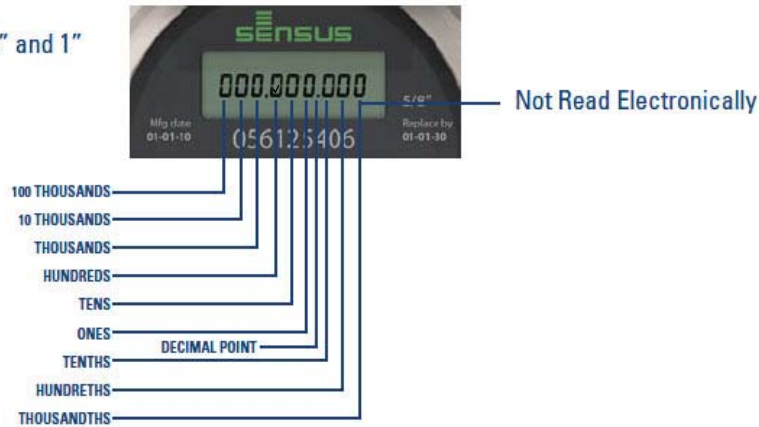
GALLONS REGISTERS

5/8", 3/4" and 1"



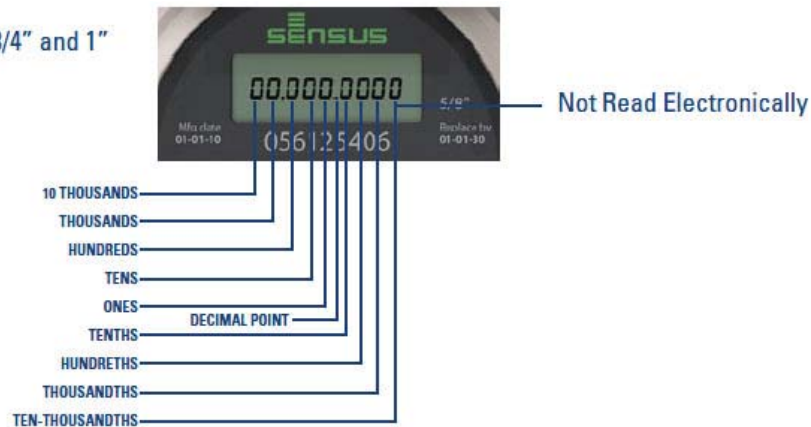
CUBIC FEET REGISTERS

5/8", 3/4" and 1"



CUBIC METER REGISTERS

5/8", 3/4" and 1"



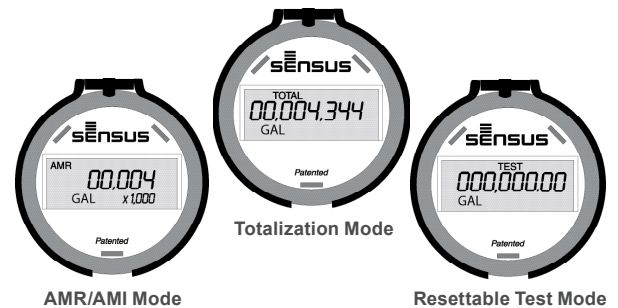
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Description

1-1/2" and 2" Sizes

The OMNI R² meter operation is based on advanced Floating Ball Technology (FBT).



Features

CONFORMANCE TO STANDARDS

The OMNI R² meter meets and far exceeds the most recent revision of ANSI/AWWA Standard C701 class II standards and exceeds ANSI/AWWA C700 Residential Standard using Sensus Turbo technology. Each meter is performance tested to ensure compliance. All OMNI meters are NSF/ANSI Standard 61, Annex F and G approved.

PERFORMANCE

The patented measurement principles of the OMNI R² meter assure enhanced accuracy ranges, an overall greater accuracy, and a longer service life than any other comparable class meter produced. The OMNI R² meter has no restrictions as to sustained flow rates within its continuous operating range. The floating ball measurement technology allows for flows up to its rated maximum capacity without affecting undue wear or accuracy degradation when installed in any orientation.

CONSTRUCTION

The OMNI R² meter consists of two basic assemblies; the maincase and the measuring chamber. The measuring chamber assembly includes the "floating ball" impeller with a coated titanium shaft, hybrid axial bearings, integral flow straightener and an all electronic programmable register with protective bonnet. The maincase is made from industry proven Ductile Iron with an

approved NSF epoxy coating. Maincase features are; easily removable measuring chamber, unique chamber seal to the maincase using a high pressure o-ring, testing port and a convenient integral strainer.

OMNI ELECTRONIC REGISTER

The OMNI R² electronic register consist of a hermetically sealed register with an electronic pickup containing no mechanical gearing. The large character LCD displays AMR, Totalization and a Resettable Test Totalizer. OMNI register features; AMR resolution units that are fully programmable, Large, easy-to-read LCD also displays both forward and reverse flow directions and all with a 10-year battery life guarantee.

MAGNETIC DRIVE

Meter registration is achieved by utilizing a fully magnetic pickup system. This is accomplished by the magnetic actions of the embedded rotor magnets and the ultra sensitive register pickup probe. The only moving component in water is the "floating ball" impeller.

MEASURING ELEMENT

The revolutionary thermoplastic, hydro dynamically balanced impeller floats between the bearings. The Floating Ball Technology (FBT) allows the measuring element to operate virtually without friction or wear, thus creating the extended upper and lower flow ranges capable on only the OMNI R² meter.

STRAINER

The OMNI R² with the "V" shaped integral strainer using a stainless steel screen along with Floating Ball Technology (FBT) create a design that gives far improved accuracy even in those once thought questionable settings. A removable strainer cover permits easy access to the screen for routine maintenance.

MAINTENANCE

The OMNI R² meter is designed for easy maintenance. Should any maintenance be required, the measuring chamber and/or strainer cover can be removed independently. Parts and or a replacement measuring chamber may be utilized in the event repairs are needed. Replacement Measuring Chambers are available for the OMNI R² meters and may be utilized for retrofitting to competitive meters to achieve increased accuracy and extended service life.

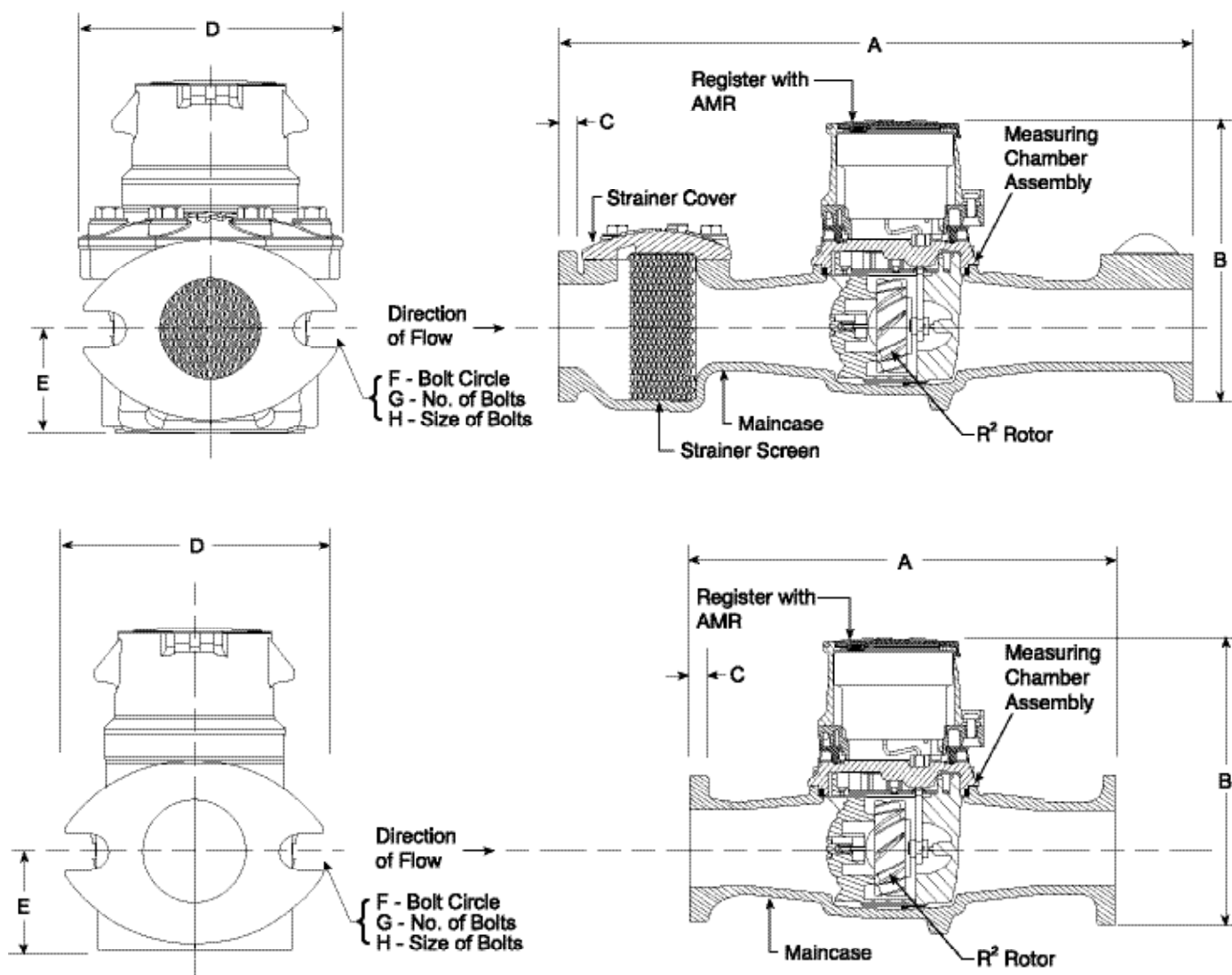
AMR / AMI SYSTEMS

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

GUARANTEE

Sensus OMNI R² Meters are backed by "The Sensus Guarantee." Ask your Sensus representative for details or see Bulletin G-500.

OMNI R²: 1-1/2" and 2" Sizes



DIMENSIONS AND NET WEIGHTS

Meter and Pipe Size	Normal Operating Range		Connections	A	B	C	D	E	F	G	H	J	Net Weight	Shipping Weight
1-1/2" DN 40mm	2 gpm .45 m ³ /hr	150 gpm 34 m ³ /hr	Flanged	13" 330mm	7-7/8" 200mm	15/16" 24mm	5-1/8" 130mm	2-5/16" 59mm	4" 102mm	2	5/8" 16mm	1" 25mm	18.8 lbs. 8.53 kg.	22.5 lbs. 10.20 kg.
2" DN 50mm	2.5 gpm .56 m ³ /hr	200 gpm 45 m ³ /hr	Flanged	17" 432mm	7-7/8" 200mm	1" 25mm	5-3/4" 146mm	2-5/16" 59mm	4-1/2" 114mm	2	3/4" 19mm	1" 25mm	27.4 lbs. 12.42 kg.	34.5 lbs. 15.65 kg.
2" without Strainer DN 80mm	2.5 gpm .56 m ³ /hr	250 gpm 57 m ³ /hr	Flanged	10" 254mm	7-7/8" 200mm	1" 25mm	5-3/4" 146mm	2-5/16" 59mm	4-1/2" 114mm	2	3/4" 19mm	1" 25mm	17 lbs. 7.9 kg.	24.5 lbs. 11.11 kg.

