TOWN OF GILBERT
ADDENDUM NO 1
TO BID DOCUMENTS FOR
Project Name: 320000190 CIS Software RFP
Request For Proposals (RFP) Number: 320000190
Date 12/17/2019

This Addendum contains a total of 23 pages http://www.gilbertaz.gov/rfp

The following revisions to the Proposal Documents for the project shall become a part of the Contract Documents. Only these items are to be altered. There are no changes to the remainder of the original Proposal Documents.

Date and Location for Submittal of Sealed Proposals has been extended to January 23, 2019 at 2:00 pm in Conference Room 233 Town of Gilbert Purchasing Division, Attn: Diane Shannon, Municipal Center, 50 East Civic Center Drive, Gilbert, Arizona 85296

1. **Question:** In the context of a multi-year implementation effort, are the agreement renewal terms correct (page 10, section 2.1) in that the initial agreement is only valid for 1 year and must be renewed each year? And for clarification, is the renewal strictly for the implementation of the new CIS, covering licensing and services? Or does it also apply to the annual maintenance and support services once the new CIS is live and in production? If it covers maintenance and support, what happens at the end of 10 years?
    a. **Answer:** Gilbert's intent is for a contract term of 1 year plus additional 9 (nine) one-year renewal terms at our option. The Town has allocated funds to start the project and final authorization is planned for budget approval process for the fiscal year 20-21. We anticipate Town Council approval in June of 2020. Additionally, the cost should include maintenance and support as well as the licensing and services.
2. **Question:** On page 12 there is a table of other systems the CIS will integrate to, is this the complete list? And is the reference on page 13 regarding 'Integration' limited to the table on page 12? If there are other systems that should be quoted for integration can they be provided?
    a. **Answer** Regarding your question on pg. 12, at this time these are the systems identified as the likely solutions to be interfaced with the CIS. Those with a Yes in the table are definite; those with Maybe are not conclusive but included for estimation purposes. The reference on page 13 is just a statement of the City's preferences; whatever integration methodology you deploy must be clearly stated in the Requirements response. There are no other system integrations known at this time.
3. **Questions:** On Page 13 under Mobile Access, can you clarify the type of access required by these groups:
    a. Utility Billing – is this all CIS functionality on a mobile platform?
        i. **Answer:** Please see the Requirements document for specifics.
    b. Public Works – is this related to service orders only?
        i. **Answer** Yes; please see Requirements document.
    c. Utility Customers – is this different from the Payments portal? Should vendors propose and optional Customer Self Service (CSS) web application? If the proposed CSS does not have on online payment feature, is integration to Paymentus acceptable?

i. **Answer:** Currently customers access utility information via the Paymentus portal. However, whether you have an alternative to Paymentus, or interface with Paymentus, both options are acceptable. The interface is required; the replacement is optional and should be reflected as such in your pricing proposal.

4. **Question:** If a vendor's system incorporates a cashiering system, might the Tyler Cashiering solution be replaced with the winning vendor's solution? Is the Tyler Cashiering system used for receipts other than utility billing?
    a. **Answer** Tyler Cashiering will not be replaced. An interface to pass cash receipts from the CIS to Tyler Cashiering will be required.
5. **Question:** On page 15 there is a warning about not converting the pdf requirements document to Word, however it was posted/provided in Word format already, which will be easier for adding ratings and comments. Are vendors okay to proceed with the Word document?
    a. Answer Yes
6. Q**uestion:** Does the Town have an expectation of how long the project will take to complete and go live? Is there an expectation regarding immediate post-go-live support and how long the implementation team will stay engaged before handing off to a vendor's standard support?
    a. Answer We will rely on vendors to propose the timeline and post- go live support recommendations.
7. **Question** Is there a 3rd party consultant engaged in the RFP and selection process?
    a. Answer Yes
8. **Question:** Does the Town want vendors to provide exceptions to the "Agreement for Services" document sample, or will those be worked through in contracting?
    a. **Answer** We would need any exceptions to the RFP and its content included in the proposal/response. Please disclose any exceptions to the RFP as Appendix A to your proposal following the Exhibits.
9. **Question:** Can we supply additional information regarding additional product or service descriptions beyond what is being asked for in the RFP?
    a. **Answer:** You can provide an additional flash drive along with your proposal with additional product or service descriptions. It just needs to be separate from the drive that contains your proposal and Gilbert is under no obligation to review the material. The additional material may not be considered in the overall proposal evaluation.
10. **Question:** Under **Technology,** Question 31.g Tyler Cashiering – central cashiering. Retrieve open invoices and apply cash receipts**:** Is the expectation that a cashier will be able to process payments for Utilities accounts?
    a. **Answer**: Yes
11. **Question:** Under Technology, Question 31.j CryWolf – Burglar Alarm System. Passes fees over to CIS for Customer billing. Push payment receipt information back to CryWolf: Is there a reason that the Town does not use the billing/invoicing feature of CryWolf? Is the Town using the CryWolf service bureau or is the Town using an on-premises version of CryWolf? If so, would they consider switching to CryWolf handling all account maintenance, billing, and collections processes for the Town?
    a. **Answer:** The Town uses CryWolf processes, but also combines billing and receipting with utility billing for customers that have a utility account with the Town of Gilbert, so the customer does not receive two bills and can make one payment.

12. **Question:** Under Technology, Question 32. Mobile Device support for iOS and Android; agnostic preferred: Is the expectation that the entire system must be accessible from a mobile device or just some features?
    a. **Answer:** Requesting a backflow test upload from a mobile device to the database. As many features to be accessible on mobile device would be preferred.
13. **Question:** Under General Functionality, Question 41. Define alert notifications based on a threshold, e.g. gallons of water consumption exceed 10,000 in a defined period: Are these email notifications to the customer, to internal staff, or both? What issue are these notifications intended to address?
    a. **Answer:** It would be most ideal to have these notifications accessible as internal only, for pulling reports, and have the potential to send notifications to the customer, as well. The purpose of these notifications is to identify high water consumption events and detect leaks. Being able to run a report that tracked something like “is June’s usage 2x or more than it was last year?” would be even more helpful.
14. **Question:** Under Service Requests and Service Orders, Question 93. Track Contractor information with expiration dates, e.g. licensing requirements, certifications, liability insurance, contractor licenses, back flow licenses, etc.: Request clarification on requirements. Is this to track contractors licensed to conduct periodic inspection of backflow devices? If yes, what is the expectation of how this information will be utilized by system?
    a. **Answer:** No, this is to be able to qualify for our recognized Backflow Company tester list.
15. **Question:** Under Service Requests and Service Orders, Question 95. Maintain a list of qualified Contractors for backflow testing or other service recommendations: Is there a reason that this is not tracking in the licensing module of EnerGov?
    a. **Answer:** Contractors located outside of the Town of Gilbert are not required to have a Gilbert business license and would not be in Energov.
16. **Question:** Under Service Requests and Service Orders, Question 97. Capture and log events such as Water Efficiency Checkups: Request clarification on requirement. What information needs to be tracked for each event? Can samples be provided?
    a. **Answer:** We would like to be able to log an event as a “Water Efficiency Checkup” and add some notes. The goal here would be to make the event and date of event (or date of entry of note) something we can query. Additionally, we will want to add 1-3 sentences in the “notes field” so we can summary our findings in the field, if needed. Most ideally, we will have a PDF available of the Water Efficiency Checkup, if we could upload this PDF that would be the most efficient and informative way to approach this.
17. **Question:** Under Service Requests and Service Orders, Question 100. Code meter inventory as billable or non-billable: Request clarification on requirement. Can Town provide definition of billable and non-billable meter inventory?
    a. **Answer:** There are times inventory will need to tracked, but a fee is not associated with the asset.
18. **Question:** Under Utilities, Question 142. Support regulatory reporting to Maricopa County Services, e.g. cross-connection surveys, hazardous water use, etc.: Can Town

provide more details on “regulatory reporting” in order to determine if baseline reports will be any of the requirements?

a. **Answer:** Looking for a cross-connection survey report to be filled out electronically and stored in a database.

