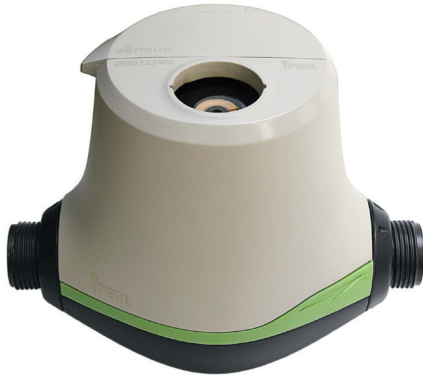




iPERL Smart Water Meter

Electromagnetic Flow Measurement System

CAPABILITIES

- The iPERL meter has an operating range of 0.11 gpm (0.025 m³/hr) to 55 gpm (12.5 m³/hr)—it even starts to register flow as low as 0.03 gpm (0.007 m³/hr).
- Sizes include: 5/8" (DN 15mm), 3/4" (DN 20mm) and 1" (DN 25mm)
- iPERL can be installed horizontally, vertically or diagonally.

BENEFITS

- Maximize investment with iPERL's magnetic technology, which delivers a 20-year accuracy warranty, with no repairs
- Get smart water alarms to detect issues such as leaks, reverse flow, empty pipe, etc.
- Improve low flow accuracy to drive additional revenue

Sensus iPERL[®] smart water meters are designed to capture both lost water and lost revenue. The innovative magnetic technology delivers unmatched low flow registration and minimal pressure loss. With no moving parts, iPERL maintains its accuracy over a 20 year lifetime and is equipped with smart water alarms – delivering the intelligence you need to quickly resolve issues in the field.

Industry Leading Performance

The patented measurement technology of the iPERL water meter provides enhanced accuracy at both low and high flows. Over a 20-year lifespan, your iPERL will measure just as accurately as the day it was installed.

Solid State Magnetic Technology

By avoiding the use of a mechanical measuring element inside the flow tube, metering performance is linear over the entire flow range – ensuring no reduction in accuracy at any flow rate over the life of the meter. The iPERL meter uses our patented remanent magnetic field technology – requiring far less energy and delivering superior accuracy.

Alarms

Quick resolution of field issues is made possible with smart water alarms including leak detection, reverse flow, empty pipe, magnetic tamper and low battery. When integrated with our FlexNet[®] communication network, remotely gathering and transmitting data has never been more reliable or profitable.

Construction

The iPERL meter body is made of composite alloy and contains no metal material. Inside the meter body is an electronic register and a measuring device that is comprised of a composite alloy flow tube. Embedded in the flow tube are coated silver electrodes. iPERL utilizes these to measure the fluid velocity through the flow tube – enabling less power consumption and predictable meter performance. The iPERL meter has a 20-year accuracy warranty and a 20-year battery life guarantee.



iPERL Smart Water Meter

Electronic Register

The 9-digit hermetically-sealed electronic register with LCD display was designed to eliminate dirt, fog and moisture contamination in pit settings. The large, easy-to-read display includes AMR digits, direction of flow, units of measure and smart water alarms. The AMR digits and units of measure are fully programmable. The register also provides integrated customer data logging.

AMI / AMR Compatibility

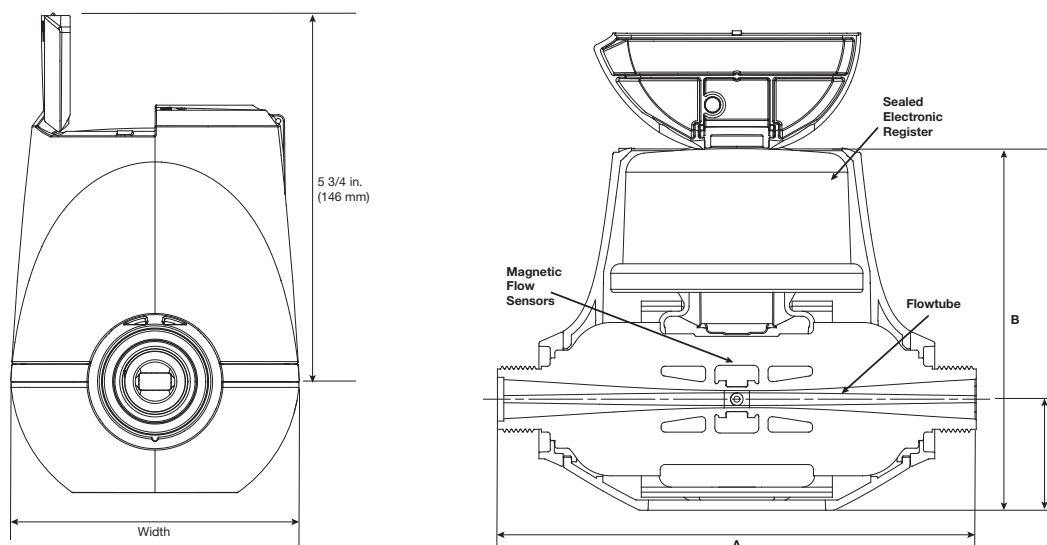
Sensus iPERL meters are compatible with common AMR/AMI systems, including the Sensus FlexNet® communication network.

Conformance to Standards

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

Tamper Resistant

The integrated construction of the iPERL water meter 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 meter.



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)

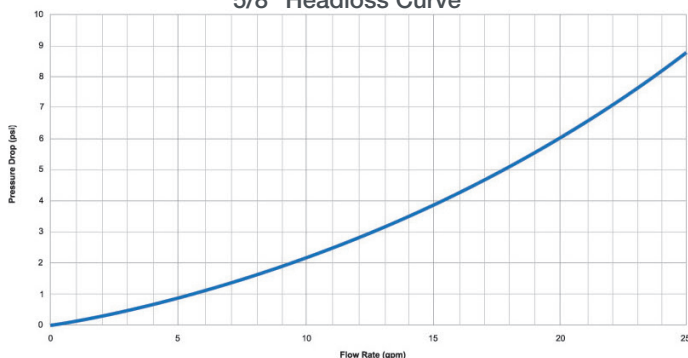


Specifications

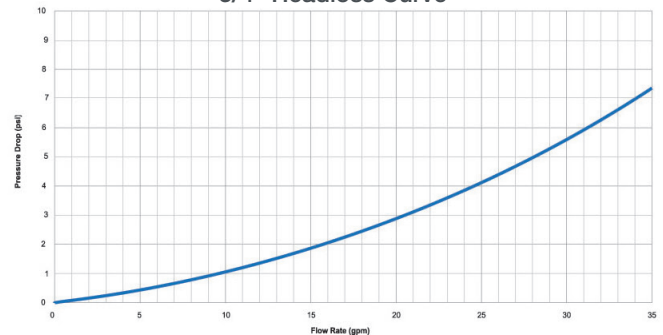
Service	Measurement of potable and reclaimed water. Water operating temperature range of 33°F (0.56°C) -80°F (26.7°C)
Starting Flow	5/8" (DN 15mm) size: 0.03 gpm (0.007 m³/h) 3/4" (DN 20mm) size: 0.03 gpm (0.007 m³/h) 1" (DN 25mm) size: 0.11 gpm (0.025 m³/h)
Low Flow Range (±3%)	5/8" (DN 15mm) size: >0.11 gpm (0.025 m³/hr) to <0.18 gpm (0.041 m³/hr) 3/4" (DN 20mm) size: >0.11 gpm (0.025 m³/hr) to <0.18 gpm (0.041 m³/hr) 1" (DN 25mm) size: >0.3 gpm (0.068 m³/hr) to <0.4 gpm (0.09 m³/hr)
Normal Water Operating Flow Range (±1.5%)	5/8" (DN 15mm) size: 0.18 to 25 gpm (0.04 to 5.7 m³/hr) 3/4" (DN 20mm) size: 0.18 to 35 gpm (0.04 to 8.0 m³/hr) 1" (DN 25mm) size: 0.4 to 55 gpm (0.09 to 12.5 m³/hr)
Maximum Operating Pressure	5/8" and 3/4" size: 200 psi (13.8 bar) 1" size: 175 psi (12.1 bar)
Measurement Technology	Solid state electromagnetic flow
Register	Hermetically sealed, 9-digit programmable electronic register; AMR/AMI compatible; iPERL register programmable using the UniPro® communicator and FieldLogic™ software
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 before alarm is triggered – 24 hours; Datalog Interval – 1 hour; Alarm Mask

Headloss Curves

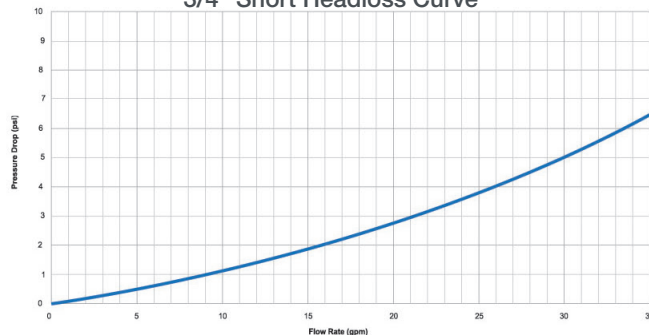
5/8" Headloss Curve



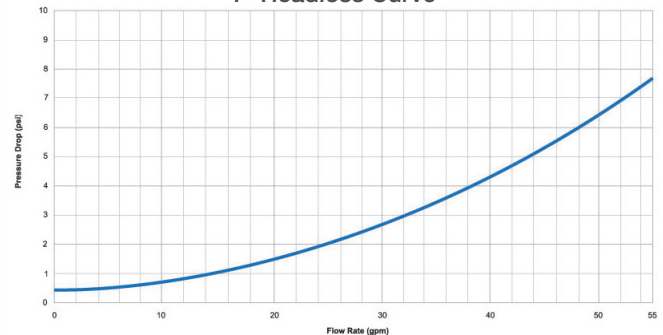
3/4" Headloss Curve



3/4" Short Headloss Curve



1" Headloss Curve





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OMNI™ (R²) Water Meter

1-1/2" and 2" OMNI R² Meter

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

DESCRIPTION:

- Floating Ball Technology (FBT)

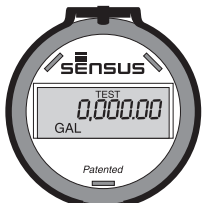
ELECTRONIC REGISTER DISPLAY DIAGRAM



Totalization Mode



AMR/AMI Mode



Resettable Test Mode



Rate of Flow Mode

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 performance criteria for 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 ensure greater accuracy, expanded accuracy range and longer service life than any other comparable class meter. The OMNI R² meter has no restrictions on sustained flow rates within its continuous range. The floating ball measurement technology allows installation in any orientation and flows up to maximum rated capacity without undue wear or accuracy degradation.