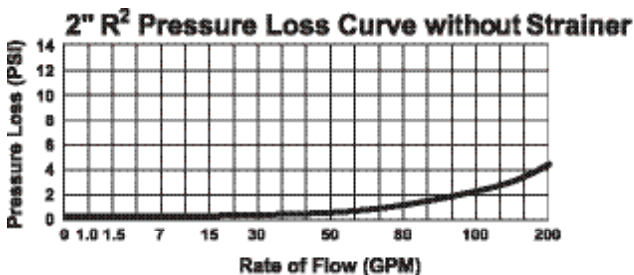
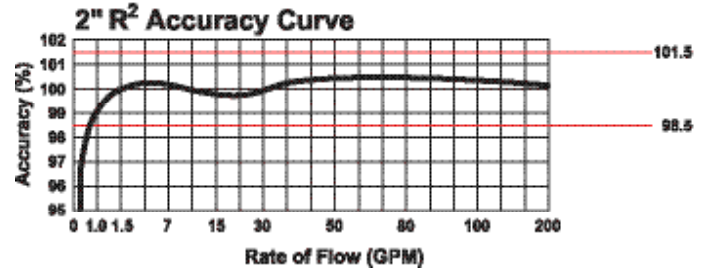
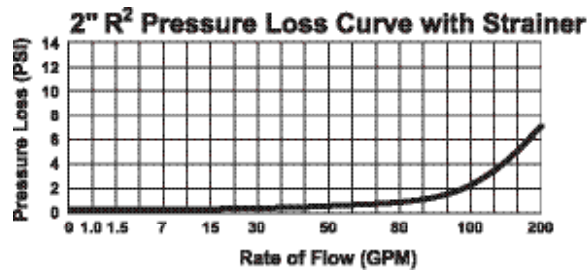
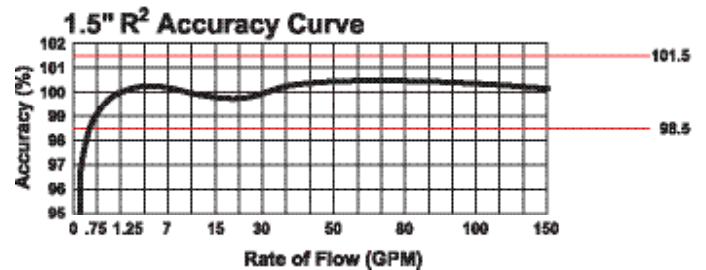
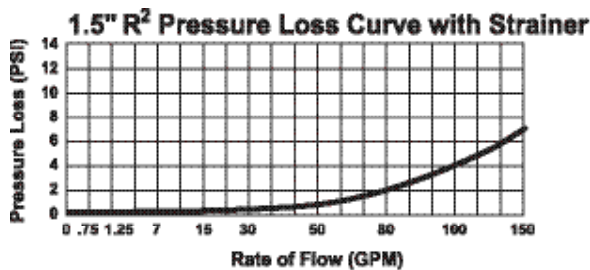
OMNI R²: 1-1/2" and 2" Sizes

SPECIFICATIONS

SERVICE	Measurement of potable and reclaim water. Operating temperature range of 33 °F (.56 °C) - 150 °F (65.6 °C)
OPERATING RANGE (100% ± 1.5%)	1-1/2": 2 – 150 GPM (.45 – 34 m ³ /hr) 2": 2.5 – 200 GPM (.56 – 45 m ³ /hr) 2" without Strainer: 2.5 – 200 GPM (.56 – 45 m ³ /hr)
LOW FLOW (95% – 101.5%)	1-1/2": .75 GPM (.17 m ³ /hr) 2": 1.0 GPM (.23 m ³ /hr) 2" without Strainer: 1.0 GPM (.23 m ³ /hr)
PRESSURE LOSS	1-1/2": 6.7 psi @ 150 GPM (0.46 bar @ 34 m ³ /hr) 2": 7.0 psi @ 200 GPM (.48 bar @ 45 m ³ /hr)
MAXIMUM OPERATING PRESSURE	200 PSI (13.8 bar)

FLANGE CONNECTIONS	U.S. ANSI B16.1 / AWWA Class 125																		
REGISTER	Fully electronic sealed register with programmable registration (Gal. /Cu.Ft./ Cu. Mtr. / Imp.Gal / Acre Ft.) Programmable AMR/AMI reading output Guaranteed 10 year battery life																		
NSF APPROVED MATERIALS	<table> <tr> <td>Maincase:</td><td>Coated Ductile Iron</td></tr> <tr> <td>Measuring Chamber:</td><td>Thermoplastic</td></tr> <tr> <td>Rotor "Floating Ball":</td><td>Thermoplastic</td></tr> <tr> <td>Radial Bearings:</td><td>Hybrid Thermoplastic</td></tr> <tr> <td>Thrust Bearings:</td><td>Sapphire/Ceramic Jewel</td></tr> <tr> <td>Magnets:</td><td>Ceramic Magnet</td></tr> <tr> <td>Strainer Screen:</td><td>Stainless Steel</td></tr> <tr> <td>Strainer Cover:</td><td>Coated Ductile Iron</td></tr> <tr> <td>Test Plug:</td><td>Coated Ductile Iron</td></tr> </table>	Maincase:	Coated Ductile Iron	Measuring Chamber:	Thermoplastic	Rotor "Floating Ball":	Thermoplastic	Radial Bearings:	Hybrid Thermoplastic	Thrust Bearings:	Sapphire/Ceramic Jewel	Magnets:	Ceramic Magnet	Strainer Screen:	Stainless Steel	Strainer Cover:	Coated Ductile Iron	Test Plug:	Coated Ductile Iron
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Headloss Curves



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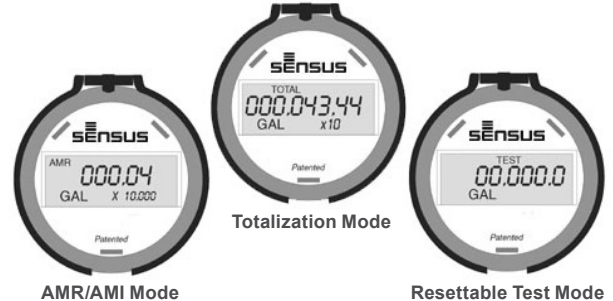
OMNI C²

1-1/2", 2", 3", 4", 6", 8" and 10" OMNI C² Meter

Description

1-1/2", 2", 3", 4", 6", 8" and 10" Sizes

The OMNI C² meter operation is based on advanced Floating Ball Technology (FBT).



Features

CONFORMANCE TO STANDARDS

The OMNI C² meter meets and far exceeds the most recent revision of AWWA Standard C701 and C702 class II. Additionally, the meter does not require a valve to meet these standards. Each meter is performance tested to ensure compliance. All OMNI meters are NSF/ANSI Standard 61, Annex F and G approved latest standards.

PERFORMANCE

The patented measurement principles of the OMNI C² meter assure enhanced accuracy ranges, an overall greater accuracy, and a longer service life than any other comparable class meter produced. The OMNI C² meter has no restrictions as to sustained flow rates within its continuous operating range. The floating ball measurement technology allows for flows up to its rated maximum capacity without undue wear or accuracy degradation when installed in any orientation.

CONSTRUCTION

The OMNI C² meter consists of two basic assemblies; the maincase and the measuring chamber. The measuring chamber assembly includes the "floating ball" impeller with a coated titanium shaft, hybrid axial bearings, integral flow straightener and an all electronic programmable register with protective bonnet. The maincase is made from industry proven Ductile Iron with an approved NSF epoxy coating. Maincase features are; easily removable measuring chamber, unique chamber seal to the

maincase using a high pressure o-ring, testing port and an AWWA compliant strainer.

OMNI ELECTRONIC REGISTER

The OMNI C² electronic register is hermetically sealed with an electronic pickup containing no mechanical gearing. The large character LCD displays AMR, Totalization and a Resettable Test Totalizer. OMNI register features; AMR resolution units that are fully programmable, Pulse output frequency that are fully programmable, Integral customer data logging capability, Integral resettable accuracy testing feature compatible with UniPro Testing Assistant Program, Large, easy-to-read LCD also displays both forward and reverse flow directions and all with a 10-year battery life guarantee.

MAGNETIC DRIVE

Meter registration is achieved by utilizing a fully magnetic pickup system. This is accomplished by the magnetic actions of the embedded rotor magnets and the ultra sensitive register pickup probe. The only moving component in water is the "floating ball" impeller.

MEASURING ELEMENT

The revolutionary thermoplastic, hydrodynamically balanced impeller floats between the bearings. The Floating Ball Technology (FBT) allows the measuring element to operate virtually without friction or wear, thus creating the extended upper and lower flow ranges capable on only the OMNI C² meter.

STRAINER

The OMNI C² with the AWWA compliant "V" shaped strainer using a stainless steel screen along with Floating Ball Technology (FBT) create a design that gives far improved accuracy even in those once thought questionable settings. A removable strainer cover permits easy access to the screen for routine maintenance.

MAINTENANCE

The OMNI C² meter is designed for easy maintenance. Should any maintenance be required, the measuring chamber and / or strainer cover can be removed independently. Parts and or a replacement measuring chamber may be utilized in the event repairs are needed. Replacement Measuring Chambers are available for the OMNI C² meters and may also be utilized for retrofitting to competitive meters to achieve increased accuracy and extended service life.

AMR / AMI SYSTEMS:

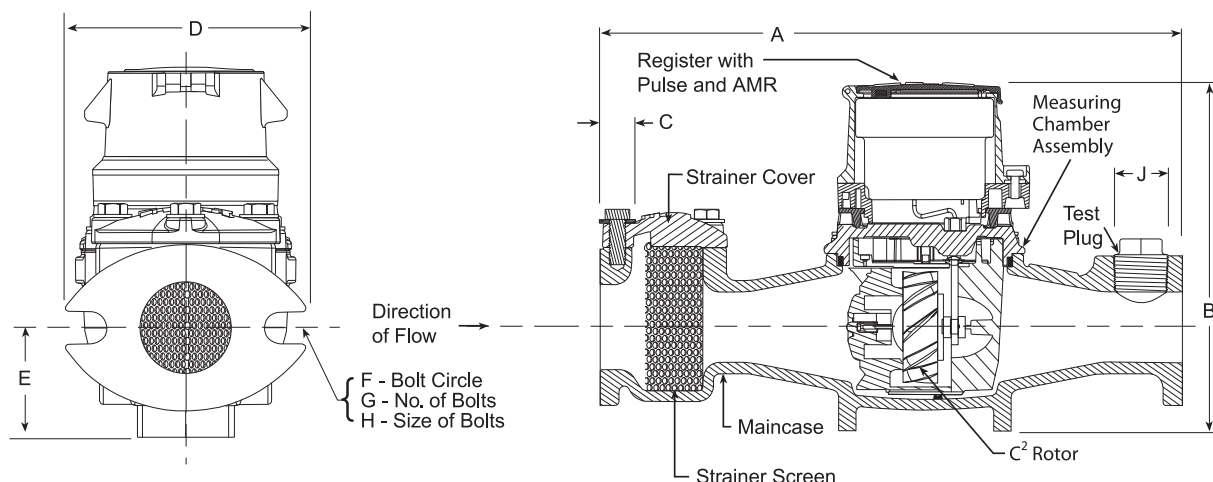
Meters and encoders are compatible with current Sensus AMR/AMI systems.

GUARANTEE:

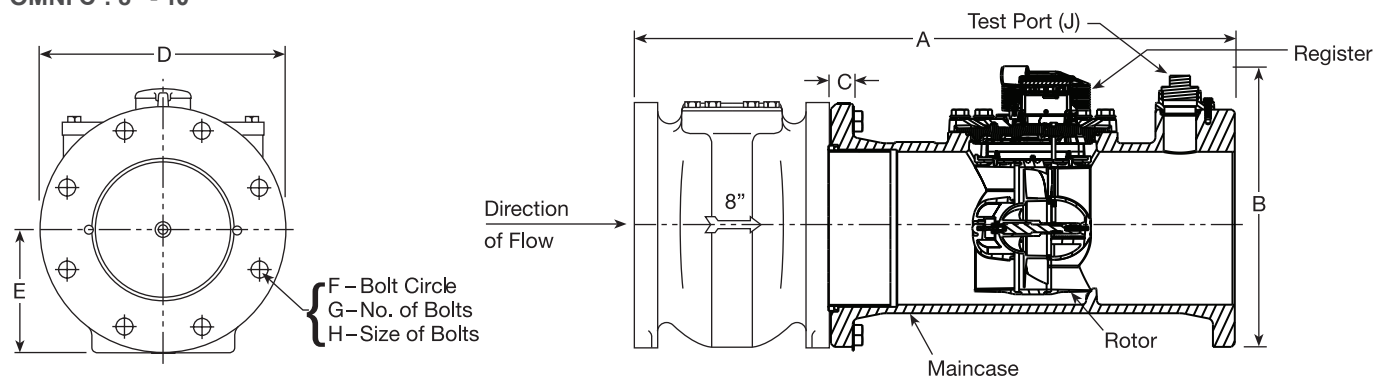
Sensus OMNI C² Meters are backed by "The Sensus Guarantee." Ask your Sensus representative for details or see Bulletin G-500.