19. **Question:** Under Accounts Receivable and Cashiering, Question 147. Allow option for account overpayment to apply to a specific program, i.e. Neighbor to Neighbor program; apply to fund and integrate with Munis General Ledger: It appears from looking on the Town’s website that customers must elect to participate in the Neighbor to Neighbor program and agree to make a specified contribution amount ranging from $1 to $10 each billing cycle. Is this accurate, and if not, please clarify.

    a. **Answer:** At this time, customers must opt into the Neighbor to Neighbor program by electing a monthly donation amount. The Town would like to provide an option where a customer can elect that any amount paid over their amount due would go toward the Neighbor to Neighbor or another program if offered.

20. **Question:** Under Accounts Receivable and Cashiering, Question 149. Import payments from multiple sources and apply to customer accounts, e.g. Tyler Cashiering, Paymentus, Lock Box, PayPros, Advantage, etc. Warn or report on missing batch imports: Will the Town be replacing Tyler Cashiering with proposed system?
    a. **Answer:** Tyler Cashiering will not be replaced. An interface to pass cash receipts from the CIS to Tyler Cashiering will be required.
21. **Question:** Under Accounts Receivable and Cashiering, Question 152. Generate daily cash receipts report by payment type (Cash, Check, Credit Card, etc.) or source type (Tyler Cashiering, Paymentus, Lock Box, PayPros, Advantage): Does the Town envision it would use Tyler Cashiering and proposed product for processing Utilities payments, or does it envision processing Utilities payments in Tyler Cashiering?
    a. **Answer:** Tyler Cashiering will not be replaced. An interface to pass cash receipts from the CIS to Tyler Cashiering will be required.
22. **Question:** Under Accounts Receivable and Cashiering, Question 155. Process and manage Non-Sufficient Funds payment and related bill and receipt adjustments. Apply fee, flag NSF accounts to not accept checks and interface with Munis to post. Generate NSF letter and set up repayment due date: Does the Town intend on using Tyler Cashiering to process Utilities payments or will it use proposed system to process all Utilities payments?
    a. **Answer:** Tyler Cashiering will not be replaced. An interface to pass cash receipts from the CIS to Tyler Cashiering will be required.
23. **Question:** Under Accounts Receivable and Cashiering, Question 156. Generate customized past due letters, door hangers, emails and mobile shut off notices for delinquent accounts: What is requirement for “mobile shut off notices”?
    a. **Answer:** Mobile shut off notices refers to the ability to notify customers on their mobile device that service will be disconnected.
24. **Question:** Under Queries and Reports, Question 171. Support creation of external data warehouse reporting through data management environment e.g. MS Azure, Google, Amazon Web Services: Request more information on how data warehouse will be used in order to ensure we respond correctly.

a. **Answer:** The Town is developing data management methodology and strategy via API and microservices for the creation of a external data warehouse for reporting through data management environment. We are starting with MS Azure and plan to end up with some Google and AWS services as well. We want to know what vendors support to help us with this strategy.

25. **Question:** Does the Town have a preference in terms of technical architecture between hosted, on-premise or cloud-based?
    a. **Answer:** No preference
26. **Question:** May we get a sample of the Neighbor 2 Neighbor report? (It is referenced in the main RFP document on page 22. It is item 23. Under Exhibit C Reports.)
    a. **Answer** the report is attached at the end of this addendum
27. **Question:** What business analytics (BI) tool is the Town currently using?
    a. **Answer** Microsoft SSRS and Microsoft PowerBI
28. **Question:** How many concurrent users does the Town have?
    a. **Answer** We have unlimited concurrent users via or current vendor. The Town does not track the concurrent users, but estimates there may be up to 100 users at one time.
29. **Question:** How many field representatives does the Town have?
    a. **Answer:** Meter Services currently employs 22 field staff
30. **Question:** Please provide more information about your meter configuration:
    - Meters = 1,200 AMI - *How many data channels?*
    - 6,000 AMR – *Scalar, Monthly, Daily?*
    - *Please supply exact number of meters and configuration.*

    a) Answer: We are currently using the Sensus 520 SmartPoint radio, ¾ inch through 1 inch Iperl, and 1.5 through 8 inch Omni meters, see attached data sheet for the 520 SmartPoint. We are unsure what is being asked about 6,000 AMR Scalar, Monthly, Daily but we use the 520 SmartPoint radio on Iperl and Omni meters. For Number of meters and configuration there are currently 87,018 active meter accounts configured to read in gallons.
31. **Question:** Work Summary (Pg. 1) – Please clarify the Timeline expectation. The expected implementation start of July 2020, and the initial Agreement Term is 11 months only – through June 30, 2021. Is this meant to imply that Gilbert has an 11-month overall timeline to go-live and post go-live stabilization and final acceptance?
    a. **Answer** We will rely on vendors to propose the timeline and post- go live support recommendations.
32. **Question:** Proposal Preparation Pg 6 – (Section 1.16.5) – We understand that the Response Sections are to be included as noted on pages 7-8. Please clarify that Section 2 (Requirements) of the Response is to be populated with answers to "Exhibit D – CIS Software Requirements" and not the Exhibit D "Payment Schedule" that is part of the Sample Agreement Gilbert included with the RFP?
    a. **Answer:** Yes, your section 2 should be your response to Exhibit D, not the Payment Schedule from Gilberts Sample Agreement.
33. **Question:** Pricing (Pg 7) – Is Pricing (Exhibit A of RFP) to be included with submission as Section 3 (as noted on Page 7)?
    a. **Answer:** Yes, as noted in the instructions.
34. **Question:** Exhibits (Pg 8) – How are we to respond/comment on Exhibit C (Reports); and where (Per Response Sections List from 1.16.5) should this part of the RFP Response be placed?
    a. **Answer:** The expectation is that vendors will be able to replicate these reports. No response is required.