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 is hermetically sealed with an electronic pickup containing no mechanical gearing. The large character LCD displays AMR, totalization, rate of flow and a resettable test totalizer. OMNI register features include AMR resolution units that are fully programmable and integral resettable accuracy testing feature compatible with UniPro and Sensus flow verification software. The large, easy-to-read LCD also displays both forward and reverse flow directions. The OMNI R² electronic register has 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 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 strainer uses a stainless steel screen along with Floating Ball Technology (FBT). This creates a design that greatly improves accuracy, even in difficult 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. Replacement parts or complete measuring chambers are available for repairs. OMNI R² replacement measuring chambers may also be utilized to upgrade some third-party meters to achieve increased accuracy and extended service life.

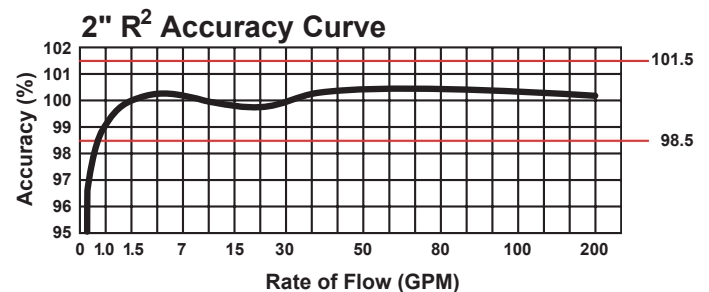
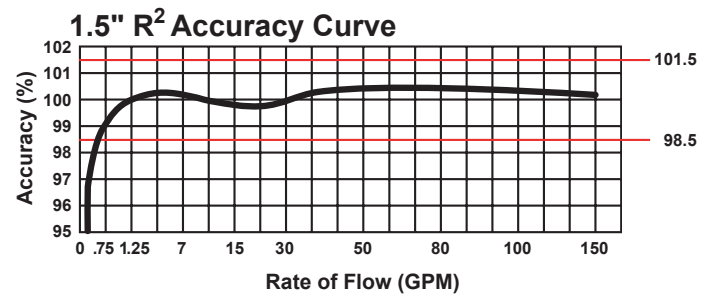
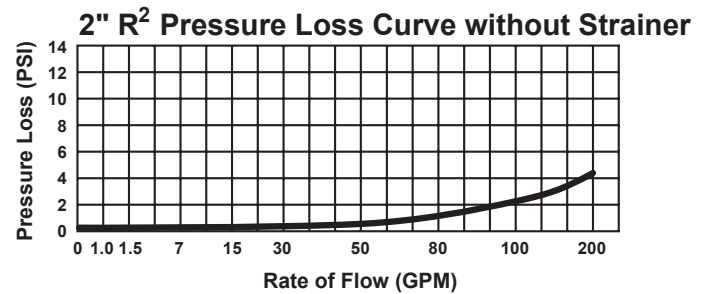
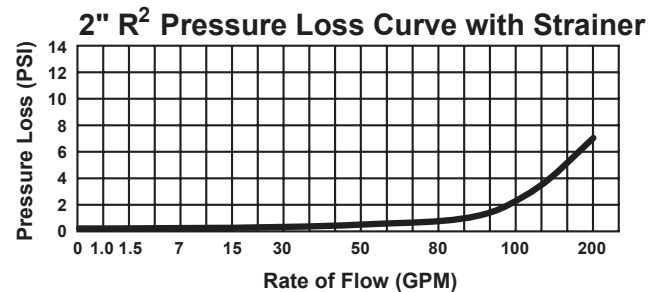
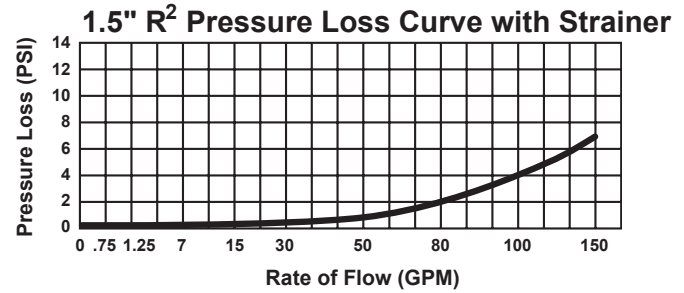
AMR/AMI Systems

Meters and Electronic Registers are compatible with current Sensus AMR/AMI systems and other AMI communication systems that use the Sensus UI1203 protocol.

Guarantee

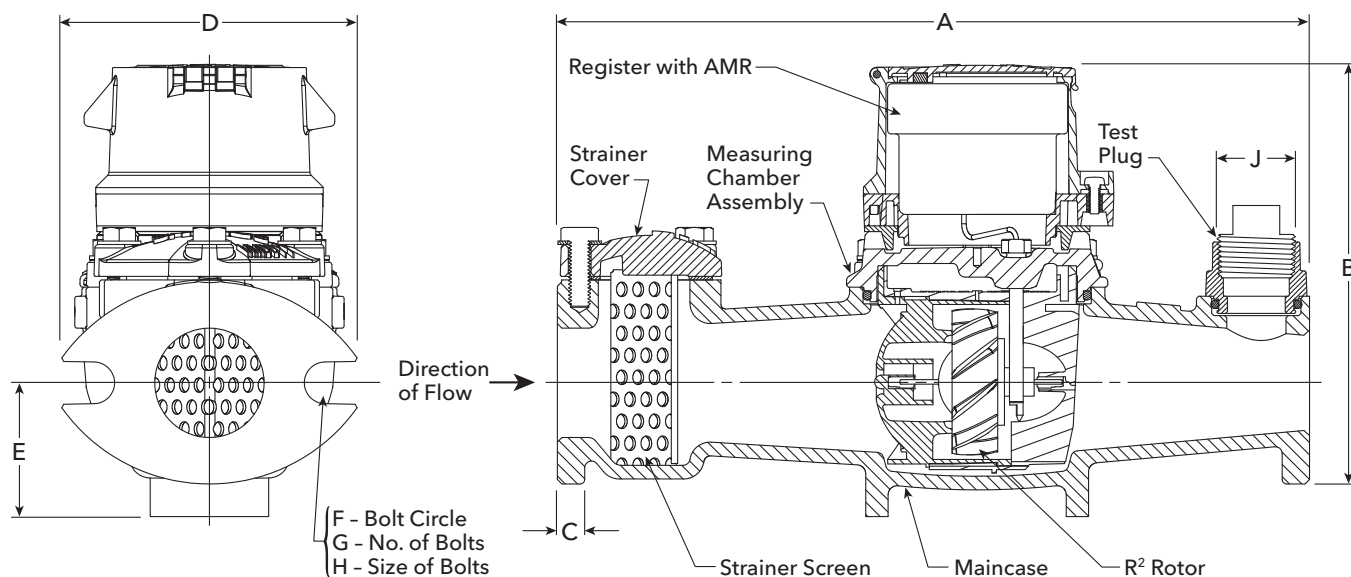
Sensus OMNI R² Meters are backed by “The Sensus Guarantee.” Ask your Sensus representative for details or see Bulletin G-500.

Head Loss Curves

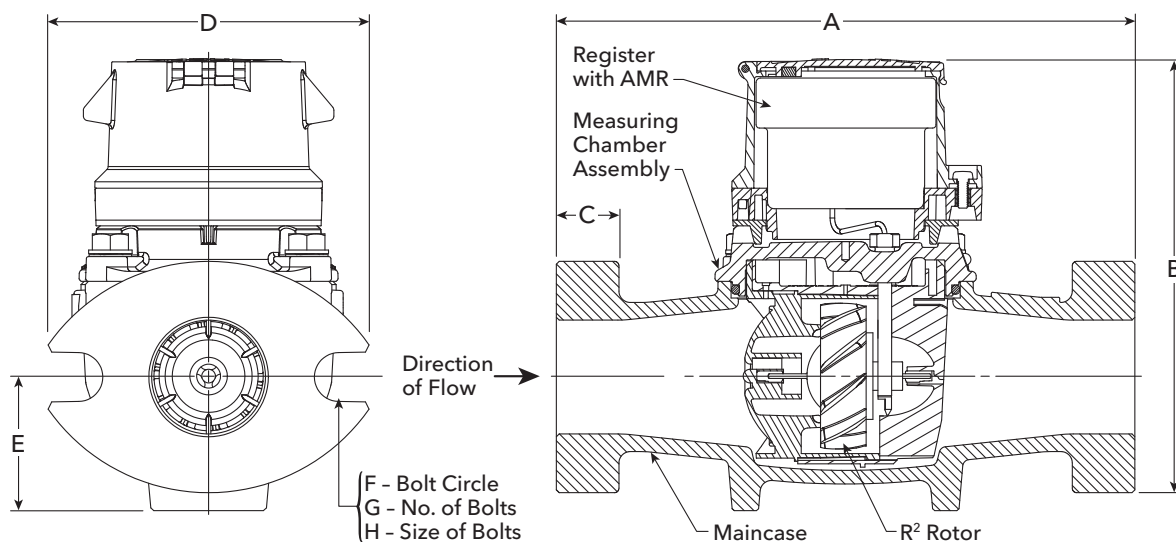




OMNI R²: 1-1/2" - 2"



OMNI R²: 2" Without Strainer



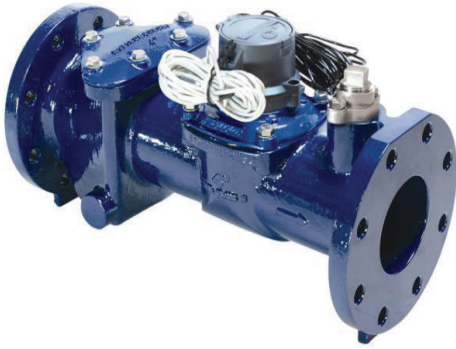
Dimensions and Net Weights

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 0.45 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. 10.2 kg.
2" DN 50mm	2.5 gpm 0.57 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. 12.4 kg.	34.5 lbs. 15.6 kg.
2" without Strainer DN 80mm	2.5 gpm 0.57 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 lbs. 7.9 kg.	24.5 lbs. 11.1 kg.