OMNI C²: 1-1/2", 2", 3", 4", 6", 8" and 10" Sizes

OMNI C²: 1 1/2" - 6"



OMNI C²: 8" - 10"



DIMENSIONS AND NET WEIGHTS

Meter and Pipe Size	Normal Operating Range		Connections	A	B	C	D	E	F	G	H	J	Net Weight	Shipping Weight
1-1/2" DN 40mm	.5 gpm .11 m ³ /hr	200 gpm 45 m ³ /hr	Flanged	13" 330mm	7-7/8" 200mm	15/16" 24mm	5-1/8" 130mm	2-5/16" 59mm	4" 102mm	2	5/8" 16mm	1" 25mm	18.8 lbs. 8.53 kg.	22.5 lbs. 10.20 kg.
2" DN 50mm	.5 gpm .11 m ³ /hr	200 gpm 45 m ³ /hr	Flanged	15-1/4" 387mm	7-7/8" 200mm	1" 25mm	5-3/4" 146mm	2-5/16" 59mm	4-1/2" 114mm	2	3/4" 19mm	1" 25mm	25.4 lbs. 11.39 kg.	32.5 lbs. 14.74 kg.
3" DN 80mm	1 gpm .23 m ³ /hr	500 gpm 114 m ³ /hr	Flanged	17" 432mm	8-3/4" 222mm	3/4" 19mm	7-7/8" 200mm	4-1/8" 105mm	6" 153mm	4	5/8" 16mm	1" 25mm	45 lbs. 20.41 kg.	72.8 lbs. 33.02 kg.
4" DN 100mm	1.5 gpm .34 m ³ /hr	1000 gpm 227 m ³ /hr	Flanged	20" 508mm	11-3/16" 284mm	15/16" 24mm	9-1/8" 232mm	4-3/4" 121mm	7-1/2" 191mm	8	5/8" 16mm	1-1/2" 40mm	64.9 lbs. 29.44 kg.	72.8 lbs. 33.02 kg.
6" DN 150mm	3 gpm .68 m ³ /hr	2500 gpm 5687 m ³ /hr	Flanged	24" 610mm	13-1/4" 336mm	15/16" 24mm	11" 279mm	5-3/4" 146mm	9-1/2" 242mm	8	3/4" 19mm	1-1/2" 40mm	130 lbs. 48.5 kg.	155 lbs. 57.8 kg.
8" DN 200mm	4 gpm .91 m ³ /hr	2700 gpm 614 m ³ /hr	Flanged	30-1/8" 765 mm	15" 381 mm	11/16" 17 mm	13-1/2" 343 mm	6-3/4" 172 mm	11-3/4" 300 mm	8	3/4" 19 mm	2" NPT	471 lbs. 214 kg.	521 lbs. 236 kg.
10" DN 250mm	5 gpm 1.1 m ³ /hr	4000 gpm 908 m ³ /hr	Flanged	41-1/8" 1045mm	19" 485mm	11/16" 17mm	16" 406mm	8-1/2" 216mm	14-1/4" 362mm	12	7/8" 22mm	2" NPT	685 lbs. 311 kg.	745 lbs. 338 kg.

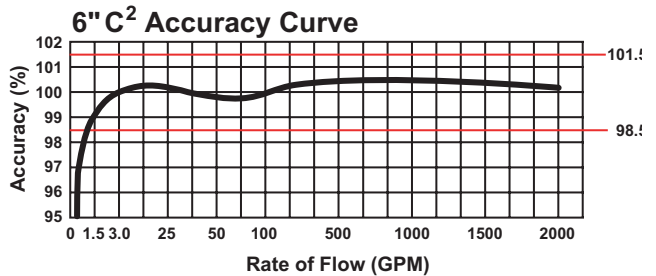
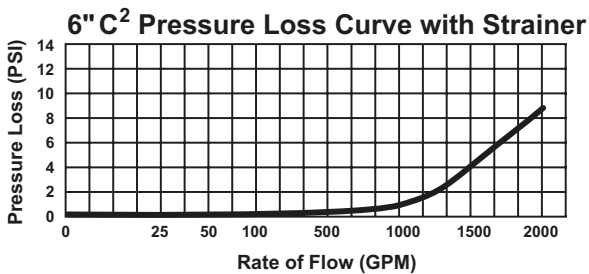
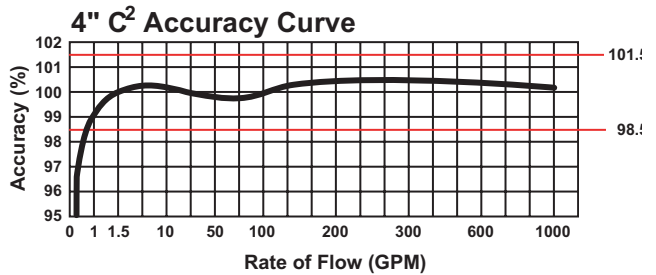
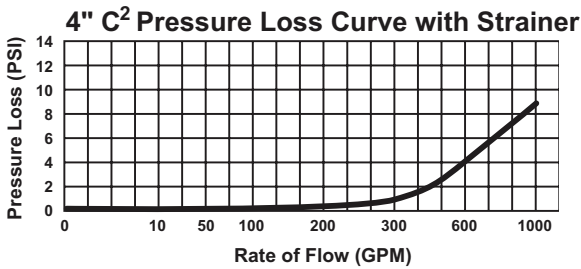
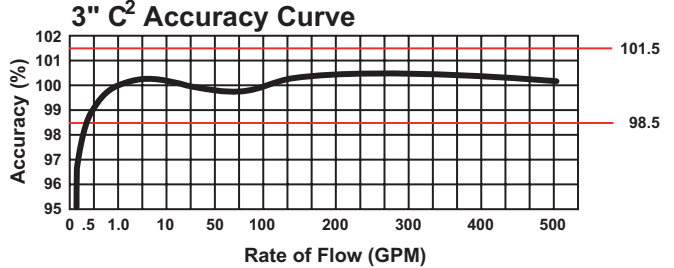
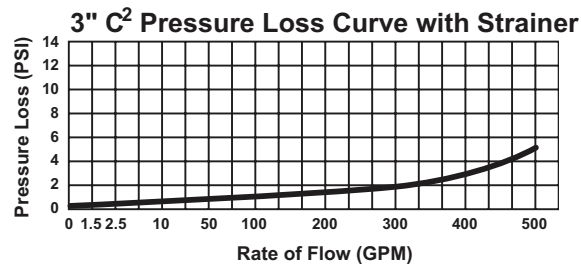
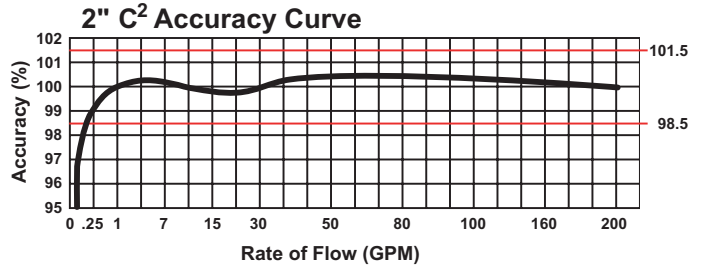
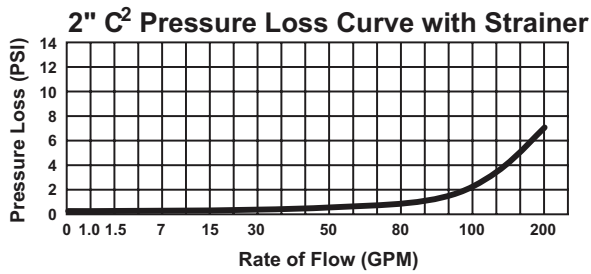
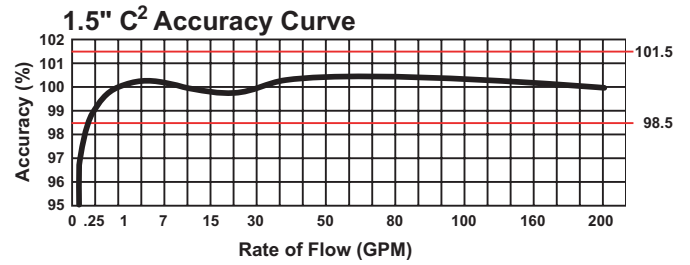
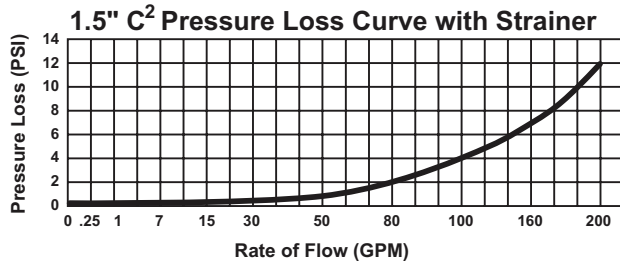
OMNI C²: 1-1/2", 2", 3", 4", 6", 8" and 10" Sizes

SPECIFICATIONS

SERVICE	Measurement of potable and reclaim water. Operating temperature range of 33 °F (56 °C) - 150 °F (65.6 °C)
OPERATING RANGE (100% ± 1.5%)	1-1/2": .5 – 200 GPM (.11 - 45 m ³ /hr) 2": .5 – 200 GPM (.11 - 45 m ³ /hr) 3": 1.0 – 500 GPM (.23 - 114 m ³ /hr) 4": 1.5 – 1000 GPM (.34 - 227 m ³ /hr) 6": 3 – 2000 GPM (.68 - 454 m ³ /hr) 8": 4 – 2700 GPM (0.91 – 614 m ³ /hr) 10": 5-4000 GPM (1.1-908 m ³ /hr)
LOW FLOW (95% – 101.5%)	1-1/2": .25 GPM (.06 m ³ /hr) 2": .25 GPM (.06 m ³ /hr) 3": .5 GPM (.11 m ³ /hr) 4": .75 GPM (.17 m ³ /hr) 6": 1.5 GPM (.34 m ³ /hr) 8": 2.5 GPM (0.57 m ³ /hr) 10": 3.5 GPM (0.8 m ³ /hr)
MAXIMUM CONTINUOUS OPERATION	1-1/2": 160 GPM (36m ³ /hr) 2": 160 GPM (36 m ³ /hr) 3": 400 GPM (91 m ³ /hr) 4": 800 GPM (182 m ³ /hr) 6": 1600 GPM (363 m ³ /hr) 8": 2700 GPM (614 m ³ /hr) 10": 4000 GPM (908 m ³ /hr)
MAXIMUM INTERMITTENT OPERATION	1-1/2": 200 GPM (45 m ³ /hr) 2": 200 GPM (45 m ³ /hr) 3": 500 GPM (114 m ³ /hr) 4": 1000 GPM (227 m ³ /hr) 6": 2000 GPM (454 m ³ /hr) 8": 3400 GPM (773 m ³ /hr) 10": 5000 GPM (1136 m ³ /hr)
PRESSURE LOSS	1-1/2": 6.9 psi @ 160 GPM (48 bar @ 36 m ³ /hr) 2": 4.3 psi @ 160 GPM (.30 bar @ 36 m ³ /hr) 3": 3.2 psi @ 400 GPM (.22 bar @ 91 m ³ /hr) 4": 6.4 psi @ 800 GPM (.51 bar @ 182 m ³ /hr) 6": 5.5 psi @ 1600 GPM (.56 bar @ 363 m ³ /hr) 8": 4 psi @ 2700 GPM (.27 bar @ 614 m ³ /hr) 10": 4.5 psi @ 4000 GPM (.31 bar @ 908 m ³ /hr)
MAXIMUM OPERATING PRESSURE	200 PSI (13.8 bar)
FLANGE CONNECTIONS	U.S. ANSI B16.1 / AWWA Class 125
REGISTER	Fully electronic sealed register with programmable registration (Gal. /Cu.Ft./ Cu. Mtr. / Imp.Gal / Acre Ft.) Programmable AMR/AMI reading and pulse outputs Guaranteed 10 year battery life
NSF APPROVED MATERIALS	Maincase: Coated Ductile Iron Measuring Chamber: Thermoplastic Rotor "Floating Ball": Thermoplastic Radial Bearings: Hybrid Thermoplastic Thrust Bearings: Sapphire/Ceramic Jewel Magnets: Ceramic Magnet Strainer Screen: Stainless Steel Strainer Cover: Coated Ductile Iron Test Plug: Coated Ductile Iron