35. **Question:** Agreement for Services – Will this be used as the baseline Agreement between Gilbert and the winning proposer? Or will the Town use the Proposer's Agreement (since samples were requested along with responses)?
    a. **Answer:** It is possible we will utilize the Town's contract form, but that will be dependent on the Proposer's Agreement
36. **Question:** On-Prem or Cloud/SaaS – does Gilbert have a preference for one over the other?
    a. **Answer:** No preference
37. **Question:** For a SaaS solution, is Oracle-based technology acceptable to the Town?
    a. **Answer:** The Town is open to Oracle in a SaaS environment as long as it has an API or Microservice integration to support our IT data management strategy in Question 24, and ability to access data outside of standard reporting.
38. **Question:** How many personnel are in IT today at Gilbert?
    a. **Answer:** Department is 42, 1-3 will be involved during the implementation.
39. **Question:** How many trainers/training resources does Gilbert have today?
    a. **Answer:** Training resources vary depending on the project. Gilbert will reassign staff as needed.
40. **Question:** What IVR is in place today? Is IVR integration for screen-pop required? Optional?
    a. **Answer:** The IVR solution is currently provided by Paymentus. An integration for screen-pop would be optional.
41. **Question:** What was the approximate total Expenditure to implement the current Tyler Eden CIS (software & implementation services)?
    a. **Answer:** Gilbert does not have the numbers for this, as it was implemented in 2003.
42. **Question:** What year was the Eden CIS implemented for Gilbert?
    a. **Answer** 2003
43. **Question:** What is the approximate budget Gilbert is planning for the CIS Replacement project (solution implementation cost for the initial term)?
    a. **Answer:** The Town has allocated funds to start the project and final authorization is planned for budget approval process for the fiscal year 20-21. We anticipate Town Council approval in June of 2020.

Additional questions/answers:

Reference Number	**Question**	Gilbert Response
1.16.5 Proposal Content, #1 Cover Letter	You indicate that a summary of the products and services are to be provided in the Cover Letter. For a robust CIS, this would be extremely limiting in order to convey the true scope of the software offering. Would you be open to an attachment that would provide a complete description of the software's capabilities?	You can provide an additional flash drive along with your proposal with additional product or service descriptions. It just needs to be separate from the drive that contains your proposal and Gilbert is under no obligation to review the material. The additional material may not be considered in the overall proposal evaluation.

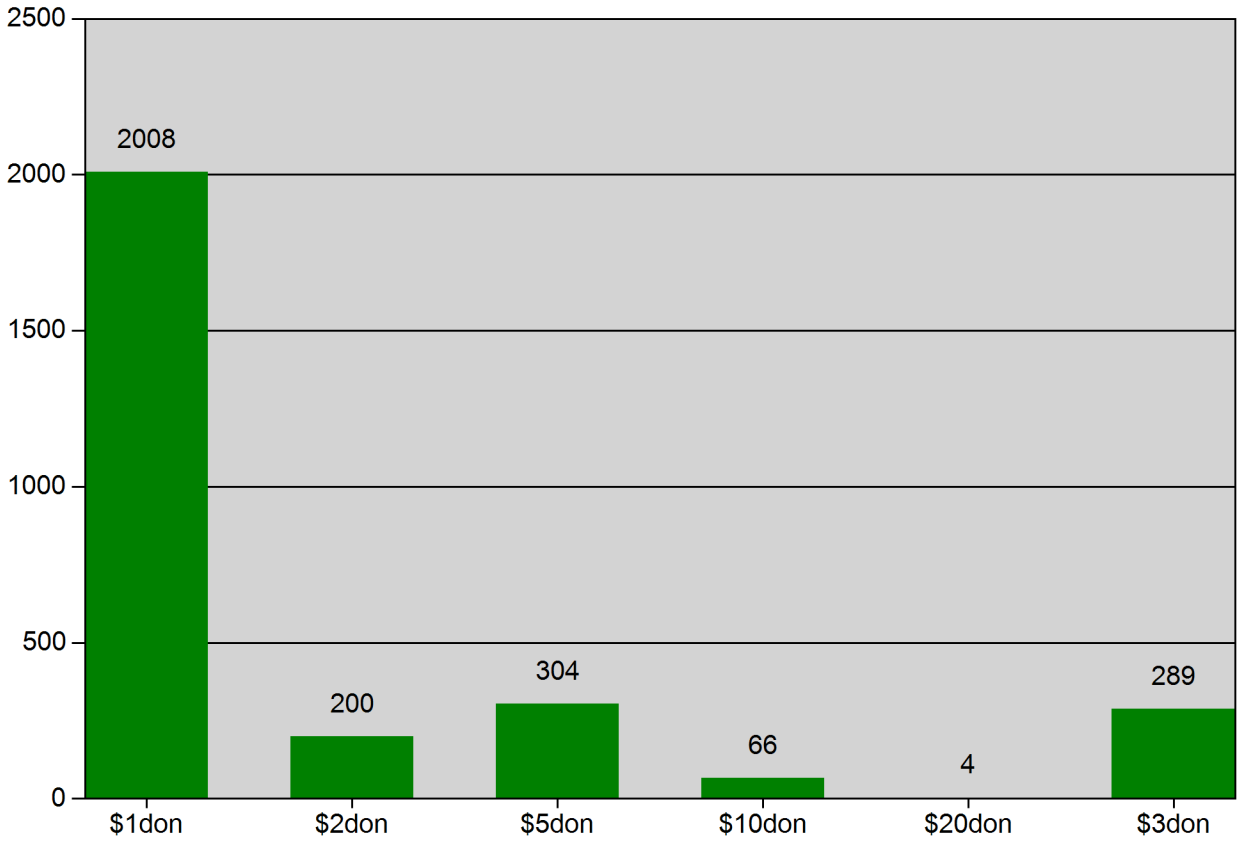
1.16.5 General	If there are additional pieces of information that we feel would be helpful in understanding our solution, can we provide other attachments (within reason)? An example would be a diagram of the general technology architecture & materials list that would describe the technical solution in detail. But there likely would be a couple others.	You can provide an additional flash drive along with your proposal with additional product or service descriptions. It just needs to be separate from the drive that contains your proposal and Gilbert is under no obligation to review the material. The additional material may not be considered in the overall proposal evaluation, if it is outside of the scope of our specific requirements as stated in Exhibit D.
1.16.5 Pricing, Implementation Services	In the area of data conversion, what tasks can we assume will be handled by Gilbert IT staff? In data conversion can we assume that it will take care of extraction, transformation, and loading into vendor provided tool, with vendor providing support? How many years of history are you looking to convert? For interfaces can we assume Gilbert staff will be able to utilize standard API's available within the vendor application, adjusting to formats required by either vendor or 3rd party API's?	I say we convert 7 years of data since that is what is required (I believe), but that's open to discussion. Standard API connections will utilized by Gilbert staff.
P. 8, Support	Is High Availability required, or will an alternate DR site with reasonable RPO/RTO metrics?	High availability is not a requirement. A DR site is a viable option.
p.10, 2.1 Agreement Term	You indicate that funds will be budgeted by July 2020. Has there been a preliminary budget established and can you share what general budgetary expectations might be? (Range)	The Town has allocated funds to start the project and final authorization is planned for budget approval process for the fiscal year 20-21. We anticipate Town Council approval in June of 2020.