Specifications

Service	Measurement of potable and reclaim water. Storage temperature: -22F (-30C) to 155F (68.3C) Operating temperatures: Air: -22F (-30C) to 150F (65.6C) Water: 33F (0.6C) to 80F (26.7C)	
Operating Range (100% ± 1.5%)	1-1/2": 2 - 150 GPM (0.45 - 34 m³/hr) 2": 2.5 - 200 GPM (0.57 - 45 m³/hr) 2" without Strainer: 2.5 - 250 GPM (0.57 - 57 m³/hr)	
Low flow (95% - 101.5%)	1-1/2": 0.75 GPM (0.17 m³/hr) 2": 1.0 GPM (0.23 m³/hr) 2" without Strainer: 2.5 - 250 GPM (0.57 - 57 m³/hr)	
Pressure Loss	1-1/2": 6.7 psi @ 150 GPM (0.46 bar @ 34 m³/hr) 2": 7.0 psi @ 200 GPM (0.48 bar @ 45 m³/hr)	
Maximum Operating Pressure	200 PSI (13.8 bar)	
Flange Connections	U.S. ANSI B16.1 / AWWA Class 125	
Test Ports	NPT	
Register	Fully electronic sealed register with programmable registration (Gal. /Cu.Ft. / Cu. Mtr. / Imp. Gal. / Acre Ft.) Programmable AMR/AMI reading 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
	Strainer Screen:	Stainless Steel
	Strainer Cover:	Coated Ductile Iron



OMNI™ Compound (C²) Water Meter

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

The OMNI Compound (C²) Water Meter operation is based on advanced Floating Ball Technology (FBT).

DESCRIPTION:

- Floating Ball Technology (FBT)

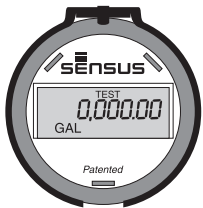
ELECTRONIC REGISTER DISPLAY DIAGRAM



Totalization Mode



AMR/AMI Mode



Resettable Test Mode



Rate of Flow Mode

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 ensure greater accuracy, expanded accuracy range and longer service life than any other comparable class meter. The OMNI C² meter has no restrictions on sustained flow rates within its continuous range. The floating ball measurement technology allows installation in any orientation and flows up to maximum rated capacity without undue wear or accuracy degradation.

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, rate of flow and a resettable test totalizer. OMNI register features include AMR resolution units that are fully programmable, fully programmable pulse output frequency, integral customer data logging capability and integral resettable accuracy testing feature compatible with UniPro and Sensus flow verification software. The large, easy-to-read LCD also displays both forward and reverse flow directions. The OMNI C² electronic register has 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 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 C² meter.

Strainer

The OMNI C² with the AWWA compliant “V” shaped strainer uses a stainless steel screen along with Floating Ball Technology (FBT). This creates a design that greatly improves accuracy, even in difficult 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. Replacement parts or complete measuring chambers are available for repairs. OMNI C² replacement measuring chambers may also be utilized to upgrade some third-party meters to achieve increased accuracy and extended service life.

AMR/AMI Systems

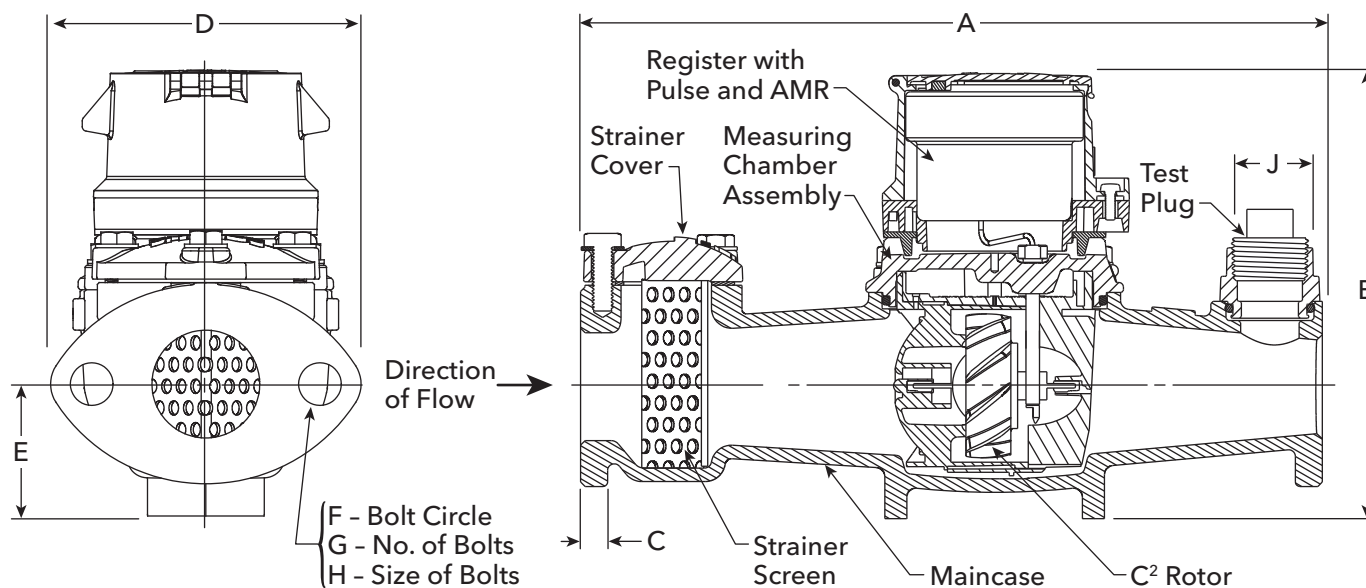
Meters and Electronic Registers are compatible with current Sensus AMR/AMI systems and other AMI communication systems that use the Sensus UI1203 protocol.

Guarantee

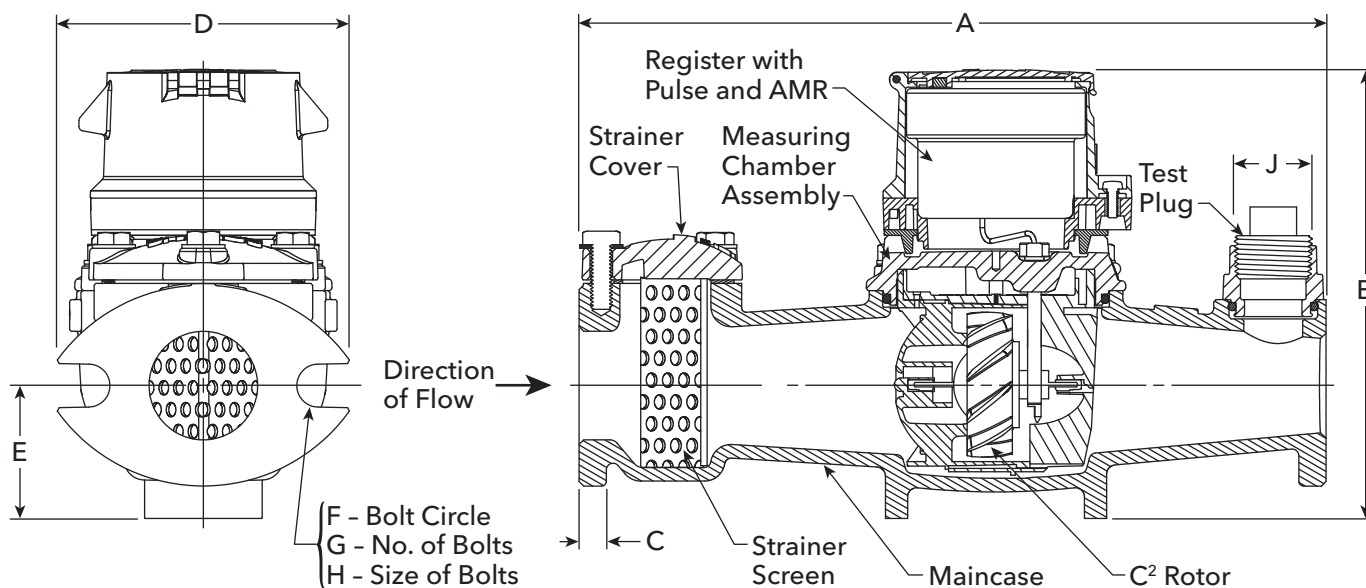
Sensus OMNI C² Meters are backed by “The Sensus Guarantee.” Ask your Sensus representative for details or see Bulletin G-500.



OMNI C²: 1-1/2"

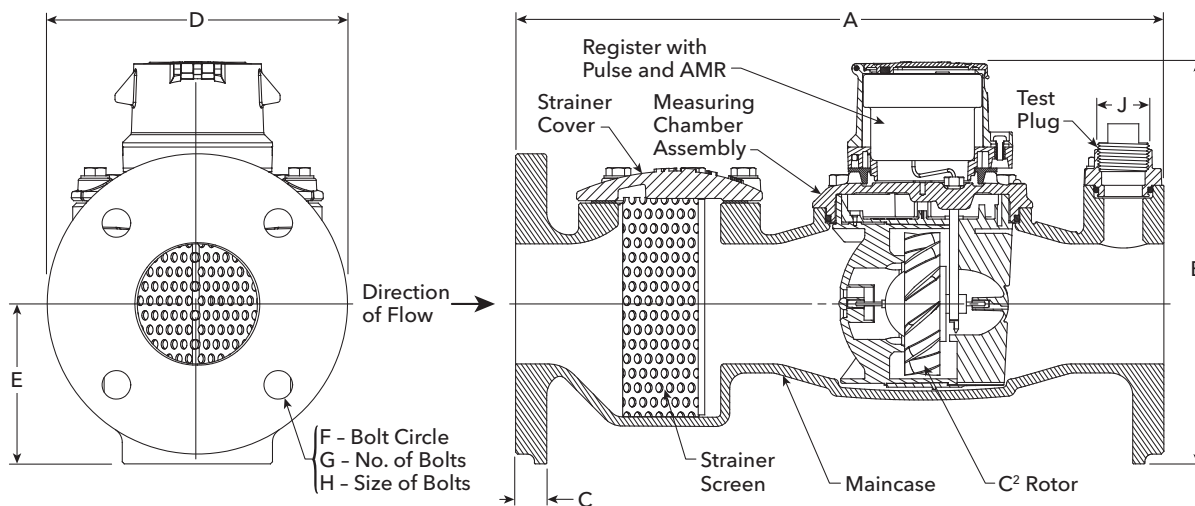


OMNI C²: 2"