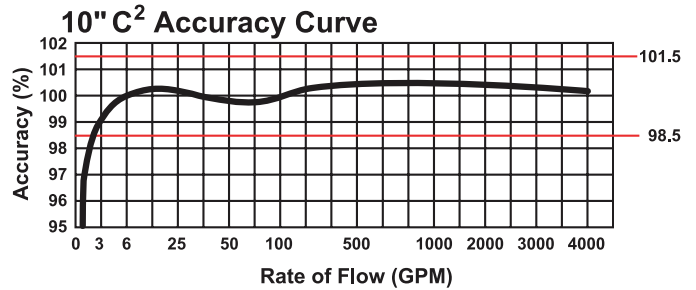
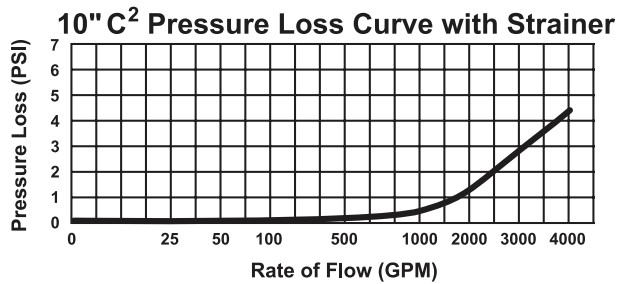
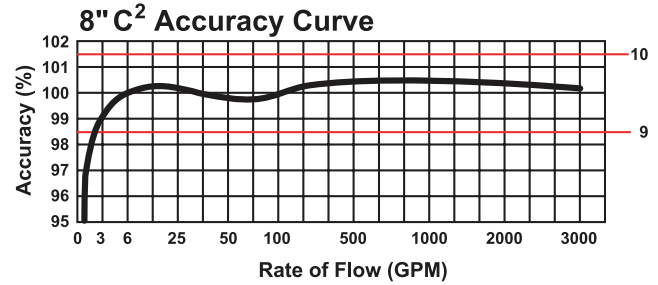
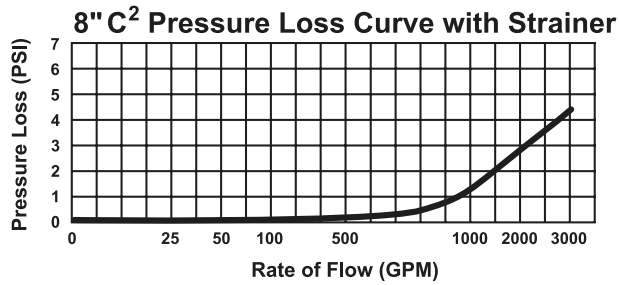
OMNI C²: 1-1/2", 2", 3", 4", and 6" Sizes

Headloss Curves



OMNI C²: 8" and 10" Sizes

Headloss Curves



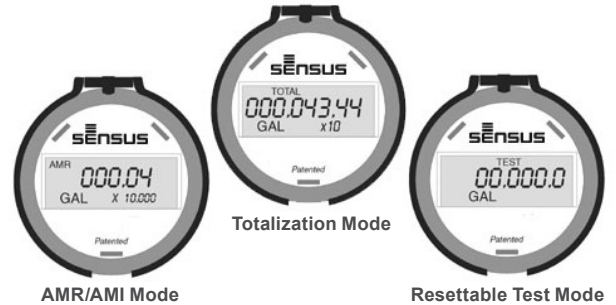
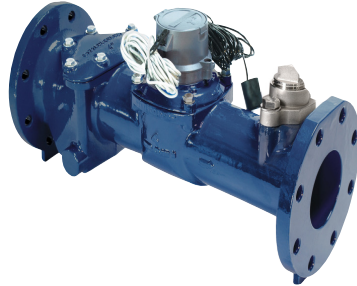
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Description

1-1/2", 2", 3", 4", 6", 8" and 10" Sizes

The OMNI T² meter operation is based on advanced Floating Ball Technology (FBT).



Features

CONFORMANCE TO STANDARDS

The OMNI T² meter meets and far exceeds the most recent revision of AWWA Standard C701 class II standards. Each meter is performance tested to ensure compliance. All OMNI meters are NSF/ANSI Standard 61, Annex F and G approved.

PERFORMANCE

The patented measurement principles of the OMNI T² meter assure enhanced accuracy ranges, an overall greater accuracy, and a longer service life than any other comparable class meter produced. The OMNI T² meter has no restrictions as to sustained flow rates within its continuous operating range. The floating ball measurement technology allows for flows up to its rated maximum capacity without affecting undue wear or accuracy degradation when installed in any orientation.

CONSTRUCTION

The OMNI T² meter consists of two basic assemblies; the maincase and the measuring chamber. The measuring chamber assembly includes the "floating ball" impeller with a coated titanium shaft, hybrid axial bearings, integral flow straightener and an all electronic programmable register with protective bonnet. The maincase is made from industry proven Ductile Iron with an approved NSF epoxy coating. Maincase features are; easily removable measuring chamber, unique chamber seal to the maincase using a high pres-

sure o-ring, testing port and a convenient integral strainer.

OMNI ELECTRONIC REGISTER

The OMNI T² electronic register consist of a hermetically sealed register with an electronic pickup containing no mechanical gearing. The large character LCD displays AMR, Totalization and a Resettable Test Totalizer. OMNI register features; AMR resolution units that are fully programmable, Pulse output frequency that are fully programmable, Integral customer data logging capability, Integral resettable accuracy testing feature compatible with the UniPro Testing Assistant Program, Large, easy-to-read LCD also displays both forward and reverse flow directions and all with a 10-year battery life guarantee.

MAGNETIC DRIVE

Meter registration is achieved by utilizing a fully magnetic pickup system. This is accomplished by the magnetic actions of the embedded rotor magnets and the ultra sensitive register pickup probe. The only moving component in water is the "floating ball" impeller.

MEASURING ELEMENT

The revolutionary thermoplastic, hydro dynamically balanced impeller floats between the bearings. The Floating Ball Technology (FBT) allows the measuring element to operate virtually without friction or wear, thus creating the extended

upper and lower flow ranges capable on only the OMNI T² meter.

STRAINER

The OMNI T² with the "V" shaped integral strainer using a stainless steel screen along with Floating Ball Technology (FBT) create a design that gives far improved accuracy even in those once thought questionable settings. A removable strainer cover permits easy access to the screen for routine maintenance.

MAINTENANCE

The OMNI T² meter is designed for easy maintenance. Should any maintenance be required, the measuring chamber and / or strainer cover can be removed independently. Parts and or a replacement measuring chamber may be utilized in the event repairs are needed. Replacement Measuring Chambers Exchange are available for the OMNI T² meters and may also be utilized for retrofitting to competitive meters to achieve increased accuracy and extended service life.

AMR / AMI SYSTEMS:

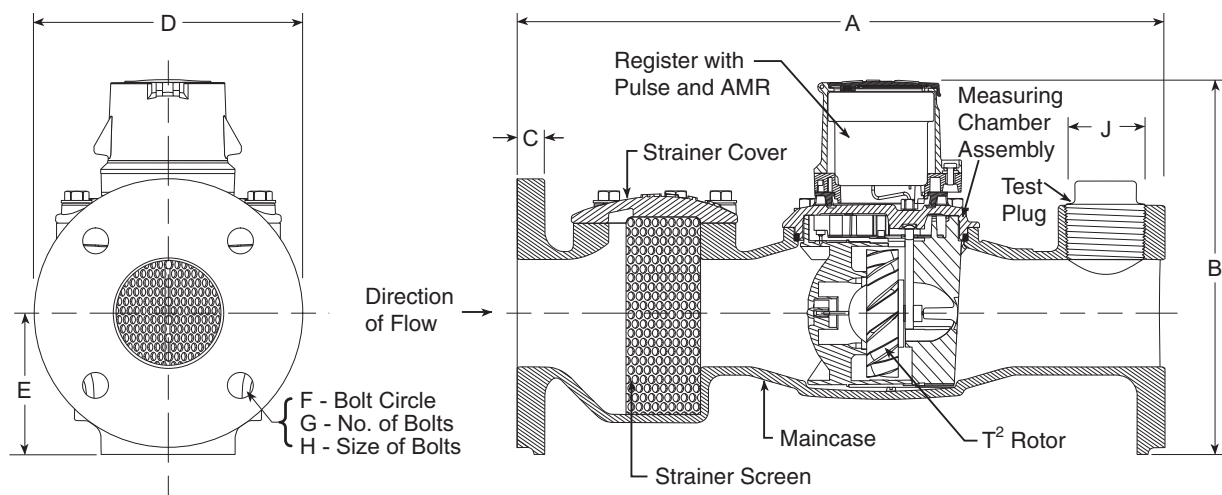
Meters and encoders are compatible with current Sensus AMR/AMI systems.

GUARANTEE:

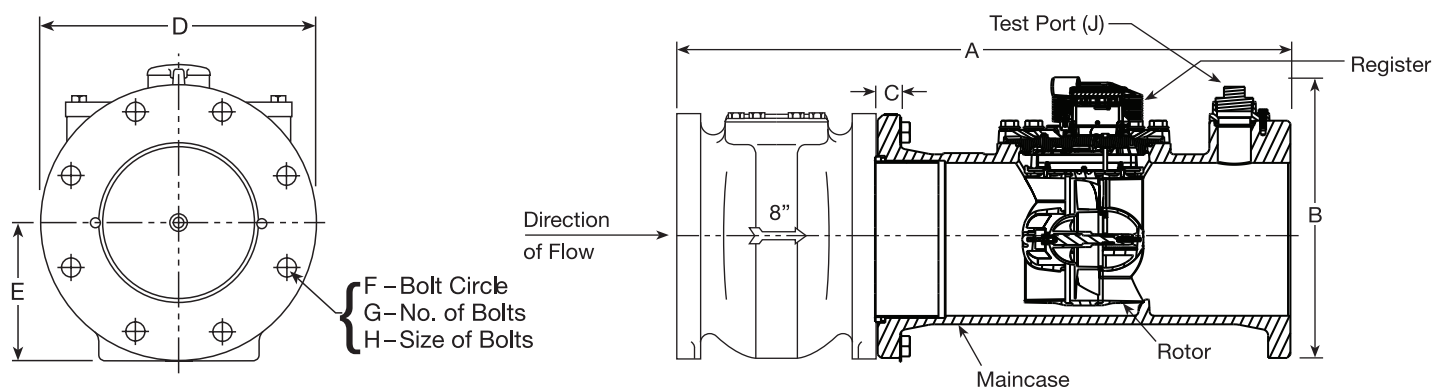
Sensus OMNI T² Meters are backed by "The Sensus Guarantee." Ask your Sensus representative for details or see Bulletin G-500.

OMNI T²: 1-1/2", 2", 3", 4", 6", 8" and 10" Sizes

OMNI T²: 1 1/2" - 6"



OMNI T²: 8" - 10"



DIMENSIONS AND NET WEIGHTS

Meter and Pipe Size	Normal Operating Range		Connections	A	B	C	D	E	F	G	H	J	Net Weight	Shipping Weight
1-1/2" DN 40mm	1.25 gpm .28 m ³ /hr	200 gpm 45 m ³ /hr	Flanged	13" 330mm	7-7/8" 200mm	15/16" 24mm	5-1/8" 130mm	2-5/16" 59mm	4" 102mm	2	5/8" 16mm	1" 25mm	18.8 lbs. 8.53 kg.	22.5 lbs. 10.20 kg.
2" DN 50mm	1.5 gpm .34 m ³ /hr	250 gpm 57 m ³ /hr	Flanged	17" 432mm	7-7/8" 200mm	1" 25mm	5-3/4" 146mm	2-5/16" 59mm	4-1/2" 114mm	2	3/4" 19mm	1-1/2" 40mm	27.4 lbs. 12.42 kg.	34.5 lbs. 15.65 kg.
2" without Strainer DN 50mm	1.5 gpm .34 m ³ /hr	250 gpm 57 m ³ /hr	Flanged	10" 254mm	7-7/8" 200mm	1" 25mm	5-3/4" 146mm	2-5/16" 59mm	4-1/2" 114mm	2	3/4" 19mm	N/A	17.4 lbs. 7.9 kg.	24.5 lbs. 11.11 kg.
3" DN 80mm	2.5 gpm .57 m ³ /hr	650 gpm 148 m ³ /hr	Flanged	19" 432mm	8-3/4" 222mm	3/4" 19mm	7-7/8" 200mm	4-1/8" 105mm	6" 153mm	4	5/8" 16mm	2" 50mm	48.5 lbs. 22.00 kg.	57.4 lbs. 26.04 kg.
4" DN 100mm	3.0 gpm .68 m ³ /hr	1250 gpm 284 m ³ /hr	Flanged	23" 584mm	11-3/16" 284mm	15/16" 24mm	9-1/8" 232mm	4-3/4" 121mm	7-1/2" 191mm	8	5/8" 16mm	2" 50mm	67.9 lbs. 30.80 kg.	75.8 lbs. 34.38 kg.
6" DN 150mm	4 gpm .91 m ³ /hr	2500 gpm 568 m ³ /hr	Flanged	27" 685mm	13-1/4" 336mm	15/16" 24mm	11" 279mm	5-3/4" 146mm	9-1/2" 242mm	8	3/4" 19mm	2" 50mm	140 lbs. 52.3 kg.	165 lbs. 61.6 kg.
8" DN 200mm	5 gpm 1.1 m ³ /hr	3500 gpm 795 m ³ /hr	Flanged	30-1/8" 765 mm	15" 381 mm	11/16" 17 mm	13-1/2" 343 mm	6-3/4" 172 mm	11-3/4" 300 mm	8	3/4" 19 mm	2" NPT	471 lbs. 214 kg.	521 lbs. 236 kg.
10" DN 250mm	6 gpm 1.4 m ³ /hr	5500 gpm 1249 m ³ /hr	Flanged	41-1/8"	19" 485mm	11/16" 17mm	16" 406mm	8-1/2" 216mm	14-1/4" 362mm	12	7/8" 22mm	2" NPT	685 lbs. 311 kg.	745 lbs. 338 kg.