p.11, III Background	What is the breakout of residential and commercial & industrial customers?	Approximately 93% of our accounts are single-family residential accounts and 5% are commercial. The remaining 2% would include municipal, construction, refuse-only, etc.
p. 12, Shadow Systems	Can you describe in a bit more detail what the shadow systems are supporting today so we more precisely describe how we can improve upon the situation?	The majority of the shadow systems exist in Meter Service, Environment Services and Utility Billing to track or manage data. For example, meter and refuse can inventory, source and number of receipts processed, daily service orders, etc. Gilbert is working on compiling a list of shadow systems which it plans to provide to the finalists.
P.13, Cash receipting	Is Gilbert open to using the CIS cash receipting application for its front counter payments?	Tyler Cashiering will not be replaced. An interface to pass cash receipts from the CIS to Tyler Cashiering will be required.
Exhibit C-Reports	What is the expectation as far as a response, if any, to Exhibit C?	This listing of key reports is being provided for review only with the expectation that the proposer's solution is able to provide similar reports as needed to support the business need.
P. 25 Authorized Signature Form	Should the Agreement Number be left blank or filled in with the RFP number, or other?	Please use the RFP number
General Technology	Does Gilbert have and intend to utilize an Enterprise Service Bus (ESB) to support the integrations required?	Integrations can be accomplished in any manner, we prefer enterprise solution and are not limited to a technology.
Exhibit D, #75	What IVR is Gilbert using? What dialogues are supported by the IVR?	The IVR solution is currently provided by Paymentus. We are unfamiliar with the term "dialogues" stated in your question.

General re: field techs & crews	How many field technicians/crews (including any contractors) does Gilbert have that could access mobile workforce technology?	Meter Services currently employs 22 field staff that would require mobile access.
Exhibit D, #90	Does Lucity handle both long cycle work orders and short cycle service orders? Are there any areas where you would like to improve these processes?	Yes, Lucity can handle both long cycle work orders and short cycle service orders. We are looking to simplify the process by having an integration between the CIS and Lucity so staff are not entering and updating data in both systems.
Exhibit D, Page 9	You indicate 1,200 AMI and 6,000 AMR meters. Are both AMI and AMR reads consolidated on a single meter read management platform, so that we would integrate to a single platform or would there be two integrations required? Also, how are the other reads handled that are not AMI or AMR?	86,000 AMR and they are read using a single platform.

The Proposer shall acknowledge receipt of all addendums in their submittal. Failure to do so will result in the proposal being declared non-responsive.

Active Accounts with Donations



Details

Donation Code	Active Accounts	Total Amount
$1don	2008	$2,008
$2don	200	$400
$5don	304	$1,520
$10don	66	$660
$20don	4	$80
$3don	289	$867
	2871	$5,535

SmartPoint 520M

Pit Set Module

The SmartPoint® 520M Pit Set Module 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.

BENEFITS:

- Easily receives input from either walk-by/drive-by or fixed-base collection device
- Controls both deployment and lifetime operation costs
- Compact installation that saves time, space and money - without reducing system performance
- Delivers a fast, efficient and reliable connection at minimal cost
- Minimizes new infrastructure investment
- Enables effective leak detection

TouchCoupler Design

The SmartPoint 520M Module utilizes TouchCoupler, the patented Sensus inductive coupling communication platform, to interface with the encoded meter. With TouchCoupler, the SmartPoint 520M Module can connect to the meter using existing two wire AMR installations instead of requiring utilities to access the meter to install a new three-wire connection. This results in a fast, efficient and reliable connection at minimal cost.

Operation

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. The SmartPoint 520M Module receives input from the meter register and remotely sends data to a walk-by/drive-by or fixed-base collection device. The SmartPoint 520M Module easily migrates from walk-by/drive-by to fixed base by simply installing a Base Station.

In walk-by/drive-by mode, the SmartPoint 520M Module 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 520M Module interacts with one or more strategically placed Base Stations 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® communication network provides unmatched reliability by using expansive tower receiver coverage of metering end points, data/message redundancy, failover backup provisions and operation on FCC primary use (unshared) RF spectrum.

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SmartPoint 520M

Pit Set Module

Powerful Transmission, Flexible Platform

The SmartPoint® 520M Pit Set Module offers several advantages that control both deployment and lifetime operation costs. Its powerful, industry-leading two watt transmitter broadcasts over large distances and minimizes collection infrastructure. And after the SmartPoint is installed, its migratable, two-way system platform can be updated without requiring personnel to visit each meter and/or inconveniencing customers.

Additional Smartpoint 520M Module Features

The SmartPoint 520M Module obtains hourly readings and can monitor continuous flow over a programmable period of time, alerting the utility to leak conditions. In addition, the SmartPoint 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 also incorporates a two-port design, 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.

Specifications

Service	Pit set installation interfacing the utility meter to the Sensus FlexNet communication network. 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 24D, Part 101C, Part 15 Licensed operation Canada: Industry Canada (IC) RSS-134, RSS-119
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 Encoder Registers, Badger ADE water registers, Master Meter AccuLinx, and Hersey Translator (approved TR/PL Lead) Wired Version Only: Elster Encoder (Sensus protocol), Neptune ARB VI (ProRead), Hersey Translator, Zenner PMN Nitro 01, McCrometer flowcom FC100-00M, and Kamstrup flowIQ 2100 Refer to the 510M/520M SmartPoint® Module Water Meter and Ancillaries Compatibility Quick Guide for the latest compatibility information.
Warranty	20 years – Based on six transmissions per day. Refer to Sensus G-500 for warranty.

SENSUS
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637 Davis Drive
Morrisville, NC 27560
1-800-638-3748
sensus.com

iPERL Smart Water Meter

Electromagnetic Flow Measurement System

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.

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 15 mm), 3/4" (DN 20 mm) and 1" (DN 25 mm)
- 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

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 configurable 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.

SENSUS
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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

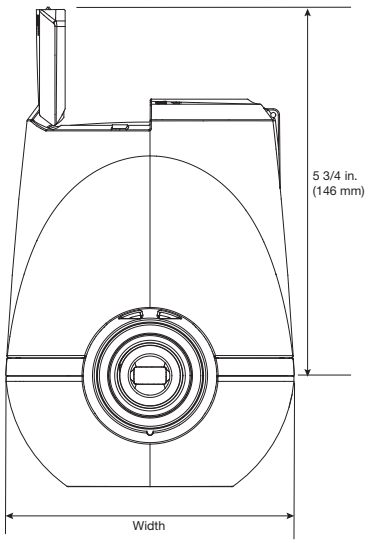
Sensus iPERL meters are compatible with common AMR/AMI systems, including the Sensus FlexNet® communication network.