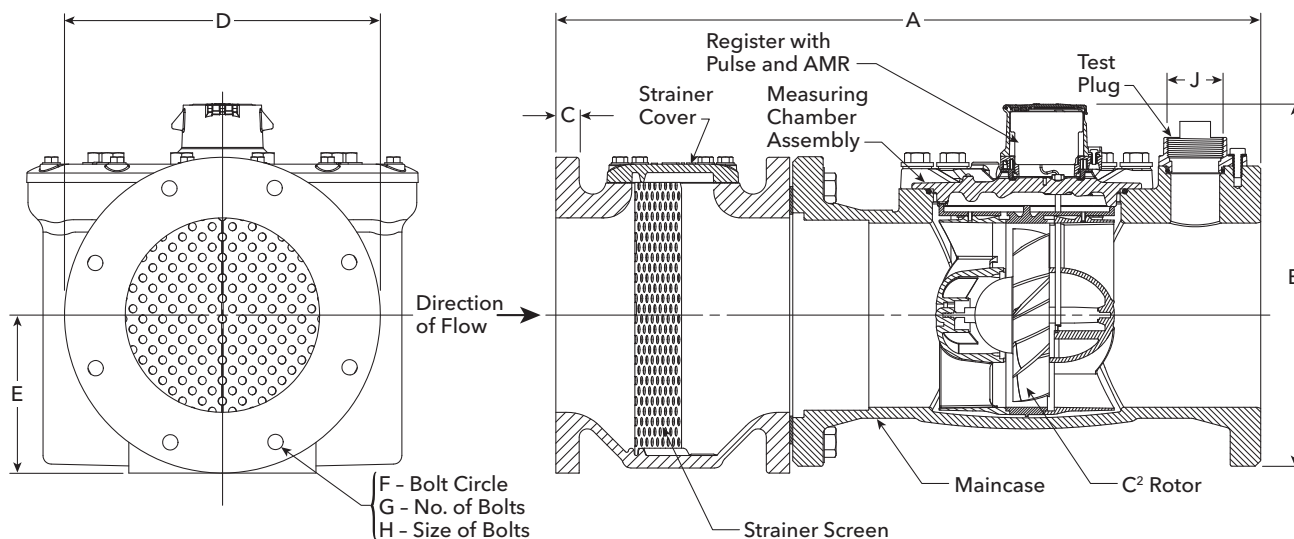




OMNI C²: 3" - 6"



OMNI C²: 8" - 10"





Dimensions and Net Weights

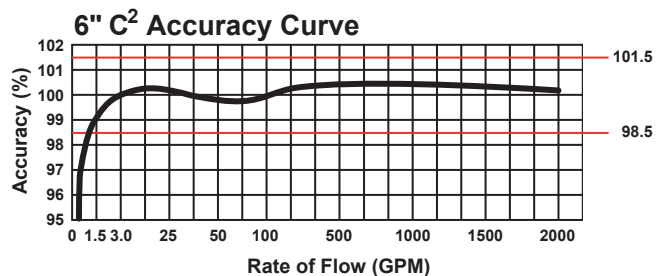
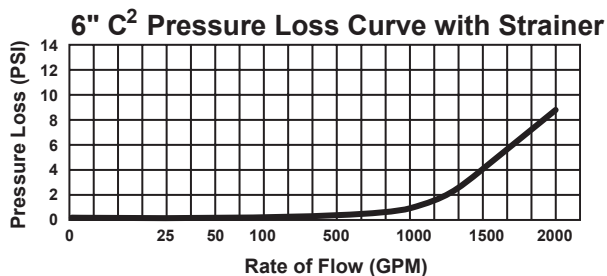
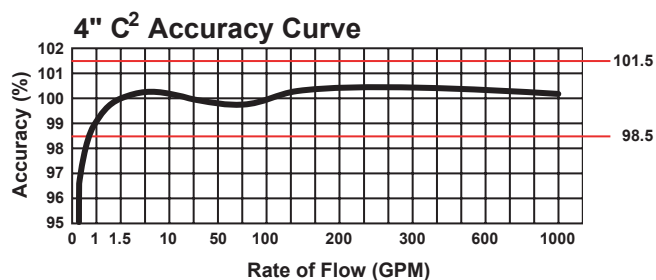
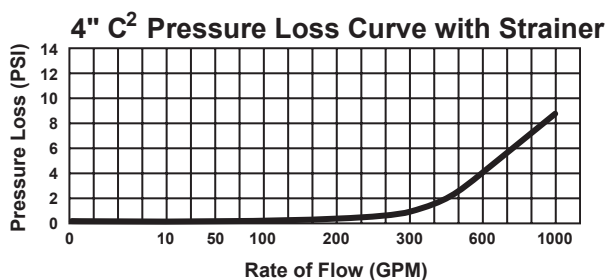
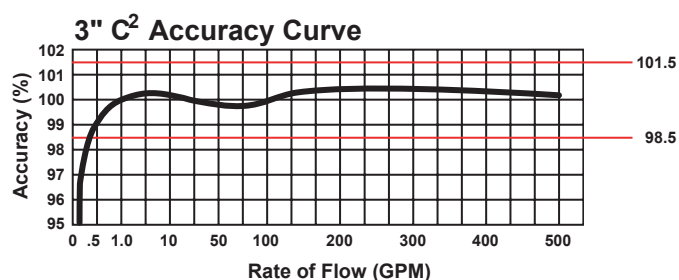
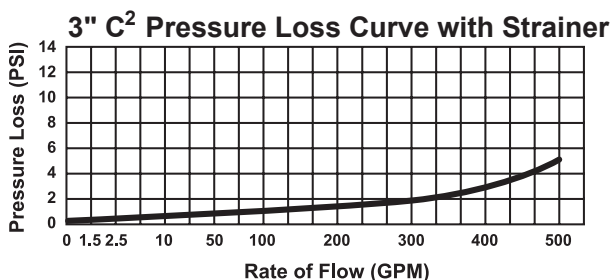
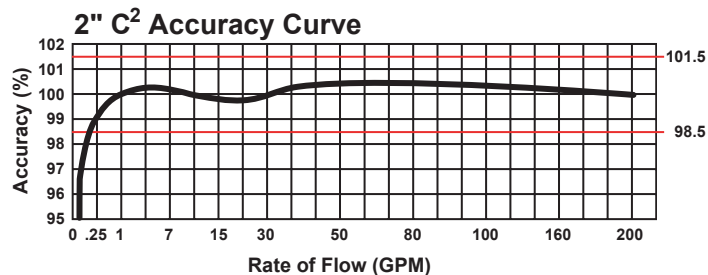
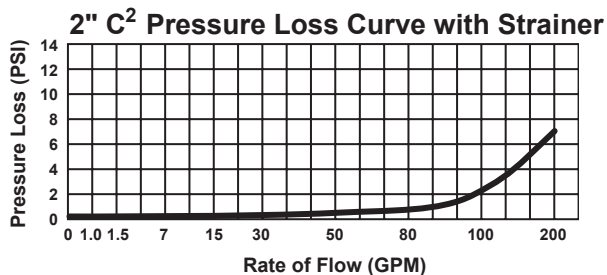
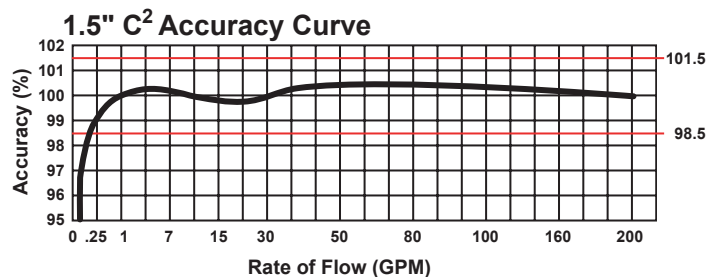
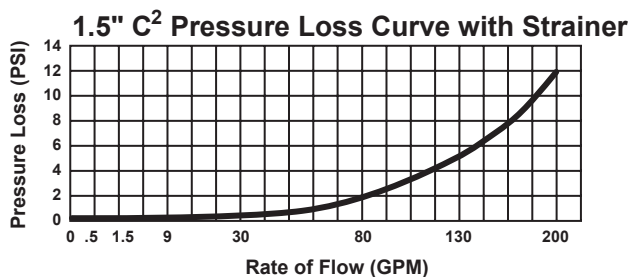
Meter and Pipe Size	Normal Operating Range		Connections	A	B	C	D	E	F	G	H	J	Net Weight	Shipping Weight
1-1/2" DN 40mm	.5 gpm .11 m ³ /hr	200 gpm 45 m ³ /hr	Flanged	13" 330mm	7-7/8" 200mm	15/16" 24mm	5-7/16" 138mm	2-5/16" 59mm	4" 102mm	2	5/8" 16mm	1" 25mm	18.8 lbs. 8.53 kg.	22.5 lbs. 10.20 kg.
2" DN 50mm	.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. 11.5 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" 225mm	3/4" 19mm	7-7/8" 200mm	4-1/8" 105mm	6" 152mm	4	5/8" 16mm	1" 25mm	45 lbs. 20.41 kg.	48.0 lbs. 21.8 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" 38mm	64.9 lbs. 29.44 kg.	72.8 lbs. 33.02 kg.
6" DN 150mm	3 gpm .68 m ³ /hr	2000 gpm 454 m ³ /hr	Flanged	24" 610mm	13-1/4" 337mm	15/16" 24mm	11" 279mm	5-3/4" 146mm	9-1/2" 241mm	8	3/4" 19mm	1-1/2" 38mm	130 lbs. 59.0 kg.	155 lbs. 70.3 kg.
8" DN 200mm	4 gpm .91 m ³ /hr	2700 gpm 614 m ³ /hr	Flanged	30-1/8" 765mm	15" 381mm	11/16" 17mm	13-1/2" 343mm	6-3/4" 172mm	11-3/4" 298mm	8	3/4" 19mm	2" 51mm	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" 483mm	11/16" 17mm	16" 406mm	8-1/2" 216mm	14-1/4" 362mm	12	7/8" 22mm	2" 51mm	685 lbs. 311 kg.	745 lbs. 338 kg.