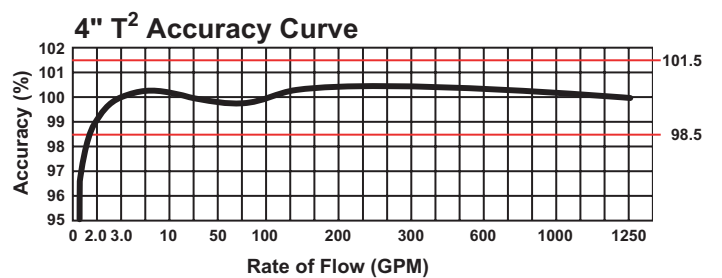
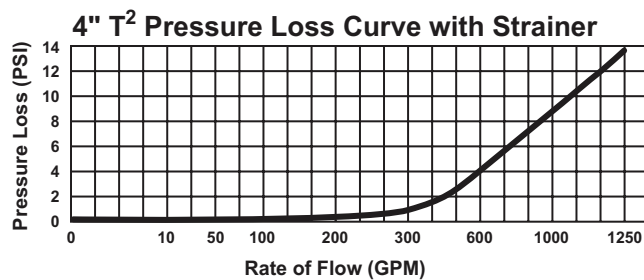
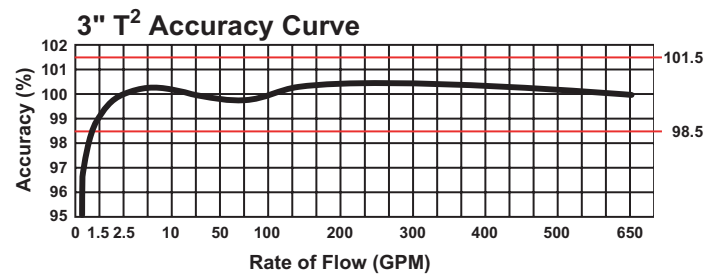
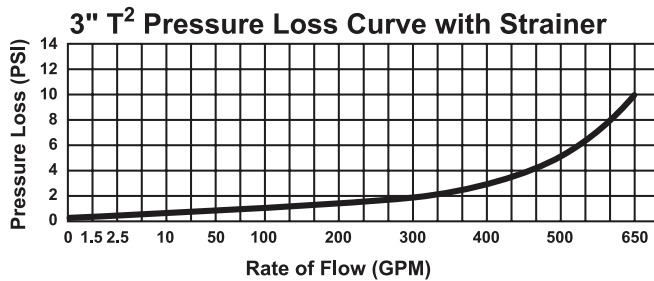
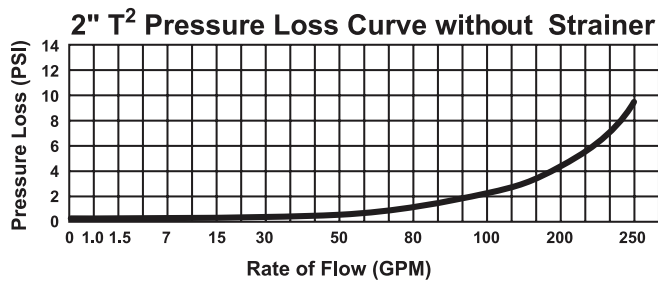
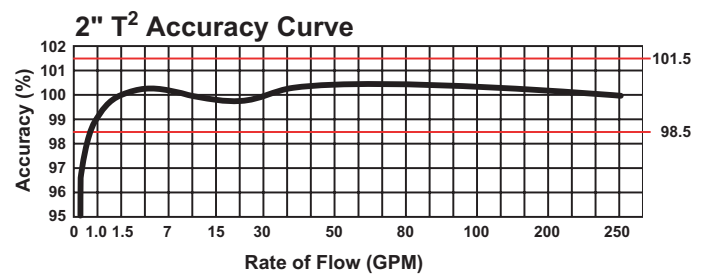
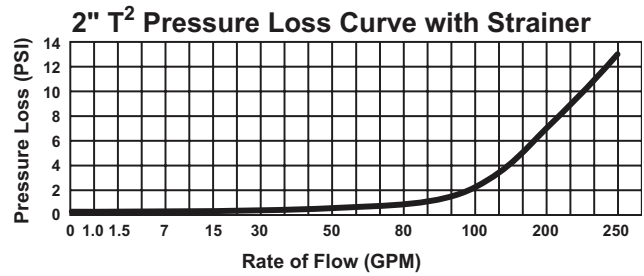
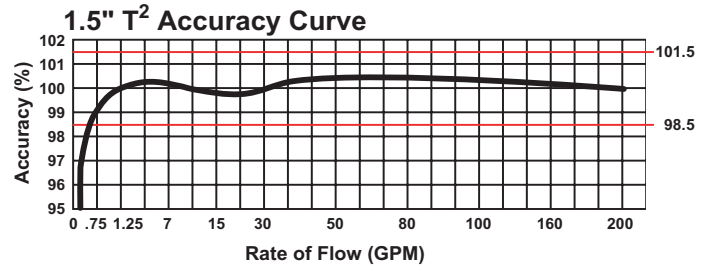
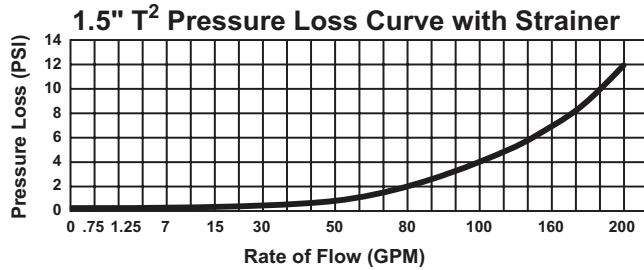
OMNI T²: 1-1/2", 2", 3", 4", 6", 8" and 10" Sizes

SPECIFICATIONS

SERVICE	Measurement of potable and reclaim water. Operating temperature range of 33 °F (56 °C) - 150 °F (65.6 °C)	
OPERATING RANGE (100% ± 1.5%)	1-1/2": 1.25 – 200 GPM (.28 - 45 m ³ /hr) 2" and 2" without Strainer: 1.5 – 250 GPM (.34 – 57 m ³ /hr) 3": 2.5 – 650 GPM (.57 – 148 m ³ /hr) 4": 3 – 1250 GPM (.68 – 284 m ³ /hr) 6": 4 – 2500 GPM (.91 – 568 m ³ /hr) 8": 5 – 3500 GPM (1.1-795 m ³ /hr) 10": 6 – 5500 GPM (1.4 - 1249 m ³ /hr)	
LOW FLOW (95% – 101.5%)	1-1/2": .75 GPM (.17 m ³ /hr) 2" and 2" without Strainer: 1.0 GPM (.23 m ³ /hr) 3": 1.5 GPM (.34 m ³ /hr) 4": 2.0 GPM (.45 m ³ /hr) 6": 2.5 GPM (.57 m ³ /hr) 8": 4 GPM (0.9 m ³ /hr) 10": 5 GPM (1.1 m ³ /hr)	
MAXIMUM CONTINUOUS OPERATION	1-1/2": 160 GPM (36 m ³ /hr) 2" and 2" without Strainer: 200 GPM (45 m ³ /hr) 3": 500 GPM (114 m ³ /hr) 4": 1000 GPM (227 m ³ /hr) 6": 2000 GPM (454 m ³ /hr) 8": 3500 GPM (795 m ³ /hr) 10": 5500 GPM (1249 m ³ /hr)	
MAXIMUM INTERMITTENT OPERATION	1-1/2": 200 GPM (45 m ³ /hr) 2" and 2" without Strainer: 250 GPM (57 m ³ /hr) 3": 650 GPM (148 m ³ /hr) 4": 1250 GPM (284 m ³ /hr) 6": 2500 GPM (568 m ³ /hr) 8": 4700 GPM (1067 m ³ /hr) 10": 7000 GPM (1590 m ³ /hr)	
PRESSURE LOSS	1-1/2": 6.9 psi @ 160 GPM (48 bar @ 36 m ³ /hr) 2" and 2" without Strainer: 7.0 psi @ 200 GPM (.48 bar @ 45 m ³ /hr) 3": 5.1 psi @ 500 GPM (.35 bar @ 114 m ³ /hr) 4": 8.7 psi @ 1000 GPM (.60 bar @ 227 m ³ /hr) 6": 8.2 psi @ 2000 GPM (.56 bar @ 454 m ³ /hr) 8": 5.1 psi @ 3500 GPM (.35 bar @ 795 m ³ /hr) 10": 7.2 psi @ 5500 GPM (.50 bar @ 1249 m ³ /hr)	
MAXIMUM OPERATING PRESSURE	200 PSI (13.8 bar)	
FLANGE CONNECTIONS	U.S. ANSI B16.1 / AWWA Class 125	
REGISTER	Fully electronic sealed register with programmable registration (Gal. /Cu.Ft. / Cu. Mtr. / Imp.Gal / Acre Ft.) Programmable AMR/AMI reading and pulse outputs Guaranteed 10 year battery life	
NSF APPROVED MATERIALS	Maincase:	Coated Ductile Iron
	Measuring Chamber:	Thermoplastic
	Rotor "Floating Ball":	Thermoplastic
	Radial Bearings:	Hybrid Thermoplastic
	Thrust Bearings:	Sapphire/Ceramic Jewel
	Magnets:	Ceramic Magnet
	Strainer Screen:	Stainless Steel
	Strainer Cover:	Coated Ductile Iron
	Test Plug:	Coated Ductile Iron

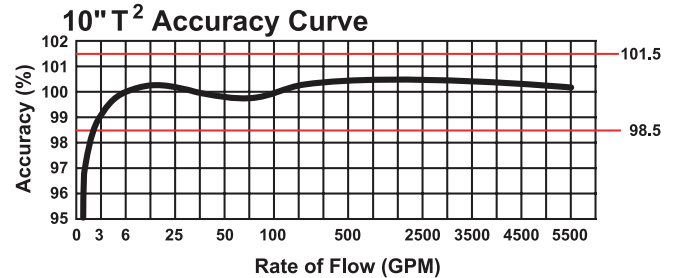
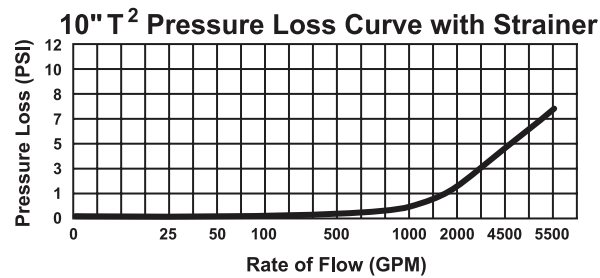
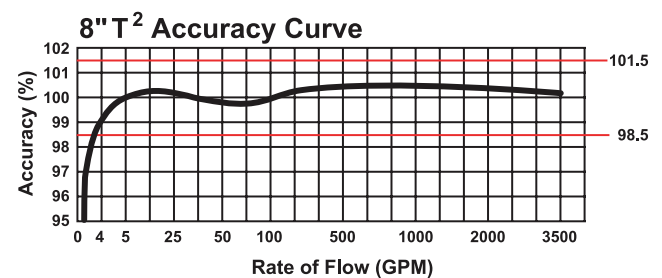
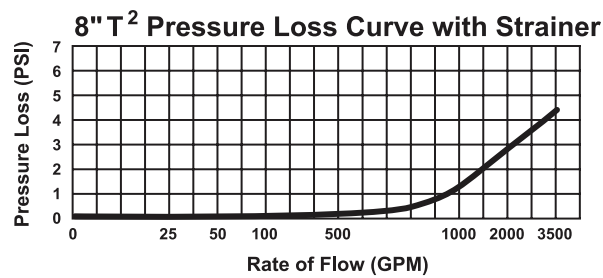
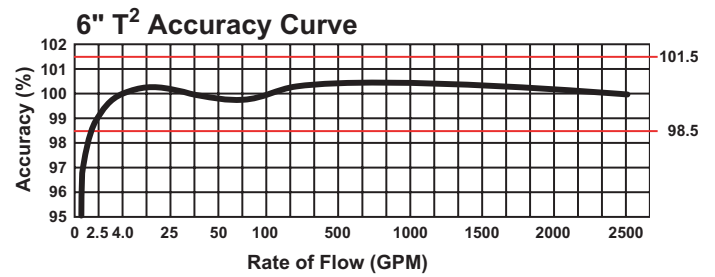
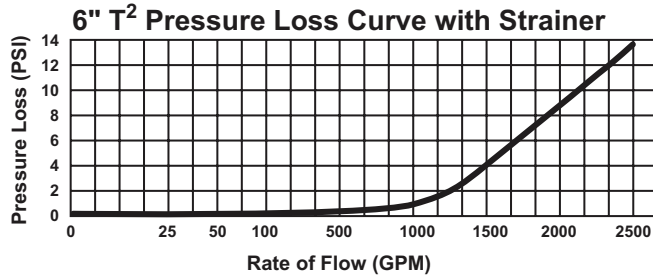
OMNI T²: 1-1/2", 2", 3", 4", 6", 8" and 10" Sizes