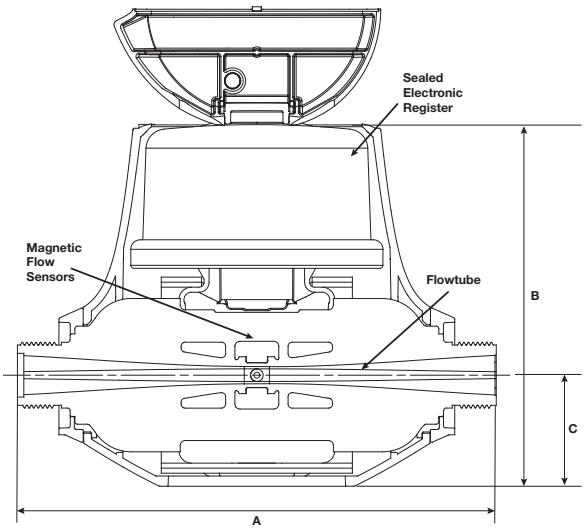
Conformance to Standards

The Sensus iPERL meter meets the requirements of NSF 61, Annex F/G and 372 and exceeds the most recent revision of AWWA Standard C-715.

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

Meter Size	A	B	C	Spud Ends	NPSM Thread Size	Width	Net Weight
5/8″ (DN 15 mm)	7-1/2″ (190 mm)	6-1/10″ (155mm)	1-3/4″ (44 mm)	5/8″ (15 mm)	3/4″ (20 mm)	4-1/2″ (114 mm)	3.1 lb. (1.4 kg)
5/8″ x 3/4″ (DN 15mm x 20 mm)	7-1/2″ (190 mm)	6-1/10″ (155mm)	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″Short (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)

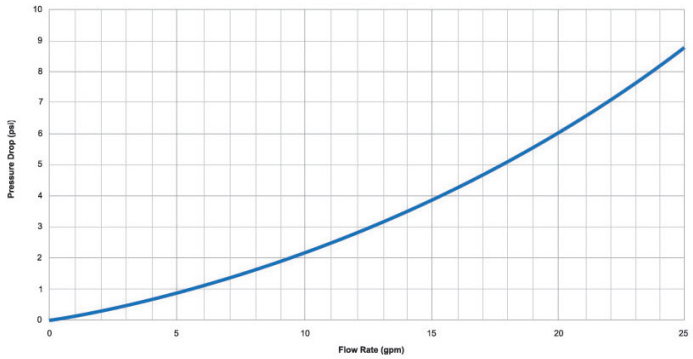
iPERL Smart Water Meter

Specifications

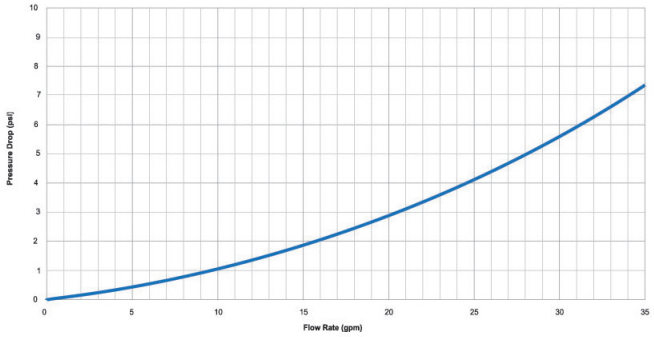
Service	Measurement of potable and reclaim water. 0-100% humidity. Fully submersible. IP68 rated.
Temperature	Water operating temperature range of 33 °F (0.55 °C) to 80 °F (26.7 °C) . Ambient air operating temperature -22 °F (-30 °C) to -140 °F (60 °C). Storage air temperature -30 °F (-34.4 °C) to 158F (70 °C).
Starting Flow	5/8" (DN 15 mm) size: 0.03 gpm (0.007 m^3/h) 3/4" (DN 20 mm) size: 0.03 gpm (0.007 m^3/h) 1" (DN 25 mm) size: 0.11 gpm (0.025 m^3/h)
Low Flow Range (±3%)	5/8" (DN 15 mm) size: >0.11 gpm (0.025 m^3/hr) to <0.18 gpm (0.041 m^3/hr) 3/4" (DN 20 mm) size: >0.11 gpm (0.025 m^3/hr) to <0.18 gpm (0.041 m^3/hr) 1" (DN 25 mm) size: >0.3 gpm (0.068 m^3/hr) to <0.4 gpm (0.09 m^3/hr)
Normal Water Operating Flow Range (±1.5%)	5/8" (DN 15 mm) size: 0.18 to 25 gpm (0.04 to 5.7 m^3/hr) 3/4" (DN 20 mm) size: 0.18 to 35 gpm (0.04 to 8.0 m^3/hr) 1" (DN 25 mm) size: 0.4 to 55 gpm (0.09 to 12.5 m^3/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.
Materials	External housing – Thermal plastic; Flowtube – Polyphenylene sulfide alloy; Electrode – Silver/silver chloride; Register cover – Tempered glass

Headloss Curves

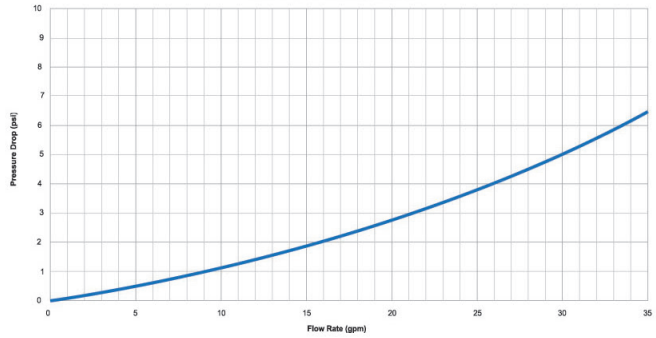
5/8" Headloss Curve



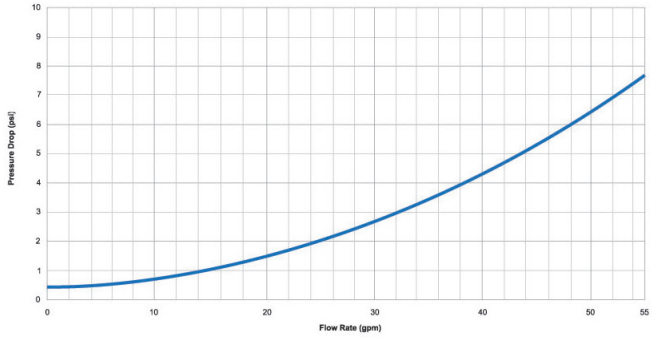
3/4" Headloss Curve



5/8" x 3/4" Headloss Curve



1" Headloss Curve



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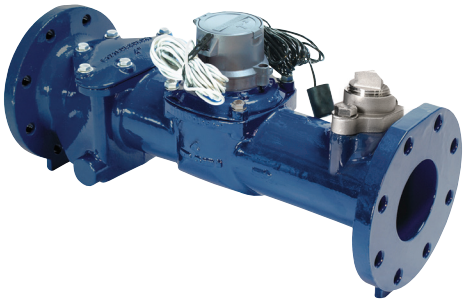

OMNI™ Turbo (T^2) Water Meter

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

The OMNI T^2 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 T^2 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 T^2 meter ensure greater accuracy, expanded accuracy range and longer service life than any other comparable class meter. The OMNI T^2 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 T^2 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 T^2 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

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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.