Specifications

Service	Measurement of potable and reclaim water. Storage temperature: -22F (-30C) to 155F (68.3C) Operating temperatures: Air: -22F (-30C) to 150F (65.6C) Water: 33F (0.6C) to 80F (26.7C)	Pressure Loss	1-1/2": 6.9 psi @ 160 GPM (0.48 bar @ 36 m ³ /hr) 2": 4.3 psi @ 160 GPM (0.30 bar @ 36 m ³ /hr) 3": 3.2 psi @ 400 GPM (0.22 bar @ 91 m ³ /hr) 4": 6.4 psi @ 800 GPM (0.44 bar @ 182 m ³ /hr) 6": 5.5 psi @ 1600 GPM (0.38 bar @ 363 m ³ /hr) 8": 4 psi @ 2700 GPM (0.28 bar @ 614 m ³ /hr) 10": 4.5 psi @ 4000 GPM (0.31 bar @ 908 m ³ /hr)
Operating Range (100% ± 1.5%)	1-1/2": 0.5 - 200 GPM (0.11 - 45 m ³ /hr) 2": 0.5 - 200 GPM (0.11 - 45 m ³ /hr) 3": 1.0 - 500 GPM (0.23 - 114 m ³ /hr) 4": 1.5 - 1000 GPM (0.34 - 227 m ³ /hr) 6": 3 - 2000 GPM (0.68 - 454 m ³ /hr) 8": 4 - 2700 GPM (0.91 - 614 m ³ /hr) 10": 5 - 4000 GPM (1.1 - 908 m ³ /hr)	Maximum Operating Pressure	200 PSI (13.8 bar)
Low flow (95% - 101.5%)	1-1/2": 0.25 GPM (.06 m ³ /hr) 2": 0.25 GPM (.06 m ³ /hr) 3": 0.5 GPM (0.11 m ³ /hr) 4": 0.75 GPM (0.17 m ³ /hr) 6": 1.5 GPM (0.34 m ³ /hr) 8": 2.5 GPM (0.57 m ³ /hr) 10": 3.5 GPM (0.8 m ³ /hr)	Flange Connections	U.S. ANSI B16.1 / AWWA Class 125
Maximum Continuous Operation	1-1/2": 160 GPM (36 m 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)	Test Ports	NPT
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)	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 Strainer Screen: Stainless Steel Strainer Cover: Coated Ductile Iron Test Plug: Stainless Steel

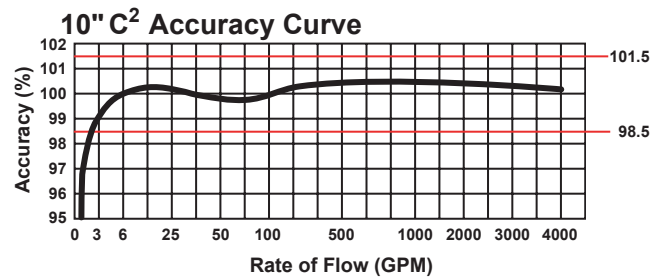
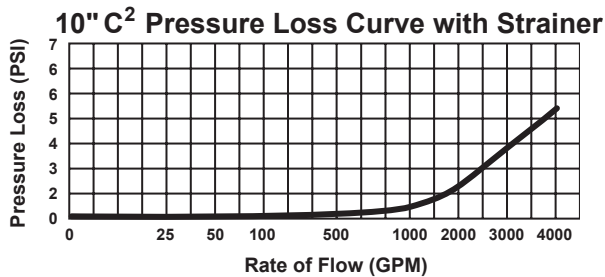
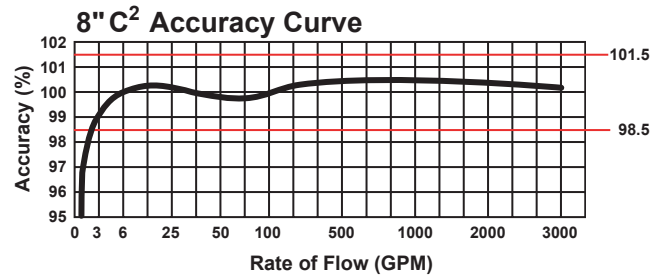
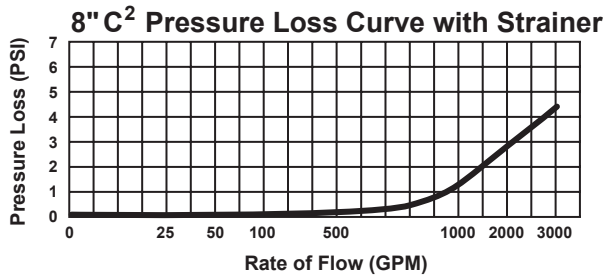


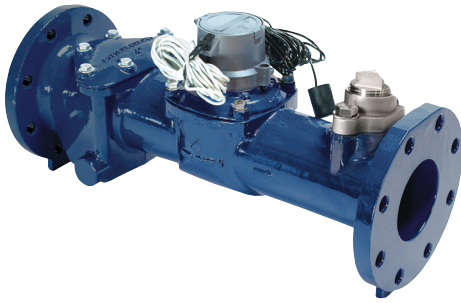
Head Loss Curves





Head Loss Curves





OMNI™ Turbo (T²) Water Meter

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

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

DESCRIPTION:

- Floating Ball Technology (FBT)

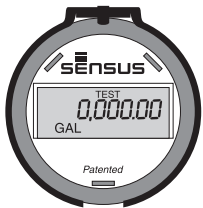
ELECTRONIC REGISTER DISPLAY DIAGRAM



Totalization Mode



AMR/AMI Mode



Resettable Test Mode



Rate of Flow Mode

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 ensure greater accuracy, expanded accuracy range and longer service life than any other comparable class meter. The OMNI T² meter has no restrictions on sustained flow rates within its continuous range. The floating ball measurement technology allows installation in any orientation and flows up to maximum rated capacity without undue wear or accuracy degradation.

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

OMNI Electronic Register

The OMNI T² electronic register is hermetically sealed with an electronic pickup containing no mechanical gearing. The large character LCD displays AMR, totalization, rate of flow and a resettable test totalizer. OMNI register features include AMR resolution units that are fully programmable, fully programmable pulse output frequency, integral customer data logging capability and integral resettable accuracy testing feature compatible with UniPro and Sensus flow verification software. The



large, easy-to-read LCD also displays both forward and reverse flow directions. The OMNI T² electronic register has 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 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 AWWA compliant “V” shaped strainer uses a stainless steel screen along with Floating Ball Technology (FBT). This creates a design that greatly improves accuracy, even in difficult 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. Replacement parts or complete measuring chambers are available for repairs. OMNI T² replacement measuring chambers may also be utilized to upgrade some third-party meters to achieve increased accuracy and extended service life.

AMR/AMI Systems

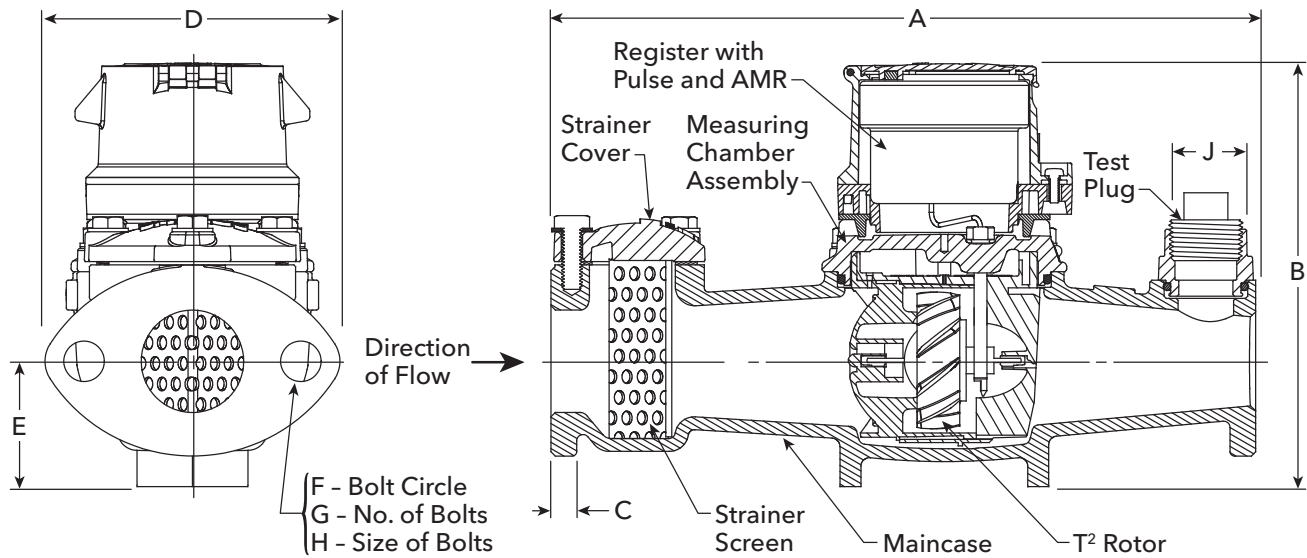
Meters and Electronic Registers are compatible with current Sensus AMR/AMI systems and other AMI communication systems that use the Sensus UI1203 protocol.

Guarantee

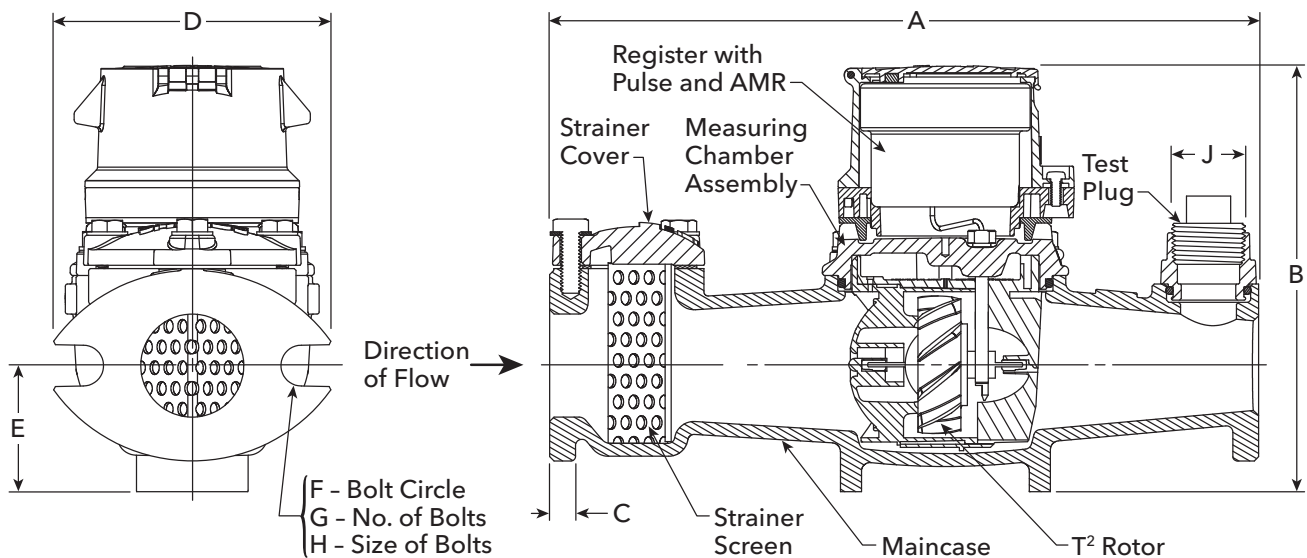
Sensus OMNI T² Meters are backed by “The Sensus Guarantee.” Ask your Sensus representative for details or see Bulletin G-500.