Headloss Curves



OMNI T²: 1-1/2", 2", 3", 4", 6", 8" and 10" Sizes

Headloss Curves



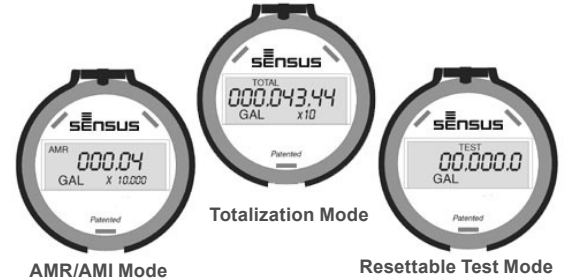
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Description

4", 6", 8" and 10" Sizes

The OMNI F² meter operation is based on advanced Floating Ball Technology (FBT).



Features

CONFORMANCE TO STANDARDS

The OMNI F² meter meets and far exceeds the most recent revision of AWWA Standard C703 class II. Additionally, the meter does not require a valve to meet these standards. Each meter is performance tested to ensure compliance. All OMNI meters are NSF/ANSI Standard 61, Annex F and G approved. The OMNI F² meter is UL (Underwriters Laboratories) Listed and FM (Factory Mutual) approved for use on fire protection and domestic water applications.

PERFORMANCE

The patented measurement principles of the OMNI F² meter assure enhanced accuracy ranges, an overall greater accuracy, and a longer service life than any other comparable class meter produced. The F² meter has no restrictions as to sustained flow rates within its continuous operating range. The floating ball measurement technology allows for flows up to its rated maximum capacity without undue wear or accuracy degradation.

CONSTRUCTION

The OMNI F² meter consists of two basic assemblies; the maincase and the measuring chamber. The measuring chamber assembly includes the "floating ball" impeller with a coated titanium shaft, hybrid axial bearings, integral flow straightener and an all electronic programmable register with protective bonnet. The maincase is made from industry proven Ductile Iron with an approved NSF epoxy coating. Maincase features are; easily removable measuring chamber, unique chamber

seal to the maincase using a high pressure o-ring, testing port and a convenient integral strainer with optional drain/debris-flushing ports.

OMNI ELECTRONIC REGISTER

The OMNI F² electronic register is hermetically sealed with electronic pickup containing no mechanical gearing. The large character LCD displays AMR, Totalization and a Resettable Test Totalizer. OMNI register features; AMR resolution units that are fully programmable, Pulse output frequency that are fully programmable, Integral customer data logging capability, Integral resettable accuracy testing feature compatible with the UniPro Testing Assistant Program, Large, easy-to-read LCD also displays both forward and reverse flow directions and all with a 10-year battery life guarantee.

MAGNETIC DRIVE

Meter registration is achieved by utilizing a fully magnetic pickup system. This is accomplished by the magnetic actions of the embedded rotor magnets and the ultra sensitive register pickup probe. The only moving component in water is the "floating ball" impeller.

MEASURING ELEMENT

The revolutionary thermoplastic, hydro dynamically balanced impeller floats between the bearings. The Floating Ball Technology (FBT) allows the measuring element to operate virtually without friction or wear, thus creating the extended upper and lower flow ranges capable on only the OMNI F² meter.

STRAINER

The OMNI F² meter includes the Sensus designed "V" shaped UL Listed/FM approved strainer which utilizes a stainless steel screen along with Floating Ball Technology (FBT) to create a design that gives far improved accuracy even in those once thought questionable settings. A removable strainer cover permits easy access to the screen for routine maintenance. Optional drain ports, located at the back lower corners of the strainer body, allow for easy discharging of debris without the need to remove the cover.

MAINTENANCE

The OMNI F² meter is designed for easy maintenance. Should any maintenance be required, the measuring chamber and/or strainer cover can be removed independently. Parts and or a replacement measuring chamber may be utilized in the event repairs are needed. Replacement Measuring Chambers are available for the OMNI F² meters.

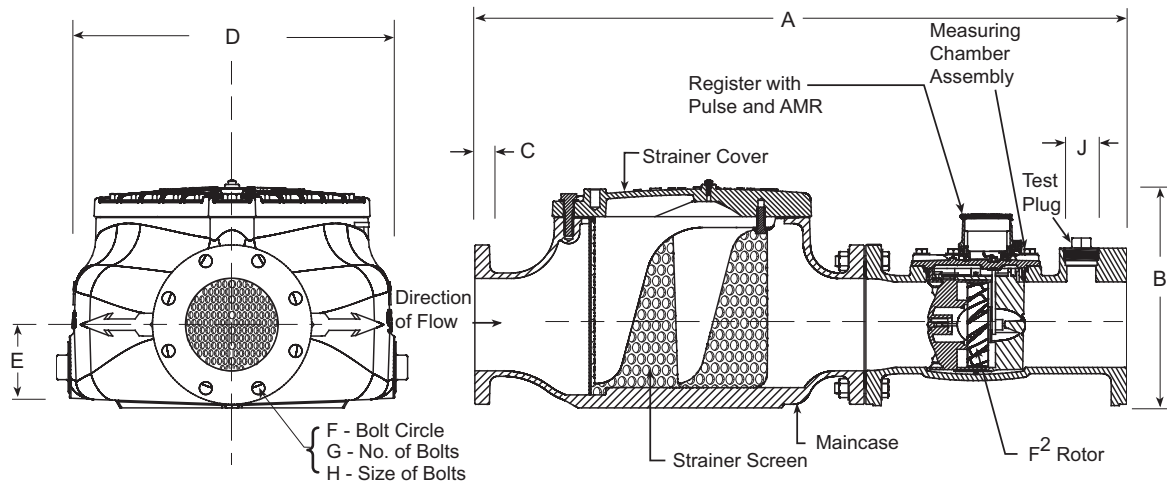
AMR / AMI SYSTEMS

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

GUARANTEE

Sensus OMNI F² Meters are backed by "The Sensus Guarantee." Ask your Sensus representative for details or see Bulletin G-500.

OMNI F²: 4", 6", 8" and 10"



DIMENSIONS AND NET WEIGHTS

Meter and Pipe Size	Normal Operating Range		Connections	A	B	C	D	E	F	G	H	J	Net Weight	Shipping Weight	Standard Fireline
4" DN 100mm	1.5 gpm .34 m ³ /hr	1000 gpm 227 m ³ /hr	Flanged	33" 838mm	13-11/16" 348mm	15/16" 24mm	17-1/2" 446mm	4-3/4" 121mm	7-1/2" 191mm	8	5/8" 16mm	2" 50mm	212 lbs. 96 kg.	252 lbs. 115 kg.	51-7/8" (1317mm)
6" DN 150mm	3.0 gpm .681 m ³ /hr	2000 gpm 454 m ³ /hr	Flanged	45" 1143mm	15-3/4" 400mm	15/16" 24mm	22-3/8" 569mm	5-3/4" 146mm	9-1/2" 242mm	8	3/4" 19mm	2" 50mm	394 lbs. 179 kg.	449 lbs. 204 kg.	67-5/8" (1717mm)
8" DN 200mm	4 gpm .91 m ³ /hr	3500 gpm 795 m ³ /hr	Flanged	53" 1346mm	18-1/2" 470mm	11/16" 17mm	31" 787mm	6-3/4" 172mm	11-3/4" 298mm	8	3/4" 19mm	2" NPT	736 lbs. 334 kg.	786 lbs. 357 kg.	77" (1956mm)
10" DN 250mm	5 gpm 1.1 m ³ /hr	5500 gpm 1249 m ³ /hr	Flanged	68" 1727mm	22-1/4" 565mm	11/16" 17mm	37-1/3" 947mm	8-1/2" 216mm	14-1/4" 362mm	12	7/8" 22mm	2" NPT	1155 lbs. 524 kg.	1215 lbs. 551 kg.	90" (2286mm)

¹ Standard Fireline lay length with optional spool piece added.

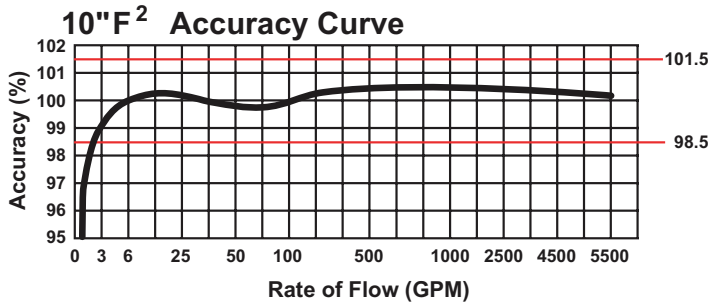
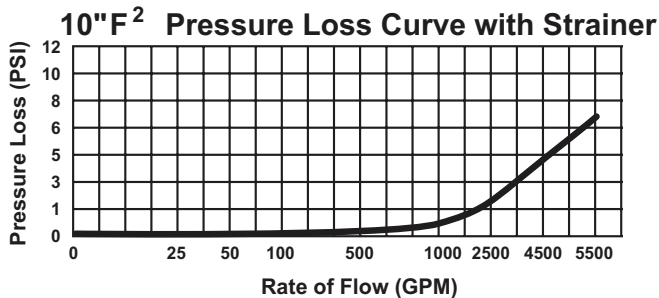
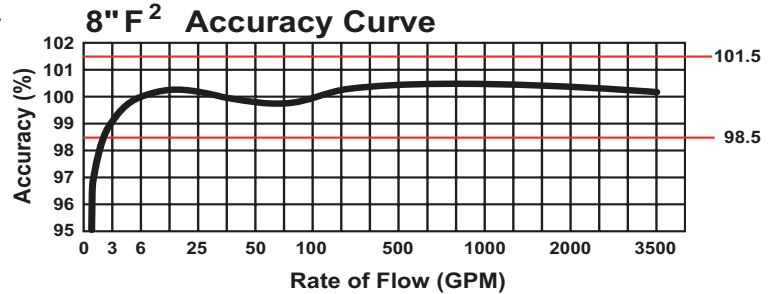
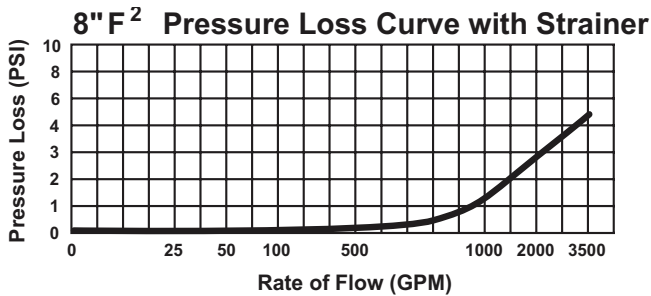
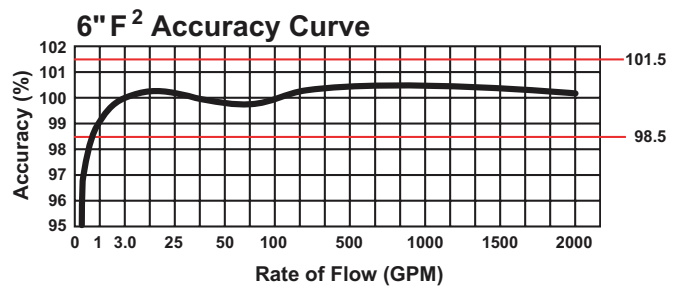
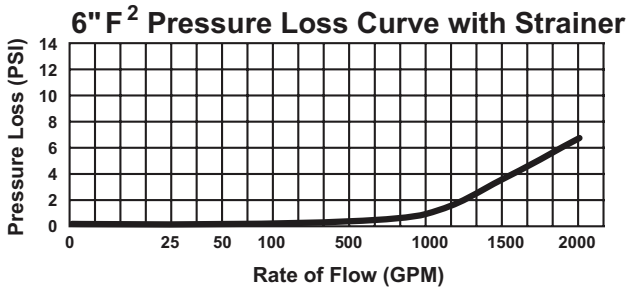
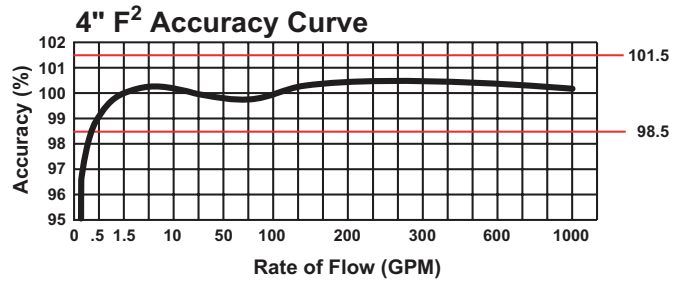
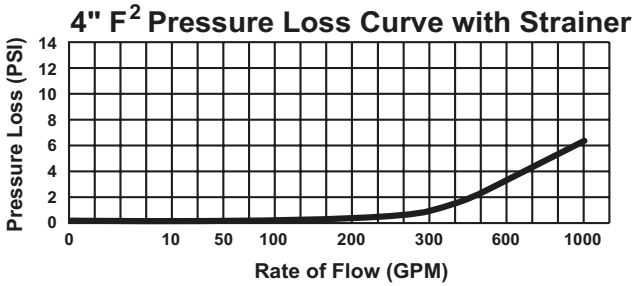
SPECIFICATIONS