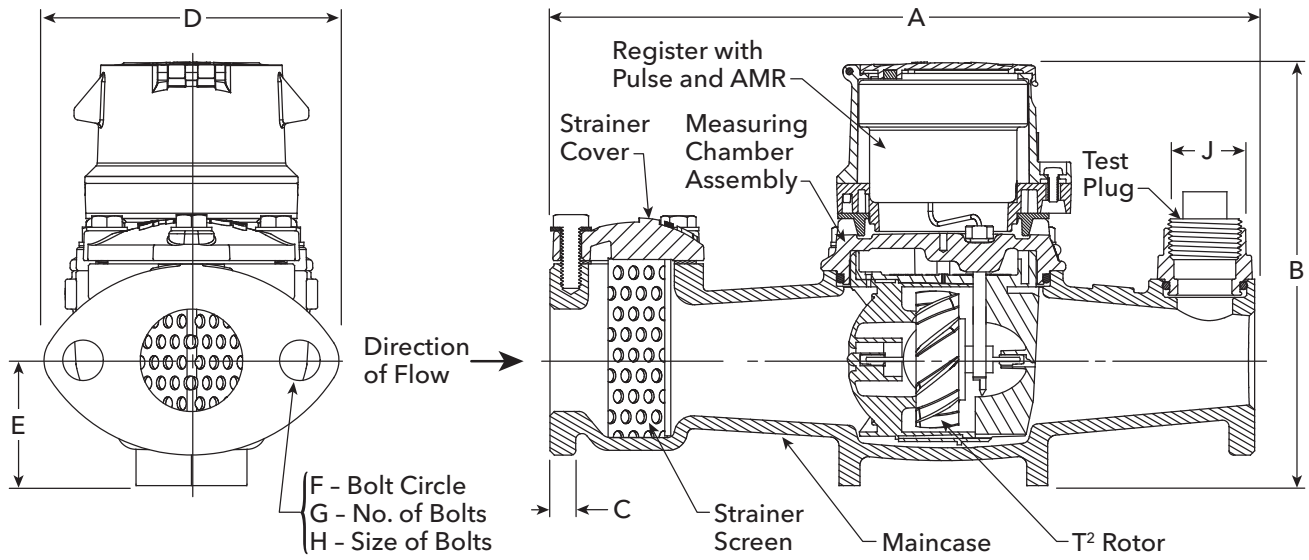
AMR/AMI Systems

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

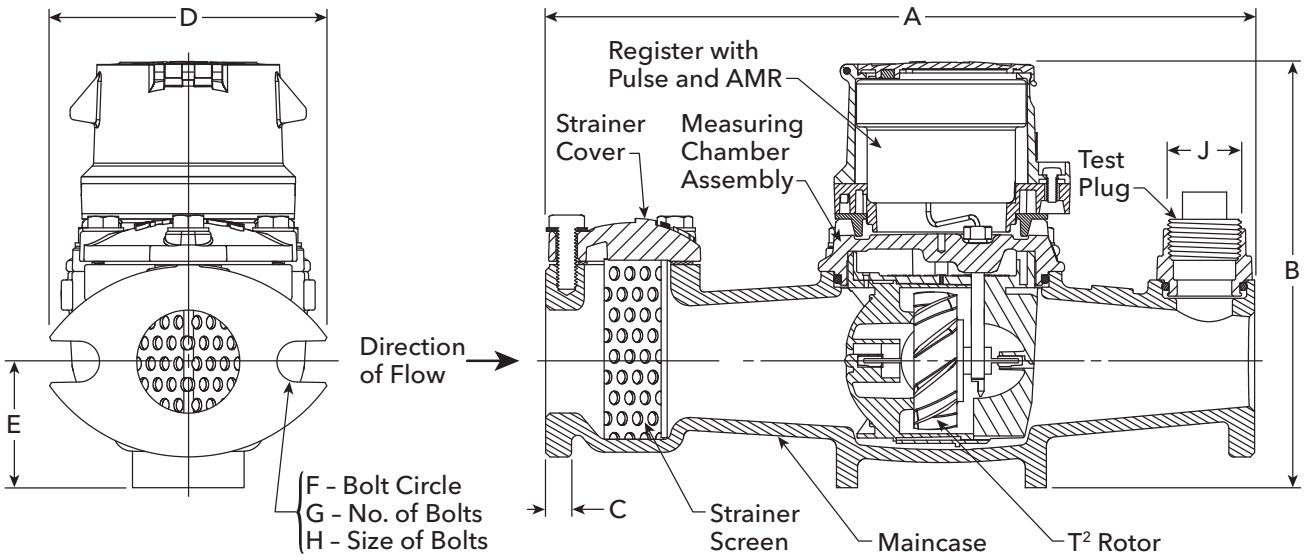
Guarantee

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

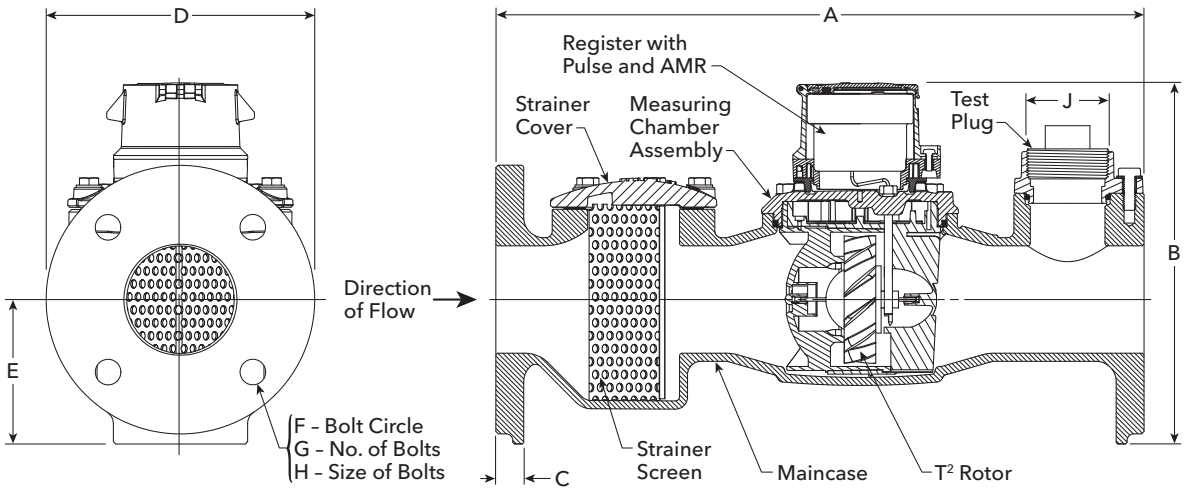
OMNI T²: 1-1/2″



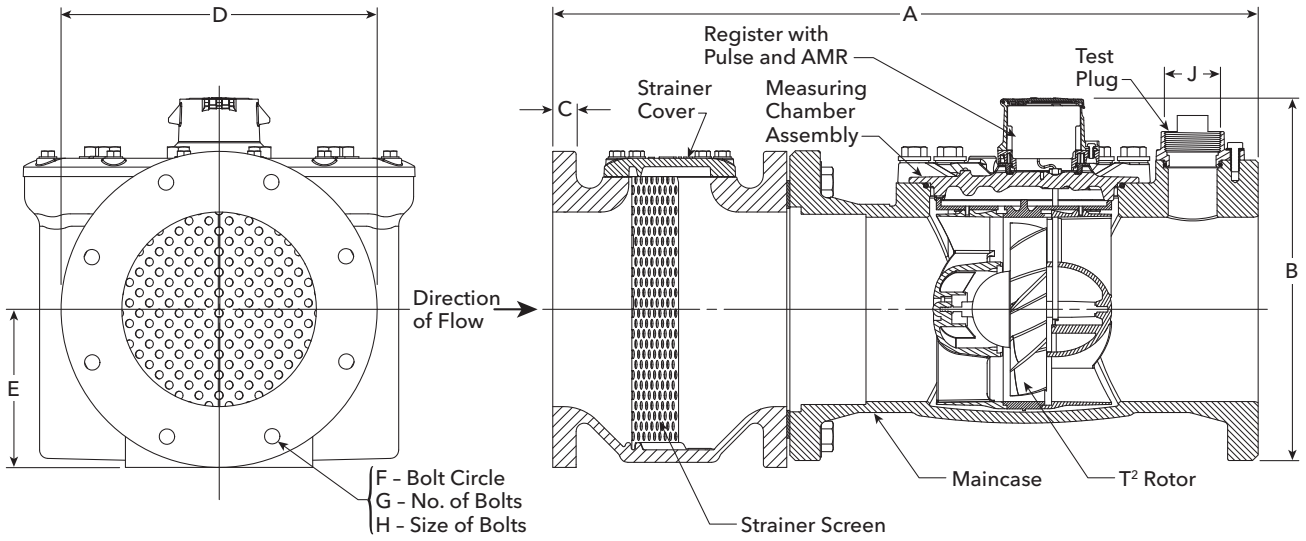
OMNI T²: 2″



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 m³/hr	200 gpm 45 m³/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 m³/hr	250 gpm 57 m³/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 m³/hr	250 gpm 57 m³/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 m³/hr	650 gpm 148 m³/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 m³/hr	1250 gpm 284 m³/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 m³/hr	2500 gpm 568 m³/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 m³/hr	3500 gpm 795 m³/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 m³/hr	5500 gpm 1249 m³/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)
Operating Range (100% ± 1.5%)	1-1/2″: 1.25 – 200 GPM (0.28 - 45 m³/hr) 2″: 1.5 – 250 GPM (0.34 - 57 m³/hr) 3″: 2.5 – 650 GPM (0.57 - 148 m³/hr) 4″: 3 – 1250 GPM (0.68 - 284 m³/hr) 6″: 4 – 2500 GPM (0.91 - 568 m³/hr) 8″: 5 – 3500 GPM (1.1 - 795 m³/hr) 10″: 6 – 5500 GPM (1.4 - 1249 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) 3″: 1.5 GPM (0.34 m³/hr) 4″: 2.0 GPM (0.45 m³/hr) 6″: 2.5 GPM (0.57 m³/hr) 8″: 4 GPM (0.91 m³/hr) 10″: 5 GPM (1.1 m³/hr)