OMNI T²: 1-1/2"

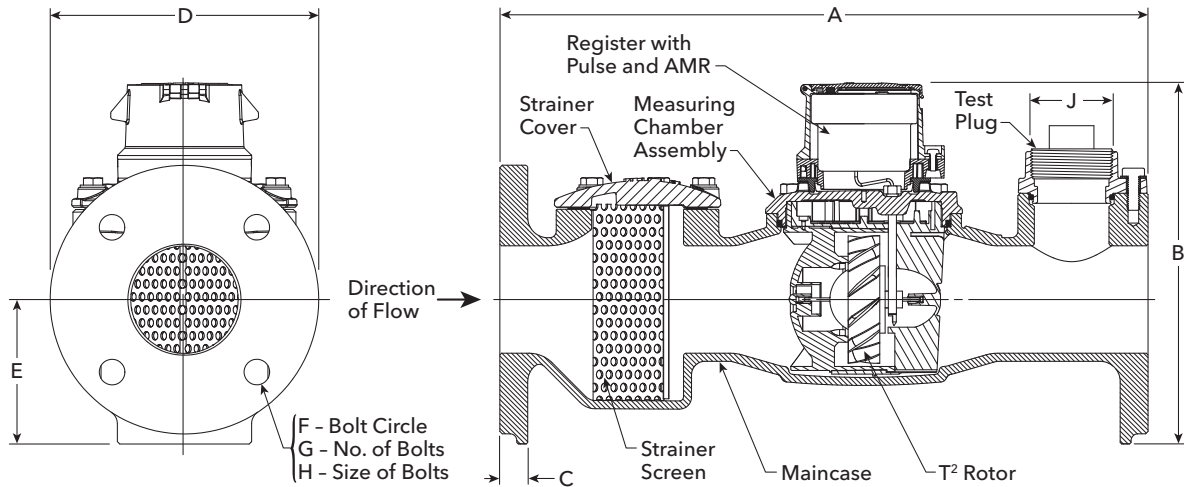


OMNI T²: 2"

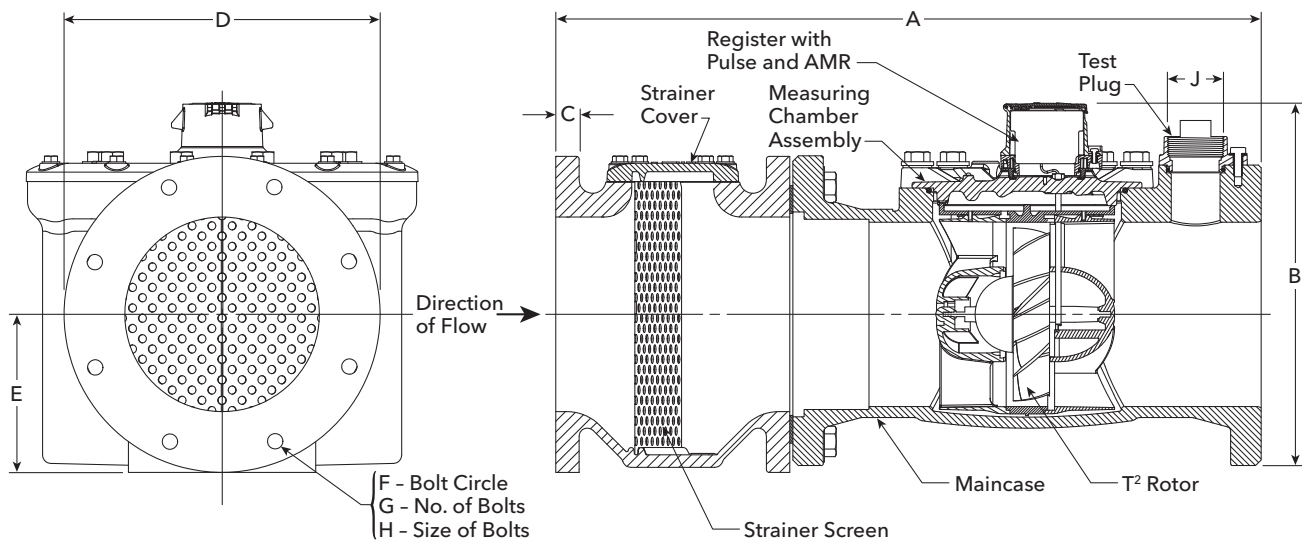




OMNI T²: 3" - 6"



OMNI T²: 8" - 10"





Dimensions and Net Weights

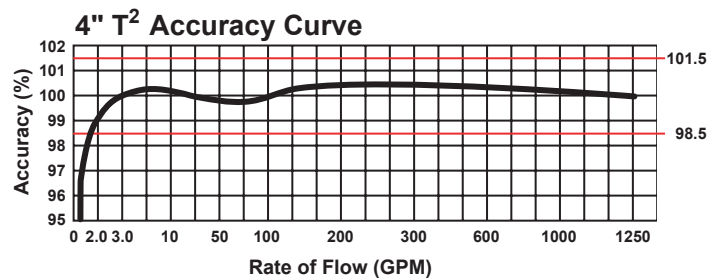
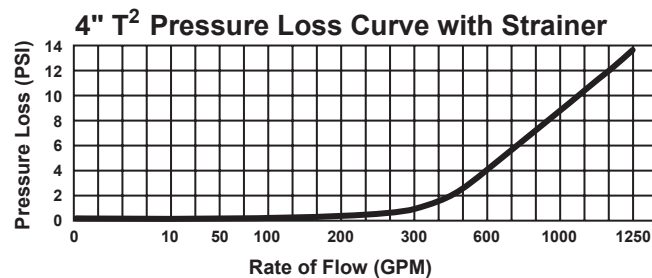
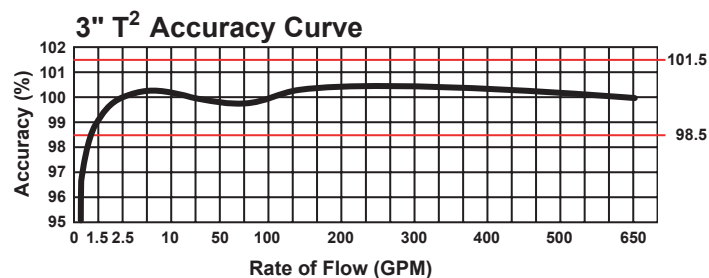
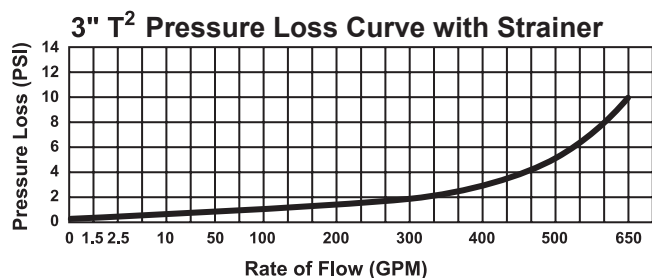
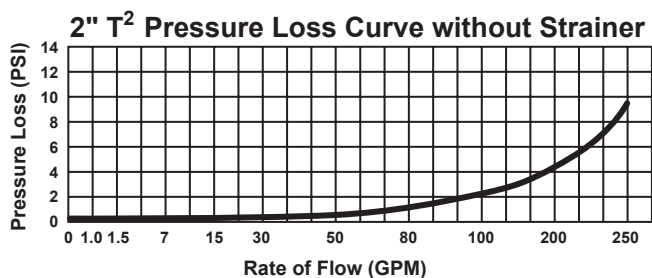
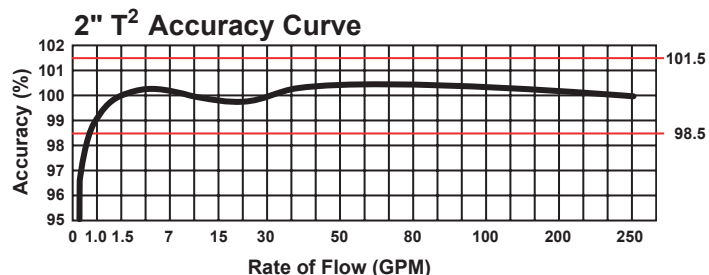
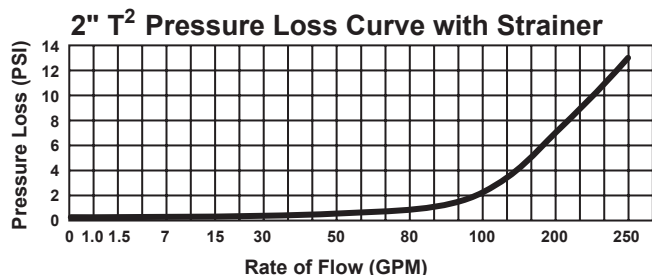
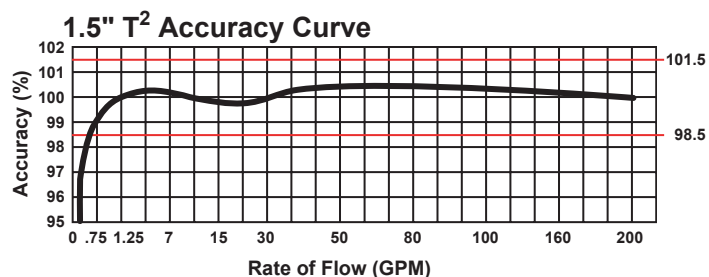
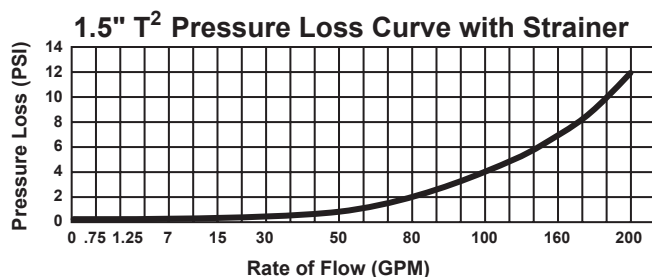
Meter and Pipe Size	Normal Operating Range		Connections	A	B	C	D	E	F	G	H	J	Net Weight	Shipping Weight
1-1/2" DN 40mm	1.25 gpm .28 m ³ /hr	200 gpm 45 m ³ /hr	Flanged	13" 330mm	7-7/8" 200mm	15/16" 24mm	5-7/16" 138mm	2-5/16" 59mm	4" 102mm	2	5/8" 16mm	1" 25mm	18.8 lbs. 8.53 kg.	22.5 lbs. 10.2 kg.
2" DN 50mm	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" 38mm	27.4 lbs. 12.4 kg.	34.5 lbs. 15.6 kg.
2" w/o 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. 11.1 kg.
3" DN 80mm	2.5 gpm .57 m ³ /hr	650 gpm 148 m ³ /hr	Flanged	19" 483mm	8-3/4" 225mm	3/4" 19mm	7-7/8" 200mm	4-1/8" 105mm	6" 153mm	4	5/8" 16mm	2" 51mm	48.5 lbs. 22.0 kg.	57.4 lbs. 26.0 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" 51mm	67.9 lbs. 30.8 kg.	75.8 lbs. 34.4 kg.
6" DN 150mm	4 gpm .91 m ³ /hr	2500 gpm 568 m ³ /hr	Flanged	27" 686mm	13-1/4" 337mm	15/16" 24mm	11" 279mm	5-3/4" 146mm	9-1/2" 241mm	8	3/4" 19mm	2" 51mm	140 lbs. 63.5 kg.	165 lbs. 74.8 kg.
8" DN 200mm	5 gpm 1.1 m ³ /hr	3500 gpm 795 m ³ /hr	Flanged	30-1/8" 765mm	15" 381mm	11/16" 17mm	13-1/2" 343mm	6-3/4" 171mm	11-3/4" 298mm	8	3/4" 19mm	2" 51mm	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" 1045mm	19" 483mm	11/16" 17mm	16" 406mm	8-1/2" 216mm	14-1/4" 362mm	12	7/8" 22mm	2" 51mm	685 lbs. 311 kg.	745 lbs. 338 kg.