SERVICE	Measurement of potable and reclaim water. Operating temperature range of 33 °F (56 °C) - 150 °F (65.6 °C)
OPERATING RANGE (100% ± 1.5%)	4": 1.5 – 1000 GPM (.34 - 227 m ³ /hr) 6": 3.0 – 2000 GPM (.34 - 227 m ³ /hr) 8": 4– 3500 GPM (0.91-795 m ³ /hr) 10": 5– 5500 GPM (1.1-1249 m ³ /hr)
LOW FLOW (95% – 101.5%)	4": .75 GPM (.06 m ³ /hr) 6": 1.5 GPM (.06 m ³ /hr) 8": 2.5 GPM (0.57 m ³ /hr) 10": 3.5 GPM (0.8 m ³ /hr)
UL MINIMUM FLOW	8": 97% @ 3 GPM (0.68 m ³ /hr) 10": 97% @ 4 GPM (0.9 m ³ /hr)
MAXIMUM CONTINUOUS OPERATION	4": 1000 GPM (227 m ³ /hr) 6": 2000 GPM (454 m ³ /hr) 8": 3500 GPM (795 m ³ /hr) 10": 5500 GPM (1249 m ³ /hr)
MAXIMUM INTERMITTENT OPERATION	4": 1250 GPM (284 m ³ /hr) 6": 2500 GPM (568 m ³ /hr) 8": 4700 GPM (1067 m ³ /hr) 10": 7000 GPM (1590 m ³ /hr)

PRESSURE LOSS	4": 6.4 psi @ 1000 GPM (.60 bar @ 227 m ³ /hr) 6": 6.7 psi @ 2000 GPM (.56 bar @ 454 m ³ /hr) 8": 5 psi @ 3500 GPM (.34 bar @ 795 m ³ /hr) 10": 7 psi @ 5500 GPM (.48 bar @ 1249 m ³ /hr)																		
MAXIMUM OPERATING PRESSURE	175 PSI (12 bar)																		
FLANGE CONNECTIONS	U.S. ANSI B16.1 / AWWA Class 125																		
REGISTER	Fully electronic sealed register with programmable registration (Gal. /Cu.Ft./ Cu. Mtr. / Imp.Gal / Acre Ft.) Programmable AMR/AMI reading and pulse outputs Guaranteed 10 year battery life																		
NSF APPROVED MATERIALS	<table> <tr> <td>Maincase:</td><td>Coated Ductile Iron</td></tr> <tr> <td>Measuring Chamber:</td><td>Thermoplastic</td></tr> <tr> <td>Rotor "Floating Ball":</td><td>Thermoplastic</td></tr> <tr> <td>Radial Bearings:</td><td>Hybrid Thermoplastic</td></tr> <tr> <td>Thrust Bearings:</td><td>Sapphire/Ceramic Jewel</td></tr> <tr> <td>Magnets:</td><td>Ceramic Magnet</td></tr> <tr> <td>Strainer Screen:</td><td>Stainless Steel</td></tr> <tr> <td>Strainer Cover:</td><td>Coated Ductile Iron</td></tr> <tr> <td>Test Plug:</td><td>Coated Ductile Iron</td></tr> </table>	Maincase:	Coated Ductile Iron	Measuring Chamber:	Thermoplastic	Rotor "Floating Ball":	Thermoplastic	Radial Bearings:	Hybrid Thermoplastic	Thrust Bearings:	Sapphire/Ceramic Jewel	Magnets:	Ceramic Magnet	Strainer Screen:	Stainless Steel	Strainer Cover:	Coated Ductile Iron	Test Plug:	Coated Ductile Iron
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Test Plug:	Coated Ductile Iron																		

OMNI F²: 4", 6", 8" and 10"

Headloss Curves



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OMNI H² Fire Hydrant Meter

Data Sheet

Description

The OMNI H² meter operation is based on advanced Floating Ball Technology (FBT). The operating range is from 10 to 350 gallons per minute (2.3 to 79.5 m³/h) with registration accuracy of 100% ± 1.5% of actual throughput.



Features

CONFORMANCE TO STANDARDS

The OMNI H² meter is based on advanced Floating Ball Technology. Each meter is performance tested to ensure compliance.

PERFORMANCE

The meter is intended for measuring water from a fire hydrant or other non-permanent installations. The meter comes equipped with standard fire hose swivel couplings and a register lid locking bar as standard equipment. The patented measurement principles of the OMNI H² meter assure enhanced accuracy ranges, an overall greater accuracy and a longer service life than any other comparable class meter produced. The OMNI H² meter has no restrictions as to sustained flow rates within its continuous operating range. The floating ball measurement technology allows for flows up to its rated maximum capacity without affecting undue wear or accuracy degradation when installed in any orientation.

CONSTRUCTION

The OMNI H² meter consists of two basic assemblies: the maincase and the measuring chamber. The measuring chamber assembly includes the "floating ball" impeller with a coated titanium shaft, hybrid axial bearings, integral flow straightener and an all electronic programmable register with lockable bonnet. The maincase is made from cast aluminum with an acrylic polyurethane coating. Maincase features include: easily removable measuring chamber, unique chamber

seal to the maincase using a high pressure o-ring, and a convenient integral strainer. A variable orifice is positioned at the rear of the maincase which limits the maximum flow of water through the meter to protect it from overspeeding which could occur when the outflow exits to atmosphere.

OMNI ELECTRONIC REGISTER

The OMNI H² electronic register consists of a hermetically sealed register with an electronic pickup containing no mechanical gearing. The large character LCD displays AMR, Totalization and a Resettable Test Totalizer. OMNI register features include: AMR resolution units that are fully programmable, integral customer data logging capability, integral resettable accuracy testing feature compatible with the UniPro Testing Assistant Program, large easy-to-read LCD that displays both forward and reverse flow directions, and a 10-year battery life warranty.

MAGNETIC DRIVE

Meter registration is achieved by utilizing a fully magnetic pickup system. This is accomplished by the magnetic actions of the embedded rotor magnets and the ultra sensitive register pickup probe. The only moving component in water is the "floating ball" impeller.

MEASURING ELEMENT

The revolutionary thermoplastic, hydro dynamically balanced impeller floats between the bearings. The Floating Ball Technology (FBT) allows the measuring element to operate virtually without

friction or wear, thus creating the extended upper and lower flow ranges capable on only the OMNI H² meter.

STRAINER

The OMNI H² with the "V" shaped integral strainer using a stainless steel screen along with Floating Ball Technology (FBT) create a design that gives far improved accuracy. A removable strainer cover permits easy access to the screen for routine maintenance.

MAINTENANCE

The OMNI H² meter is designed for easy maintenance. Should any maintenance be required, the measuring chamber and / or strainer cover can be removed independently. Parts and / or a replacement measuring chamber may be utilized in the event repairs are needed. Replacement Measuring Chambers are available for the OMNI H² meters.

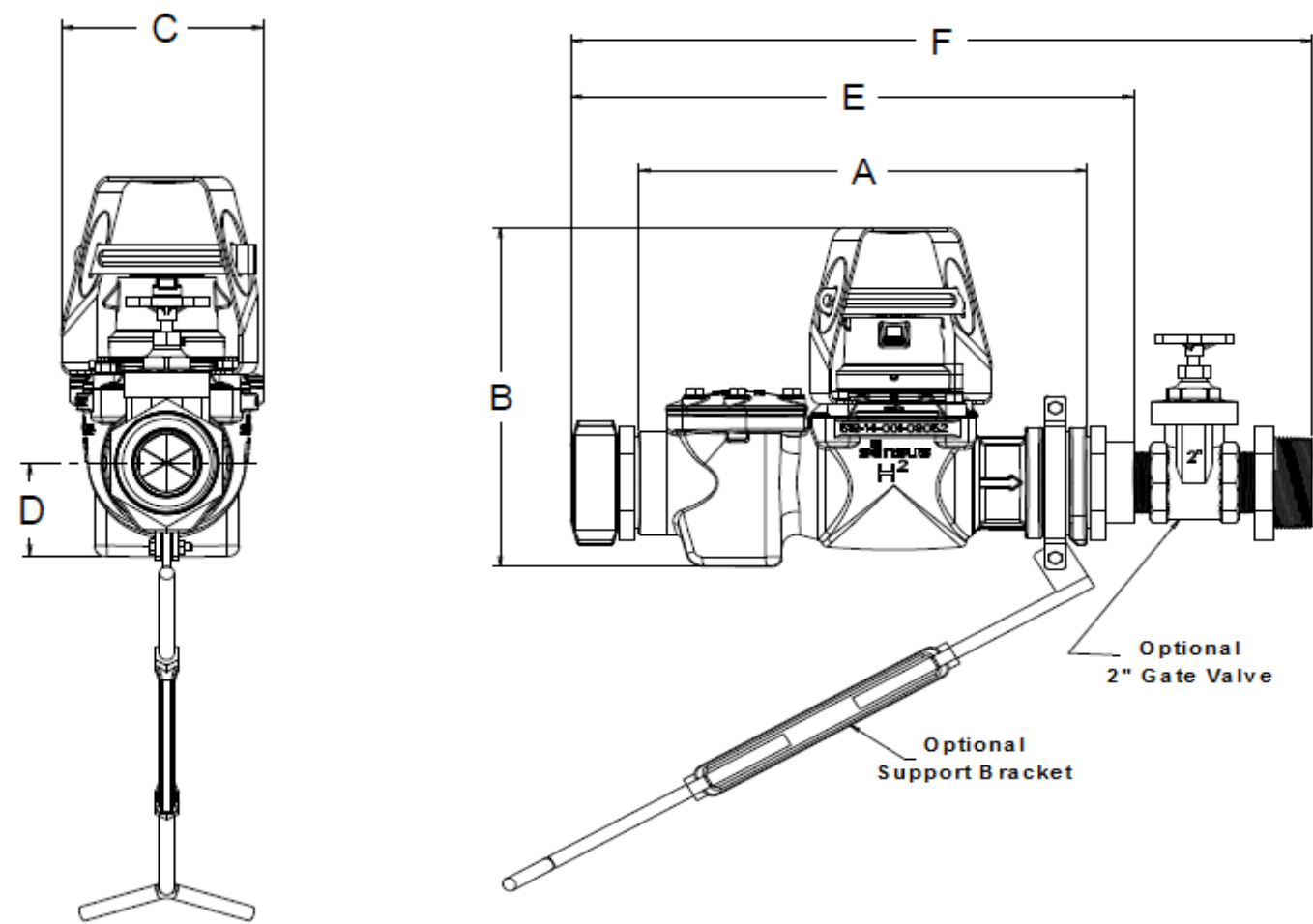
AMR / AMI SYSTEMS:

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

GUARANTEE:

Sensus OMNI H² Meters are backed by "The Sensus Guarantee." Ask your Sensus representative for details or see Bulletin G-500.