Maximum Continuous Operation	1-1/2″: 160 GPM (36 m³/hr) 2″: 200 GPM (45 m³/hr) 3″: 500 GPM (114 m³/hr) 4″: 1000 GPM (227 m³/hr) 6″: 2000 GPM (454 m³/hr) 8″: 3500 GPM (795 m³/hr) 10″: 5500 GPM (1249 m³/hr)
Maximum Intermittent Operation	1-1/2″: 200 GPM (45 m³/hr) 2″: 250 GPM (57 m³/hr) 3″: 650 GPM (148 m³/hr) 4″: 1250 GPM (284 m³/hr) 6″: 2500 GPM (568 m³/hr) 8″: 4700 GPM (1067 m³/hr) 10″: 7000 GPM (1590 m³/hr)

Pressure Loss	1-1/2″: 6.9 psi @ 160 GPM (0.48 bar @ 36 m3/hr) 2″: 7.0 psi @ 200 GPM (0.48 bar @ 45 m³/hr) 3″: 5.1 psi @ 500 GPM (0.35 bar @ 114 m³/hr) 4″: 8.7 psi @ 1000 GPM (0.60 bar @ 227 m³/hr) 6″: 8.2 psi @ 2000 GPM (0.57 bar @ 454 m³/hr) 8″: 5.1 psi @ 3500 GPM (0.35 bar @ 795 m³/hr) 10″: 7.2 psi @ 5500 GPM (0.50 bar @ 1249 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 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

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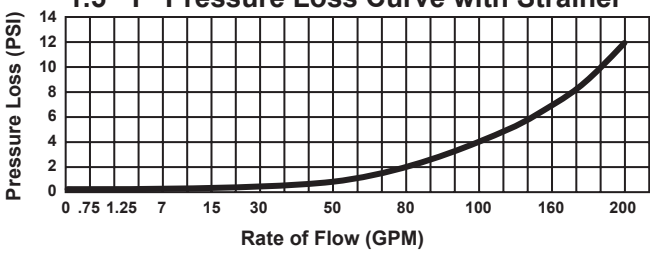
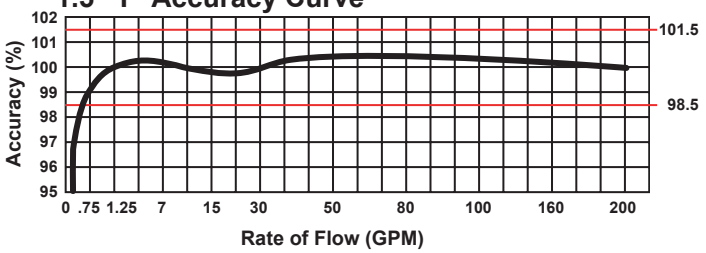
Head Loss Curves

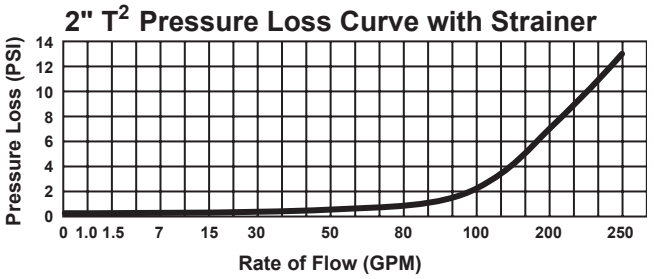
1.5" T² Pressure Loss Curve with Strainer