Specifications

Service	Measurement of potable and reclaim water. Storage temperature: -22F (-30C) to 155F (68.3C) Operating temperatures: Air: -22F (-30C) to 150F (65.6C) Water: 33F (0.6C) to 80F (26.7)	Pressure Loss	1-1/2": 6.9 psi @ 160 GPM (0.48 bar @ 36 m ³ /hr) 2": 7.0 psi @ 200 GPM (0.48 bar @ 45 m ³ /hr) 3": 5.1 psi @ 500 GPM (0.35 bar @ 114 m ³ /hr) 4": 8.7 psi @ 1000 GPM (0.60 bar @ 227 m ³ /hr) 6": 8.2 psi @ 2000 GPM (0.57 bar @ 454 m ³ /hr) 8": 5.1 psi @ 3500 GPM (0.35 bar @ 795 m ³ /hr) 10": 7.2 psi @ 5500 GPM (0.50 bar @ 1249 m ³ /hr)
Operating Range (100% ± 1.5%)	1-1/2": 1.25 - 200 GPM (0.28 - 45 m ³ /hr) 2": 1.5 - 250 GPM (0.34 - 57 m ³ /hr) 3": 2.5 - 650 GPM (0.57 - 148 m ³ /hr) 4": 3 - 1250 GPM (0.68 - 284 m ³ /hr) 6": 4 - 2500 GPM (0.91 - 568 m ³ /hr) 8": 5 - 3500 GPM (1.1 - 795 m ³ /hr) 10": 6 - 5500 GPM (1.4 - 1249 m ³ /hr)	Maximum Operating Pressure	200 PSI (13.8 bar)
Low flow (95% - 101.5%)	1-1/2": 0.75 GPM (0.17 m ³ /hr) 2": 1.0 GPM (0.23 m ³ /hr) 3": 1.5 GPM (0.34 m ³ /hr) 4": 2.0 GPM (0.45 m ³ /hr) 6": 2.5 GPM (0.57 m ³ /hr) 8": 4 GPM (0.91 m ³ /hr) 10": 5 GPM (1.1 m ³ /hr)	Flange Connections	U.S. ANSI B16.1 / AWWA Class 125
Maximum Continuous Operation	1-1/2": 160 GPM (36 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": 3500 GPM (795 m ³ /hr) 10": 5500 GPM (1249 m ³ /hr)	Test Ports	NPT
Maximum Intermittent Operation	1-1/2": 200 GPM (45 m ³ /hr) 2": 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)	Register	Fully electronic sealed register with program-mable 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 Strainer Screen: Stainless Steel Strainer Cover: Coated Ductile Iron Test Plug: Stainless Steel

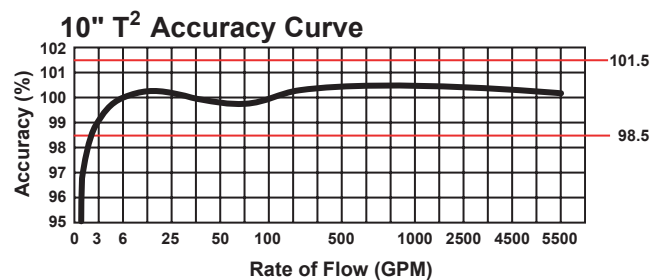
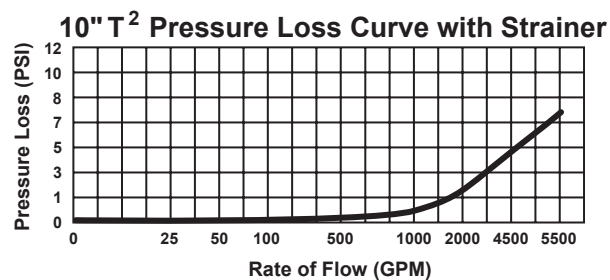
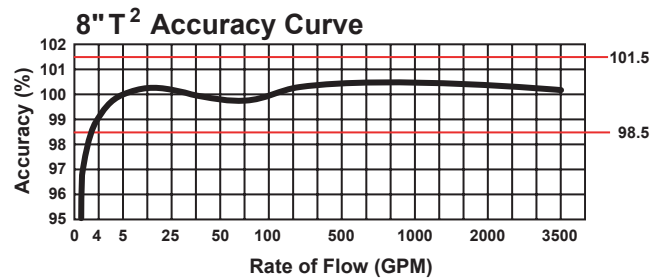
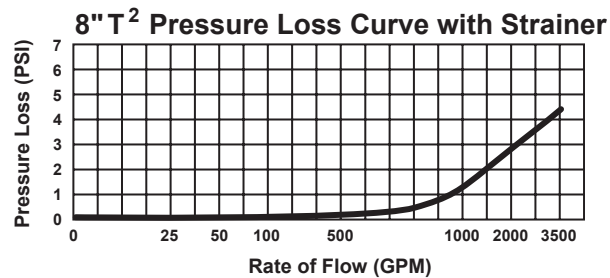
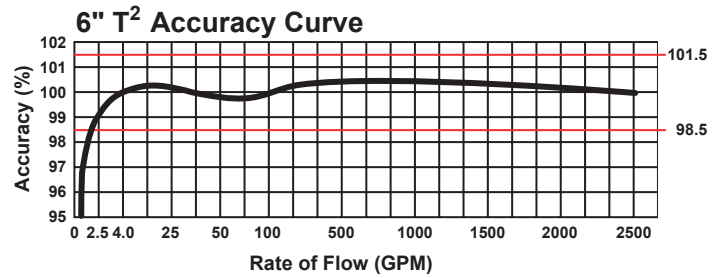
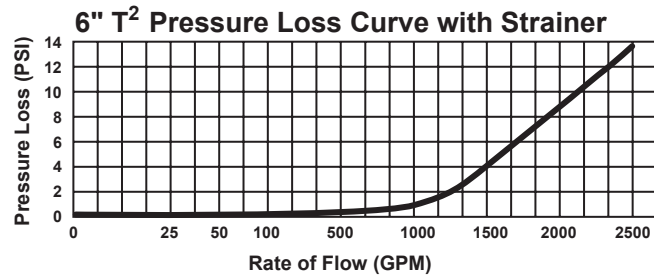


Head Loss Curves





Head Loss Curves



3/4" Meter Set		1" Meter Set	
QNTY	DESCRIPTION	QNTY	DESCRIPTION
6	3/4" Copper	6	1" Copper
1	3/4" Comp x FIP Curb Stop	1	1" Comp x FIP Curb Stop
1	3/4" Corp Stop	1	1" Corp Stop
2	3/4" Meter Coupling 2 1/2" long w/washers	2	1" Meter Coupling 2 1/2" long w/washers
1	3/4" L Sensus Iperl Meter	1	1" Sensus Iperl Meter
1	3/4" Backflow Preventor	1	1" Backflow Preventor
1	Jumbo Plastic Meter Box	1	Jumbo Plastic Meter Box

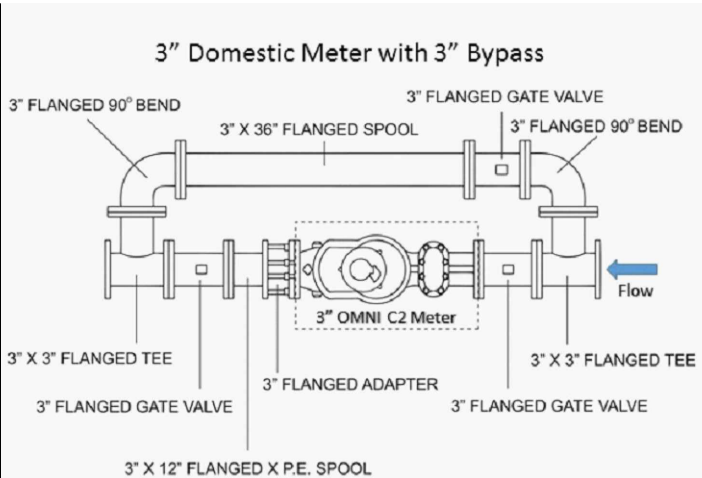
1 1/2" R2 Irrigation METER ASSEMBLY	
QNTY	DESCRIPTION
1	1 1/2" R2 Omni METER
2	1 1/2" METER FLANGES
1	2" X 1 1/2" BRASS BUSHING
2	1 1/2" X 6" BRASS NIPPLE
2	1 1/2" X 2" BRASS NIPPLE
1	2" X 6" BRASS NIPPLE
1	1 1/2" DOUBLE CHECK BACKFLOW PREVENTER
2	JUMBO METER BOX
1	2" FIP X FIP Curb Stop
2	2" BRASS 90 DEGREE BENDS
1	VALVE BOX
12	2" BRASS PIPE (CUT TO FIT)