OMNI H² Fire Hydrant Meter



DIMENSIONS

Meter and Pipe Size	A	B	C	D	E	F
3" DN 80 mm	16" 406.4 mm	13" 330.2 mm	7" 178 mm	3.25" 82.6 mm	19.5" 495 mm	25.6" 650 mm

SPECIFICATIONS

SERVICE	Measurement of reclaim water or non-potable water. Operating temperature range of 33°F (0.6°C) - 150°F (65.6°C)
OPERATING RANGE (100% ± 1.5%)	10 - 350 gpm (2.3 - 79.5 m ³ /hr)
MAXIMUM INTERMITTENT OPERATION	600 gpm (136.3 m ³ /hr)
PRESSURE LOSS	75 psi at 350 gpm
MAXIMUM OPERATING PRESSURE	150 psi (10.3 bar)
CONNECTIONS	Couplings
HOSE COUPLINGS	2-1/2" - 7-1/2" NST Threads (78P - 3.4 mm) (National Standard Fire Hose Coupling thread) furnished unless otherwise specified. Complete thread specifications must be furnished for special fire hose fittings.
NET WEIGHT	22 lbs. (9.98 kg)
SHIPPING WEIGHT	26 lbs. (11.79 kg)
REGISTER	Fully electronic sealed register with programmable registration (Gal. /Cu.Ft./ Cu. Mtr. / Imp.Gal / Acre Ft.) Programmable AMR/AMI reading 10 year battery life warranty
MATERIALS	Maincase: Cast Aluminum Measuring Chamber: Thermoplastic Rotor "Floating Ball": Thermoplastic Radial Bearings: Hybrid Thermoplastic Thrust Bearings: Sapphire/Ceramic Jewel Magnets: Ceramic Magnet Strainer Screen: Stainless Steel Strainer Cover: Cast Aluminum
OPTIONS	Available with: <ul style="list-style-type: none"> • 2" Gate valve on outlet end • Techno-check reverse flow check valve • Adjustable support rod assembly
FLOW RESTRICTIONS	Limits flow through meter to 600 gpm at 150 psi (136.3 m ³ /h at 10.3 bar)

SPECIFICATIONS FOR SPECIAL FIRE HOSE COUPLING THREADS

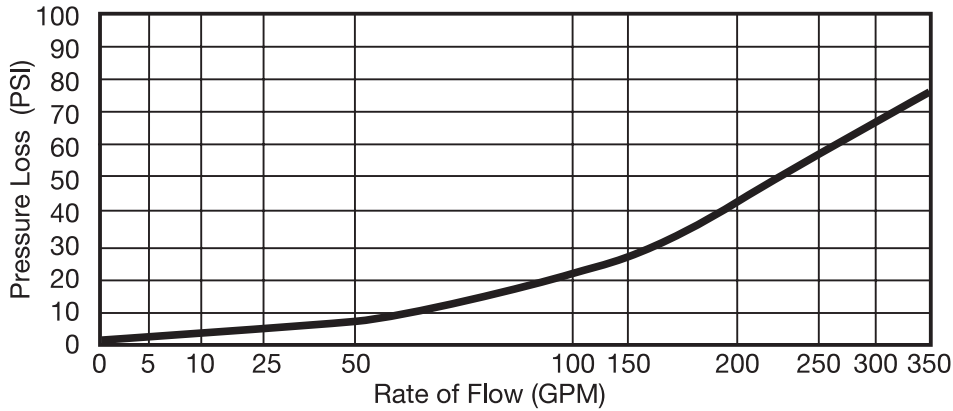
See page 2 of H² configurator.

TECHNO-CHECK VALVE

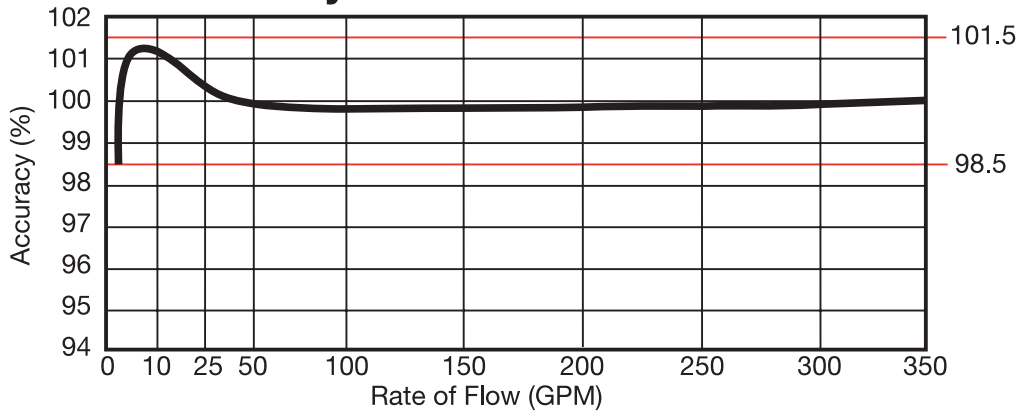
The Techno-Check Valve is a reverse flow check valve for the OMNI H² fire hydrant meter. This is an optional feature that should be identified as a requirement at the time the order is placed. Techno-check Valves must be installed at the factory.

OMNI H² Headloss Curves

H² Pressure Loss Curve



H² Accuracy Curve



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THE SENSUS OMNI METER

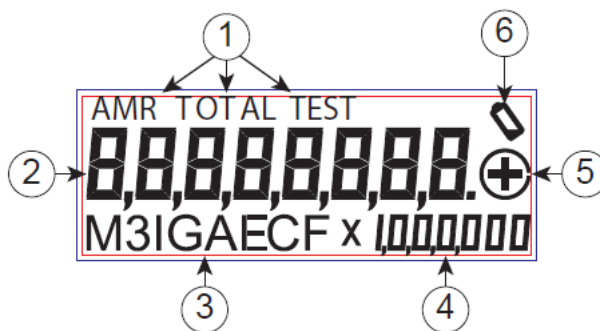
The patented measurement principles of the OMNI meter ensure enhanced accuracy ranges, an overall greater accuracy, and a longer service life than any other comparable class meter produced. The OMNI meter has no restrictions in sustained flow rates within its continuous operating range. The floating ball measurement technology allows for flows up to its rated maximum capacity without causing undue wear or accuracy degradation when installed in any orientation.

ELECTRONIC REGISTER

The OMNI electronic register consists of a hermetically sealed register with an electronic pickup containing no mechanical gearing. The large character LCD displays AMR, Totalization and a Resettable Test Totalizer. The electronic register includes the following partial list of features:

- AMR resolution units that are fully programmable
- Pulse output frequency that is fully programmable
- Integral customer data logging capability
- Integral resettable accuracy testing feature compatible with the UniPro testing Assistant Program
- Large, easy-to-read LCD display that shows both forward and reverse flow directions
- 10-year battery life warranty

REGISTER DISPLAY



1. Reading Mode

AMR: Shows the reported units

Total: Shows the total registration through the meter (all 8 digits)

Test: Shows the registration through the meter, but can be reset to 0 to perform a test

2. **AMR Digit Bar** (4 to 8 Digits)—The AMR digit bar shows which digits will be reported when the meter is read through the communications interface.

3. **Unit of Measure**—Gallon (GAL), Cubic Feet (CF), Cubic Meter (M³), Imperial Gallon (IGAL), Acre Feet (AF)

4. **AMR Value Multiplier** (Only in AMR Mode)

5. Flow Icon:

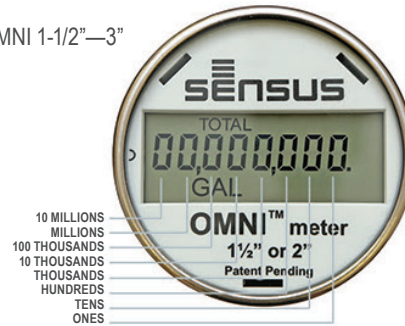
Display	Indicates
Flashing circle with +	Positive Flow
Flashing circle with -	Negative Flow
No Icon/Icon Not Flashing	Flow Stopped

6. **Battery Icon**—The Battery Icon will turn on when the battery is near the end of line (≈11 years). AMR Digits will sequentially blink before the battery dies (≈15 years).

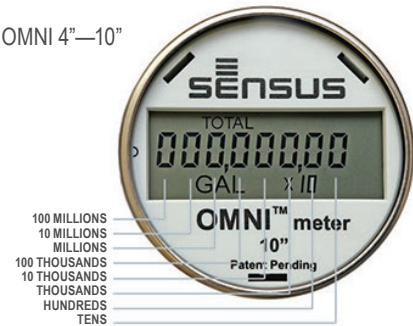
READING THE OMNI REGISTER

Gallons Registers

OMNI 1-1/2"–3"

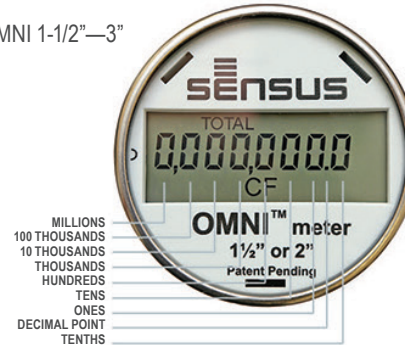


OMNI 4"–10"

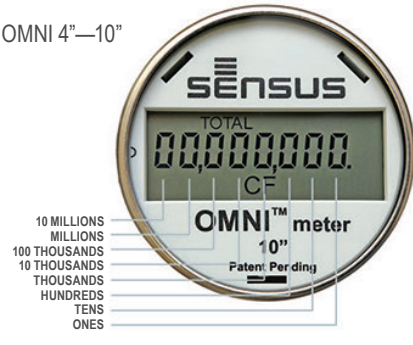


Cubic Feet Registers

OMNI 1-1/2"–3"

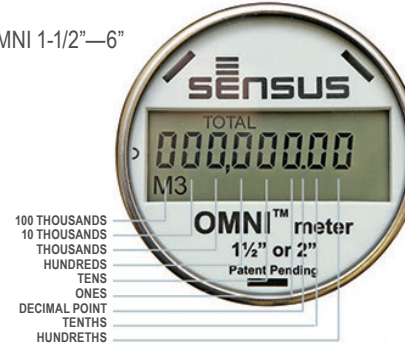


OMNI 4"–10"

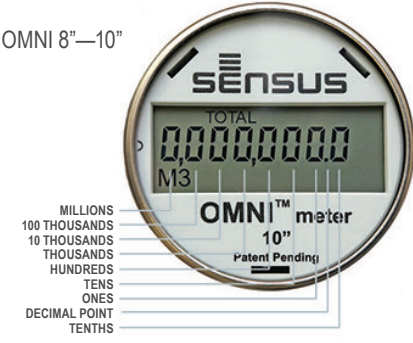


Cubic Meter Registers

OMNI 1-1/2"–6"

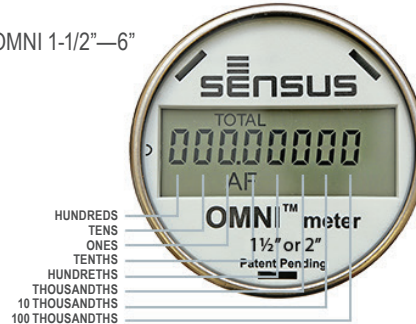


OMNI 8"–10"

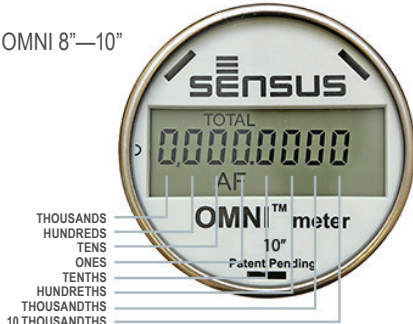


Acre Feet Registers

OMNI 1-1/2"–6"



OMNI 8"–10"



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