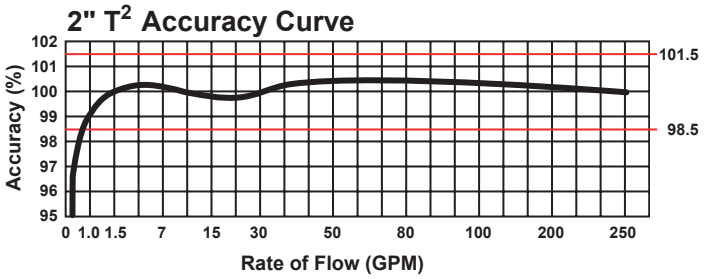
1.5" T² Accuracy Curve



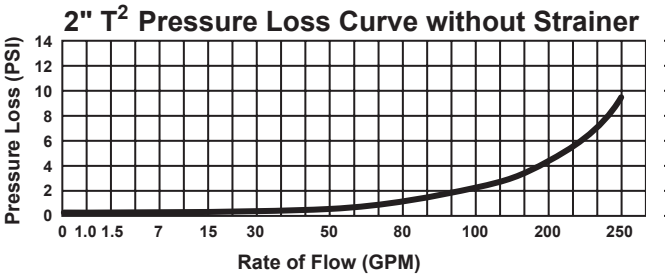
2" T² Pressure Loss Curve with Strainer



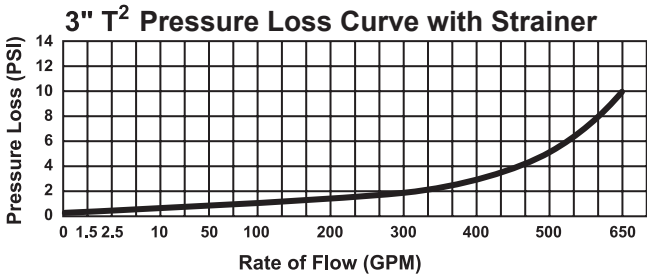
2" T² Accuracy Curve



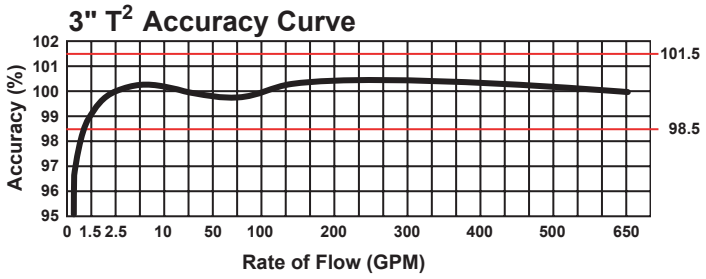
2" T² Pressure Loss Curve without Strainer



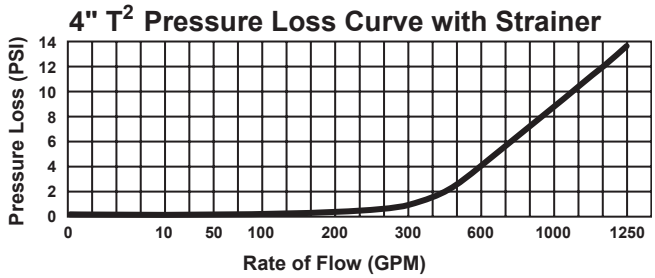
3" T² Pressure Loss Curve with Strainer



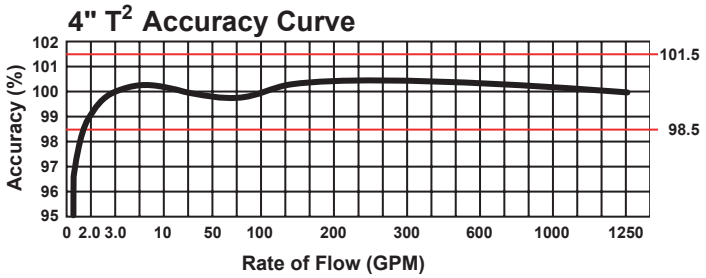
3" T² Accuracy Curve



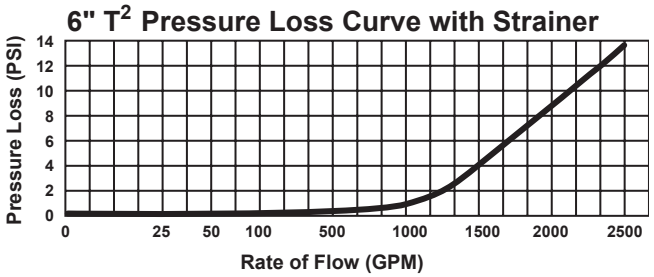
4" T² Pressure Loss Curve with Strainer

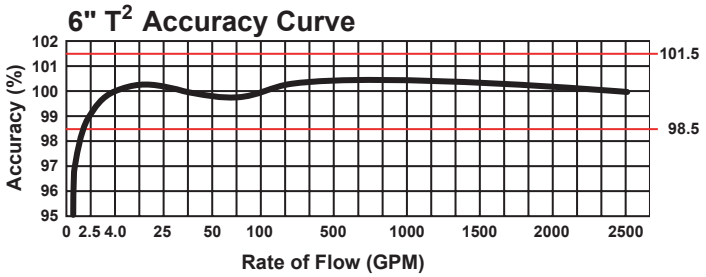


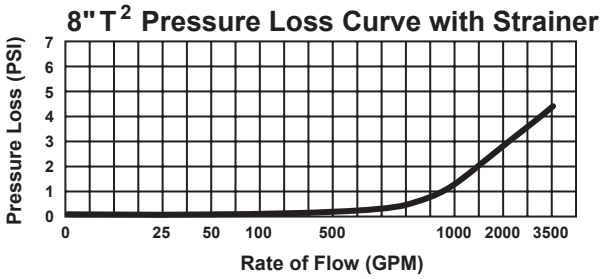
4" T² Accuracy Curve

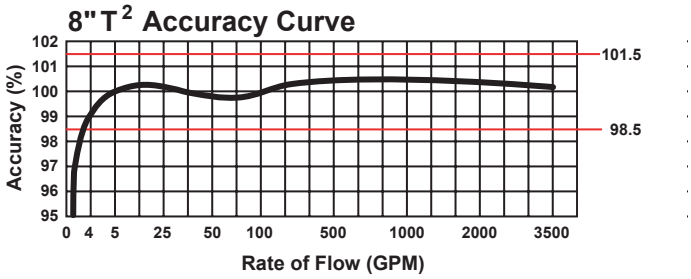


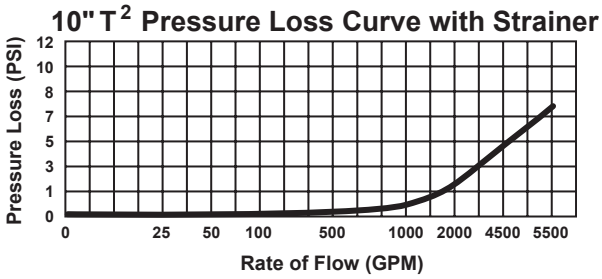
Head Loss Curves

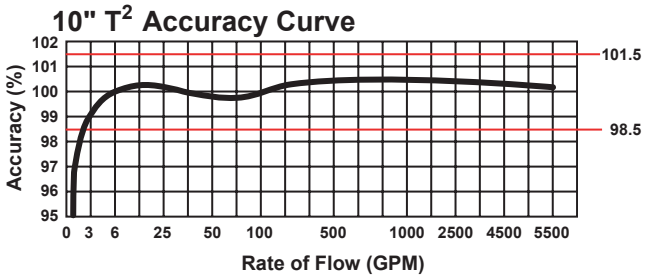












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