1 1/2" C2 Domestic METER ASSEMBLY W/ 1 1/2" BYPASS	
QNTY	DESCRIPTION
1	1 1/2" C2 Omni METER
2	1 1/2" METER FLANGES
1	2" X 1 1/2" BRASS BUSHING
2	1 1/2" X 6" BRASS NIPPLE
1	1 1/2" X 2" BRASS NIPPLE
1	2" X 6" BRASS NIPPLE
1	1 1/2" DOUBLE CHECK BACKFLOW PREVENTER
2	JUMBO METER BOX
1	1 1/2" METER BYPASS
2	2" BRASS 90 DEGREE BENDS
1	VALVE BOX
12	2" BRASS PIPE (CUT TO FIT)

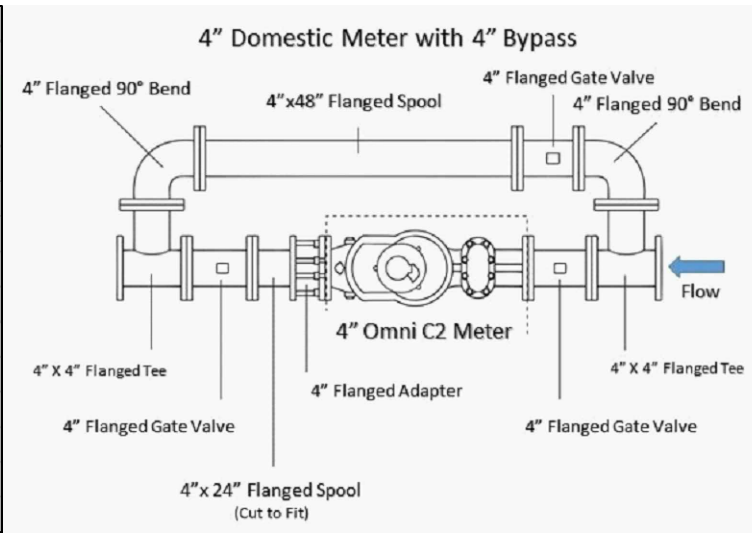
2" R2 Irrigation Meter Assembly	
QNTY	DESCRIPTION
1	2" Omni R2 METER
2	2" METER FLANGES
2	2" X 6" BRASS NIPPLE
1	2" X 8" Brass Nipple
1	2" X 2 1/2" BRASS NIPPLE
1	2" Curbstop
1	2" DOUBLE CHECK BACKFLOW PREVENTER
2	JUMBO METER BOX
2	2" 90 DEGREE BENDS
1	VALVE BOXES
12	2" BRASS PIPE (CUT TO FIT)

2" Domestic Meter With 2" Bypass & 2" Backflow Preventer	
QNTY	DESCRIPTION
1	2" Senus Omni C2 Meter
1	2" X 12" BRASS NIPPLE
2	2" BRASS 90 DEGREE BENDS
2	2" Meter Flange
2	VALVE BOXES
12	2" BRASS PIPE (CUT TO FIT)
1	2" METER BYPASS
2	2" X 6" BRASS NIPPLE
2	JUMBO METER BOXES
1	2" DOUBLE CHECK BACKFLOW PREVENTER

3" Domestic Meter with 3" Bypass & Backflow Preventer	
QNTY	DESCRIPTION
2	3" FLG X FLG 90 DEGREE BENDS
2	3" X 3" FLANGED TEES
3	3" FLANGED GATE VALVES
1	3" FLG ADAPTER
1	3" X 12" FLG X PE SPOOL
1	3" X 24" FLG X FLG SPOOL
2	3" X 36" FLG X FLG SPOOL
12	3" FLANGE PACKS
1	3" FLG X 4" M.J. REDUCER
1	3" BACKFLOW PREVENTER
1	3" OMNI C2 METER
2	3'X5'X3' METER VAULTS

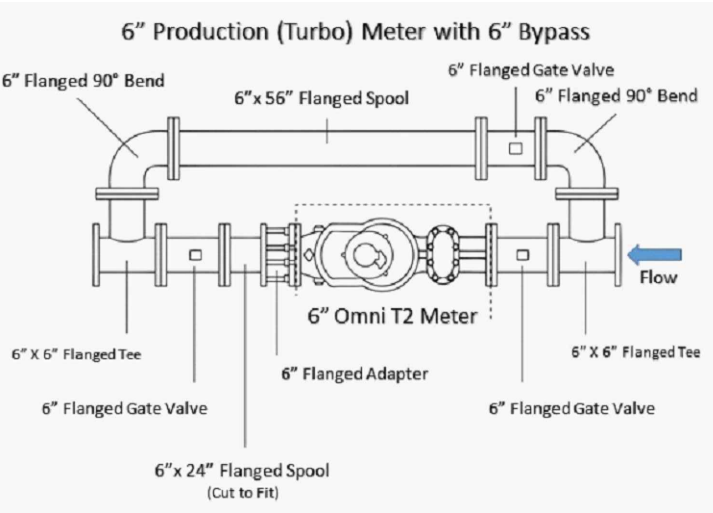


4" Domestic Meter with 4" Bypass & 4" Backflow Preventer	
QNTY	DESCRIPTION
1	4" Omni C2 Meter
3	4" GATE VALVES - FLANGED
2	4"x4" FLANGED TEES
2	4" FLANGED 90 DEGREE BENDS
3	4" FLANGED X M.J. ADAPTERS
2	4" X 24" FLG X FLG NIPPLES
1	4" X 48" FLG X FLG NIPPLES
1	4" x 36" FLG X FLG SPOOL
15	4" FLANGE PACKS
1	4" DOUBLE CHECK BACKFLOW PREVENTER
2	4' X 6' X 4' METER VAULTS

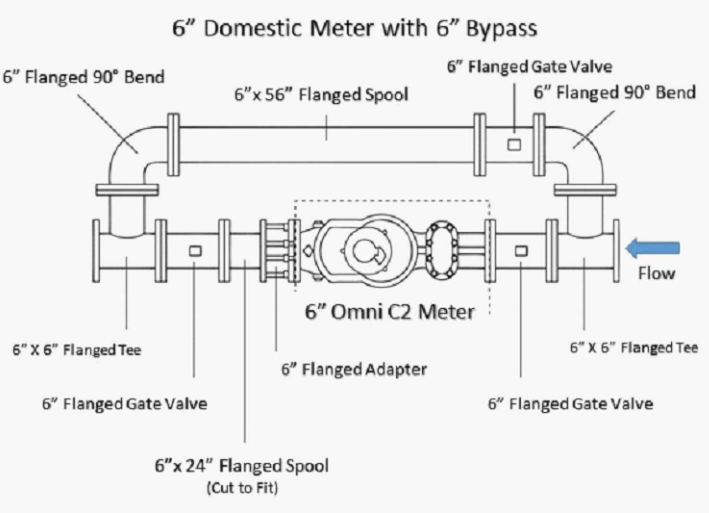


4" Irrigation Meter with 4" Backflow Preventer	
QNTY	DESCRIPTION
1	4" Omni C2 Meter
1	4" Watts #709 Backflow Preventer
1	4" GATE VALVES - MJ
4	4" Flange Packs
2	4" FLANGED X M.J. ADAPTERS
2	4" X 36" FLG X FLG NIPPLES
2	4' X 6' X 4' METER VAULTS

6" Turbo Meter with 6" Bypass & 6" Backflow Preventer	
QNTY	DESCRIPTION
1	6" Omni T2 Meter
3	6" GATE VALVES - FLANGED
2	6" FLANGED TEES
2	6" FLANGED 90 DEGREE BENDS
1	6" FLANGED X.M.J. ADAPTERS
2	6" X24" FLG XFLG SPOOL
1	6" X56" FLG XFLG SPOOL
15	6" FLANGE PACKS
1	6" DOUBLE CHECK BACKFLOW PREVENTER
2	4' X6' X4' METER VAULTS



6" Domestic Meter with 6" Bypass & 6" Backflow Preventer	
QNTY	DESCRIPTION
1	6" Omni C2 Meter
3	6" GATE VALVES - FLANGED
2	6" FLANGED TEES
2	6" FLANGED 90 DEGREE BENDS
1	6" FLANGED X.M.J. ADAPTERS
2	6" X24" FLG XFLG SPOOL
1	6" X56" FLG XFLG SPOOL
15	6" FLANGE PACKS
1	6" DOUBLE CHECK BACKFLOW PREVENTER
2	4' X6' X4' METER VAULTS



6" Irrigation Meter with 6" Backflow Preventer	
QNTY	DESCRIPTION
1	6" Omni METER
1	6" GATE VALVES - MJ
1	6" FLANGED X.M.J. ADAPTERS
1	6" X 24" FLG X FLG NIPPLES
2	4' X 6' X 4' METER VAULTS
1	6" Double Check Backflow Preventer
4	6" FLANGE PACKS

8" Meter with 8" Bypass & 8" Backflow Preventer	
QNTY	DESCRIPTION
1	8" Omni T2 Turbo Meter
3	8" GATE VALVES - FLANGED
2	8" FLANGED TEES
2	8" FLANGED 90 DEGREE BENDS
1	8" FLANGED X.M.J. ADAPTERS
1	8" X 24" FLG X FLG NIPPLES
1	8" X 60" FLG X FLG NIPPLES
15	8" FLANGE PACKS
1	8" X 36" FLG X FLG SPOOL
1	8" DOUBLE CHECK BACKFLOW PREVENTER
1	4' X 6' X 4' METER VAULTS
1	4' X 8' X 4' METER VAULTS